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CHEMICAL WHO'S WHO

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1951

(THIRD EDITION)

BIOGRAPHY IN DICTIONARY FORM
OF THE LEADERS IN CHEMICAL INDUSTRY,
RESEARCH, AND EDUCATION

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INTRODUCTION

A sound book of reference ordinarily needs an Introduction no more than any good tool, expertly designed and well made, needs either justification or apology. A few simple directions for its intelligent use—chiefly, in this case, a key to the abbreviations employed in the following pages—should suffice.

But this, the Third Edition of *Chemical Who's Who,* is long overdue. Furthermore, the scope of the work has been somewhat broadened, and the adjective "chemical" in its title has been so interpreted in use that it is in cases only partially descriptive. Finally, this volume appears under the imprint of a new publisher. The user of the book deserves explanations of these changes.

This volume was scheduled to appear in 1942, five years after the publication of the Second Edition. In fact, the invitation list had been compiled and questionnaires through A and B in the alphabetical list were in the mail that fateful Sunday, the seventh of December, 1941, when Pearl Harbor was suddenly attacked. Under war conditions, with all personnel shifting and when book paper was under priority allocations, its publication was quite impractical.

In the meantime I had retired from active publishing in the chemical field, and it was plainly desirable, if this work were to continue permanently, to place it with an established publishing house. Not every publisher is equipped to compile and distribute a book of this kind, and what is most important, if the value of such a reference work is to be maintained, its publisher must adhere religiously to certain ethical editorial standards. Names to be included must be selected solely upon the merits of the position and accomplishments of the candidates. Biographical data published must be supplied first-hand by the selected leaders without even the implication of any obligation on their part to subscribe to the book. Having established *Chemical Who's Who* upon these principles, I am happy to turn it over to the Lewis Historical Publishing Company, fully assured that they have the equipment and staff, the resources and the integrity, to carry it forward as successfully as they have what are now its sister publications, "Who's Who in Engineering" and "Who's Who in New York."

One thing we can all look forward to confidently is the regular appearance of subsequent editions at three or four year intervals. To keep this biographical dictionary of the leaders in all sectors of the chemical field up-to-date will add immensely to its practical value. And the scope of this book has been broadened now to include all chemical leaders, not only the chief executives of chemical companies and their department heads and branch managers, but the superintendents of plants, the purchasing agents, librarians and directors of research; as well as chemical brokers and dealers, importers and exporters, and (an important addition to this edition) leaders in the field of chemical education.

The lapse of a dozen years and the exceedingly great expansion in every branch of chemical activity in the United States since the outbreak of World War II, have imposed upon this edition many of the handicaps of an initial publication of any "Who's Who." The working list of the men and women to be sent questionnaires had to be compiled fresh, almost from scratch. To many men the invitation to submit biographical information came from an almost unknown publication. Their failure to reply, through lack of acquaintance with this standard reference work, accounts for some notable absentees from the following pages, omissions due to the failure of these men to supply the necessary data and not to the fact that they did not receive invitations. We have published only authorized data.

By keeping the invitation list up-to-date, the first of these handicaps will be almost eliminated, and it is to be hoped that the well-proven value of *Chemical Who's Who* will continue it in the minds of the chemical fraternity as one of our "must" publications.

Despite its handicaps, the present edition is notably more complete and representative than its predecessor. Not only has its scope been broadened, as noted above, but it contains fifty per cent more biographies than the Second Edition. Those figures imply a promise for the future, one that I am confident will be made good.

WILLIAMS HAYNES

80 Eighth Avenue,
New York City.

ABBREVIATIONS

A. A. A.	Agrl. Adjustment Admin.
A. A. A. S.	Am. Assn. for Advancement of Science
A. A. C. C.	Am. Assn. of Cereal Chems.
A. A. Cl. C.	Am. Assn. of Clinical Chems.
A. A. Cos. C.	Am. Assn. of Cosmetic Chems.
A. A. E.	Am. Assn. of Engrs.
A. A. E. E.	Am. Assn. of Economic Entomologists
A. A. F.	Army Air Force
A. A. O. N. M. S.	Ancient Arabic Order of Nobles of the Mystic Shrine
A. A. P. G.	Am. Assn. Petrol. Geologists, Inc. (The)
A. A. P. T.	Am. Assn. of Physics Teachers
A. Arb. A.	Am. Arbitration Assn.
A. Acad. Sc.	American Academy of Science
A. A. S.	Association for the Advancement of Science
A. A. S. H. O.	American Association of State Highway Officials
A. A. S. R.	Ancient Accepted Scottish Rite
A. A. T. C. C.	Am. Assn. of Textile Chems. & Colorists
A. A. T. T.	Am. Assn. of Textile Technologists
A. A. U. P.	Am. Assn. of Univ. Profs.
A. B.; B. A.	Arts, Bachelor of
A. Bact. S.	Am. Bacteriologists Soc.
A. B. S.	Am. Bur. of Shipping
A. C.	Army Corps; Air Corps
Acad. (Acdy.)	Academy
A. C. C. C. E.	Assn. of Consultg. Chems. & Chem. Engrs.
acctg.	accounting
A. Cer. S.; **Am. Cer. Soc.**	Am. Ceramic Soc.
A. C. H. S.	Assn. of College Honor Socs.
A. C. I.	Am. Concrete Inst.
A. C. P.	Am. Coll. of Physicians
A. Crys. S.	Am. Crystallographic Soc.
A. C. S.	Am. Chem. Soc.
A. D. M. A.	Am. Drug Mfrs. Assn.
add.	additional
admin. (adm.)	administration
adminr.; adminstr.	administrator
advis.	advisory
A. E. A.	American Economic Association
A. E.; Agrl. E.	Agricultural Engr.
A. E. C.	Am. Engrg. Council
A. E. F.	Am. Expeditionary Forces
A. E. S.	American Electroplaters Society
A. F. A.	Am. Foundrymen's Assn.
A. F. & A. M.	Ancient Free & Accepted Masons
affil.	affiliate, affiliated
A. G. A.	Am. Gas Assn.
agr.; agric.	agriculture, agricultural
agt.	agent
A. G. U.	American Geographical Union
A. I.	Am. Inst.
A. I. C.	Am. Inst. of Chemists
Am.Inst.Cer.E.; **A. I. Cer. E.;**	Am. Inst. Ceramic Engrs.
A. I. Ch. E.	Am. Inst. of Chem. Engrs.
A. I. E. E.	Am. Inst. of Elec. Engrs.
A. I. M. E.; **(A. I. M. M. E.)**	Am. Inst. of Mining and Metallurgical Engrs.
A. I. N.	Am. Inst. of Nutrition
Am. Inst. Cons. Engrs.	Am. Inst. of Consulting Engrs., Inc.
A. I. S. E.	Assn. of Iron & Steel Engrs.
A. I. S. I.	Am. Iron & Steel Inst.
A. L.	Am. Legion
al.	aluminum
Ala.	Alabama
A. L. C. A.	Am. Leather Chemists Assn.
Am. (Amer.)	America, American
A. M.	Arts, Master of; ante meridiem
A. M. A.	Am. Medical Assn.
A. M. C. A.	American Mosquito Control Association
Am. Cer. Soc.; **A. Cer. S.**	Am. Ceramic Soc.
A. & M. Coll.	Agrl. & Mech. Coll.
A. M. G.	Allied Military Government
A. M. I. C. E.	Associate Member, Institution of Civil Engineers
Am. Phys. Soc.; **A. P. S.**	Am. Physical Soc.
anal(s)	analysis, analyses
analyt.	analytical
A. Physiolog. S.	Am. Physiolog. Soc.
A. S. C. E.	Am. Soc. of Civil Engrs.
A. O. A.	Army Ordnance Assn.
A. O. C. S.	Am. Oil Chemists Soc.
A. O. P. A.	Aircraft Owners and Pilots Assn.
A. O. U.	Am. Ornithologists' Union
A. O. U. W.	Ancient Order of United Workmen
A. P. H. A.	Am. Pub. Health Assn.
A. Phar. A.	Am. Pharmaceutical Assn.
A. Phil. S.	Am. Philosophical Soc.
A. P. I.	Am. Petroleum Inst.
applic.	application
appmt.	appointment
apptd.	appointed
Apr.	April
A. P. S.; **A. Phys. S.**	Am. Physical Soc.
Apt.	Apartment
A. R. C.	Am. Red Cross
Ariz.	Arizona
Ark.	Arkansas
art.	article
arts.	articles
A. S.	Am. Society
A. S. A.	Am. Soc. of Agronomists
A. S. A. E.	Am. Soc. Agrl. Engrs.
A. S. Biol. C.	Am. Soc. of Biological Chemists
A. S. Brew. C.	Am. Soc. of Brewing Chemists
A. S. Consltg. Chems.	Am. Soc. of Consulting Chemists
A. S. E. E.	American Society for Engineering Education
A. S. H. V. E.	Am. Soc. of Heating & Ventilating Engrs.
A. S. Lub. E.	American Society of Lubricating Engineers
A. S. M.	Am. Soc. for Metals
A. S. M. E.; **Am. Soc. M. E.**	Am. Soc. of Mech. Engrs., The
A. S. Mun. E.	Am. Soc. of Municipal Engrs.
A. S. P.	Am. Soc. of Perfumers
A. S. P. E.	American Society of Professional Engineers
A. S. Q. C.	Am. Soc. for Quality Control
A. S. R. E.	Am. Soc. Refrigerating Engrs.
Assn. (Assoc.)	Association
assoc.	associate
asst.	assistant
A. S. S. T.	Am. Soc. of Steel Treatment
A. S. San. E.	American Society for Sanitary Engineering
A. S. T. M.	Am. Soc. for Testing Materials
A. T. S. C.	Army Technical Service Corps
atten.	attention
atty.	attorney
Aug.	August
automat.	automatic, automatically
av.	average
Av.; Ave.	Avenue
A. W. S.	Am. Welding Soc.
A. W. W. A.	Am. Water Wks. Assn.

b.	born
B.	Bachelor
B. A.; A. B.	Bachelor of Arts
bact., bacteriol.	bacteriology, bacteriological
B. Agr.	Bachelor of Agriculture
B. A. Sc.	Bach. of Applied Science (Can.)
B. C. E.	Bachelor of Civil Engrg.
B. Cer. E.	Bachelor of Ceramic Engineering
B. Chir.	Bachelor of Surgery
B. C. L.	Bachelor of Civil Law
B. C. S.	Bachelor of Commercial Science
Bd.	Board
B. E.	Bachelor of Engrg.
B. Edn.	Bachelor of Education
bet.	between
B. E. W.	Bd. of Economic Warfare
bibliog.	bibliography, bibliographical
B. I. M.	British Institute of Material
biochem.	biochemistry, biochemical
biog.	biography, biographical
biol.	biology, biological
bk.	book
bkpr.	bookkeeper
Bldg.	Building
bldr.	builder
B. LL.	Bachelor of Laws
Blvd.; Boul.	Boulevard
Boul.; Blvd.	Boulevard
B. Pd.; B. Py.; Pd. B.	Bachelor of Pedagogy
B. P. O. E.	Benevolent & Protective Order of Elks
br.	branch
Brit.	British
Brit. A. A. S.	British Assn. for the Advancement of Science
B. S. A.	Bachelor of Agrl. Science
B. S. in Ag.; B. Sc. in Ag.	Bachelor of Sci. in Agr.
B. S. C. E.; B. Sc. in C. E.	Bachelor of Sci. in Civil Engrg.
B. Sc.; Sc. B.	Bachelor of Science
Bull.	Bulletin
Bur.	Bureau
bus.	business

C. A. A.	Civil Aeronautics Administration
C. A. B.	Civil Aeronautics Board
Cal.; Calif.	California
Can.	Canada, Canadian
Capt.	Captain
C. C.	Chamber of Commerce
C. C. C.	Civilian Conservation Corps Commodity Credit Corpn.
C. E.	Civil Engineer
cer., ceram.	ceramics
cert.	certificate, certify
ch.	children
Ch.	Church
C. H.	Court House
chapt.	chapter
Ch. D.	Chemistry, Doctor of
Ch. E.; Chem. E.; Chem. Engr.	Chemical Engineer
chem.	chemistry, chemist, chemical
chf.	chief
chg., chge.	charge of
chmn.	chairman
C. I. A.	Controllers Inst. of Am.
C. I. C.	Chem. Inst. of Canada
C. I. M. M.	Canadian Institute of Mining and Metallurgy
climatol.	climatological
cmpds.	compounds
C. M. R. A.	Chem. Market Research Assn.
C. M. T. C.	Citizens' Mil. Train. Camp
Co.	Company, County
C. of C.	Chamber of Commerce
Col.	Colonel; Colony
Coll.	College
collab.	collaboration, collaborator, collaborating
Colo.	Colorado
combus.	combustion
Comdr.	Commander
coml.	commercial
comm.	committee
Commn.	Commission
Commr.	Commissioner
cond.	conditioning
condr.	conductor
conf.	conference
Conn.	Connecticut
cons., consult.	consulting, consultant
consltg.	consulting
contrib.	contributor
coöp.	coöperative
copolym.	copolymeris
Corpn.; Corp.	Corporation
corr.; corresp.	correspondent, correspondence, corresponding
C. P. A.	Certified Public Accountant
C. W.	Chemical Warfare
C. W. S.	Chemical Warfare Service

D. Agr.	Doctor of Agriculture
dau.	daughter
D. C. L.	Doctor of Civil Law
D. C. S.	Doctor of Commercial Science
dec.	deceased
Dec.	December
D. Eco.	Doctor of Economics
deg.	degree
del.	delegate
Del.	Delaware
D. Engrg.; D. Eng.; E. D.	Doctor of Engineering
dept.	department
dermatol.	dermatology, dermatological
des.	design, designed
dev., devel.	development
develd.	developed
D. F. C.	Distinguished Flying Cross
dir.	director
dischd.	discharged
dist.	district
disting.	distinguished
div.	division
D. Litt.; Litt. D.	Doctor of Letters
D. Met.	Doctor of Metallurgy
D. P. H.; Dr. P. H.	Doctor of Public Hygiene
Dr.	Drive
D. Sc.; Sc. D.	Doctor of Science
D. S. C.	Distinguished Service Cross
D. S. M.	Distinguished Service Medal
D. S. O.	Distinguished Service Order

E.	East
econ.	economic
E. C. P. D.	Engrs. Council for Profl. Devel.
ed.	education
E. D.; D. Engrg.; D. Eng.	Engrg., Doctor of
Ed. B.; Edn. B.	Education, Bachelor of
Ed. D.; Edn. D.	Education, Doctor of
edit.	edition, editor
Ed. M.; Edn. M.	Education, Master of
Edn. M.	Education, Master of
E. E.	Electrical Engr. (degree)
E. I. C.	Engrg. Inst. of Canada
elec.	electric, electrical
electrochem.	electrochemical
electrophys.	electrophysical
element.	elementary
E. M.	Engr. of Mines (degree)
emer.	emeritus
E. M. S. A.	Electron Microscope Soc. of Am.
Eng.	England, English
engr.	engineer
engrg.; eng.	engineering
Engr. O. R. C.	Engr. Officers' Reserve Corps
Engr. R. C.	Engineer, Reserve Corps
E. O. T. C.	Engr. Officers' Training Corps
E. O. T. S.	Engr. Officers' Training Sch.
equip.	equipment
E. S.	Electrochemical Soc.
esp.	especially
estab.; est.	establish
etc.	et cetera (and so forth)
exam.	examination
examg.	examining
exch.	exchange
Exec.	Executive
exp., exper.	experiment
expl.	experimental
exten. (s)	extensive

fact.	factory
F. A. M. F. & A. M.	Free and Accepted Masons
F. A. S.	Federation of American Scientists
F. Atom. Sc.	Federation of Atomic Scientists
Fdry.	Foundry
F. E. A.	Foreign Economic Admin.
Feb.	February
Fed.	Federal
F. E. M. A.	Flavoring Extract Mfrs. Assn. of the U. S.
F. E. R. A.	Fed. Emergency Relief Admin.
ferment.	fermentation
fermentol.	fermentology
fgn.; for.	foreign
F. H. A.	Federal Housing Admin.
F. H. C.	Fed. Housing Corpn.
fin.; finan.	finance, financial
Fla.	Florida
F. L. I.	Food Law Inst.
fndn.	foundation
fndr.	founder
for. fgn.	foreign
form., formtn.	formation
F. P. C.	Federal Power Commission
Fr.	France, French
frat.	fraternity, fraternal
frmn.	foreman
F. R. S. C.	Fellow of the Royal Soc. of Canada
Ft.	Fort
F. T. C.	Federal Trade Commission
F. W. A.	Federal Works Agency

Ga.	Georgia
G. B.	Great Britain
G. C. B.	Grand Cross of the Bath, Knight
gen.	general
geneal.	genealogical, genealogy
geod.	geodetic
geog.	geography, geographic
geol.	geology, geologist, geological
geom.	geometry, geometrical
geophys.	geophysical, geophysicist
Ger.	Germany, German
G. M. A.	Grocery Mfrs. of Am.
govt.	government
grad.	graduate
G. S. A.	Geological Society of America
gynecol.	gynecological

hd.	head
hdq.	headquarters
H. I.	Hawaiian Islands
hist.	history, historical
H. O. L. C.	Home Owners' Loan Corp.
homeo.	homeopathic
hon.	honorary
hort.	horticulture, horticultural
hosp.	hospital
H. S.	High School
hydr.	hydraulic
hydroelec.	hydroelectric
hydrog.	hydrogen, hydrogenation, hydrogenous
hydrol.	hydrological, hydrolysis

I. Ae. S.; I. A. S.	Inst. of Aeronautical Sciences
I. C. C.	Interstate Commerce Commission
I. C. E.	Institute of Ceramic Engineers
Ida.	Idaho
I. E. S.	Illuminating Engrg. Soc.
I. F. T.	Inst. of Food Technologists
Ill.	Illinois
illum.	illuminating
illus.	illustrated
impvd.	improved
impvt.	improvement
Inc.	Incorporated (in firm name)
incl.	include, including
Ind.	Indiana
ind.	industry, industrial
indep.; indpt.	independent
indus(t).	industry, industrial
inorg.	inorganic
insp.; inspn.	inspector, inspection
Inst.	Institute
instl.	institutional
Instn.	Institution
instr.	instructor
internat.	international
intro.	introduction
Inv.	Invention(s)
investi.	investigation, investigate
I. O. B. B.	Indep. Order of B'nai B'rith
I. O. F.	Independent Order of Foresters
I. O. O. F.	Independent Order of Odd Fellows
I. O. R. M.	Improved Order of Red Men
I. P. T.	Inst. of Petroleum Technology
I. R. E.	Institute of Radio Engrs.
Is.	Island
I. S. A.	Instrument Society of America
I. S. I.	Iron and Steel Institute
It.	Italy, Italian
I. T. E.	Inst. of Traffic Engrs.

Jan.	January
J. D.	Doctor of Jurisprudence
J. G.; Jr. g.; j. g.	Junior grade
jl(s).	journal(s)
Jl. A. C. S.	Journal of the Am. Chem. Soc.
jr.	junior
J. A. G.	Judge Advocate General

Kan(s).	Kansas
K. C.	Kansas City
K. of C.	Knights of Columbus
K. C. B.	Knight Commander of the Bath
K. C. C. H.	Knight Comdr. of Ct. of Honor
K. P.	Knights of Pythias
K. T.	Knights Templar
Ky.	Kentucky

La.	Louisiana
lab.	laboratory
lect.	lecturer
Legis.	Legislature, legislative
L. I.	Long Island
libr.	library, librarian
licd., lic., licen.	licensed
Lieut., Lt.	Lieutenant
lit.	literature, literary
Lit. B.; Litt. B.; B. L.	Letters, Bachelor of
Litt. D.; D. Litt.	Letters, Doctor of
LL. B.	Laws, Bachelor of
LL. D.	Laws, Doctor of
LL. M.; M. L.	Laws, Master of
L. O. M.	Loyal Order of Moose
Lt.; Lieut.	Lieutenant
Ltd.	Limited (in firm names)
lub.; lubric.	lubricant, lubrication

M.	Medal
m.	married
M. A.; A. M.	Master of Arts
mach.	machine
machy.	machinery
mag(a).	magazine
M. Agr.	Master of Agriculture
Maint.	Maintenance
Maj.	Major
manuf.	manufacture
Mar.	March
Mass.	Massachusetts
math.	mathematics, mathematical
matl(s).	material(s)
max.	maximum
M. B. A.	Master of Bus. Admin.
M. C.	Medical Corps
M. C. A.	Manufacturing Chemists Assn.
M. C. E.	Master of Civil Engrg.
M. C.	Master of Commercial Science
Md.	Maryland
M. D.	Medicine, Doctor of
Me.	Maine
M. E.	Mech. Engr. (degree)
meas.	measure
mech.	mechanic, mechanical
med.	medical, medicine
Med. Corps; M. C.	Medical Corps
Med. Sc. D.	Medical Science, Doctor of (post-grad. course)

M. E. E.	Master of Elec. Engrg.
Mem.	Member
M. Engrg.	Master of Engineering
met.; metall.	metallurgy, metallurgical
metal.	metallic
metalgt.; metall.	metallurgist
metaphy.	metaphysics
meteorol.	meteorological
meth(s).	method, methods
mfg.	manufacturing
mfr.	manufacturer
mgmt.	management
mgr.	manager
mgt.	management
Mich.	Michigan
micros.	microscopical
min.	minute, minimum
Min.	Mining
mineral.	mineralogical
Minn.	Minnesota
misc.	miscellaneous
Miss.	Mississippi
M. I. T.	Mass. Inst. of Technology
M. L.; LL. M.	Master of Laws
M. Lit.	Master of Literature
M. M. E.	Master of Mech. Engrg.
M. M. S. A.	Min. & Metall. Soc. of Am.
Mng.	Managing
Mo.	Missouri
M. O. F. W.	Mil. Order of Foreign Wars
Mont.	Montana
M. Pd.	Master of Pedagogy
M. P. L.	Master of Patent Law
M. Sc.; M. Sci.; Sc. M.	Master of Science
mss.	manuscripts
Mt.	Mount
Mtn.	Mountain
mun.	municipal
mus.	music, museum
M. W. A.	Modern Woodmen of Am.
N.	North
N. A.	National Army, National Academician
N. A. A.	Nat. Aeronautic Assn.
N. A. C. A.	National Advisory Committee for Aeronautics
N. A. C. E.	National Association of Corrosion Engineers
N. A. D.	Natl. Acad. of Design
N. Am.; N. A.	North America
N. A. M.	Natl. Assn. of Mfrs.
N. A. P. E.	Nat. Assn. of Power Engrs.
N. A. P. R. E.	Nat. Assn. of Practical & Refrigerating Engrs.
N. A. S.	Natl. Acad. of Science
nat.	natural
Nat. Fire Protect. Assn.	National Fire Protection Association
Natl.	National
N. C.	North Carolina
N. D.; N. Dak.	North Dakota
N. D. R. C.	National Defense Research Committee
N. E.	Northeast, New England
N. E. A.	Natl. Education Assn. of the U. S.
Neb.	Nebraska
N. E. C.	Natl. Emergency Council
N. E. L. A.	Natl. Elec. Light Assn.
N. E. R. A.	Natl. Emergency Relief Admin.
Nev.	Nevada
New Eng.; N. E.	New England
N. G.	National Guard
N. G. S.	National Geographic Soc.
N. H.	New Hampshire
N. I. R. A.	Natl. Indus. Recovery Act
N. J.	New Jersey
N. L. R. B.	Natl. Labor Relations Bd.
N. M.; N. Mex.	New Mexico
No.	Number, North, Northern
Nov.	November
N. R. A.	Natl. Recovery Admin.
N. R. C.	National Research Council
N. S. P. E.	Natl. Soc. Profl. Engrs.
N. T. A.	Natl. Technical Assn.
N. W.	Northwest

N. Y.	New York State
N. Y. A. S.	New York Acad. of Sc.
N. Y. City; N. Y. C.	New York City
O.	Ohio
O. C. D.	Office of Civilian Defense
O. C. E.	Office, Corps of Engineers
Oct.	October
O. D.; Ordn. Dept.	Ordnance Dept.
off.	office
Okla.	Oklahoma
oper.	operation, operating
O. P. M.	Office for Production Management
opt. min.	optical mineralogy
Opt. S. A.	Optical Soc. of Am.
O. Q. M. G.	Office, Quartermaster General
O. R. C.	Officers' Reserve Corps
Ordn.; Ord.	Ordnance
Ore.	Oregon
org., organ.	organic
orig.	original
O. S. R. D.	Office of Scientific Research and Development
O. S. S.	Office of Strategic Services
O. T. C.	Officers' Training Camp
O. T. S.	Officers' Training School
O. U. A. M.	Order of United Am. Mechanics
Pa.; Penn.	Pennsylvania
pat(s).	patent(s)
path.	pathology, pathological
Pd. B.; B. Pd.	Pedagogy, Bachelor of
Pd. D.	Pedagogy, Doctor of
Pd. M.	Pedagogy, Master of
P. E.	Profl. Engr.
Penn.; Pa.	Pennsylvania
pet.; petrol.	petroleum
phar(m).	pharmacy, pharmaceutical
Pharm. C.; Ph. C.	Pharmaceutical Chemist
Phar(m). D.	Pharmacy, Doctor of
Phar(m). M.	Pharmacy, Master of
Ph. B.	Philosophy, Bachelor of
Ph. C.; Phar(m). C.	Pharmaceutical Chemist
Ph. D.	Philosophy, Doctor of
Ph. G.	Pharmacy, Graduate of
phil.; philos.	philosophy, philosophical
Phila.	Philadelphia
philos.; phil.	philosophy, philosophical
photog.	photography, photographer
phys.	physical
physiol.	physiology, physiologist
phys. sc.	physical science
P. I.	Philippine Islands
Pitts.	Pittsburgh
Pl.	Place
P. O.	Post Office
Poly.	Polytechnic
polymeriz.	polymerization
P. Q.	Province of Quebec
P. R.	Porto Rico
pract.	practice
prep.	preparatory
prepn.	preparation
pres.	president
press.	pressure
preven.	prevention
prin.	principal
proc.	process
prod., produc.	production
prods.	products
prof.	professor
profl.	professional
proj.	project
propr.	proprietor
P. S. C.	Public Service Commission
psychol.	psychology
Pt.	Point
ptnr.	partner
pub., publn.	publication
P. W. A.	Public Works Admin.
Q. M.	Quartermaster
Q. M. C.	Quartermaster's Corps

Q. M. G.	Quartermaster General
Q. M. Res.	Quartermaster's Reserve
R. A. M.	Royal Arch Masons
Rd.	Road
R. D.; R. F. D.	Rural Free Delivery
R. E.	Royal Engineers
R. E. A.	Rural Electrification Admin.
recd.	received
recip.	reciprocal, reciprocating
ref.	reference
refrig.; refrigerg.	refrigerating
refrigern.	refrigeration
reg(d).	registered
rehabil.	rehabilitated, rehabilitation
reorg(n).	reorganization
rep.	representative, represent
Res.	Residence
res.	research
ret.	retired
rev.	review, revised
R. F. C.	Reconstruction Finance Corpn.
R. F. D.; R. D.	Rural Free Delivery
R. O. A.	Reserve Officers' Assn.
R. O. T. C.	Reserve Officers' Training Camp
R. P. I.	Rensselaer Poly. Inst.
R. T. C.	Reserve Training Corps
s.	son
S.	South
S. A.; So. Am.	South America
S. A. B.	Soc. of Am. Bacteriologists
S. A. E.	Soc. of Automotive Engrs. (Inc.)
S. A. M.	Soc. for Advancement of Management
S. A. M. E.	Soc. of Am. Mil. Engrs.
san.	sanitary
San Fran.	San Francisco, California
S. A. R.	Sons of the Am. Revolution
S. C. I.	Society of Chemical Industry
S. A. O. C.	Soc. of Am. Oil Chems.
S. A. T. C.	Students' Army Training Corps
S. C.	South Carolina
sc.; sci.	science, scientific
Sc. B.; B. Sc.	Science, Bachelor of
S. C. C.	Soc. of Cosmetic Chems.
Sc. D.; D. Sc.	Science, Doctor of
S. C. E.	Soc. Corrosion Engrs.
schl. (sch.)	school
sci.; sc.	science, scientific
Sc. M.; M. Sc.; M. Sci.	Science, Master of
S. C. S.	Soil Conservation Soc.
S. D.; So. Dak.	South Dakota
S. E. B. M.	Soc. for Experimental Biology & Medicine
Secy.; Sec.	Secretary
sec(t).	section
Sept.	September
serv.	service
S. I.	Staten Island
S. M. P. E.	Society of Motion Picture Engrs.
So.; South.	Southern
Soc.	Society
sociol.	sociological
Soc. Mun. Engrs.	Soc. of Municipal Engrs.
So. Dak.; S. D.	South Dakota
soluts.	solutions
solvs.	solvents
South.; So.	Southern
spec.; spl.	special, specialty
spect.	spectrum
S. P. E.	Society for Plastics Engineers
S. P. I.	Society of the Plastics Industry, Inc.
sr.	senior
S. R.	Sons of the Revolution
St.	Street, Saint
Sta.	Station
stands.; stds.	standards
stat(is).	statistical
struct.	structure, structural
subj.	subject
subsid.	subsidiary
sulf.	sulfur
supt.	superintendent
supvn.	supervision
supvr.	supervisor
surg.	surgeon, surgical
svc.	service
synop.	synopsis
T. A. L. I.	Tech. Assn. of the Lithographic Industry
T. A. P. P. I.	Technical Association of the Pulp and Paper Industry
tech., technol.	technical, technology, technologist
tel.	telephone
teleg.	telegraph, telegraphy
telev.	television
temp.	temperature
Tenn.	Tennessee
term.	terminal
Tex.	Texas
tfd.	transferred
tfr.	transfer
T. I.	Textile Inst.
tng.	training
T. N. T.	Trinitrotoluene (explosive)
tr.	trustee
trans.	transactions
transl.	translation
treas.	treasurer
treat.	treatment
T. R. I.	Textile Research Inst.
tstr.	tester
T. V. A.	Tenn. Valley Authority
U.; Univ.	University
U. C. T.	United Commercial Travelers
U. N.	United Nations
Univ.; U.	University
U. of P.	Univ. of Pennsylvania
urol.	urology
U. S.	United States
U. S. A.	United States Army
U. S. A. F.	United States Air Force
U. S. B. R.	U. S. Bur. of Reclamation
U. S. Bur. Stands.	United States Bur. of Standards
U. S. C. E.	United States Corps of Engrs.
U. S. D. A(g).	United States Department of Agriculture, Drug Admin.
U. S. F. A.	U. S. Fuel Admin.
U. S. H. A.	U. S. Housing Authority
U. S. M. A.	U. S. Military Academy
U. S. M. C.	U. S. Marine Corps
N. S. N.	U. S. Navy
U. S. N. A.	U. S. Naval Academy
U. S. N. A. S.	U. S. Naval Air Service
U. S. N. R.	United States Naval Reserve
U. S. P.	U. S. Pharmacopoeia
U. S. P. H. S.	United States Public Health Service
U. S. R. S.	U. S. Reclamation Service
U. S. T. C.	U. S. Tariff Commission
Util.	Utility
V.	Vice- (position, title)
Va.	Virginia
val.	value, valuation
varn.	varnish
vet.	veteran, veterinary
V. F. W.	Veterans of Foreign Wars
vice pres.; v. p.	Vice President
vol.	volume, volunteer
v. p.; vice pres.	Vice President
Vt.	Vermont
W.	West
W. W. I.	World War I
W. W. II.	World War II
Wash.	Washington
West.	Western
W. I.	West Indies
Wis.	Wisconsin
wk(s).	work(s)
W. P. A.	Works Progress Admin.
W. P. B.	War Production Board
W. Va.	West Virginia
Wyo.	Wyoming
Y. M. C. A.	Young Men's Christian Assn.
Y. M. H. A.	Young Men's Hebrew Assn.
Y. P. S. C. E.	Young People's Soc. of Christian Endeavor
yrs.	years
zoöl.	zoölogy, zoölogical

ADDENDA

The records in this section either were received too late for insertion in proper alphabetical position, or, because of editorial complications in checking, revision, and mailing, missed their usual alphabetical place in the following pages. All names in this section are conventionally placed in the geographical index at the end of the volume.

AHRENS, Carl, plant mgr., Am. Cyanamid Co., Plastics & Resins Div., Bound Brook, N.J.; res. 1415 Watchung Ave., Plainfield, N.J.
Chem. engr., exec.; b. Bklyn., N.Y., May 15, 1905; s. of Charles and Louise Ahrens; ed. Columbia U., A.B., 1926; B.S., 1927; Ch.E., 1928; m. Ruth Bates, June 26, 1936; ch.: Elizabeth, Carl. Chem. engr., res. lab., Am. Cyanamid Co., 1928-29; asst. to plant mgr., plastics div., 1930-34; asst. to plant mgr., & plant engr., 1934-40; plant mgr., 1940 to date. Mem.: A.C.S., A.S.M.E., Am. Mgt. Assn. Hobbies: photography, music.

AMBRUSTER, Howard Watson, P.O. Box 277, Westfield, N.J.
Correction; added club: Society of the Silurians.

ANDERSON, George A., dir., Chas. Pfizer & Co., Inc., 81 Maiden Lane, N.Y. 7, N.Y.; res. Old Brooksville, Nassau Co., N.Y.
Mfr.; b. Chicago, Ill., Mar. 18, 1885; s. of John and Augusta S. Henderson; ed. public, prep. & commercial schls.; m. Marjorie Hubbs, May 9, 1917; ch.: Mary F., Marjorie. H.A. Metz & Co., 1904-10 Chas. Pfizer & Co., Inc., 1910-49; pres., 1941-45; chmn. bd., 1945-49; dir., to date. Trustee, Am. Surety Co. of N.Y. & Union Dime Savings Bank; dir., Surety Fire Ins. Co. & Bklyn. Union Gas Co. Mem.: A.C.S., C. of C., N.Y., Bklyn. C. of C. Clubs: Drug & Chem., Chemists', Down Town, Creek, Nassau Country, Metropolitan.

BABOR, Joseph A., prof. of chem., Coll. of the City of N.Y., N.Y. 31, N.Y.; res. 58 Manchester Rd., Tuckahoe 7, N.Y.
Chem. prof.; b. N.Y.C., Mar. 5, 1895; s. of Frank and Josephine (Lucek) Babor; ed. B.S., C.C.N.Y., 1916; A.M., Columbia, 1918; Ph.D., 1924; mem.: Delta Sigma Phi; m. Mae R. Riha, N.Y.C., 1919; ch.: Ethel. C.C.N.Y., tutor, 1916; instr., asst. prof., assoc. prof., prof. of chem., 1924 to date; C.W.S. res., 1918-19. Res. in perfumes, gasoline & oil, bldg. materials, insulation. Author: "Basic Coll. Chem." (text); "Gen. Coll. Chem." (text); "Introd. Coll. Chem." (text); "Gen. Chem." (lab. manual); "Selected Experiments" (lab. manual); problem books in Gen. Chem., Qualitat., Physical Chem. Mem.: A.C.S., Chem. Tchrs. Club (pres., 1926). A.I.C., Sigma Xi, Phi Lambda Upsilon, A.A.U.P. Hobbies: stamp collecting, horticulture, fishing & hunting, painting.

BARBER, Edward Johnson, sales consultant, Am. Cyanamid Co., Calco Chem. Div., Bound Brook, N.J.; res. Old Lyme, Conn.
Sales exec.; b. Torrington, Conn., 1883; ed. Yale, A.B., 1905; m. Lillian P. Royer, Ardmore, Pa., June 18, 1913; ch.: Elizabeth, Donald Royer. Instr., Peekskill Mil. Acad., 1905-07; contract dept., Hapgoods, Inc., 1907-09; salesman, Barrett Co., 1909-10; sales mgr., chem. dept., 1919-21; asst. gen. sales mgr., 1922; White Tar Co., 1923-25; Am. Cyanamid Co., 1926-31; Mutual Chem. Co., 1931-33; sales exec. Calco Chem. Co., now Calco Chem. Div. of Am. Cyanamid, 1933 to date; on consultant basis since Jan. 1, 1949. Clubs: Old Lyme Country, Old Lyme Beach, Graduates (New Haven, Conn.). Hobbies: golf, gardening.

BARSKY, George, pres., Barsky & Strauss, Inc., 202 E. 44 St., N.Y. 17, N.Y.; res. 205 E. 78 St., N.Y. 21.
Consult. chem. engr.; b. N.Y.C., Aug. 26, 1896; s. of Joseph and Rebecca (Koenigson) Barsky; ed. Columbia U., B.S., 1916; Ch.E., 1918; M.A. & Ph.D., 1922; m. Renee J. Treer, May, 1943. Res. asst., dept. of chem., Columbia U., 1917-18; Bridgham Fellow, Columbia Engrg. Schl., 1919-21; Am. Cyanamid Co., res. dept., 1922-26; dir. expt. lab. & acting chf. tech., Cyanamid, 1926-33; pres., Barsky & Strauss, Inc., Consult. Chem. Engrs., 1933 to date. Numerous U.S. patents on chem. processes. Author: chpts. in "Roger's Chem." (1924) & "Alexander's Colloid Chem." (Vol. VI; 1946). Mem.: A.C.S., A.A.A.S. (fellow), Soc. Chem. Ind., A.S.M., Phi Beta Kappa, Sigma Xi, Tau Beta Pi. Cmdr., U.S.N.R. Club: Chemists' (N.Y.). Hobby: photography.

BILLS, Charles E., consult. chem., 3421 Stringtown Rd., Evansville 11,, Ind.; res. Evansville, Ind.
Chem. (org., biolog.); b. Natick, Mass., Feb. 9, 1900; s. of Dr. Chas. A. and Charlotte (Hunter) Bills; ed. Johns Hopkins U., B.S., 1920; A.M., 1923; Ph.D., 1924; spec. student, Harvard, 1919; m. Gladys Colton Tebbs, Oct. 10, 1931; ch.: Charlotte H., Richard A. Asst. in chem., Johns Hopkins U., 1919-21; lecturer in biochem., U. of Alberta, 1921-22; res. dir., Mead Johnson & Co., 1925-49; contult. chem., 1949 to date; dir. Mead Johnson & Co., 1931-48. Vitamin D, medicinal fish oils, sodium and potassium content of foods, yeasts, milk prods., vitamin assay techniques, flame photometry. Author of chapters in var. books and 60 jl. arts. and pats. Mem.: A.A.A.S., A.S.Bio. C., A.C.S., Am. Inst. Nutrition, Biometric Soc., S.E.B.M. Consultant to: League of Nations Health Organiz., 1931, U.S.P. Vitamin Comm., 1931, Natl. Defense Research Comm., 1942-43. Dir., Indiana Chem. Soc., 1941. Hobby: photography.

BLACKBERG, Solon N.: Correction; pres., Dr. Solon N. Blackberg & Associates, 122 So. Michigan Ave., Chicago 3, Ill.

BODE, J. Carl, pres., Natl. Carbide Co., div. of Air Reduction Co., Inc., 60 E. 42nd St., New York, N.Y.; res. 61 Beacon Hill Rd., Port Washington, N.Y.
Exec.; b. Keokuk, Iowa, Nov. 18, 1901; s. of Charles J. and Ida J. Bode; ed. U. of Wis., B.S. Ch.Engrg.; m. Marion C. Haubert, Nov. 12, 1928; ch.: Muriel C. 1923-24, electric furnace operator (ferro alloys), Keokuk Electro Metals Co.; 1924-28, electric furnace operator (steel), later asst. mgr., Keokuk Steel Casting Co., mgr., 1928; 1928-41, dept. foreman to wks. mgr., Natl. Carbide Co., Keokuk, Iowa, plant: 1941-46, wks. mgr., Natl. Carbide Co., Louisville, Ky. plant; 1946-47, asst. operating mgr., Natl. Carbide Co., New York; 1947-48, operating mgr.; 1948 to date, pres. Trustee, Keokuk Municipal Water Wks. to 1941; dir. Louisville Area Devel. Assoc., to 1946. Club: Uptown (N.Y.).

BOWEN, Ernest Clinton, mgr., tech. sales, Macalaster Bicknell Co., 243 Broadway, Cambridge 39, Mass.; res. 141 Englewood Ave., Brookline 46, Mass.

Chem. engr., applied physicist; b. Melrose, Mass., Mar. 13, 1907; s. of Archer Clinton and Alice (Day) Bowen; ed. 1928, Northeastern U., Boston, Mass., B.Ch.E.; 1935-36, M.I.T., grad. studies in spectroscopy; m. Katherine May Tombaugh, June 17, 1944. 1928-30, chem. engr., Research Dept., Monsanto Chem. Co., Everett, Mass.; 1930-44, salesman and sales mgr., Eastern Div., Central Scientific Co., Cambridge, Mass.; 1944-46, sales mgr., Natl. Research Corp., Boston, Mass.; 1947-50, mgr., N.Y. Office and Eastern Sales, Natl. Tech. Labs., So. Pasadena, Calif.; dir. in following: High Vacuum Coating Corp.; Phillips Scientific Corp.,Nuclear Physics, Blood plasma, penicillin and antibiotic program; high vacuum systems; sales devel. tech. instruments. Hobbies: photography, early American history.

BOYER, Raymond F., dir., Physical Res. Lab., The Dow Chem. Co., Midland, Mich.; res. 516 W. Main St., Midland.

Physical chem. of plastics; b. Denver, Colo., Feb. 6, 1910, s. of Charles Foster and Margaret Mary (Daly) Boyer; ed. B.S. in physics, Case Inst. of Tech., 1933; M.S. in physics, 1935; mem.: Sigma Xi, Tau Beta Pi; m. Frances Klobucar, 1936; ch.: Charles, James, Rima Louise, Margaret Anne. Tchg. asst., Case Inst., 1933-35; The Dow Chem. Co., 1935 to date; group leader; asst. dir., Physical Res. Lab., 1945-48; dir., 1948 to date. Physical chem. of high polymers; astronom. photog. photometry; x-ray diffraction; light & heat stabilizers for polyvinylidene chloride. Co-author of 2 chapts. & co-edit., A.C.S. Monograph on "Styrene"; pats. & pubs. in sc. & tech. jls. Mem.: A.C.S., A. Phys. S., N.Y. Acad. Scs. Hobbies: music, home movies, children.

BOYLE, Andrew Joseph, prof. & admin. hd., dept. of chem., U. Notre Dame, Notre Dame, Indiana; res. 1510 McKinley Ave., S. Bend 17, Ind.

Educatr. & admin.; b. Cananea, Mex., Dec. 21, 1906; s. of Andrew Joseph and Rose Theresa (O'Donnell) Boyle; ed. Notre Dame, B.S., 1928; M. S., 1929; Ph.D., 1931; Cornell, summer 1931; Columbia, summer 1932; m. Mary Agnes Harris, June 22, 1935 ch.: Kathleen Mary, Andrew Joseph. Jr. Asst. in Chem., U. Notre Dame, 1928-31; instr., 1931-34; asst. prof., 1934-37; assoc. prof., 1937-41; prof., since 1941; acting hd., dept. of chem., 1943-46; admin. hd., since 1946. Res. in analyt. chem., metall. Mem.: A.C.S. (Notre Dame; group secy., St. Joseph Valley Sec., 1934-37), A. S.M. (chmn., 1929-31), Indiana Chem. Soc., Indiana Acdy. Sc. Clubs: Faculty, Catholic Forum (S. Bend). Hobbies: golf, riding.

DOWNING, George Valentine, chief chem., Leas & McVitty, Inc., Salem, Va.; res. 427 Market St., Salem.

Chem.; b. Wilmington, Del., July 7, 1891; s. of Joseph Miller and Hannah Pennock (Steele) Downing; ed. Haverford Coll., B.S., 1914; M.A., 1921; Pratt Inst., applied leather chem., 1915; m. Dorothea Dean Jones, May 14, 1921; ch.: George Valentine, Jr., Conrad Jones, Hugh Steele. 1912-17, J.E. Rhoads & Sons, Wilmington; 1917-20, Am. Friends Service Committee. France; 1920-21. I.P. Thomas & Son Co., Paulsboro, N.J.; 1921 to date, Leas & McVitty, Inc. Heavy leather indus.; tanning & testing sole & power transmission leathers; articles pub. in tech. jls. Mem.: A.L.C.A. (since 1916), A.C.S. (since 1916: all elective offices Va. Blue Ridge Sec.). Hobbies: scouting, pottery, gardening.

DEARBORN, Ned Harland, pres., Natl. Safety Council, 425 Michigan Ave., Chicago 11, Ill.; res. 1345 Ashbury Ave., Winnetka, Ill.

Exec.; b. Conneautville, Pa., June 2, 1893; s. of John Wesley and Katherine (Rogers) Dearborn; ed. Columbia U., B.S., 1921; M.A., 1924; Ph.D., 1925; m. Glennie M. Grant, July 25, 1946; ch.: Gayle (decd.). Tchr., principal & supt. schls., Erie & Crawford cos., Pa., 1910-20; dir. training, State Normal Schl., Oswego, N.Y., 1921-23; asst. to dir., div. educational res., Commonwealth Fund, N.Y., 1923-25; dir., div. tchr. training; State Education Dept., N.Y., 1925-29; prof. ed. & dir. Inst. of Education, Schl. of Ed., N.Y.U., 1929-34; dean, div. genl. ed., 1934-42; exec. v.p., Natl. Safety Council, 1942-44; pres., 1944 to date. Trustee, Industrial Hygiene Foundation; dir., Natl. Health Council. Author: "Introduc. to Teaching," 1925; "The Oswego Movement in Am. Education," 1925; "Once In a Lifetime," 1936; (with Earl Rugg) "Social Studies in Teachers Colleges," 1938. Mem.: N.E.A., A.A.A.E., Am. Ed. Fellowship, Am. Mus. Safety, Phi Delta Kappa, Kappa Delta Pi. Clubs: Union League (Chicago), Cloud (N.Y.). Hobbies: sports, meeting & liking people.

EATON, William W., assoc. dir. res., Olin Industries, Inc., New Haven, Conn.; res. Cedar Hill Rd., Milford, Conn.

Exec. engr.; b. Roaring Spring, Pa., July 26, 1911; s. of Paul and Mary W. Eaton; ed. Swarthmore Coll., A.B. (highest hons.), 1932 Yale U., Ph.D., 1935; mem.: Delta Upsilon, Omicron Omega, Gamma Alpha, Phi Beta Kappa, Sigma Xi; m. Louise Whittington; ch.: Barbara, Marcia, Mary, Robert, William, Jr. Dev. engr., Eastman Kodak Co., Rochester, N.Y., 1935-42; liaison officer, O.S.R.D., Wash., D.C., 1942-45; asst. plant mgr., Naval Ord. Plant, Camden, Ark., 1945-46; chf. dev. engr., Remington Rand, Photorecords Div., N.Y., 1946-48; assoc. dir. res., Olin Indus., 1948 to date. Direction res. & dev. fld. dry batteries; several patents. Presidential Cert. of Merit, outstanding civilian service, W.W. II, 1948. Mem.: Am. Inst. Physics (Opt. Soc. Am.), A.A.A.S., Soc. Indus. Microbiol. Club: Toastmaster's Internatl. Hobbies: sports, travel.

JENKINS, Russell L(ewis), dir. of res., Phosphate Div., Monsanto Chem. Co., Anniston, Ala.; res. 1205 Champaign Ave., Anniston, Ala.

Dir. of res.; b. Richmond, Ind., Jan. 4, 1897; s. of Charles Milton and Ellen (Dickinson) Jenkins; ed. Earlham Coll., 1915-17; U. of Pittsburgh. 1917-20, B.S. in Chem. (Phillip's medallist, top honors, class of 1920); U. of Ill., 1920-23, M.S. and Ph.D. in Org. Chem., Université de Lyon, Lyon, France, 1923-24; mem.: Phi Beta Kappa, Sigma Xi, Alpha Chi Sigma, Gamma Alpha, Phi Lambda Upsilon; m. Esther Hetherlin, June 24, 1925; ch.: Charles T., Phillip W., Heather L. Indust. fellow, Mellon Inst., Pittsburgh, Pa., 1924-26; res. chem., du Pont Rayon Co., Buffalo, N.Y., 1926-27; res. chem., then chf. org. chem., Swann Chem. Co. 1927-35 (taken over by Monsanto in 1935) res. grp. ldr., Monsanto Chem. Co., St. Louis, Mo., 1935-37; asst. dir. of res., same co., 1937-40; res. dir., Monsanto Chem. Co., Anniston, Ala., 1940 to date (Phosphate Div.). Contrib. num. tech. arts. to sc. jls. Inventor and co-inventor of approx. 40 U.S. pats. and 4 British and 1 French pat. Mem.: A.C.S. (chmn. Alabama Sect., 1946-47, councillor, 1948-50, Membership Affairs Comm., 1948-49, Council Policy Comm., 1949 to date); A.I.Ch.E., A.S.M., S.C.I. (London). Member of Auburn Res. Foundation of Ala. Polytech. Inst.; on bd. of elders, Presbyterian Ch.; State and Local Chambers of Commerce (Ex-Local Bd. of Dirs.). Clubs: Rotary (ex-bd. of dirs.), Missouri Athletic (non-resident mem.). Hobbies: reading, gardening.

KOHN, Moritz, res. chem., Benzol Products Co., 237 South St., Newark 5, N.J.; res. 536 W. 113 St., N.Y. 25, N.Y.

Chem. research; b. Teschen. Austria; s. of Dr. Alois and Betty (Silbergleit) Kohn; ed. U. Vienna, Ph.D., 1900. Asst. to prof. A. Lieben, chem. institute, U. of Vienna, 1900-06; asst. to prof. Z.H. Skraup, 1906-10; privatdozent, U. of Vienna, 1905; A.O. prof., U. of Vienna, 1917; res. chem., Benzol Prods. Co., Newark, N.J., 1943 to date. Pubs. in fld. of inorg., org. & analyt. chem. & in the hist. of chem. in sc. jls. Haitinger Prize of Acady. of Sc., Vienna; re-issued diploma, Ph.D., U. of Vienna, July 20, 1950.

LANKFORD, Jonathan D., chief process sec., U. S. Bureau of Mines, Oil Shale Demonstration Plant, Rifle, Colo.; res. 31 Anvil Points, Rifle.
Chem, engr.; b. Boone, Iowa, Sept. 2, 1911; s. of Everett Alma and Emma Adelade (Nielson) Lankford; ed. Johns Hopkins, 1931-32; Wash. Coll., 1932-33; Columbia, 1934-35; U. Okla., 1935-37, B.S.Ch.E.; m. Dorothy Greene, Sept. 2, 1942; ch.: Jon Robert. Petrol. refining tech. dept., Magnolia Petrol. Co. Refining Div., Beaumont, Texas, 1937-42; aviation gasoline res., Petrol. Expermt. Station, U.S. Dept. Int., Bur. Mines, Bartlesville, Okla., 1942-44; chf. process sec., Oil Shale Demons. Plant, Bur. Mines, Rifle, Colo., 1944 to date. Shale oil retorting & refining invest., res. & devel. Articles in tech. jls. Mem.: A.C.S., Colo. Mining Assn. Hobbies: woodworking, hunting & guns.

LOHR, James Martin, Driver-Harris Co., Harrison, N.J.
Correction: m. Mabel J. Harry; 17 pats. & 1 pat. pending.

McCONNELL, J. H. Tyler, Hercules Powder Co., Wilmington, Del.
Correction: added ch.: Susan.

STARK, W(illiam) H(ubbard), exec. asst. to pres. & v.p., The Vulcan Copper & Supply Co., 120 Sycamore St., Cincinnati 2, Ohio; res. Farmbrook Dr., Cincinnati 30.
Bacteriol.-biochem.; b. Tiffany, Wis., Mar. 5, 1915; s. of Hubbard W. and Janet M. Stark; ed. Wisconsin, B.S., 1936; M.S., 1937; Ph.D. (agric. bacteriol.), 1939; mem.: Alpha Chi Sigma; m. Mary A. Brush, June 16, 1937; ch.: Juliet Sivey, Sara Hubbard. Res. asst. agric. bacteriol., Wisconsin, 1936-39; bacteriol., res. & devel. dept., Joseph E. Seagram & Sons, Inc., 1939-40; head, ferment. div., 1940-41; asst. dir. res., 1941-42; supt., butyl alcohol plant, Assoc. Azucarera Coop. Lafayette, Puerto Rico, 1942-43; dir. res., Seagram, 1943-47; gen. mgr., Vickers-Vulcan Process Engrg. Co., Ltd., 1947; exec. asst. to pres. & v.p., The Vulcan Copper & Supply Co., to date. Yeast ferment., grain & molasses; 2-3 butylene glycol ferment.; butyric acid anaerobes; butyl alcohol ferment.; microbial prod. of enzymes & of vitamins. Mem. N.Y. Acdy. Sc., Sigma Xi, Phi Sigma. Clubs: A.C.S., S.A.B., A.A.A.S., C.I.C., S.A.O.C., University of Montreal. Hobbies: flying, golf, woodworking.

STILLMAN, Ronald Claire, chem., Procter & Gamble Co., Ivorydale, Cincinnati 17, Ohio; res. 1578 Reid Ave., Cincinnati 24.
Chem.; b. Brookfield, N.Y., Jan. 9, 1908; s. of John L. and Minnie V. Stillman; ed. Marietta Coll., 1924-29, A.B. cum laude, Phi Beta Kappa; mem.: Theta Kappa Nu; m. Margaret Sarbeck, May 26, 1937; ch.: Nadine, Dianne, Ronald, Judith. Procter & Gamble 1929 to date, dev. wk., 1929-31, res. wk., 1931-45, chem. stand. 1945 to date. Mem.: A.C.S., A.O.C.S., Engrg. Soc. of Cincinnati.

STIMPSON, Edwin Greenwood, res. chem., National Dairies Res. Labs., Oakdale, N.Y.; res. Sayville, N.Y.
Chem.; b. Dec. 3, 1908; s. of William C. and Irene D. Stimpson; ed. U. Md., 1930, A.B.; 1937, Ph.D.; mem.: Alpha Chi Sigma, Sigma Xi, Phi Kappa Phi; m. Ann Shaw, Sept., 1937; ch.: Edwin G., Jr., David B. Res. labs. of Natl. Dairy Prod. Corp., chem., 1930; Natl. Juice Corp., contr. chem., 1931; Sealtest, Inc., res. chem., 1938-47; Natl. Dairies Res. Labs., res. chem., 1947 to date. Res. in milk, whey by-prods., lactic acid, methyl lactate, synth. rubber, methyl. acrylate, milk nutrition. Mem.: A.C.S., Sigma Xi, Phi Kappa Phi.

STOLZENBACH, Charles Frederich, engr., Consolidated Edison Co., 4 Irving Pl., N.Y.C.; res. 338 E. 14th St., N.Y.C.
Prof. chem. engr.; b. N.Y.C., Dec. 28, 1908; s. of Charles and Elizabeth Stolzenbach; ed. Cooper Union Inst., B.S., Ch.E.; Columbia U., M.S., Ph.D.; m. Hedwig Krolzig, July 22, 1948. 1930 to date, Consolidated Edison Co. of N.Y., chem. engrg. group; 1938 to date, Cooper Union Inst., evening session, instr. Mem.: A.C.S., A.I.Ch.E., Soc. of Gas Engrg. Hobbies: boating, stamp collecting.

WITHEROW, William Porter, Blaw-Knox Co., Pittsburgh 22, Pa.
Corrections: ed. St. Paul's Schl., Concord, N.H., 1905; added ch.: William Porter, Jr.; member, Irvin & Witherow, Engineers, 1910-14.

CHEMICAL WHO'S WHO

A

AALL, Christian Hiorth, asst. dir. of res., Monsanto Chem. Co., Columbia, Tenn.; res. Terrace Pl., Columbia.
Chem. engr; b. Oslo, Norway, Apr. 14, 1913, s. of Dr. Cato and Ida (Hiorth) Aall; ed. high schl. 1930 and com. high schl. 1931 Oslo, chem. studies Grenoble, France 1931 to 1939, Chem. Engr. Inst. d'Electrochim. et d'Electrometal. 1934, Ingenieur-Docteur 1938, Licencie es Sciences d'Etat and Docteur es Sciences Physiques d'Etat Grenoble U. 1939; mem. Assoc. des Anciens Eleves at Grenoble; m. Ruth Ella Bergengren, July 8, 1939; ch: Ida Cecilie, Marie Elisabeth, Pamela Ruth. 1935-1936 res. chem. Soc. d'Electrochim., d'Electrometal. et des Acieries Electriques d'Ugine, Notre-Dame de Briancon, Savoie, Fr.; 1939 chf. chem. Nordisk Aluminium Indus., Holmestrand, Norway; 1939-1942 plant mgr. Odda Smelteverk, Odda, Norway; 1942-1943 res. chem. Christiania Spigerverk, Oslo; 1943-1945 tech. adviser Royal Norwegian Govt. and Norwegian High Comd., London, Eng.; 1944-1945 conslt. I. C. I. (Gen. Chems.) Ltd., Runcorn, Ches., Eng.; 1945-1946 chf. Norweg. Mil. Mission U.S.F.E.T., Frankfurt, Ger., chf. Norweg. F.I.A.T. and Restitutn. Missions; 1946 conslt. Monsanto Chem. Co., St. Louis, Mo.; 1947-1948 spec. asst. to chf. engr., Phosphate Div., Monsanto, Anniston, Ala.; 1948-1949 res. fld. tech., Phosphate Div., Monsanto, Columbia, Tenn.; 1949 to date asst. dir. of res., Phosphate Div., Monsanto, Columbia. Author: "Contrib. a l'Etude du Carbure de Calcium Indus." 1939. Mem.: A.C.S., A.I.M.M.E., Norsk Ingenior Forening, Norges Industri Forbund. Awards: M. of Freedom with Palm, Castner Gold M. Clubs: Greymere Country (Columbia, Tenn.), Rotary Club (Columbia). Hobbies: travel, golf, photography.

ABBEY, Raymond E, matl. contr. supt., Mich. Chem. Co., N. Bankson St., St. Louis, Mich., res. 109 N. Franklin St.
Matl. contr. supt.; b. Lapeer Co., Mich., Sept. 30, 1910; s. of Isabel Abbey; ed. Arthur Hill High Sch., Saginaw, Mich. 1928; some extension wk. with U. Mich.; m. Rosemary I. Levi, Aug. 3, 1929; ch.: Lawrence R., Terrance E., Valerie G. Mich. Bell Telephone, 1928-31, clerk; Saginaw Malleable Iron, div. of G.M.C. 1931-42, checker; hd. checker, spec. follow-up, shipping frmn., asst. prod. mgr., Saginaw Steering Gear Machine Gun plant 1942-45, asst. prod. mgr., prod. mgr.; Mich. Chem. Corp., 1945 to date, matl. contr. supt. Clubs: Lions (St. Louis), Elks (Alma, Mich.), Pioneer (Saginaw, Mich.). Hobbies: Boy Scout movement (council comm.), bowling, golf.

ABBOT, Samuel Leonard, Jr., partner, S. L. Abbot Co., 135 King St., San Francisco 7, Calif.; res. P. O. Box 31, Diablo, Calif.
Chem. jobber, distriibutor & sales agent; b. San Francisco, Calif., May 26, 1917; s. of Samuel L. and Martha (Foster) Abbot; ed. U. of Calif., Berkeley, Calif., A. B. in chem.; Calif. Inst. of Tech., Pasadena, Calif., M.S. meteorology, A.B. 1939, M.S. 1943; mem.: Zeta Psi; m. Myra May Hall, Sept. 14, 1940; ch.: Daniel O., Suzette M., Judith G., Cynthia. 1939-42, S. L. Abbot Co., chem. salesman; 1942-46, U.S.A. Air Corps, weather officer, relieved from active duty in 1946 as Capt. in A.U.S.; 1946 to date, S. L. Abbot Co., salesman, partner 1948, gen. mgr. of San Francisco office May 1950 to date. Clubs: Kiwanis Internatl., Golden Gate Paint, Varn. & Lacq. Assn., Golden Gate Paint & Varnish Production Club.

ABBOT, Samuel Leonard, sr. partner, S.L. Abbot Co., San Francisco & Los Angeles, Calif., 135 King St., San Franciscso 7, Calif.; res. R. 2, Box 600, Sonoma, Calif.
Chem. merchant, mfrs. agents; b. Oct. 27, 1890; s. of Samuel L. and Jeanie (Ogden) Abbot; ed. U. of Calif., Berkeley, Calif., 1908-10; mem.: Zeta Psi; m. Martha Kittle Foster, Nov. 4, 1914; ch.: Mrs. Scott Lawler, Samuel L. Abbot, Jr., Mrs. Thos. M. Leaver. 1910-12, clerk, Otis McAllister & Co., importers & exporters, San Francisco; 1913, clerk, S.L. Jones & Co., importers & exporters, San Francisco; 1914-17, specialty salesman, Mailliard & Schmiedell, groceries, San Francisco, 1917-31, mgr. chem. dept.; 1931 to date, est. S.L. Abbot Co., San Francisco & Los Angeles. Oilwell Chems. & Matls. Co., Los Angeles, Calif. (v.p., dir.). Clubs: Pacific Union (San Francisco), Chemists' (N.Y.). Hobbies: ranching, hunting, fishing.

ABBOTT, Andrew Doyle, res. chem., Calif. Res. Corp., Richmond, Calif.; res. 51 Woodside Way, Ross, Calif.
Res. chem.; b. Waterville, Wash., Nov. 20, 1913, s. of Glenn C. and Kathryn Abbott; ed. U. of Washington, B.S., 1937, Ph.D. 1942; m. Edith Lucille Arnold, June 14, 1938; ch.: Louise Kathryn, Patricia Edith, Phyllis Irene. Res. chem., Procter & Gamble, 1942-46; res. chem., Calif. Research Corp., 1946 to present. Mem.: Sigma Xi, Phi Lambda Upsilon. Hobbies: woodworking, gardening, outdoor sports.

ABBOTT, Frederick C., mgr., personnel div., Penn. Salt Mfg. Co., 1000 Widener Bldg., Phila. 7, Pa.; res. 400 N. Stanwick Rd., Moorestown, N.J.
Personnel exec.; b. Fayetteville, Ark., July 19, 1908; s. of Fred C. and Anna Maude (Booker) Abbott; ed. U. of Ark., B.S. Ch.E., 1931; mem.: Sigma Chi; m. Billie R. Gwaltney, May 13, 1933; ch.: Kristin Sue, Anne. Asst. chf. chem., Texaco Salt Prod. Co., Tulsa, Okla., 1931-35; chem. engr., Ozark Chem. Co., Tulsa, 1934-42; chem. mgr., Phosphate Mining Co., Nichols, Fla., 1943; sr. chem. engr., Penn. Salt Mfg. Co., Phila., Pa., 1943-44; mgr., new products div., 1944; asst. prod. mgr., 1945; personnel mgr., 1946 to date. Mem.: A.I.Ch.E., A.C.S.

ABBOTT, George A(lonzo), prof. of chem., U. of N.D., University Station, Grand Forks, N.D.; res. 505 Hamline St., Grand Forks.

Prof chem.; b. Alma, Ill., July 7, 1874; s. of John Baughman and Harriet (Stuart) Abbott; ed. DePauw U., B.A. 1895. M.A. 1896; M.I.T., Ph.D. chem. 1908; mem.: Delta Kappa Epsilon, Phi Beta Kappa, Sigma Xi; m. Ruth Ware, June 15, 1910; ch.: Marian Ware (Abbott) Huxsol, Stuart Ware. Instr., Chem. H.S., Evansville, Ind., 1896-99, Duluth, Minn. 1899-1900; Indianapolis, Ind., Manual Training H.S. 1900-04 and 1907-09; N.D. State Coll., asst. prof. org. & ind. chem. & chem. Expt. Station, 1909-10; hd. chem. dept., U. of N.D., 1910-47, prof. chem. 1947 to date. State Ground Water Survey 1935-37; special water conslt., Natl. Resources Bd. 1937; dissociation relations of ortho & pyro phosphoric acids & their sodium salts; fluorides in ground waters; expert toxicologist & court witness; conslt. Articles: J. Am. Chem. Soc. & other tech. publ.; special reports, bulletins & sc. articles; 13 yrs. radio broadcasts on "Sc. from the Side Lines"; guest prof. City Coll., N.Y.; exchange lecturer, U. of Manitoba; state delegate Int. Congress Applied Chem. Mem.: A.C.S., Inst. of Chem. (fellow), Red River Valley Sec. of A.C.S. (charter chmn.), Senate on Chem. Ed., Contributing Edit. Journal of Chem. Ed., Ind. Acad. of Sc. (fellow), N.D. Acad. of Sc. (charter mem., secy., treas. annually re-elected 1909-49). Clubs: Kiwanis Internatl. (dist. governor), Fortnightly, Franklin. Hobbies: fishing, gardening.

ABBOTT, Harald Wallace, dir. res., Speer Carbon Co., St. Marys, Pa.; res. 430 Chestnut St., St. Marys.
Chem.; b. South Merrimack, N.H., July 27, 1890; s. of Arthur D. and Amy L. Abbott; ed. Pinkerton Acad., Derry, N.H., 1909; Middlebury Coll., Vt., 1914, B.S. cum laude; Alexander Hamilton Inst.; mem.: Alpha Sigma Phi, Alchemists, Phi Beta Kappa; m. Florence Montgomery Pierce, June 30, 1914. Sc. teacher, Norwood (Mass) H.S., 1914-15; chem. 1915-17, tech. supvr. 1917-20, Al. Co. of Am., Massena, N.Y.; res. engr., 1920-21, carbon plant supt. 1921-25, res. dir. 1925-27, Stackpole Carbon Co., St. Marys, Pa.; pres., Carbon, Inc., Cleveland, Ohio, 1927; chf. chem., Republic Carbon Co., 1927-29; res. engr. 1929-32, dir. labs. 1932-40, dir. of res. 1940 to date, Speer Carbon Co. & Internatl. Graphite & Electrode Corp., St. Marys, Pa. Chapters on transmitting tube anodes & motor & generator brushes (Ind. Carbon-Mantell); chapter on baked & graphitized carbon (Encyclopedia of Chem. Tech.-Intersc. Pub. Co.). Mem.: Inst. Radio Engrs. (assoc.), Am. Welding Soc. Clubs: Natl. Rifle Assn., Ridgeway Rifle, Elk Co. Sportsmen's Assn., Am. Single Shot Rifle. Hobbies: photography, rifle shooting.

ABBOTT, Howard M., v.p., Hardesty Chem Co. Inc., 41 E. 42 St., N.Y. 17, N.Y.; res. 7 Cotswold Way, Scarsdale, N.Y.
Ind. exec.; b. Frenchtown, N.J., June 3, 1900; s. of Isaac Birch and Ella Titus (Maxwell) Abbott; ed. Churchman's Inst., Easton, Pa.; mem.: Beta Sigma Chi (local); m. Marie K. Fieger, July 11, 1928; ch.: Shirley Emma, Howard Maxwell, Jr. Dixie Cup Co., Easton, Pa., 1922-23; secy., asst. treas., First Bros. Inc., Atlanta, Ga. 1924-25; Binney & Smith Co., Easton & N..C. 1926; W.C. Hardesty Co. Inc., Carnegie, Pa. 1927, asst. secy. 1928; v.p., dir., Century Stearic Acid Candle Wks. Inc., N.Y.C., 1929 to date; v.p., W.C. Hardesty Co. Inc., N.Y.C., 1934-50; dir., W.C. Hardesty Co. Inc., 1939 to date; secy., exec. comm., W.C. Hardesty Co. Inc., 1942-50; v.p., dir., Hardesty Chem. Co. Inc., 1944 to date; pres., dir., Twentieth Century Chem. Ltd., Toronto, Canada, 1941 to date. Mem.: A.O.C.S., Syn. Org. Chem. Mfrs. Assn., A.A.A.S., S.C.I. (Am. Sec.), Dir., treas. of Scarsdale Community Service; pres., dir., Greenville Community Council, Scarsdale, N. Y. Clubs: Westchester Country (Rye, N.Y.), Uptown (N.Y.C.). Hobby: numismatist.

ABBOTT, Talbert Ward, dean, Coll. of Lib. Arts and Scs., Southern Ill. U., Carbondale, Ill.; res. 1328 S. Thompson St., Carbondale.
Prof. chem. and dean, Coll. of Lib. Arts and Scs.; b. Aug. 21, 1892, Otwell, Indiana, s. of McCrillis and Emma Houpt Abbott; ed. A.B. Indiana U. 1918, A.M. Harvard U. 1922, Ph.D. U. of Ill. 1928; mem.: Sigma Xi, Phi Lambda Upsilon, Chemeka, Gamma Alpha, Alpha Chi Sigma, Sigma Pi Sigma; m. Hazel Ervin, Deç, 20, 1930; ch.: Ellen Abbott, Frank Ervin Abbott. Asst. chem. Harvard U. 1922-23; instr. chem. dept., Ga. School of tech., 1924-26; prof. of chem. S.I.U., 1928 - to date; dir. ext., 1935-45; dir. of placements, 1944-45; dean, Coll. of Lib. Arts and Scs. S.I.U., 1945 - to date. Co-author with Drs. Neckers and Van Lente, "Experimental General Chemistry," pub. 1940, rev. 1949, T.Y. Crowell Co., mem.: A.C.S., A.A.U.P., Ill. Acad. of Sc. and N.E.A. Clubs: Rotary, Jackson Country. Hobby: golf.

ABLARD, James Elbert, conslt. to explosives res. dept., Naval Ordnance Lab., Whiteoak, Md.; res. 211 Hillmoor Dr., Silver Spring, Md.
Chem.; b. Oshkosh, Wis., Dec. 7, 1910; s. of George H. and Sybil Ann Ablard; ed. U. of Wis., B.S. 1933; Carnegie Inst. of Tech. 1937; m. Eleanore Stuve, June 27, 1942; ch.: J. Edward, John Henry, Richard Matthew. B.F. Drakenfeld Co. Inc., Wash., Pa., 1938-41, physical chem,; Explosives Res. Lab., Bruceton, Pa., 1941-45, res. supvr.; Gen. Tire & Rubber Co., Akron, Ohio, 1945-49, res. chem.; Naval Ordnance Lab., Whiteoak, Md., 1949 to date, conslt. Mem.: Sigma Xi, A.C.S.

ABRAMOWITZ, William Lewis, pres., Amer. Resinous Chems. Corp., 103 Foster St., Peabody, Mass.; res. 55 Pilgrim Rd., Marblehead, Mass.
Chem.; b. N.Y.C., Nov. 9, 1914; s. of Mendel and Dora Smith Abramowitz; ed. M.I.T., S.B. 1935; B'klyn. Poly. Inst.; Columbia U.; m. Lee Epstein, June 3, 1944; ch.: Susan, Ava, Gail. Felton Chem. Co., chem. 1935-36; Natl. Oil Products Co., chem. 1936-39; Industrial Inventions Corp., partner, 1939-40; Amer. Resinous Chems. Corp., pres. 1940 to date. Holds 10 patents. Mem.: A.C.S., A.I.Ch.E., T.A.P.P.I. Clubs: Chemists', Technology. Hobby: sailing.

ABRAMS, Allen, v.p. and dir. Marathon Corp., Rothschild, Wis.; res. 815 Tenth St., Wausau, Wis.
Chem. engr.; b. Butler, Pa., Jan. 27, 1889, s. of Edward E. and M. Genevieve (Allen) Abrams; ed. Wash. and Jeff. Coll., A.B. 1910, M.S. 1915, Sc. D. 1937; Mass. Inst. Tech., B.S., 1915; mem. Phi Gamma Delta; m. Juanita Spyker, Nov. 15, 1919; ch.: Mary Catherine, (Mrs. D.E. McKey), Jean Chilton. Instr. Mass. Inst. Tech. 1915-16, 1920-21; chem. Bemis Bro. Bag Co. 1916-17, 1919-; chem. Cornell Wood Prod. Co. 1921-26; res. and dev. Marathon Corp. 1926 to date (v.p. since 1940); chem. war serv. 1917-19, O.S.S. 1943-4.Mem.: A.A.A.S, A.C.S, A.O.C.S., A.S.T.M, I.RI. (dir.), S.C.I., T.A.P.P.I. (past pres.), Wis. Acad. Sc., Arts and Lett. (v.p.); Wasau Bd. of Ed. (v.p.), Wasau Y.M.C.A., Boy Scouts of Am. Clubs: Wasau, Rotary. Hobbies: trout fishing, bird hunting. Trustee: Sulfite Pulp Mfrs. Res. League; Wash. & Jeff. College.

ABRAMS, Edward, hd., text. sect., So. Res. Inst., 917 S. 20 St., Birmingham, 5, Ala., res. 1721-D Valley Ave., Birmingham, 9.
Text., microbiol. chem.; b. Bridgeport, Conn., Sept. 19, 1912; s. of Samuel and Alice Abrams; ed. C.C.N.Y., Feb. 1933, B.S.; Geo. Wash. U., Feb. 1941, M.A.; Georgetown U., Dec. 1946, Ph.D.; mem.: Sigma Xi, (Sigma Xi, U. Va.); m. Bertha P. Levine, Dec. 23, 1937; ch.: Michael Harvey. Feb. 1941-Aug. 1946 hd. microbiol., microscopy labs., div. org. fibrous matls., Natl.

Bur. Stands., Wash., D.C.; Nov. 1946-Sept. 1949 hd., biol. div., Inst. Text. Tech., Charlottesville, Va.; Sept. 1949-June 1950 conslt. to Text. Ind., Off. 40 Worth St., N.Y.C.; June 1950 to date hd., text. sec., So. Res. Inst. Res. in treatments and perf. tests for fungicidal fabr., during war, investigated fundam. nature of microbiol. destruction of cotton for onr., dev. meths. stream pollution contr. spec. text. mills; contrib. to sc. and tech. jls.; mem.: A.A.A.S., A.C.S., Biol. Photog. Assn., A.A.T.C.C., Soc. Ind. Microbiol., Va. Acdy. Sc., N.Y. Acdy. Sc. Hobbies: photography, music (mem.: Symphony Orch.).

ABRAMS, Ellis, dir. of textiles res., Quaker Chem. Prods. Corp., Conshohocken, Pa.; res. 1503 E. Barringer St., Phila. 19.
Chem.; b. Pitts., Pa., Jan. 24, 1917; s. of Israel A. and Bessie L. Abrams; ed. U. of Pitts., B.S. (chem.), 1938; Ph.D., 1942; m. Bernice Braderman, Mar. 29, 1946; ch.: Elliot. 1942 to date, Quaker Chem. Prods. Corp., Conshohocken, Pa.; 1942-49, res. chem.; 1950 to date, dir. of textiles res. Study of derivatives of m-terphenyl; dev. in fld. of surface active agents, textile finishes; pat. on water repellent finish for textiles. Mem.: A.C.S., Sigma Xi, Phi Lambda Upsilon. Hobbies: photography, woodworking.

ABRAMS, Irving Melvin, lab. dir. Chemical Proc. Co., 901 Spring St., Redwood City, Cal.; res. 2455 Alpine Rd., Menlo Pk., Cal.
Res. Chem.; b. St Paul, Minn, Feb. 25, 1917, s. of Ephraim and Rebecca Abrams; ed. U. of Minn., B.Ch. 1938, Ph.D. 1942; Stanford U., Bristol-Myers Fellow, 1942-44; mem.: Sigma Xi; with Internat. Minerals and Chem. Corp. 1944-47, res. chem. Chem. Proc. Co. 1947 to date. Contr. to fields of dynamic membrane phenomena, membranes for electron microscopy, and ion exchange resins. Mem.: A.C.S., Phi Lambda Upsilon. Dir.: Human Relations Res. Foundation. Club: United World Federalists. Hobbies: tennis, softball, music, dramatics.

ACCOLA, Alvin John, Jr., chem. engr., Merck & Co. Inc., Rahway, N.J.; res. Box 254, R.F.D. No. 1, Plainfield, N.J.
Chem. engr., res. and dev. dept.; b. Tokyo, Japan, Nov. 14, 1922; s. of Alvin J. and Katharine M. Accola; ed. B.S. in Chem. Engrg., Princeton U., 1943 (high honors, Phi Beta Kappa); Ch.E., Princeton U., 1944; mem.: Sigma Xi; m. Marcy Mills, Aug. 6, 1944; ch.: Nancy Howard. Aug., 1944-June, 1946, U.S. Naval Res., Lt. (jg.), Commanding Officer coastal minesweeper; June, 1946-Sept., 1949, Dewey & Almy Chem. Co., dev. dept. for 2 yrs.; prod. supt., Plastic Film Plant, 1 yr.; Sept., 1949 to date, with Merck & Co., Inc. Mem.: A.I.Ch.E., A.C.S. Hobbies: stamps, sailing, fishing, tennis

ACHILLES, Harold E., supvr., Tech. Service Lab., Tide Water Associated Oil Co., Bayonne, N.J.; res. 216 Manor Ave., Cranford, N.J.
Res. chem.; b. N.Y.C., June 3, 1907; s. of Eduard and Anna Achilles; ed. N.Y.U., B.S. in chem. 1928, Phi Beta Kappa, Ph.D. 1931, Sigma Chi; m. Marjorie I. Colling (dec.), 1935; ch.: Robert E., Marcia A. 1928-31, N.Y.U. teaching fellow (grad. asst.); 1932-36, Texas Co., res. chem.; 1936 to date, supvr., tech. service lab., Tide Water Associated Oil Co. Mem.: A.C.S., A.S.T.M. Hobby: philately.

ACKERMAN, Arnold William, chf. chem., dir. of res., Anderson Oil Co., Portland, Conn.; res. Peck Rd., Middletown, Conn.
Chem. (petroleum); b. N.Y.C., July 3, 1916, s. of David and Mary Ackerman; ed. Columbia U., B.S. 1936; U. of N.C.; Columbia U., M.A. 1938; mem.: Sigma Kappa Alpha; m. Ethel S. Steiner, June 29, 1941; ch.: David B., Brian L. Res. chem., Fales Chem., 1940; chem., Gen. Chem. Co., 1940-41; chf. chem., dir. of res., Anderson Oil Co., 1941 to date; basic res. in dev. of corrosion preventives and lubricants. Mem.: A.C.S., A.S. Lubrication Engrs., A.O.C.S., A.S.T.M., Am. Ordn. Assoc. Hobbies: music, gardening.

ACKERMAN, Ira Jason, chem., exec., retired; res. 21 McBride Ave., Paterson, N.J.
Chem., exec.; b. Russell, Kansas, Mar. 9, 1880; s. of Ira Jefferson and Mary Ellen (Fox) Ackerman; ed. Manual Training H.S., Bklyn., N.Y.; Cornell U., Ithaca, N.Y.; mem.: Phi Sigma Kappa; m. Mildred Ada Plowman, July 7, 1903; ch.: Ira James. 1901, testing U.S. Ord. Proving Grnds., Fort Hancock, N.J.; 1902, anal. chem., Dr. Charles F. McKenna, N.Y.C.; 1903, chem., Benjamin Moore & Co., Bklyn., N.Y.; 1904, chem., Detroit White Lead Wks., Detroit, Mich.; 1905, chem., Pratt & Lambert, Buffalo, N.Y.; 1906-14, chem., G. Siegle Co., Rosebank, S.I., N.Y.C.; 1915, founder and pres., Amer. Heyl Co., N.Y.C.; 1916-49, founder and pres., Fine Colors Co., Paterson, N.J.

ACKERMAN, J.C., chem. broker, Penn-Lincoln Hotel, Pittsburgh 21, Pa.
Brokerage; b. Pleasant Valley, N.Y., Oct. 23, 1878; ed. dist. schl.; m. Ella Searle Perrin, June 23, 1909. Colgate & Co., salesman, 1910; West. Penn., sales mgr., 1911-29; chem. brokerage, 1930 to date. Clubs: Edgewood Country (Wilkinsburg, Pa.), Oakmont Country (Oakmont, Pa.). Hobbies: golf, contract.

ACKERMAN, John Wright, pres. Fine Colors Co., Paterson, N.J. res. 16 Hawthorne Ave., Nutley, N.J.
Chem.; b. Bklyn, N.Y., Dec. 23, 1904, s. of Frederick S. and Lucy (Drew) Ackerman; ed. Cornell U., B.chem. 1928; M.chem. 1929; Ph.D. 1931; grad. schol. in chem. 1931; mem.: Sigma Xi, Phi Kappa Phi, Theta Delta Chi; m. Enid Margery Schmidt, June 9, 1933; ch.: Joan Sue, Sally Ann, John Wright, Jr., Barbara Jean. 1931-42 v.p., pres. Fine Colors Co.; 1942-45 with U.S. Rubber Co. as follows: Penn Ord. Wks., TNT supt., asst. mgr.; Kanakee Ord. Wks., asst. mgr., mgr.; 1946 to date pres. Fine Colors Co.; res. in colors and pigments; explosives dur. W.W. II. Mem.: A.C.S. Trustee, St. Paul's Ch., (Nutley). Clubs: Speaker's (Nutley), Town (Nutley). Hobbies: Little Theater, sports, photography.

ACKERSON, Clifton Walter, prof. of agric. chem. & chmn. dept., Coll. of Agric., Lincoln 1, Nebr.; res. 3707 Holdrege, Lincoln 3.
Chem.; b. Elbow Lake, Minn., Dec. 29, 1896; s. of Jonathan F. and Christine (Olson) Ackerson; ed. B.Sc., U. of Minn., 1921; M.Sc., 1922; Ph.D., U. of Nebr., 1926; mem.: Tau Kappa Epsilon, Alpha Chi Sigma; m. Harriet Wooster Smith, June 27, 1925; ch.: Kathleen (Ackerson) Foote, Elizabeth (Ackerson) Houseman, Harriet Jean. Asst. in agric. biochem., U. of Minn., 1920-22; res. asst. to prof., hd. of dept. agric. chem., U. of Nebr., 1922 to date. Investigations of the nitrogen, calcium & phosphorus of chickens; vitamin A, B & D requirements of chicks; the naturally occurring inhibitors of soybeans. Mem.: Iron Wedge (Minn.), Sigma Xi, Gamma Sigma Delta, Phi Lambda Upsilon, A.C.S., A.A.A.S. Hobbies: aviation, philately.

ADAMS, Carleton Coffin, chf. chem., Fruit of the Loom, Inc., Pontiac Div., Pontiac, R.I.; res. 70 Peace St., Providence 7, R.I.
Textile chem.; b. Medford, Mass., Mar. 23, 1892; s. of Benjamin N. and Frances Genevra (Bradley) Adams; ed. M.I.T., B.S. in chem. engrg. Res.

chem., E.I. du Pont de Nemours, Deep Water Point & Gibbstown, N.J., June 1917-Oct. 1921; res. chem., Lanston Monotype Co., Phila., Pa., Oct. 1921-June 1922; chf. chem., Rockland Finishing Co., Haverstraw, N.Y., Nov. 1922-Mar., 1926; asst. chem., Pacific Mills Print Wks., Lawrence, Mass., Mar. 1926-Sept. 1930; chf. chem., U.S. Finishing Co., Norwich Branch, Norwich, Conn., Sept. 1930-July 1937; chf. chem., Fruit of the Loom, Inc. July 1937 to date. Study of aging in a print works. Mem.: A.A.T.C.C.

ADAMS, Clyde Stewart, prof. of chem., Antioch Coll.; res. conslt., Natl. Cash Register Co., Dayton, Ohio; res. 130 Whiteman St., Yellow Springs, Ohio.
Teacher & res. conslt.; b. Newark, Ohio, Oct. 1, 1893; s. of Thomas E. and Mertie (Stewart) Adams; ed. B.S., Denison U., 1916; A.M., Ohio State U., 1918, Ph.D. 1922; Columbia 1919; Toronto 1920-21; Phi Beta Kappa, Denison; Sigma Xi, O.S.U.; Phi Lambda Upsilon O.S.U.; mem.: Sigma Alpha Epsilon, Denison; Gamma Alpha, O.S.U.; m. Sarah E. Walker, Sept. 4, 1922; ch.: Jeanne Ocelle, Mary Elizabeth. Instr., Denison, 1916 (full time); instr., O.S.U., 1917; jr. chem., U.S. Bur. of Mines, 1917; res. chem., Central Dyestuff & Chem. Co., 1919-20; lecturer chem., Toronto, 1920-21; prof. chem., Antioch Coll., 1922 to date, hd. dept. 1922-47; dir., Antioch Indus. Res. Inst., 1929-33; chmn. Kettering Sc. Bldg. Comm.; res. conslt., Natl. Cash Register Co., Dayton, 1944 to date; mem. Comm. N.R.C.; with Bur. of Mines & N.D.R.C. of the Office of Scientific Res. & Dev. & Chem. Warfare Sec. of Civilian Defense W.W. II, mem. of N.R.C. Comm. on Construction & Equip. of Res. Labs. Several pats. in fld. of new types of dyestuffs; 18 publ. in chem. jls. Author: chapter in a book to be publ. this fall entitled "Interior Arrangements in Res. Labs." pub. under auspices of N.R.C.; "Chem. Equilibrium" 1939-40, Antioch Press; "Acids, Bases & Salts" (an outline), 1941, Antioch Press. Mem.: A.C.S. (1918 to date), Chem. Soc. (London), S.C.I. (London), Amer. Assn. of Textile Chems. and Color., The Soc. of Dyers and Colorists, Ohio Acdy. of Sc. (v.p. 1934). Clubs: Dayton Engrs., Springfield Country. Hobbies: farming, horticulture, golf, fishing.

ADAMS, Frederick Cozzens, assoc. ed., "Paint Oil & Chem. Review," 537 So. Dearborn St., Chicago 5, Ill.; res. 1327 Church St., Evanston, Ill.
Editor; b. Evanston, Ill., Aug. 14, 1920, s. of Raymond F. and Mary (Beaton) Adams; ed. Coll. of the Holy Cross, Worcester, Mass., B.A. (Chem.); m. Audrey Anderson, Sept. 25, 1945; ch.: Marie, Christina, John. Grad. from coll. June, 1942; U.S.A., priv. to disch. with rank of capt. 1942 to 1946; 1946 to date secy. Trade Review Co. Mem.: A.C.S.

ADAMS, Frederick Wildes, dir. of res. The Spool Cotton Co., 745 Fifth Ave., New York 22, N.Y.; res. 898 Park Ave., New York 21.
Res. dir.; b. Canton, Mass., Mar. 3, 1901, s. of George H. and Sarah (Macomber) Adams; ed. M.I.T., S.B. 1921, S.M. 1922, Sc.D. 1928; m. Martha N. Terry, Sept. 15, 1923; ch.: Frederick W. Jr., Noel T. M.I.T. Chem. Engr. Dept. 1922-36; asst. 1922-23; instr. 1923-26; asst. prof. 1926-36; dir. Bangor Field Sta., Schl. of Chem. Engr. Pract. 1928-36; chem. engr. conslt. 1928-36; sr. fellow, Multiple Fellowship on Plate Glass Tech., Mellon Inst., Pittsburgh, Pa. 1936-43; tech. sales engr., Pittsburgh Plate Glass Co., Pittsburgh, 1943-44; dir. res., Clark Thread Co., 1944 to date; res. in heat transmission, flow of fluids, drying, crystallization, absorption, lime, pulp and paper, glass, plastics, thread. Has written many tech. articles and holds numerous patents. Mem.: A.C.S., A.I.Ch.E., A.S.T.M., S.C.I., T.R.I., T.I, E.S., A.A.A.S., N.Y.A.S., Assn. of Res. Dir., Amer. Assoc. Textile Chemists and Colorists. Clubs: Chemists' (N.Y.), Pequot Yacht. Hobby: sailing.

ADAMS, J(ames) Richard, dir. of tech. serv., Spencer Chem. Co., Dwight Bldg., Kansas City, Mo.; res. 8436 Lee Blvd., Kansas City.
Chem.; b. Troy, N.Y., Apr. 11, 1898; s. of Ernest E. and Annie R. Adams; ed. B, Chem., Cornell U.; fellowship, Carnegie Inst. Tech.; mem.: Theta Chi; m. Beatrix Rayer, Sept. 4, 1926. 1923-46, res. U.S. Dept. Agric., Wash., D.C., with increased ratings up to chem.; 1946 to date, dir. of tech. serv.; Spencer Chem. Co. Kansas City. Wk. on the physical properties & condition of fertilizers & their improvement; wk. on ammonium nitrate leading to its use as a fertilizer. Author or coauthor of large no. of publ. incl. papers & booklets or pamphlets. Mem.: A.C.S., A.S.A. Club: Mason.

ADAMS, James William, sr. res. chem. U.S. Rubber Co., Naugatuck, Conn.; res. Jack's Hill Rd., Seymour, Conn.
Chemist; b. Conover, Wis., Oct. 29, 1921, s. of Alfred H. and Pauline E. Adams; ed. 1935-39 Union Free H S., Eagle River, Wis., (salut. sr. cl); 1939-43 U. of Wisconsin, B.S. (chem.); m. Joyce M. Braatz, Oct. 14, 1944; ch.: Judy R. 1943-44 control. chem. synth. rubber prod., U.S. Rubber Co., Institute, W. Va.; 1944-47 analyt. res. grp. ldr. same co; 1947-48 chf. contr. chem. same co.; 1948 to date sr. res. chem. U.S. Rubber Co., Naugatuck, Conn. Developed test methods for anal. raw matls., emulsion polymeriz. systs. and finished prods. in GR-S type synth. rubber processes; contr. to improving methods for prod. GR-S latex incorporated carbon black masterbatches. Mem.: A.C.S., Colloidal Div. of A.C.S. Hobbies: fishing, hunting.

ADAMS, Lawrence A., treas., Am. Potash & Chem. Corp., 3030 W. 6 St., Los Angeles 54. Calif.; res. 5426 Dahlia Dr., Los Angeles 41.
Treas.; b. Santa Clara, Calif., Apr. 29, 1897; s. of Asahel L. and Ella M. (Kifer) Adams; ed. Stanford U., A.B.; Grad. Schl. of Bus. Adm., Harvard U., M.B.A.; mem.: Theta Xi, Phi Lambda Upsilon; m. Annette Cunningham Dunn; ch.: Lawrence R., Robert M. Economic & investment res. 1922-36; Van Strum & Towne, Inc., v.p., 1936-38; Vick Chem. Co., asst. to treas., 1938-41; War Prod. Bd., 1941-44; Am. Potash & Chem. Corp., treas., 1944 to date. Clubs: Harvard (N.Y.C.), University (Los Angeles). Officer: Three Elephant Borax Corp. (treas., dir.); Searles Valley Dev. Co. (treas.); Searles Domestic Water Co. (treas.).

ADAMS, Leason Heberling, dir. Geophys. Lab., Carnegie Inst. of Wash., 2801 Upton St. N.W., Washington 8, D.C.; res. 8916 Bradley Blvd., Bethesda 14, Md.
Scient., admin.; b. Cherryvale, Kans., Jan. 16, 1887, s. of William Barton and Catherine (Heberling) Adams; ed. U. of Ill., B.S. 1906; Tufts Coll., D.Sc. 1941; mem.: Alpha Chi Sigma; m. Jeannette Blaisdell; ch.: Leason B., William M., Madeline J., Ralston H. With Morris & Co., Mo. Pac. R.R. Co., U.S. Geol. Survey., Geophysical Lab., Carn. Inst. of Wash. (dir. since 1937). Mem.: Natl. Acad. of Scs., A.C.S., Geological Soc. of Amer., Amer. Geophys. Union; recip. of Longstreth M. of the Franklin Inst.; M. for Merit (U.S. Govt.). Club: Cosmos. Hobbies: photography, golf.

ADAMS, Philip Delmar, dir. of res., Andrew Jergens Co., 2535 Spring Grove Ave., Cincinnati 14, Ohio; res. 1551 Wynnburn Dr., Cincinnati 38.
Chem.; b. Wilkinsburg, Pa., Sept. 30, 1901; s. of William James and Mary Margaret Adams:

ed. Pa. State Coll., B.Sc., 1925; M.Sc., 1930; U. of Cincinnati, Ph.D., 1935; mem.: Chi Upsilon; m. Lucille Harrell, June 15, 1930; ch.: Norman Stanley, Evelyn Mae. Instr. chem., Am. U., Beirut, Syria, 1925-28; asst. instr., Pa. State Coll., 1928-30; res. chem., Skin & Cancer Hosp., 1930-32; dir. of res., Andrew Jergens Co., 1935 to date. Mem.: A.C.S., A.O.C.S., Soc. Cosmetic Chems., A.A.A.S., Sigma Xi, Phi Lambda Upsilon, Gamma Sigma Delta.

ADAMS, Robert Carson, supt., chem. engrg. lab., U.S. Naval Engrg. Expt. Station, Annapolis, Md.; res. Port of Providence, Crownsville, Md. Chem. engr.; b. Douglas, Wyo., Apr. 7, 1905; s. of Carson and Iva (Harris) Adams; ed. Colo. Agric. Coll.; U. of Mich., A.B. 1927, M.S.E. (Ch.E.) 1931; mem.: Beta Tau of Sigma Chi; m. Beatrice Lovell, 1931; ch.: Martha Lovell. 1929-30, Detroit Edison Fellow in chem. engrg., U. of Mich.; 1930-31, chem. engr., Expt. Plant, du Pont Ammonia Corp., Belle, W. Va.; Sept. 1931 to date, chem engr., various grades & capacities U.S.N.E.E.S. Numerous publ. on boiler-water treat. evaluation of lubricants, particularly greases. Mem.: A.I.Ch.E. (active), A.S.T.M. (officer or mem. of several comm.). Vestryman, Severn Parish, A.A. Co., Md. Hobbies: gardening, sheep raising.

ADAMS, Robert Royston, supvr., adm. asst., Battelle Memorial Inst., 505 King Ave., Columbus 1, Ohio; res. 1625 Doone Rd., Columbus, 12. Res. adm.; b. McConnelsville, Ohio, May 26, 1917, s. of John R. and Clara M. Adams; ed. McConnelsville H.S. 1934; Antioch College, Yellow Springs, Ohio, 1939, B.S. chem. engr.; Ohio State U., Columbus, 1941, M.S. metallurg. engr.; mem.: Sigma Xi; m. Jane Wolford, May 3, 1941. 1936-39, Antioch co-op. student; 1939-42 res. engr.; 1942 to date adm. asst., all at Battelle Inst. Author: "Cast Iron Strength vs. Structure," Transls. Amer. Foundrymen's Asso., v. 50, June, 1943; co-author with Lorig of "Copper as an Alloying Element in Steel and Cast Iron," 1948. Mem.: A.S.M. Hobbies: sailing, amateur radio.

ADAMS, Roger, hd. chem. dept., U. of Ill., Urbana, Ill.; res. 603 Michigan Ave., Urbana, Ill. Org. chem.; b. Boston, Mass., Jan. 2, 1889; s. of Austin Winslow and Lydia (Curtis) Adams; ed. Harvard, A.B. 1909, A.M. 1910, Ph.D. 1912; U. of Berlin and Kaiser Wilhelm Inst., 1912-13; hon. D.Sc. from following: Bklyn. Polytech. Inst., 1935; Northwestern U., 1942; U. of Rochester, 1943; Harvard U., 1945; U. of Penn., 1947; Yale U., 1948; m. Lucile Wheeler, Aug. 29, 1918; ch.: Lucile. Instr., Harvard U., 1913-16; asst. prof., 1916-18, prof., 1919-26, prof. of org. chem. and hd. of Chem. Dept., U. of Ill., 1926 to date (on leave 1942-46); Major, C.W.S., 1918; mem. Natl. Def. Res. Comm., 1941-46. Co-author (with J.H. Johnson), "Laboratory Experiments in Org. Chem.," 1928, 1933, 1939, 1949; on edit. bd. of Gilman's "Org. Chem., Advanced Treatise"; edit. advisory bd., "Org. Synth.," 1920 to date; editor-in-chf., "Org. Reactions," 1941 to date; has also written over 325 sc. arts. in org. chem. Mem.: A.C.S. (dir. 1931-35, 1940-49, pres. 1935, chmn. bd. of dirs., 1944 to date); S.C.I.; Harvey Soc.; fellow, A.I.C. (also hon. mem.); Bd. of Natural Resources and Conservation, State of Ill.; Natl. Inventors Council; dir. Natl. Farm Chemurgic Council; sc. advisor to the Deputy Military Gov. of Germany, 1945; chmn., Sc. Adv. Mission to Military Govt. in Japan, summer 1947; mem. of Second Sc. Adv. Mission to Japan, 1948; fellow, A.A.A.S. (Exec. Comm. of Assoc. 1941-46, 1948 to date; chmn. Chem. Sect., 1927; pres.-elect 1949; pres. 1950); mem. Natl. Acdy. of Scs. (council, 1931-37, chmn. of Chem. Sect., 1938-41, Foreign Secy., 1950-54); A.Phil.S.; Amer. Acdy. of Arts and Scs.; hon. fellow, Chem. Soc. of London; hon. mem. Polish Chem. Soc.; hon. fellow, Societé Chimique de France; hon. fellow, Swiss Chemical Soc.; elected mem. Board of Overseers of Harvard University, 1950; Sigma Xi, Phi Beta Kappa, Phi Kappa Phi, Alpha Chi Sigma, Phi Lambda Upsilon (also hon. mem.), Gamma Alpha, Alpha Tau Omega; recip. of Wm. H. Nichols M. 1927; Willard Gibbs M. 1936; Elliott Cresson M. 1944 (Franklin Inst.); Davy M. 1945 (Royal Soc. of London); T.W. Richards M. 1946; Priestley M. 1946; hon. Commdr. of the Civil Div. of the Most Excellent Order of the British Empire (C.B.E.) 1948; M. for Merit, 1948; assoc. editor, Jl. A.C.S. 1922-32.

ADAMSON, Arthur Wilson, assoc. prof. Dept. of Chemistry, U. of S. California, Los Angeles 7, Calif.; res. 3410 W. 82 St., Inglewood, Calif. Chemist; b. Shanghai, China, Aug. 15, 1919, s. of Arthur Quentin and Ethel Rhoda Adamson; ed. B S. (with honors) 1940 U. of Calif., Berkeley, Calif.; Ph.D. 1944 U. of Chicago, Chicago, Ill.; mem.: Gamma Alpha; m. Virginia Louise Dillman, Mar. 24, 1942; ch.: Carol Ann, Janet Louise. 1942-43 res. asst. Metallurgical Lab., U. of Chicago; 1943-46 res. assoc. and grp. ldr. Clinton Lab., Oak Ridge, Tenn.; 1946-49 asst. prof. and 1949 to date assoc. prof. Dept. of Chem., U. of Southern California; res. in radio chemistry, ion exchange, physical chem. of electrolyte solutions and of complex ions. Mem.: A.C.S., A.A.A.S., A.A.U.P. and of Phi Lambda Upsilon, Sigma Xi. Hobbies: woodworking, swimming.

ADDINALL, Carl Rupert, foreign scientific mgr. Merck and Co., Inc., Rahway, N.J.; res. 746 Belvidere Ave., Westfield, N.J. Org. chem. and chem. engr.; b. Dewsbury, England, Dec. 1, 1890, s. of Robert and Henrietta (Parker) Addinall; ed. Harvard U., B.S. 1925, cum laude, M.A. 1926, Ph.D. 1930, cum laude; mem.: Alpha Chi Sigma; m. Anna Maria Josephson, Sept. 20, 1947. Asst. chem., Radcliffe Coll., 1926-27; 1928-30 instr. chem. Harvard U.; 1930-34 org. chem., 1934-40 dir. libr. serv., 1940-50 dir. tech. inform.; Feb. 1, 1950 to date for. sc. mgr. Merck and Co., Inc.; res. in narceines and narcotine and hydrastine, work on structure of opium alkaloids; pub. various books on amino acids, vitamins and antibiotics for Merck and Co., Inc.; recip. of Bowdoin M. 1925; mem.: A.C.S., E.S., Swiss Chem. Soc., Soc. Gen. Microbiol., Chem. Soc. (fellow), Harvard Engr. Soc., Harvard Club of N.J. Clubs: Chemists' (N.Y.), Rotary Internat., Colonia Country. Hobbies: photography, writing and lecturing, golf, gardening.

ADKINS, William H., owner, William H. Adkins Co., 15 Central Park West (Mayflower Hotel), N.Y. 23, N.Y.; res. same. Conslt. broker, drugs, chem. essential oils; ed. Washington U., St. Louis, Mo.; mem.: Beta Theta Pi; m. Reta O. Monsanto Chem. Co., sales, 5 yrs.; Givaudan Delawanna, Inc., dir. purch., 10 yrs.; Schimmel & Co. Inc., sales mgr., 8 yrs.; own bus. & conslt., Max Factor & Co., 9 yrs. Hobby: philately.

ADLER, Howard, chf. chem. Victor Chem. Works, 141 W. Jackson Blvd., Chicago 4, Ill.; res. 7012 S. Shore Dr., Chicago 49. Res. chem.; b. New York, N.Y., Jan. 9, 1896, s. of Louis and Johanna (Lowenthal) Adler; ed. B.S. Coll. City of N.Y. 1916, A.M. Columbia U. 1917, Ph.D. Columbia 1921; mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon; m. Martha Grossman, Dec. 17, 1922; ch.: Howard, Jr., Paula Golden, Joan Louise. Instr. chem. Chicago U. 1921-23; res. chem. 1923-25 and chf. chem. 1925 to date, Victor Chem. Works; dir. of res. and control labs. C.W.S., U.S.A., 1917-19, with

N.D.R.C. Res. in theory of solutions; formates, phosphates, phosphor. compds., oxalates, formation of add. compds. betw. formic acid and metal. formates. Mem.: A.C.S., A.O.C.S., A.S.T.M., AI.Ch.E. Club: Chemists' (Chicago). Hobby: music.

ADLER, Leon, pres., gen. mgr., Dykem Co., Div. of Dyestuffs & Chems., Inc., 2307 N. Eleventh St., St. Louis 6, Mo.; res. 7425 Parkdale Ave., Clayton 5, Mo.
Chem. engr.; b. Pana, Ill., Aug. 9, 1895; s. of Herman and Rose Adler; ed. U. of Ill., B.S. Ch. E., 1917; ch.: Mrs. Margery Lee Kershaw, Mrs. Joyce R. Zeiser. U.S. Bur. of Stands., Wash., D. C.; E.I. du Pont de Nemours & Co., Wilmington, Del.; Dyestuffs & Chems., Inc., St. Louis, Mo.; Dykem Co., Div. of Dyestuffs & Chems., Inc., St. Louis, Mo., pres., gen. mgr. Number of pats. Mem.: Phi Lambda Upsilon, Sigma Xi, A.C.S., A.O.C.S., Engineers Club of St. Louis, St. Louis Chamber of Com. Hobbies: chess, bowling.

ADRIAN, Alan Patrick, director research & manufacture, Neenah Paper Co., Neenah, Wis.; res. 652 Grove St., Neenah.
Dev. chem. and manufacturing; b. Kaukauna, Wis., Feb. 13, 1916; s. of John and Anna Adrian; ed. Lawrence Coll., B.A. magna cum laude; Ralph White Prize math.; Phi Beta Kappa; Inst. of Paper Chem., M.S., Ph.D.; mem.: Phi Kappa Tau; m. Verna A. LaPlante, Dec. 31, 1942; ch.: Patricia Ann and Judith Lynn. Detroit Sulphite Pulp & Paper Co., chf. chem.; Neenah Paper Co., tech. dir. Mem.: T.A.P.P.I., A.C.S., Am. Pulp & Paper Supts. Assn. Clubs: Elks, Knights of Columbus. Hobbies: golf, swimming, photography.

AEBERLE, Rudolph, pres., E.M. Sergeant Pulp & Chem. Co., 7 Dey St., New York 7, N.Y.
Exec.; b. June 15, 1891; ed. high school; m. 1st Helen Elizabeth Farrier, Aug. 22, 1924; m. 2nd, Katherine Nell Henslee, Apr. 4, 1936; ch.: Annette. E.M. Sergeant Co., 1906; secy. 1920; pres. 1930 to date; also pres. of subsidiary co., Sergeant Chemical Co., Newark, N.J. Hobbies: fishing, golf.

AESCHLIMANN, John Alfred, dir. chem. res. Hoffmann-La Roche, Inc., Nutley, N.J., res. 77 Myrtle Ave., Montclair, N.J.
Dir. chem. res.; b. Kettering, England, Dec. 20, 1897; s. of Ulrich and Elise Aeschlimann; ed. sr. scholar, Trinity Coll., Cambridge, 1919-25; U. Cambridge, England, 1919-21, B.A. (hons); 1921-23, M.Sc.; 1923-25 Ph.D.; m. Elsbeth Burckhardt, May 29, 1930; ch.: Christopher, Ann. British Infantry 1916-19; chem., Shell-Mex Central Labs. 1921-22; chem. warfare res., Cambridge U. 1922-24; chf. chem., Pirbright Co. 1924-25; Hoffmann-La Roche, AG., Basle, 1926-41, res. chem., Hoffmann-La Roche, Inc., Nutley 1941-46; dir. chem. res., 1946-to date. Res. in synth. of cholinergic drugs, prostigmin, vitamin E. esters, solubilizers, hypnotics, analeptics; mem.: A.C.S., A.A.A.S., Chem Soc. (London, fellow), N.Y. Acdy. Scs. (fellow, council 1949-), Assn. Res. Dirs., (N.Y., pres. 1948-50). Dir. chem. res., Hoffmann-La Roche, Inc., Nutley, N.J.

AGRE, Courtland LeVerne, chmn. dept. of chem., prof. of chem., St. Olaf Coll., Northfield, Minn.; res. 910 W. Second, Northfield.
Coll. prof.; b. Boyd, Minn., Sept. 11, 1913, s. of Peter Cornelius and Mathilda Louise (Quaal) Agre; ed. B.Ch.E., U. of Minn. 1934, Ph.D. 1937 (org. chem.); m. Ellen Violet Swedberg, Aug. 24, 1946; ch.: Annetta, Peter, James. Res. chem. E.I. duPont de Nemours 1937-1940; first lt. U.S.A. 1940-1941; res. chem. Minn. Mining & Mfg. Co. 1941-1946; prof. of chem. St. Olaf Coll. 1946 to date. Res. in fld. syn. resins, org. reactions, organosilicon compds. Mem.: Phi Lambda Upsilon, Tau Beta Pi, A.A.A.S., A.C.S., Minn. Acad. of Sc. Hobbies: gardening, reading.

AHLGREN, Gilbert Harold, prof. & res. specialist in farm crops, Coll. of Agric., Rutgers U., New Brunswick, N.J.; res. RFD 9, Eggers Lane, New Brunswick.
Agronomist; b. S. St. Paul, Minn., Dec. 25, 1913; s. of Carl O. and Hilda C. (Peterson) Ahlgren; ed. U. of Wis., B.Sc. 1936; Rutgers U., M.S. 1938, Ph.D. 1941; mem.: Delta Theta Sigma; m. Mildred Wyers, Sept. 11, 1943; ch.: Lynn Diane, Alice Elizabeth, William Larkin. Asst. in agronomy, U. of Wis., summer 1935 & 1936 until Feb. 1937; asst. in agronomy, Rutgers U., Feb. 1937-July 1, 1938; agent, U.S.D.A., Regional Pasture Lab., State College, Pa., 1938-39; instr. in agronomy, Rutgers U., 1939-42, asst. prof. & asst. res. specialist 1942-July 1943, assoc. prof. & assoc. res. spec. 1943-July 1944, chmn. of dept. of farm crops, prof. & res. specialist July 1944 to date. Author: "Forage Crops" 1949; co-author: "Practical Fld. Crop Prod. for the Northeast" with Snell, Anderson & Sprague, 1947, "Principles of Weed Control" with Klingman & Wolf, in press. Mem.: Sigma Xi, A.S.A., Soil Conservation Serv., Northeastern Weed Control Conference, Genetics Soc. of Am.

AHLQUIST, Norman Ekroth, res. engr., Seattle Gas Co., 1511 Fourth Ave., Seattle, Wash.; res. 3526 Ashworth Ave., Seattle 3.
Chem. engr.; b. St. Paul, Minn., Sept. 9, 1911; s. of Perry Karl and Elsa Victoria (Ekroth) Ahlquist; ed. U. of Wash., B.S. Ch.E. June, 1949, cum laude; m. Sylvia Evelyn Chilberg, Apr. 16, 1938; ch.: Janet Victoria, Norman Christopher. Sept. 1, 1937 to date, Seattle Gas Co., chem., chf. chem., light oil refinery supvr., chem. engr. in chg. of process control, chem. engr. in chg. of res. Mem.: A.I.Ch.E. Hobby: group & choral singing.

AIKEN, William H., asst. mgr. chem. div. Goodyear Tire and Rubber Co., Akron, Ohio; res. 791 Hudson Rd., Stow, Ohio.
Chem.; b. Salado, Tex., May 24, 1916, s. of Carl H. and Anna (Hamblen) Aiken; ed. B.S. chem. engr. Tex. A. and M. 1938; M.S. chem. 1940, Ph.D. chem. 1942, Inst. of Paper Chem.; mem.: Sigma Xi; m. Rosemary Polk, Aug. 1, 1942; ch.: Rosemary, Jr., Bill, Jr.; 1942-43 sect. ldr., C.W.S. Dev. Lab., M.I.T.; 1943-46 proj. ldr. QM. Proj., Bklyn. Polytech. Inst.; 1946-48 asst. mgr. Plastics Dept., 1948 to date asst. mgr. Chem. Div. Goodyear. Mem.: A.C.S., A.A.A.S., T.A.P.P.I., S.P.E. Hobby: gardening.

AITCHISON, Adam G., tech. dir., Westvaco Chem. Div., Food Machinery & Chem. Corp., 405 Lexington Ave., N.Y.C.; res. 158 E. Brookside Dr., Larchmont, N.Y.
Dir. res. and devel.; b. Madrid, N.Y., Oct. 17, 1899; s. of Edwin and Helen Liddell) Aitchison; ed. B.S. (chem.), U. of Mich., 1920; M.S. (chem.), 1921; mem.: Alpha Chi Sigma; m. Onalee Hickman, June 28, 1922. Instr., Case Inst. of Tech., Cleveland, O., 1921-24; chem., dir. res., prod. mgr., Frailey Industries, 1924-35; section dir., asst. tech. dir., tech. dir., Westvaco Chem. Corp., 1935-48; tech. dir., Westvaco Chem. Div., Food Machinery & Chem. Corp., 1948 to date. Mem.: A.C.S., A.A.A.S., AI.Ch.E., Armed Forces Chem. Assoc., Phi Lambda Upsilon. Club: Chemists'.

AKIN, George Alfred, sr. res. engr., Tenn. Eastman Corp., Kingsport, Tenn.; res. Box 222, Rt. 8, Kingsport, Tenn.
Chem. engr.; b. Princeton, Ky., Aug. 14, 1912, s. of Claud O'Hara and Frances Carter (Robertson) Akin; ed. U. of Ky., 1930-34, B.S. (with

highest distinction); M.I.T., 1934-41, Sc.D.; mem.: Delta Tau Delta, Phi Beta Kappa, Sigma Xi; m. Margaret Elizabeth Ross, 1939; ch.: Ross Haydon, Martha Ann. 1938-41 dir. Buffalo Sta., Schl. of Chem. Engrg. Pract., M.I.T.; 1941-42 chem. engr. Eastman Kodak Co.; 1942-43 War Dept., Pine Bluff, Ark.; 1943-46 supt. Chem. Engrg. Control Div., Clinton Engr. Wks., Tenn. Eastman Corp., Oak Ridge, Tenn.; 1946 to date sr. res. engr., Tenn. Eastman Corp., Kingsport, Tenn.; res. in heat transfer, chem. proc. of uranium, dev. of org. synth. Mem.: A.A.A.S., A.I.Ch.E, A.C.S.

ALBANESE, Anthony August, chf. nutritl. res. St. Luke's Hosp., N.Y.C., St. Luke's Convalescent Hosp., King St., Greenwich, Conn.; res. 90 Harrison Ave., Harrison, N.Y.
Biochem.; b. N.Y.C. Feb. 12, 1908, s. of August and Lillian Albanese; ed. B.S. 1930 N.Y.U., 1930-32 U. of Budapest, Exch. Fel., Med. Sc., Ph.D. 1934-40 Columbia U.; m. Julette O'Rorke, Nov. 29, 1933. 1933-40 res. asst. Dept. Path. Coll. P. and S., Columbia U.; 1940-41 res. assoc. Div. of Chem. Nat. Inst. of Health; 1941-45 assoc. Pediat., Johns Hopkins U.; 1945-48 asst. prof. Pediat. Biochem. N.Y.U. Coll. of Med., 1948-49 assoc. prof. same dept. and coll.; 1949 to date chf. of nutritl. res. St. Luke's Hosp. N.Y.; human nutritional res.; protein and amino acid metabolism and requirements, carbohydrates and steroids, analytical methods. 1940-50 70 publications in field of human nutritl. res.; ed: 'Protein and Amino Reqts. of Mammals" 1950. Mem.: N.Y. Acad. Sci. (fellow), A.I.C. (fellow), A.C.S., A.S.B.C., Harvey Soc. Exp. Biol. and Med., Sigma Xi. Hobbies: photography, wood and metal crafts, radio and electronics.

ALBER, Herbert K., dir. of res., Arthur H. Thomas Co., W. Wash. Sq., Phila., Pa.; res. 6 Windsor Circle, Springfield, Del. Co., Pa.
Res. chem.; b. Klagenfurt, Austria, Apr. 4, 1904; s. of Rudolf and Gabriele Alber; ed. Real-Gymnasium, Klagenfurt, Austria, 1914-22; Technische Hochschule, Graz, Ing.Chem. 1926, Dr. Tech. Sc. 1928; m. Odilia Jaritz, July 30, 1935; ch.: Wolfgang R., Leonore M. Asst., Technische Hochschule, Graz, 1928-32; teaching fellow & instr., N.Y.U., 1934-36; microchem., Biochem., Res. Foundation of Franklin Inst. 1936-41; technol. conslt., dir. of res., Arthur H. Thomas Co., coslt. 1936-41, technol. etc. 1941 to date. Spec. in michrochem., trained under pioneers in this fld., Emich & Pregl, teaching & instructing in this fld., giving courses in Switzerland, 1932 and 1933, in Sweden 1933; food research; teaching in N.Y.; dev. new procedures in this fld. with many publ. in Journals Mikrochemie, Mikrochemie vereinigt mit Mikrochimica Acta (co-worker on both); anal. chem. Mikrokemi (in Swedish) Stockholm, P.A. Norstedt & Soners Forlag 1933; coop. on F. Emich, Mikrochemisches Praktikum, 2nd edit. 1930; coop. on Niederl & Niederl, Micrometh. of Quantitative Org. Anal. J. Wiley & Sons, N.Y. 1938. Mem.: N.Y.U. Chapter Sigma Xi, A.C.S., Phila. Sec. A.C.S., Metropolitan Michrochem. Soc. of N.Y., A.A.A.S., Franklin Inst. Hobbies: gardening, swimming, handicraft, color photography.

ALBERT, C. Gerald, dir. of res., Edgar Bros. Co., McIntyre, Ga.; res. P.O. Box 308, McIntyre.
Chem.; b. Piper City, Ill., Apr. 3, 1912; s. of Louis J. and Alice E. Albert; ed. Coll. of Wooster, Wooster, Ohio; Yale U., New Haven, Conn.; Mary Carroll Garvan Fellow at Johns Hopkins U., Ph.D. 1935; mem.: Book & Bond (Yale); m. Estelle Virginia Gibbs, Nov. 27, 1937; ch.: Susan, Theodore Gibbs, Sharon Ann, Jeffrey Arnold. Edgar Bros. Co., res. chem. 1935-43, dir. of res. 1943 to date. Mem.: Phi Beta Kappa, Sigma Xi, A.C.S., T.A.P.P.I., A.S.T.M., Soc. of Rheology. Hobby: gardening.

ALBERT, Elihu Dale, chf. chem., Keystone Varnish Co., 75 Otsego St., Bklyn., N.Y.; res. 517 W. 113 St., N.Y.C.
Chem.; b. N.Y.C., Dec. 20, 1913, s. of Abrams and Sara Frances Albert; ed. Wesleyan U., B.A. 1934, Columbia U., M.A. 1937. 1935-42 chem. Keystone Varnish Co., Bklyn., N.Y.; 1942-45 chem. Inspect. Div. Protective Coatings Sect. Tech. Div., U.S. Maritime Comm.; 1946 to date chf. chem. Keystone Varnish Co. Mem.: A.I.C. (fellow), A.C.S., N.Y. Paint and Varnish Prodn. Club.

ALBERT, Jerry D., dir. of res. Mason and Mason, Inc., 213 N. Desplaines St., Chicago, Ill.; res. 6808 N. Wayne Ave., Chicago.
Chem.; b. Chicago, Ill., Oct. 22, 1915, s. of Benjamin A. and Rose (Jaffe) Albert; ed. Northwestern U., B.S. 1942; m. Mildred Feinglass, Feb. 11, 1940. 1939-40 res. chem. Chem. Gardening Co., Evanston, Ill., fld. of hydroponics (soilless gardening); 1940-41 chem. reorg. of dry clning. meths. Circle Cleaners; 1942-46 serv. in armed forces; 1946 to present dir. of res. Mason and Mason, Inc., mfrs. rootbeer; res. in beverage chem., hydroponics; dev. methods of control and anal. never prev. estab. in beverage indus. involving use of mod. instru. incl. spectro photometric meths.; contrib. various artls. in trade mags. involv. soft drink bus., 1947. Mem.: A.C.S. Hobbies: amateur radio, photography.

ALBERT, Stella Edith, res. libr. Parke, Davis, and Co., Detroit, Mich.; res. 10410 E. Jeff. Ave., Detroit.
Res. libr.; b. Highspire, Pa., Aug. 1, 1908, d. of Jacob H. and Lydia R. (Atticks) Albert; ed. Pa. State Coll., B.S. 1930. 1930-31 lab. tech. Carlisle Hosp., Carlisle, Pa.; 1931-45 speclist. tech. lit., Parke, Davis and Co., 1945 to date res. libr. same co. Mem.: Spec. Libr. Assoc., Med. Libr. Assoc.

ALBERT, Walter Daniel, coll. teacher of chem. & physics, State Teachers Coll., Slippery Rock, Pa.; res. 435 Franklin St., Slippery Rock.
Coll. teacher; b. Stanton Co., Nebr., Oct. 13, 1901; s. of Guy W. and Ida M. (Kern) Albert; ed. Wayne State Teachers Coll., Wayne, Nebr., A.B. 1928; U. of Nebr., M.Sc. 1932, Ph.D. 1934; m. Marjorie D. Pease, June 1, 1931; ch.: Lois Elaine. Wayne H.S., Wayne, Nebr., sc., 1928-31; U. of Nebr., Lincoln, Nebr., grad. asst. in chem., 1932-34; Peru State Teachers Coll., Peru, Nebr., physical sc., 1934-39; Eastern Ill. State Teachers Coll, Charleston, Ill., chem., 1939-42; State Teachers Coll., Slippery Rock, Pa., chem., physics, 1942 to date. Arts. in sci. jrnls. solubility of several cmpds. of the mannose series in alcohols; action of barium hydroxide on certain of the monobasic sugar acids. Mem.: A.C.S., Sigma Xi, Natl. ed. Assn., Pa. Ed. Assn. Hobbies: woodworking, photography.

ALBERTS, Arnold A., asst. prof. of chem., Purdue U., Lafayette, Ind.; res. 514 Dodge St., West Lafayette, Ind.
Chem.; b. Davis, S.D., May 28, 1906, s. of Bernie and Amelia L. (Richter) Alberts; ed. U. of S.D., A.B., 1928; U. of Okla., M.S. 1930; Ohio State U., Ph.D., 1934; m. Frances W. Jacobs, 1931; ch.: Ann Amelia, A. Brechter. 1928-30, asst. in org. chem. and qualitative anal. (both org. and inorg.) at U. of Oklahoma; 1930-31, grad. asst., 1931-34, asst., 1935-36 instr. in Div. of Gen. Chem. at The Ohio State U.; 1937, asst. prof. of chem., Otterbein Coll. filling an unexpired term; 1937-39, instr. in gen. and phys. chem. at Washington and

Jefferson Coll.; 1939-43, asst. prof. in gen. and phys. chem. at same coll.; 1940-42, instr. in chem. (part time), for the Natl. Defense Course given at Wash. and Jeff. Coll. as a part of the extension serv. of Carnegie Inst. of Tech.; 1943 to date, asst. prof. in chem. being primarily assoc. with gen. chem.; since 1947, supvr. of all chem. taught at the var. Off-Campus Centers of Purdue U.; res. experience: Master's Degree: Derivatives of Sulfone bis-Acetic Acid; Doctor's Degree: Dehalogenation of Bromo Acids of the Pyridine and Quinoline Series; res. to improve the efficiency of appliances using natural and mfrd. gas, (Tappan Stove Co.); assoc. with res. of the Manhattan Proj. at Purdue U. dealing with fluorination of hydrocarbs. using hydrogen fluoride and fluorine; 1935, chem. in Metallurg. Res. at the Engrg. Exper. Sta. at The Ohio State U.; June, 1936 to Aug., 1937, spec. investigator at Engr. Expt. Sta. at The Ohio State U. in div. of Res. for Industry; 1938-42, conslt. for Washington County (Pa.) off. of Agric. Adjustment relative to limestone fertilizer; 1946-49, admin. asst. to Res. Dir. of the Purdue Res. Foundation. Res. in fld. of prod. of fluorine and perfluoro compds.; at present beginning res. on synth. of org. compds. containing radiactive S. Dev. of chem. courses suitable for the Tech. Inst. type of educational program. Author: "Lab. Workbook of Introductory Chem. for the Tech. Inst.," 1949; "Gen. Chem. for Engineers," Lab. Wkbook. (Martin, Alberts & Pierce), 1950. Mem.: A.C.S., Indiana Acad. of Sci., Phi Lambda Upsilon, Sigma Xi. Club: Lions Internatl. Hobbies: chemical history, model railroading, stamps, woodworking.

ALBERTS, Leonard W., mgr. Blaw-Knox Co., Chem. Plants Div., 321 Penn Ave., Pittsburgh 22, Pa.; res. R.D. 2, Library, Pa.
Chem. engr.; b. Osnabrueck, Germany, Apr. 21, 1899, s. of Ernest K. and Regina Alberts; ed. 1918-23 Karlsruhe, Germany, Dipl. Ing.; m. Ruth A., June 8, 1929. 1923-24 res. and dev. in blast furnace and coke oven plant of the Borsig A.G. in Upper Silesia; 1924-29 res. and dev. and fld. engr. in coal gasif., coke ovens and by-prods., H. Koppers, Essen-Ruhr; 1929-36 dir. of Ruhrchemie A.G. Oberhausen; synth. ammonia and fertilizers; 1936-43 mem.: Bd. of Dirs. Ruhrchemie A.G., synth. fuels and chems; 1943-46 mem.: Bd. of Dirs. Gewerkschaft Victor, Rauxel, Germany, synth. ammonia and fertilizers; 1946-48 conslt. engr. of Bur. of Mines, synth. fuels and exper. plant at Pittsburgh, Pa.; 1949-50 sen. chem. engr., Blaw-Knox Construction Co., Chem. Plants Div.; 1950 to date mgr Synth. Fuels and Chems. Dept., Chem. Plants Div., Blaw-Knox Constr. Co.; res. in synthetic fuels and chems. (Fischer-Tropsch and related proc.). Hobbies: gardening, tennis, swimming.

ALBERTSON, Noel Frederick, assoc. mem. Sterling-Winthrop Res. Inst., Rensselaer, N.Y.; res. E. Greenbush, N.Y.
Res. chem.; b. New Haven, Conn., Oct. 29, 1915, s. of Floyd N. and Anna M. (Holsten) Albertson; ed. Polytech. Inst. of Bklyn., B.S. in chem. 1936; M.S. in chem. 1938; Ohio State U., Ph.D. 1941; m. Dorothy F. Miller, Sept., 1942; ch.: Wayne, Elaine, Vance. 1936-8 teaching fel. Polytech. Inst. of Bklyn.; 1938-39 jr. chem. Merck Inst.; 1939-41 grad. asst. Ohio State U.; 1941-43 post-doct. fel. O.S.U. Res. Found. and Southern Acid and Sulfur Co.; 1943-46 sr. chem. Winthrop Chem. Co.; 1946 to date assoc. mem. Sterling-Winthrop Res. Inst.; res. in convenient synthet. meths. dev. for many amino acids, esp. tryptophan and proline; headed res. and dev. grp. which worked out presently used com. meth. of prod. of sulfur from sour gas; dev. meths. of synthesizing piperidines; holds various patents in above flds. Mem.: A.C.S., Sigma Xi, Phi Lambda Upsilon. Hobbies: photography, fishing, seeing U.S.A.

ALBRECHT, William A(lbert), prof. of soils, soils dept., Coll. of Agr., U. of Missouri; res. 307 Thilly Ave., Columbia, Mo.
Tchg. and res. in soils and plant nutrition; b. Flanagan, Ill., Sept. 12, 1888; s. of John and Barbara (Nafziger) Albrecht; ed. U. of Ill., A.B., 1911; B.S., 1914; M.S., 1915; Ph.D., 1919; (fellow in soils 1914-16); m. Gertrude Lehmann, June 8, 1920; ch.: Barbara Ann (Albrecht) Peret. Instr. in soils, U. of Mo., 1916-19; asst. prof., 1919-20; assoc. prof., 1920-30; prof. since 1930; chmn. of dept. of soils since 1938; instr. in soils, Biarritz (French) Amer. Univ., 1945-46; res. in plant nutrition and the hydrogen ion; nitrogen fixation; soil fertility and nutrition. Conslt., Phillips Chem. Co.; consltg. editor, Soil Science, Scientific Monthly, Plant and Soil (Holland). Mem.: A.A.A.S. (fellow), Am. Soc. of Agronomy (fellow), Soc. of Am. Bacteriologists, Soil Science Soc. of Amer., Internatl. Soc. of Soil Sc., Amer. Naturalists, Am. Acdy. of Applied Nutrition (fellow), Sigma Xi, Phi Kappa Phi, Gamma Sigma Delta, Omicron Delta Kappa, Gamma Alpha. Club: Kiwanis.

ALBRIGHT, Horace Marden, pres., U.S. Potash Co., 30 Rockefeller Plaza, N.Y. 20, N.Y.; res. Wykagyl Gardens, New Rochelle, N.Y.
Corp. exec., conservationist; b. Bishop, Calif., Jan. 6, 1890; s. of George L. and Mary (Marden) Albright; ed. B.L., U. of Calif., 1912; LL.B., Georgetown U., 1914; mem.: Phi Delta Phi, Beta Gamma Sigma; m. Grace Marian Noble, Dec. 23, 1915; ch.: Robert Mather (dec., 1950), Marian Carleen (Albright) Ford. Asst. instr. economics, U. of Calif., 1912-13; mem. of staff Secy. of Interior Frankin K. Lane, 1913-15; asst. atty., Dept. of Interior, assigned to natl. park affairs, 1915-17; asst. dir., Natl. Park Serv., 1917-19; asst. dir. (fld.) N.P.S. & supt., Yellowstone Natl. Park, 1919-29; dir., Natl. Park Serv., 1929-33; mem. Natl. Capital Park & Planning Commis., 1929-33; v.p., gen. mgr., dir., U.S. Potash Co., 1933-46; pres., gen. mgr., dir., 1946 to date. Huguenot Trust Co., dir.; Am. Potash Inst., dir.; Potash Export Assn., dir. Co-author: "Oh Ranger," with Frank J. Taylor, 1928. Mem.: A.I.M.E., Natl Minerals Advisory Council (chmn., 1950), Chem. Indus. Advisory Comm. to Natl. Munitions Bd. Chmn. bd., Am. Planning & Civic Assn., trustee, Colonial Williamsburg, Inc., mem., Palisades Interstate Park Commis., trustee, Roosevelt Memorial Assn., trustee, Jackson Hole Preserve, Inc., mem., Council Save-the-Redwoods League, trustee, Lab. of Anthropology, Santa Fe, N.M. Clubs: Cosmos (Wash., D.C.), Sierra (San Francisco, hon. life mem.), Boone & Crockett, Explorers. Century (N.Y.), Wykagyl Country (New Rochelle). Hobbies: photography, history, travel.

ALBRIGHT, Penrose S(trong), hd. of physics dept., in chg. of civilian pilot training, U. of Wichita, Wichita 14, Kan.; res. 220 N. Terrace Dr., Wichita 8.
Prof.; b. Winfield, Kans., Dec. 14, 1896; s. of P. H. and Emma (Strong) Albright; ed. Rensselaer Polytech. Inst., B.S. 1922; U. of Wis. M.S. 1929, Ph.D. 1936; m. Mary Lucas, Apr. 27, 1924; ch.: Penrose Lucas, James Curtice, John Grover. 1925-43, Southwestern Coll., Winfield, Kan., was successively lab. asst. in chem., asst. prof. of physics, prof. of physics, hd. of dept., chmn. of Div. of Natural Sc., also co-ordinator of CPT, Ground Schl. instr., co-ordinator of War Training Service, & faculty rep. of armed services. 1943 to date, prof., hd. of dept. of physics, in chg. of civilian flight training. U. of Wichita; 1941 to date, holder of private pilot's license. Res. on dielectric con-

stants of aqueous solutions of non-electrolytes. Mem.: A.C.S. (chmn. of Wichita sec.), A. Phys.S., A.A.A.S., Kan. Acad. of Sc. (pres.), Inst. of Aeronautical Sc., A.I.C. Clubs: Wichita Farm & Ranch (trustee), Rotary, Am. Legion. Hobby: flying. Officer: Kan.-Okla. Oil & Gas Co., (v.p.); P. H. Albright Farm Loan Co. (v.p.); Albright Investment Co. (partner).

ALBRIGHT, Raymond W., v. p., gen. mgr. Distillation Prods. Ind., 755 Ridge Rd. West, Rochester 3, N.Y.; res. Hotel Sheraton, 111 East Ave., Rochester 4, N.Y.
V.p. and gen. mgr.; b. Milwaukee, Wis., Feb. 28, 1894, s. of William and Clara (Maas) Albright; ed. U. of Wis., B.A. 1917; mem. Delta Kappa Epsilon; m. Ruth L. Stolte, May 14, 1921; ch.: Patricia, Raymond William. 1919-25 dept. mgr. B.F. Goodrich Co., Akron, O., 1926 mgr. chem. plant, same co.; 1927 mgr. Anode Div. (dept. became American Anode, Inc. owned jtly. by Eastman Kodak Co., B.F. Goodrich Co. and Anode, Ltd.; 1929-38 gen. mgr. American Anode, Inc., Akron, O.; 1938-44 pres., mem. bd., same co.; 1944 to date v.p., gen. mgr. Distillation Prods. Ind. this co. now a div. of Eastman Kodak Co., eff. Dec. 26, 1949. Mem.: A.I.Ch.E., A.C.S. Trustee of Hobart and Wm. Smith Colls., Geneva, N.Y.; v.p., dir. Baden St. Settlement; v.p., dir. Rochester Civic Music Assn. Clubs: Country (Rochester), Genesee Valley (Rochester). Vestryman, St. Paul's Epis. Ch.

ALBURN, Harvey E(ugene), chf. Biochem. Dept. Wyeth Inst., 900 N. Broad St., Phila. 30, Pa.; res. 217 Haws Lane, Phila. 18, Pa.
Biochem.; b. Youngstown, O., Feb. 23, 1915, s. of L. E., and Addie M. Alburn; ed. West. Res. U., Cleveland, O., A.B. 1937, M.A. 1938, Ph.D. 1945; mem. Delta Kappa Epsilon; m. Margaret Moyer, Jan. 30, 1946. 1938 res. fel., 1939-40 teaching fel. West. Res. U.; 1943-47 biochem. Wyeth Inc.; 1947 to date chf. Biochem. Dept. Wyeth Inst.; res. in purification and administr. of antibiotics, synthet. anticoagulants, enzymes, hormones. Mem.: Sigma Xi, A.A.A.S., N.Y. Acad. of Sc., A.C.S., Phila. Organic Chem. Club: Physiolog. Soc. of Phila.

ALBUS, Leon Hanssen, wks. mgr., Jayhawk Works, Spencer Chem. Co., Pittsburg, Kans. res. 414 Winwood, Pittsburg, Kans.
Engr.-mgr.; b. St. Joseph, Mo., July 10, 1898, s. of John and Clara (Hanssen) Albus; ed. U. of Mo., 1916-21, B.S. in E.E.; mem.: Tau Beta Pi, Kappa Sigma; m. Blanche McComas, May 28, 1932. 1921-31 various positions with Cities Serv. Co.; 1931-42 distr. mgr. The Gas Serv. Co., Pittsburg, Kans.; 1942 to date with the Spencer Chem. Co. of Pittsburg, Kans. in following positions: 1942-43 supt. Gas Reform. Plant; 1943-46 prod. supt. Jayhawk Wks.; 1946 to date wrks. mgr. Jayhawk Wks. V.p. Sunflower Natural Gas Co.

ALDEN, Gardner Rich, res. div. mgr., Dennison Mfg. Co., Framingham, Mass.; res. 15 Hillcrest Rd., Framingham.
Res. div. mgr. b. Provincetown, Mass. Oct. 13, 1891; s. of James Gardner and Mary Alice Alden; ed. Mass. Inst. Tech. B.S. chem. eng. 1913; m. Alice Hodgdon, May 9, 1914; ch.: Gardner Evans, Ruth Hodgdon, Priscilla. 1913-1917, U.S. Rubber Co., chem; 1917-1919, Capt. Q.M.C., U.S.A.; 1919-1921, Dolge Felt Co., asst. supt. mfg.; 1921 to date, Dennison Mfg. Co., res. div. mgr. Mem.: A.C.S., T.A.P.P.I.

ALDEN, Richard Champney, chmn. Res. Planning Board, Phillips Petroleum Co., Bartlesville, Okla.; res. 200 E. 17th Place, Bartlesville, Okla.
Petroleum res.; b. Harrisburg, Pa., Aug. 6, 1896; s. of C.A. and Susy (Champney) Alden; ed. Lehigh U., Steelton, Pa., B.S. Electrometallurgy, 1918; mem.: Delta Upsilon; m. Ethel Carlisle, Apr. 23, 1923; ch.: Edmond C. (stepson), Richard C. (son), Patricia Sue. Bethlehem Steel Co., 1919-20; Chestnut & Smith, chem. 1920-21; Seeley-Oberfell Engrg. Co., partner 1921-22; Landreth Gasoline Co., supt. 1922-23; Gasoline Recovery Corp., sales engr. 1924-25; Phillips Petroleum Co., Chem. 1925-31; asst. dir. res. 1931-33; dir. res. 1933-50; chmn. Research Planning Board, 1950 to date. Devel. of seasonal volatility for motor fuels; specifications for natural gasoline; liquified petroleum gas pioneering; direction of comprehensive res. and devel. program for petroleum ranging from exploration through production, refin., transportation to utiliz.; cumene and isopentane for high octane aviation gasoline; butadiene for synth. rubber; petro-chemicals. Co-author (with G.G. Oberfell), "Natural Gasoline," 1924. Mem.: A.C.S., A.A.A.S., A.S.T.M., A.P.I., N.G.A.A., S.A.E.; first winner of Hanlon Award (N.G.A.A.), 1937. Dir. U. of Okla. Research Inst.; mem Educational Comm., Frank Phillips Foundation. Club: Kiwanis. Hobby: photography.

ALDERKS, Otto Herman, mgr. tech. div., Buckeye Cotton Oil Co. (subsid. Procter & Gamble Co.), Ivorydale, 17, Ohio, res. Hill Top Lane, Wyoming, Cincinnati, 15, Ohio.
Chem. engr.; b. Aurich, Germany; s. of William and Henriette Alderks; ed. U. Dubuque, B.S. 1922; U. Ia., M.S. 1924; res. fellow 1925-26; mem.: Alpha Chi Sigma; m. Mary Adelman, June 13, 1925; ch.: Fred A., Philip W. Instr. chem., Ia. St. Coll., 1924-25; res. asst., Ia. U., 1925-26; chem., Procter & Gamble Co., 1926-40; assoc. dir. chem. div., 1940-48; mgr. tech. div., Buckeye Cotton Oil Co., 1948 to date. Res. in dev. wk. in edible fats, solv. extraction, refin. hydrog., deodoriz., shortening proc. veget. protein proc.; Co-author: "Cottonseed," (handling & storage of cottonseed; pressing, solv. extract. of cottonseed); mem.: A.C.S., A.I.Ch.E., A.O.C.S., Engr. Soc. (Cincinnati), Soybean Res. Council, Phi Lambda Upsilon, Gamma Alpha, Sigma Xi. Club: Civic. Hobbies: gardening, photography.

ALESSANDRONI, Hugh V., mgr. res., Natl. Lead Co., Titanium Div., So. Amboy, N. J., res. 5 Wardell Ave., Rumson, N. J.
Mgr. res.; b. N.Y., Jan. 15, 1908; s. of Anthony and Ada Alessandroni; ed. Columbia, Ch. Eng. 1931; mem.: Alpha Phi Delta; m. Ann Van Dugteren, Sept. 18, 1937; ch.: Ronald, Joanne. 1931 Natl. Lead Co., Titanium Div., res. chem.; 1945 supvr., pigment res.; Jan. 1948 asst. dir. res.; July 1948 to date mgr. res. Active in field of titanium tech.; mem.: A.C.S., E.S., A.I.Ch.E.

ALEXANDER, A(lexandre) E(mil), asst. treas., Tiffany & Co., 727 Fifth Ave., N.Y.C.; res. 155 E. 47 St., N.Y. 17, N.Y.
Gem expert; b. Leipzig, Germany, Feb. 8, 1905; s. of William Prindle and Elsa (Mueller) Alexander; ed. B.S. 1929, Ph.D. 1933, Cornell grad. wk., North Carolina, Harvard; m. Helen Gertrude DeVore, Dec. 10, 1938. Ind. fellow, Mellon Inst., 1938-40; ceramic engr., B.G. Corp., 1940-45; dir., Gem Trade Lab. Inc., 1945-49; asst. treas., Tiffany & Co., 1949 to date; consltg. ceramic engr., Champion Spark Plug Co., Swiss Jewel Co., Locarno, 1946-49. Res. in pearls & gemstones (at Mellon Inst.); investigation of pearl fishing meths., Persian Gulf, summer 1947. Numerous publ. written on gemstones & pearls (exceeding 50 in number). Mem.: Sigma Xi, Sigma Gamma Epsilon, A.C.S., Am. Mineralog. Soc., registered prof. engr., ceramics, Ohio & Pa., N.Y. Acad. of Sc. Clubs: Cornell (N.Y.), Mason, Unitarian, Republican.

Officer: Tiffany & Co., N.Y.C. (hd. of dir.); Jewelry Magazine, Collier's Encyclopedia, Encyclopedia Americana (now in process of publ.), Dr. Tressler's book on Marine prods. (contributing editor); Buffalo Museum of Sc. (res. assoc. 1933 to date); Woods Hole Oceanograqhic Inst. (res. asst. summer 1931); Bu. of Natural Pearl Info. N.Y.C. (dir. 1940-45).

ALEXANDER, Allen Leander, hd. of protective coatings branch, Naval Res. Lab., Wash. 25, D.C.; res. 1710 Oakcrest Dr., Alexandria, Va.
Chem.; b. Statesville, N.C., Feb. 12, 1910; s. of John Palmer and Lula (White) Alexander; ed. U. of N.C., Chapel Hill, N.C. B.S. 1931, M.S. 1932, Ph.D. 1936; mem.: Alpha Chi Sigma, Sigma Xi; m. Stella Gattis, Apr. 19, 1941; ch.: John Palmer, Allen L. Jr. 1936-38, res. chem., Sherwin-Williams Co., Cleveland, Ohio; 1938-41, res. chem., 1941 to date, hd. protective coatings branch, Naval Res. Lab. Res. on problems in corrosion, protective coatings, fungicides & wood preservatives; publ. extensively on the mechanism of antifouling paints which is his fld. of greatest interest. Mem.: A.C.S., A.S.T.M. A.I.C., Natl. Assn. of Corrosion Engrs., Sigma Xi. Club: Cosmos. Hobby: photography.

ALEXANDER, Jerome, conslt. chem., engr., 50 E. 41 St., N.Y. 17.; res. 390 Riverside Drive, N.Y. 25.
Conslt. chem., chem. engr.; b. N.Y.C., Dec. 21, 1876, s. of Issac and Annie (Jackson) Alexander; ed. C.C.N.Y., B.S., 1896; M.Sc. 1899 (with honors), James Gordon Bennett M.; Riggs M.; Sons of the Am. Rev. M.; mem. Phi Beta Kappa, Pi Lambda Phi. Pi Gamma Mu; m. Gertrude Eleanor Hammerslough (dec.), Apr. 9, 1903; ch.: Eleanor Gertrude (Dr. Eleanor Alexander-Jackson), Dorothy Alexander Livingston (dec.). 1896-1921 chem., dir. of numerous assoc. cos. making adhesives, colors, sizings, etc.; 1922 conslt.; lecturer by invit. at many colls. and univs.; pioneer in colloid chem. and ultramicroscopy; demonstrated basis of colloidal diff. betw. cow's and mother's milk; holds patents in adhesive fld. etc.; catalysis as applied to biol. and medicine. Pub. "Colloids and the Ultramicroscope" by R. Zsigmondy (translation); "Colloid Chem." (Van Nostrand Co.) 4th ed. 1937; "Glue and Gelatin," A.C.S. Monograph No. 11 (1923); "Colloid Chem., Theoretical or Applied" (with over 400 internat. contribs.); contributor to Allen's "Comm. Organic Anal."; Liddell's "Handbook for Chem. Engrs." Poetry: "Essences from Life's Alembic" (1940); "Retorts from a Chemist's Lab." (1940); "Tribute to Gertrude" (1946); "Life—Its Nature and Origin" (1948). Mem.: A.C.S., S.C.I., A.I.Ch.E., A.I.C., A.I.M.M.E., Soc. de Chim.Ind., A.A.A.S., Soc. Med. Jurispr., A.A.T.C.C., A.C.C.C.E. (hon.); Townsend Harris M.; Officier de l'Instruction publique (France); Chevalier de la Legion d'Honneur (France). Clubs: Chemists' (N. Y.), Authors (London). Hobbies: Chinese, Egyptology, science.

ALEXANDER, Lyle Thomas; principal soil sc., Plant Industry Sta., Beltsville, Md., res. 5308 42 Ave., Hyattsville, Md.
Chem. soil sc.; b. Athens, Texas, Dec. 3, 1903; s. of James C. and Maude Dalton Alexander; ed. B.S., U. Ark.; Ph.D. U. Md.; mem.: Alpha Chi Sigma, Sigma Xi; m. Helen Goodwin, June 7, 1927; ch.: Thomas Goodwin, Jennie Lyle, Alice Maude, Martha Sue. Jr. physicist, asst. chem. to sr. chem., principal soil sc., U.S. Dept. Agri., Wash., D.C., and Beltsville, Md. 1928 to date. Res. in soil chem., clay mineral.; mem.: A.C.S.; A.S.A.; S.S.S.A.; British Soil Sc. Soc.

ALEXANDER, Mary Loretta, tech. writer, Universal Oil Prods. Co., 310 S. Mich. Ave., Chicago, Ill., res. 2970 N. Sheridan Rd.
Chem. literature searching, writing; b. Guthrie Center, Ia., Feb. 11, 1917; d. of P.V. and Alice Ingledue Alexander; ed. U. Texas, 1934-36; St. U. Ia. 1936-38, B.A. 1938; Ia. St. Coll., res. fellow, 1938-39; mem.: Alpha Chi Omega. 1939 to date Universal Oil Prods. Co., bibliographic, literature res. in org., pet. chem., tech. writing in same fields; mem.: Iota Sigma Pi, A.C.S., A.I.C.

ALEXANDER, Peter P., pres., Metal Hydrides Inc., 12-24 Congress St., Beverly, Mass.; res. 357 Hale St., Beverly.
Res. metallurgist; b. Glukov, Russia, Nov. 21, 1886; s. of Alexander Popow and Mary (Poltaratski) Alexander; ed. Military Acdy., Russia, 1905; Liege U., Belgium, E.E., 1911; Boston U., 1920-22; M.I.T., D.Sc., 1933; m. Eleanor Ritchie, 1922; ch.: Mrs. Dana R. Kelley, Paul Ritchie. Thomson-Houston Co., England, student engr. test dept., 1918-19; Gen. Elec. Co., Lynn, Mass., res. engr., 1919-34; Ventures Ltd., Toronto, conslt.; Metal Hydrides Inc., Beverly, pres., gen. mgr., 1937 to date. Ventures Ltd., Toronto, dir. Mem.: A.I.M.E., Natl. Ordnance Assn. Clubs: Appalachian Mountain, Rotary.

ALEXANDER, Wayne Eugene, dir. of process engrg., Texas Div., Monsanto Chem. Co., Texas City, Texas; res. 306 Eleventh Ave. N., Texas City.
Chem. engrg.; b. Clayton, Ind., July 22, 1915; s. of Y.S. and Emma (Skelton) Alexander; ed. Terre Haute, Ind.; mem.: Sigma Nu, Blue Key; B.S. in chem. engrg. 1938 Rose Polytech. Inst., m. Dorothy Ratliff, June 29, 1938; ch.: John Michael. 1938-41, Anniston, Ala., jr. res. chem. engr., phosphate div. res.; 1941-44, Anniston, Ala., phos. div. engrg. dept., asst. chem. engr. 1942-44; 1944-45, Duck River CWS Plant, Monsanto, Tenn., plant engr.; 1945-47, St. Louis, gen. dev. dept., asst. projects mgr.; 1947 to date, Texas City, dir. of process engrg., Texas div.; all with Monsanto Chem. Co. Investigation of German chem. ind. in acetylene & derivatives, U.S. Dept. of Com., 1946; F.I.A.T. final reports 40347, 44673, 44940. 44941, 44942, 44943. Mem.: A.I.Ch.E., A.C.S. Bd. of deacons, First Presbyterian Church, Texas City. Hobbies: homecraft, photography, music, reading.

ALFEND, Samuel, chf. Kansas City Distr., U.S. Food & Drug Admin., 323 U.S. Court House, Kansas City 6, Mo.; res. 300 E. Armour, Kansas City, Mo.
Chem.; b. St. Louis, Mo., Sept. 6, 1902; ed. Wash. U., B.S. 1923. Mallinckrodt Chem. Wks. drug anal. 1919-20; Laclede Gas Light Co., indus. fuel engr. 1923; Bur. Chem. and Food and Drug Adm., U.S. Dept. Agric. and Federal Security Agency, 1923 to 1950; since March 1, 1950 chf. Kansas City Distr., U.S. Food and Drug Admin.; night H.S. instr. vocation. chem. 1924-30; res. anal. meth. in food chem. (eggs, flour, pepper, peanut butter). Mem.: Assoc. Off. Agric. Chem. (assoc. referee on flour, alimentary pastes, egg prods. 1925-30, gen. referee on eggs, egg prods. 1929-33), A.C.S., A.A.A.S. (fellow). Hobbies: music, gardening, canoeing.

ALIKONIS, Justin John, dir. of res., chf. chem., Paul F. Beich Co., Bloomington, Ill.; res. 611 E. Locust St., Bloomington.
Chem.; b. Johnston City, Ill., Dec. 7, 1912; s. of Mike and Anna Alikonis; ed. B.S.., Ill. Wesleyan U., Bloomington, Ill.; M.S., U. of Ill., Urbana, Ill.; m. Gladys Van Horn, Aug. 27, 1939; ch.: Jimmy, Bobby, Janet Sue, Nancy Ann. Dir., Al-Chem Labs. Inc., 1936-43, Bloom-

ington, Ill.; chem., Bloomington & Normal San. Dist. 1943 to date; dir. res., Paul F. Beich Co., 1943 to date. Hold pats. foreign & domestic on foam confections & chocolate processes; appeared on confection forums of the Natl. Confectioners' Assn.; articles for trade journals. Mem.: A.I.C. (fellow), A.C.S., Am. Assn. of Candy Technologist, Central States Sewage Assn., Natl. Pest Control Assn., A.A.A.S., Natl. Confectioners' Assn. Clubs: Jr. Assoc. of Com., Big Brothers. Hobbies: fishing, Indian relics & family. Officer: Al-Chem Lab. Inc. (pres.); Towers Labs. Inc. (v.p.).

ALLARD, Chauncey Elden, assoc. dir. of res., Arnold, Hoffman & Co. Inc., 55 Canal St., Providence, R.I.; res. 22 Phillips Ave., Norwood, R.I.
Assoc. dir. of res.; b. Jefferson, Maine, June 9, 1914, s. of Charles M. Allard; ed. R.I. State Coll., B.S. 1936, M.S. 1938; mem. Tau Kappa Epsilon; m. Esther H., 1934; ch.: Edith J., Robert G. 1937-38 asst. chem., Expt. Sta., R.I. State Coll.; 1938-42 res. chem. Schering Corp., N.J.; 1942-48 res. chem., 1948-50 res. dir. 1950 to date assoc. dir. of res., all with Arnold, Hoffman & Co., Inc. Mem.: A.C.S., A.A.T.C.C. Hobbies: sports, hunting, fishing.

ALLARD, Romeo Paul, chmn. Dept. of Chem., Loyola U., 7101 W. 80th St., Los Angeles 45, Calif.; res. 4131 Madison Ave., Culver City, Calif.
Prof. chem.; b. Franklin, N.H., Nov. 13, 1906, s. of Joseph and Marie Louise (LeBlanc) Allard; ed. U. of Notre Dame, B.S. in chem. engr. cum laude 1931; M.S. magna cum laude 1932; Ph.D. magna cum laude 1934; m. Anna Marie Dahlem, Dec. 27, 1935; ch.: William Joseph, Bernard Paul, Mary Ann. 1935 to date prof. chem. Loyola U.; research project (classified) of one and one-half yrs. duration under sponsorship of Bur. of Aeronautics, U.S.N. recently compltd. Mem.: A.C.S., A.I.C. (fellow), chmn. elect Los Angeles Chapt. A.I.C. Clubs: Exchange of Westchester, Los Angeles; K. of C., Holy Name Soc. (Culver City, Calif.)

ALLEGRINI, Aldo Peter, supvr. proc. engrg. Attapulgus Clay Co., Attapulgus, Ga.; res. Tallahassee, Fla.
Chem. engr.; b. Phila., Pa. June 9, 1915, s. of Peter and Mary Allegrini; ed. U. of Penna., B.S. in chem. engr. 1938; mem. Tau Beta Pi, Sigma Tau, Pi Mu Epsilon; m. Julia Mary Palma, Jan. 7, 1942; ch.: Elaine Mary, Peter Aldo, Joan Marie. 1939 chem. engr., 1942 plant engr. Attapulgus Clay Co.; 1943-45 plant engr. Porocel Corp., Little Rock, Ark,; 1945-47 dev. engr., 1947 to date supvr. proc. engrg., Attapulgus Clay Co.; res. and dev. in bauxite catalysts, adsorbents, desiccants, in fullers earth (same), collodial chemistry of clays. Mem.: A.C.S. Hobbies: golf, fishing, baseball.

ALLEN, Augustine Oliver, sr. sc., Brookhaven Natl. Lab., Upton, L.I., N.Y., res. Mt. Sinai, L.I., N.Y.
Res. chem.; b. San Rafael, Calif., July 16, 1910; s. of Edward O. and Winifrede Augustine Allen; ed. B.S. 1930 U. Calif. (highest hon. chem.); Ph.D. Harvard, 1938; Sheldon Traveling Fellow, 1936-7, U. Manchester, Eng.; mem. Phi Beta Pi, Alpha Chi Sigma; m. Agnes Robinson, July 2, 1938; ch.: Edith Agnes, Barbara Claire, Winifred Augustine, Catherine Jean. Ethyl Corp., Detr., Chicago (Manhattan Distr.) May 1943-Jan. 1946; res. chem., Nov. 1937-May 1943; metal. lab., Oak Ridge Natl. Lab. (A.E.C.), sr. chem., Feb. 1946-Sept. 1948; Brookhaven Natl. Lab., sr. sc., Sept. 1948 to date. Res. in chem. effects of high-energy radiations; chmn. adv. panel physical chem. to Off. Naval Res. Mem.: A.C.S.

ALLEN, Austin Oscar, v.p. in chge. of mfg. & res., Vita Var Corp., 46 Albert Ave., Newark 5, N.J. res. Highhouse Mountain Ave., Mountainside, N.J.
Exec.; b. Gouverneur, N.Y., May 26, 1892, s. of Oscar and Eliza Jane Allen; ed. St. Lawrence, B.S. 1915, P.E. 1935; mem. Sigma Alpha Epsilon; m. Mildred B. Stevenson, Aug. 10, 1916; ch.: two daus. 1915-18 chem. Genl. Chem. Co.; 1918-20 supt., insect. dept., Glidden Co.; 1920-24 supt., dry color dept., John Lucas & Co.; 1924-27 genl. mgr. Gall, Oakley & Allen; 1927 to 1941 with A.C. Horn Co., genl. supt., bd. dir., v.p. in chge. mfg. and res.; 1941 to date, v.p. in chge. of mfg. & res. with Vita Var Corp.; res. on prod. and stab. barium tetrasul.; magnesium fluo-silicate; res. and pats. on stabiliz. calcium polysulph.; proc. for mfg. arsenate of lead; res. and paper on use wetting agts. in mfg. paint; on Tech. Adv. Comm., Protective Coatings Sect., Chem. Brch., W.P.B.; on bd. of edits., Chem. Formulary. Citation by Natl. Paint, Varnish & Lacquer Assoc. for contribs. to Industry, 1949. Mem.: A.C.S., A.I.C., A.S.T.M., N.Y. Prod. Club. Clubs: Chemists'; Echo Lake Country; Masonic frat. Hobbies: flowers, football.

ALLEN, Charles Francis Hitchcock, asst. supt. in chge. Synth. Org. Res. Lab., Eastman Kodak Co., Rochester 4, N.Y.; res. 284 Maplewood Ave., Rochester 13, N.Y.
Chem.; b. Milford, N.H., Aug. 12, 1895, s. of Frederick James and Maria Porter (Hitchcock) Allen; ed. Boston U., B.A. 1919, M.A. 1920, Sc.D. (hon.) 1944; Harvard U., M.A. 1924, Ph.D. 1924; McGill U., Sc.D. (hon.) 1937; mem: Kappa Phi Alpha; m. Alberta Currie, Apr. 3, 1920 ch.: Phyllis Allen Richmond, Ruth Allen DeBoer. Teacher at: Boston U. 1919-21; Tufts Coll. 1925-29; Middlebury Coll. Summer Sess. 1928, 1929; McGill U. 1929-37; asst. supt. Eastman Kodak Co., Rochester 4, N.Y. since 1937; has contrib. over 100 artls. pub. in various sc. jls. also chapt. in Gilman's "Organic Chem." 2nd ed. (1943) and art. in "Interscience" (1951). Mem.: Sigma Xi, A.C.S., Amer. Leg., Rlway. and Locomotive Hist. Soc., Natl. Rlway. Hist. Soc. Hobbies: Woodworking, railroad history, locomotive pictures, stamps, military band.

ALLEN, Chester Harmon, dir. labs., safety, 2235 Langdon Farm Rd., Cincinnati, 13, Ohio, res. 3735 Ledgewood Dr., Cincinnati, 7.
Chem.; b. Grand Rapids, Mich., Feb. 27, 1889; s. of Elwin C. and Lillian H. (Steiner) Allen; ed. A.B., Lawrence Coll., Appleton, Wisc., 1912; M.A. U. Ill. 1914; m. Helen M. Cullen, 1919; ch.: Leland C. 1914-16 res. staff, Rockefeller Inst. for Med. Res., N.Y.C.; 1916-29 res. dir., Ault & Wiborg-Cincinnati, chem. wks.; 1929-32 conslt. chem., Howard Ecker Chem. Labs.; 1932 to date dir. labs., safety, Hilton-Davis Chem. Co.; 1914-16 Determination of Structure of Branched Chain Fatty acids in Brain Lipoids; 1933-34 Res. on Natural Resin Varn.; 1916 to date devising, installation of proc. for mfr. of dyes and intermediates; Mem: Phi Lambda Upsilon, A.C.S., (Chrmn. Cincinnati sect. 1936), A.A.A.S., Am. Assn. Ind. Hyg.; Sigma Xi (pres., Cincinnati sect. 1949-51), Engr. Soc. (Cincinnati, dir., 1946-49, pres. 1950-51); Hobbies: photography, travel.

ALLEN, Donald Stewart, chmn. Div. of Natural Sc., prof. of natural sc., State Univ. of New York, State Teachers Coll., New Paltz, N.Y.; res. 48 Elting Ave., New Paltz.
Tchr., adm.; b. Saugus, Mass., Sept. 9, 1911, s. of James Blaine and Grace Mabel (Stone) Allen; ed. Dartmouth, A.B. 1932 (distinc. in chem.), M.A. 1934 (org. chem.), Yale, Ph.D. 1943 (phys. chem.);

mem: Lambda Chi Alpha, Alpha Chi Sigma, Gamma Alpha, Sigma Xi; m. Catharine Cochrane, June 13, 1942; ch.: Patricia, Barbara. 1932-34 instr. chem. Dartmouth; 1934-40 instr. sc. and math. Texas Country Day Schl. Dallas; 1941-2 asst. in instr. in chem., 1942-43, instr. chem. Yale; 1943-45 asst. prof. chem. Bates Coll.; 1945 to date chmn. Div. Nat. Sc., prof. nat. sc., State U. of New York, State Teachers Coll., New Paltz, N.Y.; M.A. thesis "Studies in the Friedel-Crafts Reaction," Ph.D. thesis 'Standard Potentials of the Silver-Silver Chloride Electrode in Alcohol-Water Mixtures;" res. in latex chem. 1941; contrib. to "Encyclopedia of Chem. Reactions," (Reinhold). Mem.: A.C.S., A.A.U.P., N.E. Assn. Chem Teachers, NEA. Club: Paltz. Hobbies: athletics, music.

ALLEN, Edwin T., chf. chem., metal.; Houde Eng. Div., 537 E. Delavan Ave., Buffalo, N.Y., res. 164 W. Utica St.
Chem. engr., metal.; b. Buffalo, Oct. 28, 1891; s. of Thomas G. and Lida M. Allen; ed. Columbia U., Chem. Engr., M.S.; m. Emma J. Schroeer, June 12, 1928; ch.: Thomas E.; 1917 Chile Exploration Co., res. metal.; 1918 Linde Air Prods. Co., res. chem., metal., chf. chem.; 1934 Houde Engr. Corp., chf. chem., metal.; 1941 Buffalo Arms Corp., chf. chem., metal.; 1945 to date Houde Engr. Div., chf. chem., metal. Res. in equilibrium diag. Ethylene glycol water mixtures; mfg. rare gases, fractionation hydrocarbon gases, hydraulic fluids, heat treatment of gun parts; Mem: A.C.S. Hobbies: motoring, music, gardening.

ALLEN, Frederick John, asst. prof. chem. Purdue U., W. Lafayette, Ind.; res. 118 E. Stadium, W. Lafayette.
Tchr.; b. Elgin, Ore., Nov. 21, 1894, s. of Harry Franklin and Sophie (Lane) Allen; ed. Oregon Ag. Coll. B.S. 1917; M.S. 1921, Ph.D. 1930 Purdue U.; m. Erna Elsner, Aug. 1922; ch.: Frances Jean, David Elsner, James Gregg, Frederick Henry. 1918, C.W.S.; 1919-21, instr. Oregon Ag. Coll.; 1922 to date asst. instr., asst. prof. Purdue U.; res. in purification and properties of rare gases. Mem.: A.C.S., A.A.U.P., A.A.A.S. (fellow), Ind. Acad. Sci. (fellow), Sigma Xi, Phi Lambda Upsilon. Hobbies: gardening, motoring.

ALLEN, Ivey, Jr., asst. supt., res. & dev., Bakelite Div., Union Carbide & Carbon Corp., 230 Grove St., Bloomfield, N.J.; res. 153 Willard Ave., Bloomfield.
Res. chem.; b. Louisburg, N.C., Apr. 29, 1906; s. of Ivey and Mary (Davis) Allen; ed. Duke U., A.B. 1926, Ph.D. 1929; U. of Freiburg 1933-34; Mem.: Sigma Phi Epsilon; m. Lucy McNall, Oct. 19, 1935; ch.: Gerald, Mary C., Lucinda F. Bakelite Corp., res. chem. 1929-33, res. group leader 1934-45, asst. supt. res. & dev. 1945 to date. Structure of phenolformaldehyde condensation prods.; vinyl copolymerizations, styrene copolymers. Mem.: A.C.S., Councilor, 1944; A.A.A.S.

ALLEN, J. Charles, chf. engr., Atlas Powder Co., Delaware Trust Bldg., Wilmington, Del., res. 110 Hilltop Rd., Hilltop Manor.
Prof. engr.; b. Downingtown, Pa., June 20, 1893; s. of William H. and Belle S. Allen; ed. Bliss Elec. Sch., Wash., D.C. 1912; m. Margaret White, Sept. 2, 1916; ch.: Elizabeth A. Barnett. 1912-18 Pa. R.R. Co., elec. engr.; 1918-29 Atlas Powder Co., elec. engr.; 1929-49 asst. chf. engr.; 1949 to date chf. engr.; Club: Wilmington Whist (pres.).

ALLEN, John James, chf. chem., Indus. Prods. Div., Firestone Tire & Rubber Co., Akron, Ohio; res. 568 Moreley Ave., Akron.
Rubber chem., compounder, technologist; b. England, June 5, 1898; s. of Albert E. and Sarah A. Allen; ed. Case Schl. of Applied Sc. (now Case Inst. of Tech.) B.S. in chem. eng., M.S. in chem. eng., chem. engr.; Mem.: Sigma Nu, Tau Beta Pi, Alpha Chi Sigma; m. Dolores E. Jones, July 11, 1925; ch.: Dorothy Anne, James Edward. 1922-25, Mech. Rubber Goods Co. (U.S. Rubber) Cleveland, Ohio, rubber compounder; 1925-27, Mech. Rubber Goods Co.(U.S. Rubber) Chicago, Ill., rubber compounder; 1927-39, Firestone Tire & Rubber Co., Akron, Ohio, chf. chem., mech. goods. dept.; 1939-49 Firestone Rubber & Latex Prods. Co., Fall River, Mass., chf. chem.; 1949 to date, Firestone Tire & Rubber Co., Akron, Ohio, chf. chem., ind. prods. div. Mem.: A.C.S. (rubber div.), A.S.T.M. Club: Adoniram Lodge F. & A.M. Hobbies: gardening, photography, music.

ALLEN, Lyman H., Jr., chf. engr., Foster D. Snell, Inc., 29 W. 15th St., New York 11, N.Y.
Chem. engr.; b. Mar. 26, 1911, Malden, Mass., s. of Lyman H. and Alice M. (Hedge) Allen; ed. M.I.T., 1934, S.B.; Mem.: Delta Upsilon; m. Jean F. Ogg, Oct. 26, 1935; ch.: Lyman H., 3rd, Joanne D. July, 1934 to Nov. 1936, Island Creek Coal Co., Huntington, W.Va., res. engr.; Nov. 1936 to Dec. 1938, Vulcan Copper & Supply Co., Cincinnati, O., chem. engr.; Dec., 1938 to Mar., 1944, American Viscose Corp., Meadville, Pa., staff, engr.; Mar., 1944 to Sept., 1946, American Viscose Corp., Corp. Eng. Dept., Phila., Pa., division engr.—chem.; Sept., 1946 to Nov., 1949, Am. Viscose Corp., Corp. eng. Dept., Phila., asst. chf. design engr., in chrg. of chem. process design division; Feb., 1950 to present, Foster D. Snell, 29 W. 15th St., New York 11, N.Y., chf. engr. Pat. "Production of Anhydrous Sodium Sulphate," granted 1949 application serial 612,277. Contributed extensively to sc. and tech. jls. Mem.: A.I.Ch.E., A.S.M.E., Instrument Soc. of America. Club: Soc. of American Magicians. Hobby: magic.

ALLEN, Paul, Jr., assoc. prof. of chem., Stevens Inst. of Tech., Hoboken, N.J.; res. 33 Marion Road, Upper Montclair, N.J.
Chem. teacher, conslt.; b. Litchfield, Conn., Sept. 2, 1898; s. of Paul and Martha R. (Duvall) Allen; ed. Harvard, A.B., 1919, A.M. 1922, Ph.D. 1924; Mem.: of Alpha Chi Sigma; m. Margaret Snowden Stanley, Oct. 23, 1926; ch.: Margaret Snowden, Paul Allen III. 1923-1924, Inst. chem., N.Y. U., Univ. Hts., N.Y.; 1924-1925, res. chem. Marx & Rawolle, Bklyn., N.Y.; 1925-1929, res. chem. Vacuum Oil Co., Paulsboro, N.J.; 1929-1939, asst., assoc. Prof., St. John's Coll., Annapolis, Md., Acting Dean, one-half year.; May-Aug.-1931, asst. prof. Post-Grad. Schl., U.S. Naval Acad., Annapolis, Md.; April-June, Aug-Sept.-1939, lect., asst. prof. (Temp.) Post-Grad. Schl., U.S. Naval Acad., 1939-1942, Assoc. prof. & prof., Lunchburg Coll., Lynchburg, Va.; 1942 to date, asst., assoc. prof., Stevens Inst. of Tech., Hoboken, N.J. res. on aliphatic sulfur compds. Mem: A.C.S., A.I.C. Hobbies: tennis, bridge, chess.

ALLEN, Roger Williams, dean, schl. of sc. & lit., Ala. Polytech. Inst., Auburn, Ala.; res. 560 Wright's Mill Rd., Auburn, Ala.
Dean; b. Birmingham, Ala., Mar. 29, 1897; s. of Charles Morehead and Nannie Arabella (Thomson) Allen; ed. B.S Ala. Poly. Inst. 1918; M.S. 1919; A.M. U. of Mich. 1921; Ph.D. Columbia 1927; Mem.: Pi Kappa Alpha; m. Margaret Ann Church, Nov. 22, 1927; ch.: Patsy Jane, Roger W. Chem., D.C. Pickard, consltg. chem. summer 1917; E.I. du Pont de Nemours & Co., Washburn, Wis. summer 1918; U.S. Chem. W.S., Cleveland, O., 1918; chem. Ala. State Chem. Lab., Auburn, 1919; U.S. Dept. Entomol. summer 1921; prof. of chem. Howard Coll., Birmingham, Ala. 1921-22, 1923-26; chem. Inecto, Inc., & Marinello Co., N.Y.C. 1926-28; prof. of chem., Ala. Poly. Inst., Auburn 1928-41; dean schl. of sc. & lit. Feb., 1941 to date. Tech. papers on Thiazoles, Ind. Engr. Chem. 1926 & J. Am. Chem. Soc. 1927. Author: Fundamentals of Chem." 1930. Mem.: A.C.S., Ala. Acad. of Sc., A.A.A.S. Club: Kiwanis (Auburn). Hobbies sports & athletics.

ALLENDER, Samuel Shelton, mgr. production control, The Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6, Ohio; res. Lake Lucerne, Chagrin Falls, O.
Chem. engr.; b. Higginsville, Mo., July 19, 1904, s. of Charles S. and Josephine E. Allender; ed. Cornell U., 1923-1927, B.S. in chem. U. of Oklahoma 1931-1933; grad. wk., U. of Berlin, Germany, 1933; U. of Okla., 1933-1934; N.Y.U., 1941; m. Rilla Larson, July 11, 1946; ch.: Cynthia Lynn, Robert Andrew. Anal. chem., Indian Terr. Illum. Oil Co., 1930-1934; plant mgr.., Effcy. Engr., Warren Petlm. Corp., 1934-1936; wks. mgr., Shamrock Oil & Gas Corp., 1936-1937; supvg. engr., Univ. Oil Prods. Co., 1937-1938; design engr., 1938-1939; tech. asst. pres., 1939-1943; process supt., Premier Oil Refg. Co. of Texas, 1943-1944; mgr. of production control, Harshaw Chemical Co., 1945 to date. Pats. covering catalytic processing light hydrocarbons. Specialist on separation, treatment & processing light hydrocarbons. Author: Contrib. numerous magazine arts. on pet. processing. Guest lecturer, 1941 pet. economics, graduate faculty seminar, New School for Social Res. F.A.I.C.: A.I. Ch.E., A.C.S. (Cleveland Sec.) API, Clev. S. & P. Org. Hobby: music-nomography.

ALLES, Gordon A(lbert), dir. res., Labs. of Gordon A. Alles, Ph.D., 770 S. Arroyo Parkway, Pasadena, 2, Calif., res. 1316 Westhaven Rd., San Marino, 9, Calif.
Chem. res., biol., med., org.; b. Detr., Mich., Nov. 26, 1901; s. of John A. and Flora Schauss Alles; ed. B.S., 1922; M.S. 1924; Ph.D. 1926, Calif. Inst. Tech.; Mem: Tau Beta Pi, Sigma Xi; m. Maxy Pope, July 15, 1935; ch.: Sandra. Chem., Riverside Portland Cement Co., 1922; res. chem., Celite Co., 1922; res. fellow, Harvard Med. Sch. 1927-28; biochem., Geo. Piness, M.D., Los Angeles, 1928-40; Lecturer in pharm., U. Calif. Med. Sch., San Francisco, 1931 to date; res. assoc. biol., Calif. Inst. Tech., Pasadena, 1939 to date; res. conslt. Smith, Kline & French Labs., Phila., 1934 to date. Res. in discovery, initial dev. synthetic drug chems. known as benzedrine dexedrine, paredrine; syntheses, physiolog. actions of compds. related to adrenaline, acetyl-choline, histamine; Mem: A.A. A.S., A.C.S., A.Physiol.S., A.S.Pharm. & Exp. Therap., S.E.B.M.; Hobbies: swimming, tennis, yachting.

ALLGEIER, Rudolph J., mgr. fermentation res. U.S. Indust. Chems., Inc., P.O. Box 1797, Baltimore, Md.; res. 111 Forest Dr., Catonsville, Md.
Biochem.; b. Peoria, Ill., Mar. 25, 1898, s. of Daniel W. and Pauline Allgeier; ed. Armour Inst. Tech., 1921; U. Chicago, 1922; U. Wisconsin, B.S. 1927, M.S. 1928, Ph.D. 1930; m. Winifred Freney, June 20, 1931; ch.: Daniel L. 1930-31 biochem. A.O. Smith Corp., Milwaukee, Wis.; 1932 res. chem. Wis. Geol. Survey; 1932-38 res. bact. Publicker Inds., Phila., Pa.; 1939 res. bact. Wis. Alumni Res. Found., Madison, Wis.; 1940 food tech. Ore. State Coll., Food Ind. Lab., Astoria, Ore.; 1941-42 bact., U.S. Industrial Chems. Inc., New Orleans, La.; 1942-47 res. biochem. U.S. Industrial Chems. Inc., Baltimore, Md.; 1948 to date, mgr. ferment. res., same co.; res. in microbiology, indust. ferments., biochem. and bact. of lake waters and bottom deposits, growth factors, vitamins. Mem.: Honorary-Phi Lambda Upsilon, Phi Sigma, Sigma Xi, Gamma Alpha, Tech. Soc., A.C.S., A. Bact., Amer. Men of Sc., asst. ed. Chemical Abstracts. Clubs: St. Mark's Men's, St. Joseph's Coll. Fathers'. Hobbies: scouting, gardening, hiking.

ALLISON, James Boyd, prof. phys. and biochem., dir. Bur. of Biolog. Res. Rutgers U., New Brunswick, N.J.; res. Highland Park.
Biochem., tchr.; b. Punxsutawney, Pa., Jan. 28 1901, s. of J. Boyd and Elizabeth R. Allison; ed Penn. State Coll., B.S., Iowa State Coll., Ph.D.; m. Dorothy Lewis, Dec. 31, 1926; ch.: Marjorie Ann, Dorothy Jean. 1923-26 asst. chem., 1926-27 indust. fel. Iowa State Coll.; 1927-29 instr. biochem., 1929-41 asst. prof. biochem., 1941-45 assoc. prof., 1945 to date prof. phys. and biochem. Rutgers U.; also 1944 dir. of Bur. of Biol. Res., lect. in physlgy., Coll. of P. and S., Columbia U., 1943-45; res. in biochem. involving principally studies on the chem. of body fluids of animals, shock, protein nutrition and metabolism, cancer. Mem.: A.C.S., A.A.A.S., Soc. Exp. Biol. Med., N.Y. Acad. Sci., A.I.C., A.S.Bial.C., A. Inst. Nutri., institutional mem.; mem.: Associates Food and Container Inst., Alpha Zeta, Phi Lambda Upsilon, Sigma Xi, Phi Kappa Phi, Gamma Sigma Delta, Phi Beta Kappa. Clubs: University Outing, Rotary Internat.

ALLISON, Samuel King, prof. of physics & dir., Inst. of Nuclear Studies, U. of Chicago, Chicago 37, Ill.; res. 5816 Blackstone Ave., Chicago 37.
Physics prof.; b. Nov. 13, 1900, Chicago, Ill.; s. of Samuel Buell and Carrie (King) Allison; ed. B.S., U. of Chicago, 1921; Ph.D., 1923; m. Helen C. Campbell, May 28, 1928; ch.: Samuel Campbell, Catherine King. Natl. Res. Fellow, Harvard U., 1923-25; Fellow, Carnegie Inst., 1925-26; instr. in physics, 1926-28, asst. prof., 1928-29, assoc. prof., 1929-30, U. of Calif., Berkeley; assoc. prof. of physics, U. of Chicago, 1930-42; prof., 1942 to date; dir., Inst. for Nuclear Studies, 1946 to date; N.D.R.C. consult., Wash., D.C., 1940-41; Uranium Comm., O.S.R.D., U. of Chicago, official investigator, 1941-42; Metallurg. Lab., U. of Chicago, in chg. physics res., dir. of chem. div., 1942-43; chmn. project council, 1943; dir., 1943-44; Los Alamos Sc. Lab., Los Alamos, N.M., chmn. tech. and scheduling comm., 1944-46. Awarded Medal for Merit with citation from Pres. Truman, Jan. 12, 1946. Author: "X-Rays in Theory and Experiment" (with A.H. Compton), 1935; also numerous pubs. during war yrs. Mem.: Phi Beta Kappa, Sigma Xi, A.Phys.S., Natl. Acdy. Scs. Club: Quadrangle, U. of Chicago.

ALMAND, Joseph Morris, Sr., supvr. chem. lab., dev. dept., text. div., U.S. Rubber Co., Winnsboro, S.C., res. Forest Hills, Winnsboro.
Res chem.; b. Lithonia, Ga., Aug. 16, 1903; s. of A.J. and Clara (Bond) Almand; ed. Emory U., B.S. 1924; M.S. 1925; Johns Hopkins U., Ph.D. 1935; Mem.: Sigma Nu; m. Martha Holt McCaw, June 7, 1932; ch.: Martha Carver, Joseph M., Jr. 1928-30 asst. prof. chem., Emory Jr. Coll., Valdosta, Ga.; 1930-43 asst. prof., assoc. prof., prof. chem., Wesleyan Coll., Macon, Ga.; 1943-44 instr. chem. & physics, Emory U., Atlanta, Ga.; 1944-45 prof. chem., hd. dept. chem., Albright Coll., Reading, Pa.; 1945 to date supvr. chem. lab., dev. dept. text. div., U.S. Rubber Co., Hogansville, Ga., Winnsboro, S.C. Res. in ethyl. of benzene, chem. treatments for improv. tensile strength, mildew resist. of cotton yarn, chem, treat. improv. heat resist. cotton yarn and fabric. Author: "Chem., Benefactor of Man," 1937; Mem.: Ga. Acdy. Sc., A.C. S., A.A.T.C.C.; Club: Lions Internatl.; Hobbies: fishing, gardening, home workshop.

ALMY, Charles, conslt. to Dewey & Almy Chem. Co., Whittemore Ave., Cambridge 40, Mass.; res. 111 Coolidge Hill, Cambridge 38.
Chem. engr.; b. Cambridge, Mass., Apr. 6, 1888; s. of Charles and Helen (Cabot) Almy; ed. Harvard, A.B. (cum laude), 1908; M.I.T., B.S., 1910; mem.: Chi Phi; m. Mary Elizabeth Gardner, June 10, 1926. Res. assoc. in applied chem., M.I.T., 1910-11; res. asst., Amer. Sheet & Tin Plate Co., Pittsburgh, 1911-12; tech. mgr., Amer. Vulcanized Fibre Co., Wilmington, Del., 1912-16; secy. and gen. mgr., Virginia Red Oil Prods. Co., Balto., Md., 1916-17; exec. v.p., Dewey & Almy Chemical Co., Cambridge, Mass., 1919-48; consultant to Dewey & Almy Chem. Co., 1948 to date; also exec. comm. and dir. of same co.; v.p. and dir.,

Dewey & Almy Chem. Co. of Canada; dir., Dewey & Almy, Ltd., London, Dewey & Almy Pty. Ltd., Australia, Dewey & Almy (Argentina), S.A., and dir. Cambridge Trust Co.; trustee, Cambridge Savings Bank. Life mem. of Soc. of Chem. Industry; mem. visiting comm. for Dept. of Chem. at Harvard. Dir.: Cambridge Research Assoc., Foundation for Vision; pres., The Browne & Nichols School, Cambridge. Clubs: Union (Boston), Harvard Faculty, Army & Navy (Wash., D.C.), Newcomen Soc., Cambridge Club.

ALPER, Edward D., plant engr., Nepera Chem. Co. Inc., Harriman, N.Y.; res. 225 Holt Dr., Pearl River, N.Y.
Chem. engr.; b. N.Y.C., Dec. 25, 1918; s. of Jacob and Anna Alper; ed. C.C.N.Y., B. Ch. E. 1939; Mem.: Omega Pi Alpha; m. Dorothy Elgator 1941; ch.: Barbara, Neil. 1940-42, Arabol Mfg Co., Bklyn., N.Y., chem.; 1942-44, War Dept., Office Chf. Ordnance, Wash., D.C., ind. engr.; 1944-47, Publicker Industries, Inc., Phila., Pa., project engr.; 1947 to date, Nepera Chem. Co., Harriman, N.Y., plant engr. Mem.: A.C.S., A.I. Ch.E.

ALTER, Chester M., dean of grad. schl., prof. of chem., Boston U., 725 Commonwealth Ave., Boston, Mass.; res. 83 Bonad Rd., W. Newton.
Ed.; b. Rushville, Ind., Mar. 21, 1906, s. of David O. and Maggie (Brookbank) Alter; ed. B.S. Ball State Teachers Coll. 1927, A.M. Indiana U. 1928, Ph.D. Harvard 1936; Mem.: Alpha Chi Sigma; m. Arvilla Morrison, 1933; ch.: Richard David. Teachg. fellow U. of Pitt. 1928-1929; teachg. fellow Harvard 1929-1932; instr., asst. prof., prof., dean of grad, schl., Boston U. to date. Res. in determ. of atomic weights of lead, indium, nitrogen; analyt. determs., tech. personnel, res. admin. Mem.: A.C.S., A.A.A.S., Fellow, A.A.A.S., Indiana Acad. of Sc. Trustee: Newton Wellesley Hosp., United Community Services. Dir. and v.p. Exolon Co., Tonawanda, N.Y.

ALTHAUSEN, Dr. Darrell, mgr., Clifton Factory, Fritzsche Bros. Inc., 86 Third St., Clifton, N.J.; res. 2 S. Brookwood Dr., Montclair, N. J.
Res. chem.; b. St. Mary's, Ohio, Feb. 3, 1901; s. of Charles Frederick and Myrtle Almeda (Korp) Althausen; ed. B.Sc., U. of Okla., 1926; Ph.D. org. chem., U. of Ill., 1932; Chem. Foundation Fellow 1932-34; Mem.: Red Red Rose, Phi Beta Kappa, Alpha Chi Sigma, Tau Kappa Epsilon, Gamma Alpha; m. Honorine Loretta Maher, May 8, 1944. Res. chem., 1934, Natl. Aniline & Chem. Co., Buffalo, N.Y.; res. supvr., 1934-41, Hiram Walker & Sons, Inc., Peoria, Ill.; sr. chem., 1941, Northern Regional Res. Lab., U.S.D.A., Peoria, Ill.; Major, C.W.S., 1942-45, Army of U.S.; mgr., 1945 to date, Clifton Factory, Fritzsche Bros. Inc., Clifton, N.J. Assisted in establishment of psychometric lab. in Food & Container Inst. for Armed Services. Co-author: with Dr. Ernest Guenther, Vol. II "The Essential Oils" D. Van Nostrand Co. 1949. Mem.: A.C.S., Fellow Internatl. Faculty, Andhra Res. Univ. 1944; I.F.T., Mem.: Liaison & Sc. Advisory Bd. Q.M. Food & Container Inst. for Armed Services. Club: Chemists' (N.Y.). Hobbies: horticulture, graphology, statistics.

ALTSCHUL, Aaron M., hd. protein and carbohydrate div., Southern Regional Res. Lab., U.S. D.A., 2100 Robert E. Lee. Blvd., New Orleans 19, La.; res. 5403 McKenna St.
Chem.; b. Chicago, Ill., Mar. 13, 1914, s. of Philip and Sophie Fox Altschul; ed. U. of Chic., 1930-34 B.S. with honors, U. of Chic., 1934-1937, Ph.D.; Mem.: Phi Beta Kappa, Sigma Xi; m. Ruth Braude, Oct. 24, 1937; ch.: Sandra Betty, Judith Edna. 1937-41, instr., dept. of chem., U. of Chic., associated with Spectroscopic Biological Investigation Unit; 1941 to present, Southern Regional Res. Lab., U.S. Dept. of Agrl.; hd. of protein and carbohydrate div. in Aug. 1949; 1943 to present; res. conslt., dept. of chem., of Tulane U., La. Directed res. in flds. of seed storage, oil seed processing and protein chem.; isolated cytochrome c peroxidase. Pats. and arts. in sc. press; chapter entitled Biological Processes of the Cottonseed in "Cottonseed and Cottonseed Products," edited by A.E. Bailey, Interscience, 1948. Mem.: A.C.S., A.O.C.S., Am. Soc. of Plant Physiologists, A.S.B.C., Soc. of Experimental Biology and Medicine. Hobbies: tennis, piano.

ALTVATER, Harry W., treas., controller, 4300 Carew Tower, Cincinnati, Ohio, res. 7304 Parkdale Ave.
Treas.; b. Cincinnati, Ohio, Oct. 18, 1900; s. of Henry and Katherine Altvater; ed. Cincinnati publ. schs.; Y.M.C.A., Cincinnati; night classes U. Cincinnati; m. Hilda Altvater, June 11, 1927; ch.: Rodney, Joy. Last 25 yrs. Emery Inds., Inc., Cincinnati; prior numerous positions. Res. in dev. of lifo inventory meth. in fatty acid ind.; Mem.: Controllers Inst. Am.; Club: Cincinnati; Hobbies: billiards, fishing.

ALVARADO, Alfonso M., res. chem., Exp. Station, Chem. Dept., du Pont Co., Wilmington, Del.; res. 1416 Riverview Ave., Wilmington.
Chem.; b. Cartago, Costa Rica, Central Am., Sept. 19, 1900; s. of Lucas D. and Adelaida (Brenes) Alvarado; ed. B.E. in Ch.E. Tulane U., New Orleans, La. 1921; M.S. State U. of Iowa 1922, Ph.D. 1924; m. Bertha V. Couture, Sept. 19, 1924; ch.: Donald M., Shirley L., Nancy E. Grad. asst. chem., State U. of Iowa 1921-24; hd. of sc. dept., Waukon Jr. Coll., Waukon, Iowa 1924-25; assoc. prof. chem. Loyola U., New Orleans, La. 1924-27; res. chem. Exp. Station Chem. Dept., du Pont Co. 1927 to date. Publ. in fld. of catalysis, pats. in coatings, finishes, dispersions, catalysis, etc. Mem.: A.C.S., Gamma Alpha.

ALVES, Howard A., proc. engr., Pure Oil Co., 35 E. Wacker Dr., Chicago, Ill., res. 1018 Darrow St., Evanston, Ill.
Chem. engr.; b. Wetmore, Texas, Dec. 10, 1916; s. of E.H. and Irma Alves; ed. U. Texas, B.S. Chem. Eng. 1937; M.S. Chem. Eng. 1939. Stand. Oil Co. of La., summer 1937, lab. tech.; U. Texas, 1937-39 tutor in dept. chem. engr.; Pure Oil Co., June 1939-Apr., 1943, res. chem, engr.; Apr., 1943 to date proc. engr. for ref. div.; Mem.: Phi Lambda Upsilon, Tau Beta Pi, Sigma Xi (assoc.), A.C.S., A.I.Ch.E.

AMBLER, Charles Melville, dir. of chem. engrg., The Sharples Corp., 2300 Westmoreland St., Phila., Pa.; res. "The Orchard," Washington Lane, Wyncote, Pa.
Chem. engr.; b. Phila., Pa., Feb. 3, 1907; s. of Charles M. and Margaret G. Ambler; ed. U. of Penn., B.S. in chem. engrg. 1927; mem.: Alpha Chi Sigma; m. Elizabeth E. Moxey, May 20, 1933; ch.: Nancy M., Bruce M., Scott K. 1925-26 chem. United Gas Improvemt. Co.; 1927-28 chem. The Texas Co.; 1928 chem. Amer. Rolling Mill Co.; 1928 to date dir. of chem. engrg. The Sharples Corp.

AMBRUSTER, Howard Watson, consult. engr., writer, lecturer, P.O. Box 277, Westfield, N.J.; res. Forest Rd. & Woodland Ave., Fanwood, N.J.
Consult. engr., writer, lecturer; b. Germantown, Phila., Pa., Aug. 12, 1878; s. of Watson and Emma Elizabeth (Earley) Ambruster; ed. Germantown Acdy., 1887-94; U. of Pa., 1894-98; B.S. in Economics, 1939; m. Florence Ursula Favreau, June 15, 1910; ch.: Watson II (Capt., U.S.A.F.), Joseph Favreau (dec.), Albert (dec.). Coach, Rutgers Coll. football team, 1898; clerk, Clearing House, Phila. Stock Exchange, 1899; engrg. staff, Va. Portland Cement Co., 1900; city and editorial staff, Phila. Times, 1901; General Artificial Silk Co., secy., dir. & receiver, 1902-04; Genasco Silk Wks., 1904-08; textile and chem. industries &

misc. magazine writing, 1908-13; Frohman Chem. Co., subsid. Hinde & Dauch Paper Co., organ. secy. and dir., 1913-18; Hemingway & Co., 1918-21; gen. mgr., 1919-21; mem. Bd. Operators, Sherwin Williams Co., 1920; Grasselli Chem. Co. (now du Pont Co.), staff advisor on arsenicals, 1924-25; Natl. Chem. Co., (now owned by Calif. Spray Chem. Co. & Standard Oil Co. of Calif.), dir. reconstruction & reorganz., 1925-26; entered pharmaceut. industry as importer of crude ergot and mfr., U.S.P. Fl. Ex. Ergot, 1927-28; Bolidens Gravartiebolag, Kallhelman, Sweden (controlled by Wallenberg's Enskilda Bank), tech. advisor on arsenic & arsenical industries, 1935-36; writer, lecturer & newspaper columnist to date. Introduced use of artificial silk (rayon) in mens hosiery, cross dyeing in piece goods, mixed tapestry weaving & other textile fabrics, in U.S., 1905-08; chg. erecting & operation first modern arsenic acid & arsenical insecticide plant, supplied arsenic acid for first prod. of Salvarsan in U.S., first to call public attention to potential shortage arsenic for boll weevil control, first to demand official fixing of tolerance for arsenic on foodstuffs as residue from insecticide sprays; first to initiate systematic warehouse distribution of cotton poison in each area requiring immediate availability, participation in pharmaceut. industry, from 1927 on, credited by med. profession as playing important part in halting adulteration of ergot medicinals & reduction of maternal mortality at childbirth, honorary member United Victims of Ginger Paralysis in 1932 for aid in fixing responsibility for "Ginger Jake" poisoning in middle western states. Patentee: method making arsenic acid, and arsenical insecticides, donated arsenical pat. to U.S. Govt. dur. war shortage, 1943, contributor to U.S. and foreign tech. & reference pubs. on chem., metallurg., entomolog., med., pharmacolog. & textile subs. Author: "Arsenic, Calcium Arsenate & Boll Weevil" (foreword by Edgar F. Smith), 1923, "Why Not Enforce the Laws We Already Have, or How & Why Industries Outlaws are Crucifying Harvey Wiley's Pure Food & Drug Law," (with Ursula Ambruster), 1935, "Mineral Industries," Vols. 34/35, 1926-27, sections on Arsenic, Encyc. Americana, mon. on The Cartel, (reprinted as public document in Congressional Record), 1945, "Treasons Peace, German Dyes & American Dupes," 1947 (mss. written originally in 1943). Mem.: A. C.S., Crop Protection Inst. of Natl. Res. Council, Franklin Inst., Am. Acdy. Political & Soc. Sc., Sons of Revolution, Vet. Assoc. 7th Reg. N.Y. Natl. Guard, Salesmens Assoc. Am. Chem. Indus. Clubs: Chemists' (N.Y.), Drug & Chemical (N.Y.), Natl. Press Club (Washington, D.C.). Presbyterian. Independent politics. Hobbies: household engrg.

AMDUR, Isadore, assoc. prof. physical chem., M.I.T., Cambridge, 39, Mass., res. 24 Sacramento St., Cambridge, 38.
Chem. (tchr., res.); b. Pittsburgh, Jan. 24, 1910; s. of Benjamin and Millie (Silberblatt) Amdur; ed. U. Pittsburgh, B.S. 1930; M.S. 1930; Ph.D., 1932; mem.: Pi Lambda Phi; m. Alice P. Steiner, June 16, 1935; ch.: Stephen Benjamin, Nicholas John. M.I.T., natl. res. council fellow, 1932-34; instr. chem. 1934-40; asst. prof. chem. 1940-45; assoc. prof. physical chem. 1945 to date. Contrib. extens. to sc. and tech. jls.; mem.: A.C.S., A.A.A.S.(fellow), Am. Acdy. Arts, Scs. (fellow); (record. secy. 1946-48; councillor 1948-52); Sigma Xi.

AMES, John Tucker, pres., Kay Fries Chems. Inc., Amer.-British Chem. Supplies, Inc., 180 Madison Ave., New York 16, N.Y.; res. Nyack, N.Y.
Exec.; b. Portland, Maine; ed. Carnegie Inst. of Tech., B.S. in Mech. Engrg.; mem.: Phi Kappa Psi. 1923-27. White Motor Co.; 1927 to date with Kay Fries Chems. Inc., as secy.-treas., v.p. and gen. mgr., pres. Mem.: A.S.M.E., Inst. of Radio Engrs., A.C.S. Clubs: Chemists', Rockland Golf, Union League. Officer or dir. in following companies: Tennants Consolidated, London; Amer.-British Chem. Supplies, Inc.; Charles Tennant & Co. (Canada) Ltd.; Kay Labs., Kay Fries Chems. Inc.; Hackensack Water Co.; Nyack Bank and Trust Co.

AMICK, Chester A(lbert), chem. pat. asst., Amer. Cyanamid Co., Calco Chem. Div., Bound Brook, N.J.; res. 121 E. Maple Ave., Bound Brook, N.J.
Chem.; b. Scipio, Ind., Apr. 19, 1895, s. of Albert and Rosa (Amick) Amick; ed. 1920, Indiana U., A.B. (with distinction); 1921, A.M. same U.; 1919, U. of Lyons, France; 1925-27 Cornell U.; mem.: Theta Chi, Phi Beta Kappa, Alpha Chi Sigma; m. Marcella E. Hoover, June 24, 1925; ch.: James Albert, Donald Hoover, Robert Myrl. Res. chem., Pacific Mills, Lawrence, Mass., 1927-31; dir. of res., U.S. Finishing Co., Providence, R.I., 1931-32; res. chem., Sayles Finishing Co., Glenlyon Print Wks., Phillipsdale, R.I., 1932-35; res. chem. and chem. pat. asst., Calco, 1935 to date; res. in carbohydrates, textile finishing and dyeing, crease resisting fabrics, vat printing, wool dyeing; holds 24 U.S. pats. and numerous foreign pats. Mem.: A.C.S. (Councillor, North Jersey Section, 1947-48); chmn., N.J. Chapt. of A.I.C., 1950-51; mem.: A.A.T.C.C. Clubs: Masonic frat.; elder, Presbyterian Ch. Hobbies: gardening, golf; Captain, Bound Brook Police Reserves.

AMICK, Erwin Hamer, Jr., assoc. prof. of chem. engrg., Dept. of Chem. Engrg., Columbia U., N.Y. 27, N.Y.; res. 1027 University Terrace, Linden, N.J.
Chem. engr.; b. Chicago, Ill., July 12, 1910; s. of Erwin H. and Anna Estelle (Murphy) Amick; ed. B.S. in Ch.E., Mont. State Coll., 1932; M.S. in Ch.E., U. of N.D.., 1933; D. Eng, Yale U, 1939; mem.: Alpha Chi Sigma, Pi Kappa Alpha, Phi Kappa Phi, Phi Lambda Upsilon, Gamma Alpha; m. Dorothy Evelyn Rose 1939; ch.: Gail Elizabeth, Barbara Louise. Res. engr., Stand. Oil Dev. Co., 1938-39; asst. prof. chem. eng., U. of Pa., 1939-41; process engr., Stand. Oil Dev. Co., 1941-46; assoc. prof. of chem. engrg., Columbia U., 1946 to date; conslt. 1946 to date. Conslt. on tech. problems relating to the deconcentration & decartelization of I.G. Farbenindustrie, 1949-50. Mem.: A.I.Ch.E., A.C.S., Am. Soc. for Engrg. Ed., Sigma Xi, Tau Beta Pi. Hobbies: photography, tennis.

AMIS, Edward S., prof. of chem., Dept. of Chem., U. of Arkansas; res. 623 W. Maple, Fayetteville, Ark.
Chem. prof.; b. Nov. 9, 1905, Himyar, Ky., s. of Jack and Artie Amis; ed. B.S. Kentucky 1930, M.S. Ky. 1933, Ph.D. Columbia 1939, summer qtr. Chicago 1936; m. Annie Velma Birdwhistell, Sept. 2, 1934; ch.: Edward Stephen, Jr., Velma Dianne. Instr. gen. chem. U. of Ky. 1934-1936; teachg. asst. and res. asst. to Prof. Victor K. LaMer, and instr. Columbia 1936-1939; instr., asst. prof. and assoc. prof. La. State U. 1939-1945; res. chem. and sr. res. chem. Carbide & Carbon Chems. Corp., Oak Ridge, Tenn. 1945-1947; prof. of chem. U. of Ark. 1947 to date; conslt. Oak Ridge Inst. of Nuclear Studies 1948 to date. Numerous pubs. in kinetics, electro chem., solutns., analyt. chem. Author: "Kinetics of Chem. Change in Solutn." 1949. Mem.: Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma, Sigma Pi Sigma, Pi Mu Epsilon, A.C.S. Hobbies: gardening, hiking, fishing.

AMIS, Maurice Brewer, chf. chem., Esso Standard Oil Co., P.O. Box 551, Baton Rouge, La.; res. 1104 Park Blvd., Baton Rouge.

Chem.; b. March 11, 1896, Newton Co., Miss., s. of Alphonso B. and Mary S. Amis; ed. U. of Alabama, B.S. in Chem. 1918; mem. Phi Beta Kappa; m. Violet Bolton, May 3, 1920; ch.: Violette Donnie (Mrs. Leland C. Ellis). Chem. Esso Standard since July, 1919, chf. chem. October, 1931 to date. Mem.: A S.T.M., A.C.S. (past chmn. Baton Rouge Sec). Hobby: woodworking.

AMON, Fred Hughes, tech. dir., Godfrey L. Cabot, Inc., 77 Franklin St., Boston, Mass.; res. 13 Maple Rd., Weston, Mass.
Chem.; b. Greenville, Pa., June 25, 1893; s. of Charles and Margaret (Hughes) Amon; ed. Allegheny Coll., B.S., 1916; M.S., 1917; mem.: Alpha Chi Sigma; m. Margaret Ayres Douthitt, 1920; ch.: Frank Douthitt, Richard Frederick. B.F. Goodrich Co., Akron, res., rubber compding., 1917-29; Godfrey F. Cabot, Inc., Boston, tech. dir., 1930 to date. Several pub. papers. Patents in carbon black & rubber fields. Mem.: A.C.S. (past dir., rubber div.), A.I.Ch.E., A.A.A.S., Chemists' Club (N.Y.). Club: Weston Golf. Hobbies: photography, fly fishing.

AMORE, Salvatore Thomas, pres., Cardinal Prods. Inc., Box 828, Durham, N.C.; res. Allenton Apts., Durham, N.C.
Chem.; b. Bklyn., N.Y., Oct. 30, 1916; s. of John and Phyllis Amore; ed. Bklyn. Coll., B.S. 1939; Duke U., M A. 1940; Ph.D. (chem.) 1944; mem.: Sigma Xi, Phi Lambda Upsilon; m. Margaret E. Morris, 1948. Res. assoc. Squibb Med. Res. Inst., 1944-45; res. assoc., Duke U. (O.S.R.D. Proj.) 1945-46; instr. in chem., Duke U., 1946-48; pres., Cardinal Prods. Inc., (chem. mfrs. & distribs., lab. supply dealers), 1946 to date (chmn. of bd.); res. in anti-malarials; synth. estrogens-carcinogenic compds. Mem.: Phi. Lambda Upsilon, N.C. Acdy. of Sc., A.C.S., Sigma Xi, A.A.U.P.

AMOSS, Alice M(yrtle), tech. librarian, Tech. Library, Army Chem. Center, Md. (Tech. Command).
Librarian (tech.); b. Baltimore Co., Md., May 11, 1894, d. of C. Howard and Margaret F. Amoss; ed. Maryland State Normal Schl. (diploma); Johns Hopkins U. 1912-18 tchr. pub. schls. Baltimore Co. Maryland; resigned; 1918-25 asst. librarian, Tech. Library, Edgewood Arsenal, (Army Chem. Center); 1925-26 tchr., Junior High, Baltimore City, Md.; 1926 to date, librarian, Tech. Library, Army Chem. Center, Md.; 1926-39 ref. librarian (evenings) Enoch Pratt Pub. Library, Baltimore, Md. (Note: Edgewood Arsenal became Army Chem. Center in 1948); notable wk.: as librarian of the Chem. Library later known as the Tech. Library of the C.W.S., and as ref. librarian in the Industry and Sci. Dept. of the Enoch Pratt Library, have made a thorough study of tech. libraries, their organiz., and functions; responsible for the organz. and growth of the C.W.S. (Army Chem. Corps), tech. library; studied and carried on res. in chem. literature for 30 yrs. Author: "Where to Find the New Trade Names," 1940. Mem.: Special Libraries Assoc., A.C.S., Amer. Guild of Organists. Hobbies: music, agriculture.

AMSDEN, John Page, prof. chem. Dartmouth Coll., Steele Chemistry Bldg., Hanover, N.H.; res. 4 Brewster Rd., Hanover.
Tchr.; b. Attleboro, Mass., May 23, 1899, s. of Henry H. and Grace (Page) Amsden; ed. Dartmouth, A.B. 1920; Columbia, M.A. and Ph.D. 1925; mem.: Alpha Tau Omega; m. Edith Bartlett Archer, Aug. 20, 1926; ch.: Katherine. 1920-22 and 1925-30 instr., 1930-36 asst. prof., 1936 to date prof. Dartmouth. Pub.: 'Physical Chemistry for Premedical Students" 1946, 2nd ed. 1950. Mem.: A.C.S., Phi Beta Kappa, Sigma Xi. Pres. Mary Hitchcock Memorial Hosp., Hanover, N.H.

AMSTUTZ, Edward Delbert, prof org. chem. Lehigh U., Bethlehem, Pa.; res. Santee Mill Rd., Bethlehem.
Tchr.; b. New Athens, O., May 1, 1909, s. of Platte T. and Louise Emily Amstutz; ed. B.S. Coll. of Wooster; M.S. Inst. of Paper Chem.; Ph.D. Cornell U.; m. France D. Van Schaack, Aug. 30, 1935; ch.: Edward Allison, Jean Louise, William Platte. 1933-36 tch. asst. Cornell U., 1936-38 instr. chem. Union Coll. (Schenectady, N.Y.); 1938-41 instr. org. chem., 1941-43 asst. prof. org chem., 1943-47 assoc. prof. org. chem., 1947 to date prof. org. chem. Lehigh U.; res. in fields of reaction mechanisms, molecular structure, synthet. pharmaceuts. Mem.: A.C.S., Sigma Xi, A.A.A.S. Hobbies: fishing, fly-tieing, gardening.

AMUNDSEN, Lawrence Hardin, prof. chem. U. of Conn., Storrs, Conn.; res. Route 1, Baltic.
Tchr.; b. Pine River, Wis., Sept. 23, 1909, s. of Albert and Cora E. (Hardin) Amundsen; ed. The Coll. of the Ozarks, Clarksville, Ark., B.S., 1931; U. of Fla., Ph.D. 1935; m. Helen Francis Langslow, Dec. 16, 1934; ch.: Albert Lawrence, Ralph Francis, Franklin Hardin, Bruce Langslow. 1935-6, instr. chem. Adelphi Coll.; 1936 to date, instr., asst. prof., assoc. prof., prof. of chem. U. of Conn.; 1942-3 post-doct. fel. Purdue U., 1943-4 chem. U.S. Pub. Health Serv.; res. on sulfonamides and amines. Mem.: A.C.S., A.A.A.S., A.A.U.P., N.E. Assoc. Chem. Tchrs, Sigma Xi, Phi Kappa Phi. Club: Chemists'.

ANABLE, Francis Marshall, v.p. chg. prod., Victor Chem. Wks., 141 W. Jackson Blvd., Chicago, Ill., res. 1208 Sunnyside Ave., Chicago Heights, Ill.
Chem. engr.; b. White Lake, N.Y., June 22, 1902; s. of Mark Edward and May Miller Anable; ed. Clarkson Coll. Tech., Potsdam, N.Y. 1924, B.S. Chem. Engr.; mem.: Sigma Delta; m. Bessie Hall, Sept. 29, 1928; ch.: Donald Francis, Sallie May. Joined Victor Chem. Wks., chem. engr. 1927, formn., night supvr., supvr., control lab., oxalic, formic acid divs.; 1 yr. Victor res. and lab.; asst. dept. hd., div. supt.; supt. prod., Chicago Heights plant, 1944; asst. to exec. v.p. 1946; gen. prod. mgr. 1948; elected v.p. chg. prod. June 6, 1949. Mem.: A.I.Ch.E. Hobbies: golf, bowling, bridge.

ANDEREGG, Frederick O(sband), dir. of bldg. matls. res., John B. Pierce Found., Raritan, N.J.; res. c/o same.
Conslt. spec. on bldg. matls.; b. Oberlin, O., Sept. 20, 1887, s. of Frederick Anderegg; ed. Oberlin Coll. A.B. 1910; Harvard U. A.M. 1912, Ph.D. 1915; m. Ethel Coe, Sept. 15, 1915; Elsie Ludwig, Dec. 3, 1944; ch.: Frederick C., David S., John A., Ruth E., Mary E. 1916-18 instr. U. Illinois; 1918-26 asst. and assoc. prof. Purdue U.; 1926-30 sr. fel. Mellon Inst.; 1930 to date conslt. spec. bldg. mtls.; res. in reactions in the corona aggregates and bldg. units, waterproofing, etc. Mem.: A.C.S., Am. Concrete Inst., A.S.T.M. Hobby: farming.

ANDERSEN, Bjorn, dir. central res. & devel., Celanese Corp. of Am., Summit, N.J.; res. 38 Park Rd., Maplewood, N.J.
Chem. engr.; b. Norway, June 29, 1897; s. of Elling and Auguste Petrea Andersen; ed. Norway Inst. of Tech., B.S., 1918; M.S. & Ch.E., 1920; m. Ingeborg Andersen, Mar. 27, 1924; ch.: Bjorn Andreas, Thor B., Erik B., Nils-Olav, Lars. Res. fellow & asst. prof., Norway Inst. of Tech., 1920-24; mgr. metallurg. res., Guggenheim Bros.

Res. Lab., N.Y.C., 1924-28; dir. res. & tech. dir., Celluloid Corp., Newark, N.J., 1928-41; tech. dir., plastics div., Celanese Corp. of Am., 1941-47; dir. central res. & devel., 1947 to date. 36 pats. in fields of metallurg. of tin; cellu. plastics, film & processes; high polymer res. & synthetic yarn tech. Mem.: A.I.Ch.E., A.C.S., Am. Electrochem. Soc., S.C.I., A.A.A.S., N.Y. Acdy. Sc., Norway Engrg. Soc., Indus. Res. Inst. Awarded King Haakon VII Liberty Cross. Clubs: Chemists' (N.Y.), Maplewood Country (N.J.). Hobbies: mountain climbing, skiing.

ANDERSEN, Hans P., hd. biochem. res. sect. Cutter Labs., 4th and Parker Sts. Berkeley, Calif.; res. 265 Amherst Ave., Berkeley 8.
Biol. and Pharm. res.; b. Lake Benton, Minn., Feb. 11, 1904, s. of Mathias and K. Dorothea Andersen; ed. St. Olaf Coll., A.B. 1927; Oklahoma A. and M. Coll., M.S. 1929; State U. of Iowa, Ph.D. 1931; mem.: Alpha Chi Sigma; m. Helen Pearce, Aug. 7, 1933; ch.: H. Peter. 1931-48 with Upjohn Co.; 1948 to date with Cutter Labs.; res. mercurial antiseptics, endocrines, toxoids. Mem.: Phi Lambda Upsilon, Sigma Xi, A.C.S., A.A.A.S. Hobbies: stamps, photography, nature.

ANDERSON, Alfred Conrad, soil scientist, Div. of Soil Survey, Plant Ind., Bu. of Plant Ind., Soils, & Agric. Engrg., Beltsville, Md.; res. Box 94, Penn, N.D.
Soil scientist; b. July 11, 1887; s. of Bernt and Lina (Olson) Anderson; ed. B.S.A., N.D. Agric. Coll., Fargo, N.D.; mem.: Alpha Zeta; m. Hazel Craig, 1934. Soil surveyor, N.D. State Soil Survey, 1911-15; soil scientist, U.S. Dept. of Agric., 1916 to date (first with Bu. of Soils later was changed to Bu. of Chem. & Soils, now Bu. of Plant Ind., Soils & Agric. Engrg.). Soil survey reports: LaMoure Co,, N.D., 1914; Manitowac Co., Wis., Beauregard Parish, La., Choctaw Co., Miss., 1920; Livingston Parish, La., Craig Co., Okla., Wash. Parish, La., 1922; Wasco Area, Calif., Snohomish Co., Wash., Baker Area, Ore. Mem.: A.A.A S., Am. Soil Sc. Soc., Am. Soc. of Agronomy, Am. Geographic Soc. (fellow). Clubs: Shrine, Elks. Hobby: travel.

ANDERSON, Allan J., Trona plant mgr., Am. Potash & Chem. Corp., Trona, Calif.; res. Trona.
Chem. engr.; b. Toronto, Ont., Canada; s. of Geo. F. and Helen L. (Moore) Anderson; ed. U. of British Columbia, Vancouver, B.C., B.A.Sc. (Ch.E.) 1923; m. Rita R. Graham, Apr. 17, 1924; ch.: Douglas, Jean, Hugh. Chem., draftsman, Cranby Cons. M.S.&P. Co., Anyox, B.C., 1923; Am. Potash & Chem. Corp., Trona, Calif., res. chem. Nov. 1923-May 1926, plant supvr. to May, 1929, prod. dept. exec. to Apr. 1946, asst. mgr. Apr. 1946, Trona mgr. Aug. 1947 to date.

ANDERSON, Arthur von Krogh, prof of physiol. chem., Penn. State Coll., 103 Frear Labs., The Penn. State Coll., State Collge, Pa.; res. 123 S. Sparks St., State College.
Prof. physiol chem.; b. Montevideo, Minn., Feb. 27, 1890, s. of Abel and Mary Anderson; ed. Windom Coll., 1908-09; U. of Minn., B.S. in Agr. 1913; M.S., 1915; Ph D. 1923; mem.: Alpha Gamma Rho; m. Edith Elizabeth Huntington, Dec. 27, 1923; ch.: Barbara Jane, Mary Eldrid, Rebecca Ann, Arthur von Krogh, Jr. 1916-18 prof chem. St. Olaf Coll.; 1918-19 2nd Lt. Sanitary Corp., U.S.A.; 1919-20 instr. food chem., Coll. of Chem., U. of Minn.; 1920-23 instr. in agri. biochem. Coll. of Agri., U. of Minn.; 1923-29 assoc. prof. physiol. chem. The Penn. State Coll., 1929 to date prof. of physiol. chem., same coll.; res. on chem. of plant disease, blood chem., etc. Author: "Essentials of Physiological Chem." John Wiley and Sons, N.Y. 1st ed. 1935; 2nd ed. 1939; 3rd ed. 1947; "Laboratory Experiments in Physiological Chem." John Wiley and Sons, N.Y. 1st ed. 1936; 1st ed. rev. 1946. Mem.: Sigma Xi, Phi Kappa Phi, Phi Lambda Upsilon, Gamma Sigma Delta, Gamma Alpha, Alpha Upsilon Delta, A.C.S., A.A.A.S. (fellow), Pa. Chem. Soc. (founder), Pa. Acad. Sci., Nat. Geog. Soc.

ANDERSON, Ben Taylor, exec. supvr. of res., Union Oil Co. of Calif., Res. Dept., Union Oil Co. of Calif., Wilmington, Calif.; res. 2821 Vista St., Long Beach.
Chem.; b. Chico, Calif., Dec. 3, 1909, s. of B.H. Taylor and Carrie W. Anderson; ed. Stanford U. 1927-31, A.B. chem.; mem.: Alpha Chi Sigma; m. Grace S. Larson, May 7, 1935; ch.: Susan I., Nancy T., Joanne R. 1932-36 refy. contr. chem. Union Oil Co. of Calif.; transf. res. dept. 1936; asst. mgr. of res. 1945; exec. supvr. of res. 1947 to date. Mem.: S.A.E. Clubs: Pacific Coast, Long Beach, Calif., Lakewood Tennis of Long Beach. Hobbies: tennis, sailing.

ANDERSON, Bror Ernest, supvr. Paper and Fiber Res. Sect., A.B. Dick Co., 5700 W. Touhy Ave., Chicago 31, Ill.; res. 831 S. Vine Ave., Park Ridge.
Res. Chem.; b. Minnesota, Nov. 24, 1914, s. of Ernest B. and Huldah Celine Anderson; ed. U. of Minn. Ph.D. 1940; Gustavus Adolphus Coll. B.A. 1935 magna cum laude; mem.: Sigma Xi, Gamma Alpha; m. Ruth Vruwink 1941; ch.: Erik, Bonnie, Kent. 1935-36 chem. tchr. Big Lake, Minn.; 1936-37 chem. Northwest Paper Co., Cloquet, Minn.; 1937-40 fel. Amer. Creosoting Co., U. of Minn.; 1940-42 res. chem. Johnson and Johnson, New Brunswick, N.J.; 1942-45 chge. Filter Prods. Lab. Johnson and Johnson, Chicago; 1945 to date res. chem. A.B.Dick Co.; pub. sev. arts. on flow of liquids through cotton and wood. Mem.: T.A.P.P.I., A.C.S.

ANDERSON, Carl Magnus, asst. to pres. Merck and Co., Inc., Rahway, N.J.; res. 97 Blackburn Rd., Summit, N.J.
Lawyer; b. Gary, S.D., Jan. 10, 1905, s. of H.A. and Emma J. Anderson; ed. U. of Minn. B.A. cum laude 1927; LL.B. 1930; mem. Phi Beta Kappa, Theta Delta Chi, Phi Delta Phi; m. Ida Johnson, Aug. 16, 1930; ch.: Eric Hall, John Anders, Mary Lisa. 1922-24 bkkpr. 1st Natl. Bank, Grantsburg, Wis.; (dir. 1928-30, 1934-46); 1930-34 assoc. Root, Clark, Buckner and Ballantine, N.Y.; 1934 to date with Merck and Co. Inc., hd. leg. dept. 1934-48, asst. secy. 1937-48, exec. asst. to pres. 1942-48, asst. to pres. 1948 to date; mem.: Leg. Advisory Com., Mfg. Chem. Assoc.; Narcotic Adv. Bd., N.Y.S. Bd. of Health. Author of arts. in legal periodicals. Mem.: N.Y., Minn. and Supreme Ct. bars, A.B.A., N.Y.S.B.A., Assoc. of Bar of City of N.Y., bd. dir. N.Y. Bd. of Trade, Inc. (counsel, Drug, Chem. and Allied Trades Sec.) Clubs: Lawyers, N.Y.; University, (Montreal). Dir. Merck (North Amer) Inc., Merck and Co. Ltd.

ANDERSON, Ernest, prof., hd. dept. chem., U. Ariz., Tuscon, Ariz., res. 1930 E. Hawthorne St.
Teaching; b. Kaufman, Texas, Feb. 1, 1881; s. of W.R. and Emily Muckleroy Anderson; ed. B.S., 1903; M.S. 1904, U. Texas; Ph.D. 1909, U. Chicago; m. Lillian Hilliard, Dec. 25, 1907; ch.: William Ernest, Frank. Fellow, U. Texas, 1904-05; fellow, assoc., res. asst., U. Chicago, 1906-12; asst. prof., prof. chem., Mass. St. Coll. 1912-17; prof. chem., Transvaal Univ. Coll., Pretoria, S.A., 1917-20; prof. chem., U. Nebr. 1920-23; prof., hd. dept. chem. U. Ariz. 1923 to date; res. assoc. Carnegie Inst., Stanford U. summers 1932-36;

res. assoc., Inst. Paper Chem., summers 1941-48. Some 30 res. papers dealing with chem. of carbohydrates, plant gums, hemicelluloses, plant mucilages, pectic subs. of woods; mem.: A.C.S., Phi Beta Kappa, Phi Kappa Phi, Sigma Xi.

ANDERSON, Frank Abel, chmn. depts. of chem. & chem. engrg., U. of Miss., University, Miss.; res. S. Ninth & Tyler, Oxford, Miss.
Chem. engr.; b. Bridgeport, Conn., June 22, 1914; s. of Frank Fabian and Anna E. Anderson; ed. B.S., U. of Southern Calif. 1936; M.S., U. of Me. 1940; Ph.D., La. State U., 1947; mem.: Sigma Phi Delta, Phi Kappa Phi, Phi Lambda Upsilon, Alpha Chi Sigma, Beta Pi, Gamma Sigma Epsilon; m. Mary Alla Courtney, June 11, 1942; ch.: Frank Andrew, Phyllis Ann. Jr. technologist, Shell Oil Co., 1936-38; grad. asst., U. of Me., 1938-40; asst. prof. chem., U. of Miss., 1940-45; Gaylord Res. Fellow, La. State U., 1945-47; prof. of chem. & chem. engrg., acting chmn., dept. of chem. & chem. engrg., U. of Miss., 1947-48, prof. of chem. & chem. engrg., chmn. depts. chem. & chem. engrg., 1948 to date. Co-author: with G.H. Brown "Fundamentals of Chem." 1944; co-editor with H.J. Garber "Chem. Engrg. Problems" 1946. Mem.: A.I.Ch.E., A.C.S., Am. Soc. for Engrg. Ed., Miss. Acad. of Sc. Club: Rotary. Hobbies: stamp collecting, youth activities, model making.

ANDERSON, George D., off. mgr., v.p., Taylor Chem. Co., Aberdeen, N.C.
Off. mgr., v.p.; b. Ft. Valley, Ga., July 4, 1914; s. of G.D. and Claira Phillips Anderson; ed. Ft. Valley High Schl., Ga. Military Acdy.; m. Ethel Taylor, Aug. 1, 1934; ch.: George D., Jr., Howard, John. Ga. Dept. Revenue, prior to 1943; U.S. Treas. Dept., Int. Rev. Serv. (Income Tax) Div., Atlanta, Ga. May 1, 1943-Dec. 1, 1949. Off.: Taylor Chem. Co., Inc., off. mgr., v.p.

ANDERSON, George W., res. chem., Am. Cyanamid Res. Labs., Stamford, Conn.; res. 25 Richmond Dr., Darien, Conn.
Chem.; b. Gainesville, Fla., Oct. 7, 1913; s. of James N. and Janie S. Anderson; ed. B.S., with high hon., U. of Fla., 1935, Ph.D. 1939; m. Ann Wittman Osborn, Nov. 22, 1947; ch.: Frederick Osborn, Gail Osborn, Heidi Jane. 1939 to date, res. chem., Am. Cyanamid Co. Papers (with others) on sulfa drugs, antithyroid cmpds., antihistamine agents, derivatives of piperazine & morpholine. Mem.: A.C.S., Sigma Xi.

ANDERSON, Isabella Russ, chem. librarian, Victor Chem. Wks., Chicago Heights, Ill.; res. 390 W. 16 St., Chicago Heights.
Chem. librarian; b. Monroe Co., Ind., Oct. 22, 1917; s. of Scott John and Ella Catherine Russ; ed. A.B., Indiana U., June 1940; m. Ray E. Anderson, June 7, 1947. Chem. librarian, Victor Chem. Wks., 1940 to date. Author: "The Application of Punch Card Filing in a Chem. Library" Ill. Libraries Nov., 1949. Mem.: Special Libraries Assn., Iota Sigma Pi (natl. hon. for women in chem.).

ANDERSON, Rev. James G., C.S.C., hd. chem. dept., U. of Portland, Oregon.
Chem. teacher; b. Portland, Ore., Oct. 22, 1914; s. of James G. and Julia E. (White) Anderson; ed. A.B., U. of Notre Dame, 1937, Ph.D. 1946, manga cum laude. Instr., U. of Notre Dame, 1946; instr., U. of Portland, 1946-48, assoc. prof., hd. of chem. dept., 1948 to date.

ANDERSON, John F., mem. bd. of dirs., E.R. Squibb & Sons, New Brunswick, N.J.; res. 195 College Ave., New Brunswick, N.J.
M.D., bacteriolog., biochem., sanitarian; b. Mar. 14, 1871, Fredericksburg, Va.; s. of John K. and Lucy E. (Hundley) Anderson; ed. priv. schls. in Va., Wash., D.C.; M.D., U. of Va.; mem.: Phi Beta Kappa, Alpha Omega Alpha; m. Lucy T. Hundley, Nov. 6, 1899; ch.: John Layton (dec.), Richard Hundley, Beverly Whiting (dec.). Served as intern and res. physician at St. Vincent's Hosp., Norfolk, Va., until 1897; then served as intern in var. hosps. in N.Y.; entered U.S. Marine Hosp. Serv. as asst. surgeon in Mar., 1898; promoted to be passed asst. surg., Mar., 1903; on duty at U. S. Marine Hosp., Mobile, Ala., on entering serv.; in Aug., 1898, duty at detention camp at Eggmont Key, as exec. off. under Surgeon H.D. Geddings; Fall, 1898, asst. to Surgeon L.L. Williams and later in chg. of quarantine sta. at Dry-Tortugas, 1898-99; late 1899 on duty at Ellis Island; 1899-1901 spec. serv. as sanitary observer in Oporto, Spain, Liverpool, Eng., Glasgow, Scotland; sanit. attache at U.S. Consulate-gen. at Barcelona, Spain; Marseilles, France; Vienna, Austria; London and Liverpool, England; made spec. investigations of emigration from European countries to U.S. in 1900; while at Vienna studied bacteriology and pathology at Patologische Institut; at Liverpool took course in tropical med. at Liverpool Schl. of Tropical Med. and did res. wk. in bacteriology at Thompson Yates Lab.; on return to U.S., 1901, on duty for short time at Ellis Island, then ordered to Hygienic Lab.; asst. dir. of Hygienic Lab. 1908-09, and upon resig. of Surgeon M.J. Rosenau, was appd. dir.; elected mem. of Council on Pharmacy and Chem. of A.M.A. 1914; resigned as dir. of Hygienic Lab., U.S. Pub. Health Service Aug. 21, 1915 and accepted position of Dir. of Res. and Biolog. Labs. of E.R. Squibb & Sons; elected mem. Bd. of Dirs. of that co. in 1917 and v.p. in 1919. Res. wk. in connec. with the exam. of disinfectants; standardiz. of disinfectants; control of vaccine virus; standardiz. of diptheria and tetanus antitoxins; investig. of var. miscel. problems with particular ref. to tubercle bacilli in market milk; studies upon anaphylaxis and serum sickness; tetanus in gelatin; the etiology and meths. of spread of measles, typhus fever, and poliomyelitis, and many matters relating to the pub. health; has pub. more than 150 papers reporting results of orig. res. and on phases of pub. health and med. sc. Fellow, A.A.A.S.; mem. and past pres. of Am. Assoc. of Pathologists and Bacteriologists; fellow, A.M. and former chmn. of Sect. on Pharmacology and Therapeutics; former pres. of Amer. Pub. Health Assoc.; former v.p. of S.E.Path.; mem. of Assoc. of Amer. Physicians; was a mem. of the U. S.P. convention in 1910 and a v.p. that yr.; mem. of convention for 1920 and 1st v.p. and mem. of Revision Comm.; mem. of conventions of 1930 and 1940; pres. of Amer. Drug Mfrs. Assoc. in 1938 and 1939. V.p. and dir., New Brunswick Savings Institution, Vestryman and jr. warden, Christ Episcopal Ch. Club: Union. Hobbies: golf, fishing, bridge, hunting.

ANDERSON, John Ray, sr. fel. Mellon Inst., Pittsburgh 13, Pa.; res. Center Ave., R.D. 7, Pittsburgh 29.
Chem.; b. Mount Hope, W.Va., Mar. 31, 1913, s. of Dr. C.G. and Alice (Lemons) Anderson; ed. W.Va.U. B.A. 1935, M.S. 1941; U. of Pittsburgh, Ph.D. 1944; Northwest. U.; mem.: Phi Gamma Delta; m. Anna White, Mar. 20, 1941; ch.: John White, Marianna. Chem., Electrometallurgical Co.; fellow, Mellon Inst.; asst. prof. U. of Pittsburgh; sr. fel. Mellon Inst.; res. impurities in benzene; ebulliometry. Author: Chapt. IV, Boiling and Condensation Temps., with W. Swietoslawski, in Physical Meths. of Org. Chem., A. Weissberger, Ed., Interscience, 1949. Mem.: A.A.A.S., A.C.S., Sigma Xi, Phi Lambda Upsilon, Alpha Epsilon. Club: Pittsburgh Chemists. Hobbies: gardening, oil painting.

ANDERSON, Leigh Charles, prof. of chem., chem. dept., U. of Mich., Ann Arbor, Mich.; res. 1120 Lincoln Ave., Ann Arbor.
Org. chem.; b. Muskegon, Mich., Mar. 28, 1899; s. of Rudolph P. and Josephine (Torgeson) Anderson; ed. U. of Mich., B.S. chem. 1921, M.S. chem. 1922, Ph.D. 1924; mem.: Gamma Alpha, Alpha Chi Sigma; m. Alloa Caviness, Feb. 2, 1925; ch.: Leighton C., Peter C., Robert K. U. of Mich.: Instr. 1924-28, asst. prof. 1928-37, assoc. prof. 1937-44, prof. 1944 to date, chmn. dept. 1948 to date. Absorption spectra & constitution of org. cmpds.; quinoidation, tautomerism, halochromism, diazo cmpds. Co-author: "Lab. Manual of Org. Chem.," with W.E. Bachmann, 4th edit. 1949, Edwards Bros., Ann Arbor, Mich. Mem.: A.C.S., A.A.A.S., Sigma Xi, Phi Lambda Upsilon. Hobbies: gardening, photography.

ANDERSON, Myron Sallee, sr. chem., Plant Industry Sta., Beltsville, Md.; res. 1433 Manchester Lane N.W., Washington, D.C.
Chem. agric.; b. Stanhope, Ia., Nov. 13, 1887; s. of August H. and Elizabeth Sallee Anderson; ed. Simpson Coll., Ia. State Coll., George Wash. U.; m. Ethel McGranahan, Nov. 14, 1917. Teacher, Wm. Penn Coll., Ia. State Coll.; chem., U.S. Dept. Agr., 1917-50. Res. in soil chem.

ANDERSON, Nelson J., prof. of chem. Suffolk U., 20 Derne St., Boston, Mass.; res. 339 Lowell St., Wakefield.
Prof. chem.; b. Burchard, Neb., Dec. 19, 1894, s. of Anson and Ida Anderson; ed. Kansas State Coll. B.S. 1920; U. of Ill. M.S. 1922; U. Chicago Ph.D. 1934; mem.: Phi Kappa Phi, Sigma Xi, Lambda Chi Alpha; m. Christine C. Cool, June 21, 1923; ch.: Robert Dean, Ida Mae, Carol Jay, Arvin Dale. 1920-21 princ. Olsburg H.S., Kansas; 1921-22 grad. asst. chem. U. of Ill.; 1922-25 hd. dept. phys. sc. Parsons Jr. Coll. Kans.; 1925-36 hd. dept chem. W.T.H.S., Waukegan, Ill.; 1936-39 instr. chem. Montana State Coll.; 1939-40 prof. chem. Billings Polytech. Inst., Billings, Mont.; 1940-46 Capt., Maj., Lt. Col. U.S.A.; 1946-48 prof. chem. Evansville Coll., Evansville, Ind.; 1948 to date prof. chem. Suffolk U.; res. colloids, electrochemistry, thermodynamics, solubilities, soldering of aluminum, plastic armor. Mem.: A.C.S., Scabbard and Blade, U.S.A. commend. cert. and ribbon. Hobbies: tennis, history, reading.

ANDERSON, Oscar Nicklas, chem. supvr., Procter and Gamble, Long Beach, Calif.; res. 4125 Chestnut St., Long Beach.
Chem. supvr.; b. Tacoma, Wash., Dec. 25, 1905; ed. Washington State Coll., 1927, B.S.; m. Martha L. Rasmussen, Aug., 1929; ch.: Brian, Craig.

ANDERSON, Ralph Selby, dev. group leader, thermosetting resins, Bakelite Div., Union Carbide & Carbon Corp., Bound Brook, N.J.; res. Maple Ave., Watchung, N.J., R.F.D. 2, Box 35 E.
Chem.; b. Knoxville, Ill., Nov. 25, 1900; s. of Benjamin and Edith (Selby) Anderson; ed. Knox Coll., Galesburg, Ill., B.S., 1926; Northwestern U., grad. wk., 1926-27; mem.: Phi Beta Kappa; m. Eva Tokayer, Sept. 26, 1946; ch.: Ralph S., Jr., Edwin E., Gene B., Peter Nels. Bakelite Corp., dev. & res. chem., 1927; asst. dept. hd., resin & varnish dept., 1937-44; dev. group leader, thermosetting resins, Bakelite Div., Union Carbide & Carbon Corp., 1944 to date. Hobbies: photography, wood & machine work.

ANDERSON, Robert Bernard, phys. chem., hd. Catalyst Res. and Test. Sec., Bur. Mines, Bruceton, Pa.; res. 6639 Ridgeville St., Pittsburgh.
Chem.; b. Moline, Ill., Aug. 31, 1915, s. of G. Adel and Hilda Anderson; ed. Augustana Coll., Rock Isl. Ill., A.B. 1938; State U. of Iowa., M.S. 1940, Ph.D. 1942; m. Jane E. Udden, Jul. 3, 1942; ch.: Robert U.; 1942 instr. State U. of Iowa; 1942-43 Godfrey L. Cabot fellowship Johns Hopk. U.; 1943-44 N.D.R.C. proj. Johns Hopkins U.; 1944 to date phys. chem. grp to sect. ldr., off. of Synthet. Fuels, Bur. of Mines, Pittsburgh and Bruceton, Pa.; res. catalysis and surface chem; the Fischer-Tropsch synthesis, surface areas and pores vols. of catalysts and kieselguhrs, oxygen complexes on charcoals and carbon blacks, phys. absorption; kinetics of Fischer-Tropsch synthesis, kinetics of thermals decompo. of esters. Co-author: "Synthetic Liquid Fuels. I. The Fischer-Tropsch and Related Syntheses" by H.H. Storch, N. Golumbic, R.B. Anderson, John Wiley and Sons, 1950. Mem.: Sigma Xi, A.C.S., Pittsburgh Chem. Club. Hobbies: philately, hiking.

ANDES, Ralph V., chf. org. sec., chem. engr. dept. Brown & Bigelow, 1300 University Ave., St. Paul, Minn.; lecturer in physical chem., Hamline U., St. Paul, Minn.; res. 775 W. Cottage Ave., St. Paul.
Chem.; b. Lebeck, Mo., Apr. 17, 1907; s. of Samuel M. and A. Florence (Wildemuth) Andes; ed. B.S. with hon., Mont. State Coll., 1930; Ph.D. Iowa State Coll. 1935; major physical chem., minor math.; mem.: Alpha Chi Sigma, Phi Kappa Phi, Phi Lambda Upsilon, Pi Mu Epsilon; m. Mabelle Olds, June 12, 1938; ch.: Judith L., Jerome R. 1928-30, student lab. asst. in chem., Mont. State Coll.; 1930-35, grad. asst. in chem., Iowa State Coll.; 1935-36, instr. in chem. & math., Graceland Coll.; 1936-37, instr. in chem. & math., Northern Mont. Coll.; 1937-39, chem., res. dept., Universal Atlas Cement Co.; 1939-44, chem., res. dept., Westvaco Cholrine Prods. Corp.; 1944 to date, chf. org. sec., chem. engrg. dept., Brown & Bigelow, Inc.; 1947 to date, lecturer in physical chem., Hamline U. Publ.: Heat Capacity of Iron Carbide, Iowa State Coll. J. Sc., 11 26-8 1936; Determination of Sio2 & R023 in Portland Cement, Ind. Eng. Chem., Anal. Ed. 12 138-4, 1940; Color Characteristics of Cement, Ind. Eng. Chem. 33 95-8, 1941; Determination of Manganese in Caustic Soda, Ind. Eng. Chem., Anal. Ed. 17 28-31, 1945; High Temp. Cement Modifier, U.S. Pat. 2,429,211, Feb. 7, 1944; Mem.: A.C.S., A.A.A.S. (fellow), N.G.S., Am. Leather Chem. Assn. Hobbies: athletics (as participant), music, amateur photography, gardening, travel.

ANDREASEN, Arthur Albinus, res. assoc. Lab. of Cell Phys., Indiana U.; Jose E. Seagram and Sons, Inc., Louisville, Ky.; (mailing add.): 352 Medical Bldg., Indiana U. Bloomington, Indiana.
Fermentologist; b. Springfield, Ill., Dec. 18, 1917, s. of Christian and Edith Andreasen; ed. Springfield Jr. Coll. (Ill.)-1 yr.; U. of Ill. B.S. in bact. 1940, M.S. bact. 1941; m. Mary Ellen Krebs, July 1, 1944; ch.: Arthur Cory, Marilyn Lee. Fol. with Jos E. Seagram and Sons, Inc., 1941 prod. trng.; 1942 chf. plant bact., Lawrenceburg, Ind.; 1943 chf. chem, Control Lab. Louisville; 1944-46 res. sc. Louisville; 1948-50 hd. ferment, res. Louisville; at pres. res. assoc. Ind. U.; Vulcan Copper and Supply Co., Cincinnati, O. (on lve. from Seagram): chf fermental. at wood hydrolysis ethyl alcohol plant, Springfield, Ore., 1947; res. lyophilization of yeasts, continuous alcoholic ferment. of grain, amylolytic enzymes prod. by A. niger, continuous ferment. proc. for penicillin, ferment. of wood hydrolysate. Co-author: chapt. on alcoholic fermentation of wood hydrolysate for bk. "Commercial Fermentations" ed. by Underkofler. Mem.: A.C.S., A.A.A.S., A.S. Brew C., Kenty. Acad. Sc. Hobby: photography.

ANDREWS, Andrew Irving, prof. & dept. hd., ceramic engrg., U. of Ill., 204 Ceramics Bldg., Urbana, Ill.; res. 805 W. Green St., Champaign, Ill.
Teacher, adm., conslt.; **b. Baraboo, Wis., June 10,**

1895; s. of Andrew F. and Caroline May (Hill) Andrews; ed. B.S., Wis., 1920, M.S. 1922; Ph.D., Ohio State, 1924; mem.: Alpha Chi Sigma, Sigma Xi, Acacia; m. Vera I. Moleher, Sept. 6, 1922; ch.: Mary Ann. Asst., U. of Wis.; prof. & hd. of dept., U. of Ill.; conslt. throughout the period with many connections. Acid resisting enamels; opacity of enamels; color in enamels; titanium en. Author: "Ceramic Tests & Calc." 1926; "Enamels" 1935; "Enamel Lab. Manual" 1941. Mem.: Am. Ceramic Soc. (past pres., fellow), A.I.Ch.E., Inst. of Ceramic Engrs., Ceramic Educational Council (past pres.), Porcelain Enamel Inst., Midwest Enamelers' Club (council mem.), Ill. Ceramic Inst., Ill. Clay Mfrs. Assn., Enameled Utensil Mfrs. Council, A.S.T.M., Canadian Ceramic Soc., Brit. Ceramic Soc., Soc. of Glass Tech., Chicago Sec. Am. Ceramic Soc., A.A.A.S., Soc. for the Promotion of Engrg. Ed., Keramos (pres.), Alpha Chi Sigma, Sigma Xi, Ill. Soc. of Prof. Engrs., Am. Soc. for Engrg. Ed., Structural Clay Prods. Inst. Club: Kiwanis. Hobbies: flying, fishing. Officer: Columbian En. & Stp. Co. (dir.); A. O. Smith Corp. (conslt.), Canton Stp. & En. Co. (conslt.).

ANDREWS, Chester E., v.p., plt. mgr., Rohm and Haas Co., 5000 Richmond St., Phila., Pa.; res. 8 Wiltshire Rd., Overbrook, Phila. 31.
Chem.; b. Homer, N.Y., Nov. 5, 1891, s. of Samuel F. and Mary E. Andrews; ed. Homer Acad. 1909; Syracuse U., B.S. 1913, M.S. 1914; mem.: Alpha Chi Rho, Alpha Chi Sigma, Phi Betta Kappa; m. Hazel Cunningham, Jan. 23, 1923; ch.: Dorothy Jane, Nancy. 1914-15 instr. chem. U. of Maine; 1915-17 res. chem. Eastman Kodak Co.; 1917 res. chem. U.S. Dept. Agri., Bur. Chem.; 1917-28 plt. mgr. Selden Co.; 1928-35 res. chem. Rohm and Haas Co.; 1935-41 dir. of res. same co.; 1941 to date plt. mgr., v.p. same co. Mem.: A.C.S. Dir. Frankford Hosp., N.E. Phila. Boys Club, dir., v.p. Tacony Mfrs. Assoc. Hobbies: gardening, bowling. Dir. Phila. Belt Line Rr.

ANDREWS, David Barker, process dev. mgr., General Aniline Works, Rensselaer, N.Y., res. Brookview Rd., East Greenbush, N.Y.
Chem.; b. New York, N.Y., Feb. 12, 1912; s. of Don E. and Ella B. Westcott Andrews; ed. B. of chem., Cornell, 1933, M. of chem., Cornell, 1934, PhD. U. of Mich., 1938; mem.: Alpha Tau Omega, Gamma Alpha; m. Hannah Wray, Sept. 14, 1935; ch.: Judith, William, Janet. General Aniline Wks., Grasselli, N.J., chem. Sept., 1937 to June, 1938; Gen. Aniline Wks., Rensselaer, chem. June, 1938 to Jan., 1944; Gen. Aniline Wks., Rensselaer, sec. ldr. Jan., 1944 to May, 1948; Gen. Aniline Wks., Rensselaer, asst. mgr. process dev., June, 1948 to Apr., 1950; mgr., process dev., Apr., 1950 to present. 1947, on leave from G.A.W.—U.S. Commerce Dept., Office of Tech. Services—Mission to investigate and report on advances in German dye ind. Contributions to report on German dye industry. Mem.: A.C.S., Am. Asso. of Textile Chemists and Colorists, Sigma Xi, Phi Lambda Upsilon. Club: Cornell (Albany). Hobbies: bowling, golf, chess, stamp collecting.

ANDREWS, Donald Hatch, prof. chem., chem. dept., The Johns Hopkins U., Balt., Md., res. 3700 N. Chas. St., Balt. 18, Md.
Chem.; b. June 11, 1898; s. of Russell G. and Mary Boies Hatch Andrews; ed. B.A., Yale U. 1920; Ph.D. 1923; mem.: Alpha Chi Rho, Alpha Chi Sigma; m. Josephine A.V. Andrews, June 20, 1939; divorced, Aug. 12, 1950; ch.: Donald Hatch, Jr. Res. asst., Yale, 1923-24; natl. res. fellow, U. Calif. 1924-25; interntl. res. fellow, U. Leiden, Holland, 1925-26; res. fellow, Bartol Res. Found. 1926-27; asst. prof. chem., Johns Hopkins U. 1927-29; assoc. prof. chem. 1929-30; prof. chem. 1930 to date; mem.: A.C.S., A.Phys.S., Opt. S.A., A.Phil.S., N.Y. Acdy. Sc., Chem. Soc. (London.) Club: Chem. (N.Y.); Hobbies: music, tennis.

ANDREWS, James C., prof. biol. chem. and nutri., hd. dept., School of Medicine, U. of North Carolina, Chapel Hill, N.C.; res. Laurel Hill Rd., Chapel Hill.
Prof., hd. of dept. biol. chem.; b. Colfax, Ind., Mar. 8, 1892, s. of James and Mary (Greulich) Andrews; ed. State U. of Iowa, B.S. in chem. 1915; Columbia, Ph.D. 1918; m. Kathleen B. Crandall, Jul. 6, 1918; ch.: James Crandall, Dorothy Elizabeth. 1915-18 asst. chem. Columbia U., 1918-22 res. chem. E.I. du Pont de Nemours and Co., Wilmington, Del.; 1922-26 instr. phys. chem. U. of Pa. Schl. of Med.; 1926-37 asst. prof. phys. chem. same schl.; 1937 to date prof., hd. dept. of biol. chem. and nutri., Schl. of Med., U. of North Carolina; res. on chem. and metab. of biol. compounds of sulfur (1923); res. on absorpt. and metab. of quinine and other anti-malarial compds. (1940-48). Author of abt. 40 sc. papers on subjcs. ment. above; Lab. Man. of Food Chem. (1938); co-author: Lab. Man. of Biol. Chem. (last ed. 1947 with G.C. Kyker). Mem.: Sigma Xi, Phi Lambda Upsilon (hon. chem.), N.C. Acad. Sc., Elisha Mitchell Sc. Soc., A.C.S., A.S.Biol.C., Phys. Soc. of Phila. Also mem. Bd. of Ed., Claymont Pub. Schls., Claymont, Dela., (1927-30); other civ. positions in Claymont. Club: Appalachian Mountain. Hobbies: amateur chamber music, mountain climbing.

ANDREWS, John Southard, hd. food & nutrition res., Gen. Mills, Inc., res. dept., 2010 E. Hennepin Ave., Minneapolis 13, Minn.; res. 1374 Raymond Ave., St. Paul 8, Minn.
Chem.; b. Gray, Me., Mar. 2, 1904; s. of Anson M. and Carolyn S. Andrews; ed. U. of Me., 1926, cum laude, B.S.; Harvard, 1927 A.M.; Johns Hopkins 1936 Ph.D.; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi, Phi Beta Kappa; m. Elizabeth Lang 1931; ch.: Carolyn L., Robert S. Instr., org. chem., U. of Del. 1927-28; res. chem., Pilot Labs., Arlington, N.J., 1928-30; res. chem. Gen. Mills, Inc., Minneapolis, 1930-34 1936 to date. Vitamin Methodology & flour enrichment, flour enzymes, porphyrins. Mem.: A.C.S., A.A.C.C., I.F.T. Hobbies: fishing, camping, photography, model making.

ANDREWS, Lyle V., chmn. div. of sc., math., Nebraska State Tchrs. Coll., Chadron, Neb.; res. 503 Morehead, Chadron.
Tchr. chem.; b. Presho, S. Dak., Mar. 17, 1906, s. of Frank L. and Florence L. (Sprague) Andrews; ed. Neb. State Tchrs. Coll., Chadron, Neb. A.B. 1926; U. of Nebr., M.S. 1929; Ph.D. 1932; m. Esther M. Schafer, Aug. 23, 1930; ch.: Elaine M. 1927-28 instr. chem. Neb. State Tchrs. Coll.; 1929-31 assoc. prof., 1932-1949 prof. of chem., 1949 to date chmn. dir. sc. same coll.; res. measurement of the isoelectric point; dir. current conductivity of solutions. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S. Club: Kiwanis. Hobbies: plant feeding and soil treatment, gardening.

ANDREWS, William R. E., pres., W.R.E. Andrews Sales, Inc., 1505 Race St., Phila. 2, Pa.; res. 330 Llandrillo Rd., Bala Cynwyd, Pa.
Exec.; b. Phila., Pa.; ed. Pa. State Coll., B.S. (biochem.), 1921; wk. for Masters degree, U. of Pa., 1922; mem.: Phi Kappa. Since 1926, agric. chem. sales, especially metallic salts; protective coatings for indus. use; pres., W.R.E. Andrews Sales, Phila.; v.p., Florida Chem. Sales, Inc., Orlando; v.p., Shanco Plastics & Chems., Inc., Tonawanda, N.Y. Mem.: A.C.S. Clubs: Phila. Chemical, Llanerch Country (Pa.), Seaview Country (N.J.), Ponta Vedra (Fla.). Hobbies: golf, fishing.

ANGUS, Willis Wolcott, pres., W. W. Angus Inc., 220 Broadway, N.Y. 7, N.Y.; res. 39 Arlington Ave., Caldwell, N.J.
Chem. sales; b. Bklyn., N.Y., Jan. 3, 1897, s. of John W. and Lillian M. (Brown) Angus; ed. Rutgers U., 1918, B.Sc. in chem.; mem. Pi Kappa Alpha; m. Muriel E. Rowley, Sept. 6, 1922; ch.: Richard R., R. Duncan. With Merck & Co., mfg. chem.; Ward Baking Co., salesman, Res. Prods. Div.; Kessler Chem. Corp., sales mgr.; W. W. Angus, Inc., pres. Hobby: farming.

ANSBACHER, Dr. S(tefan), scientific conslt., 425 South Branson St., Marion, Ind.; res. 17 Loel Ct., Rockville Centre, N.Y.
Scientific conslt.; b. Germany, s. of Dr. Benno and Lucy Diana; ed. B.S., Gymnasium Frankfurtmain, 1923, M.S., U. of Geneva, Switzerland, 1929, Dr. Sc. 1933; m. Beatrice Michel, Aug. 27, 1930; ch.: Eleonore, Benno, Rudi, M. Victoria. Asst., Pathological Inst., University and State Hospital, Geneva, Switzerland, 1929-1930; res. chem., South Carolina Food Research Commission, Medical Coll., Charleston, S.C., 1930-1931; chf. res. chem., Biochem. res. div., The Borden Co., Bainbridge, N.Y., 1931-1937; assoc., div. of experimental medicine, The Squibb Institute, New Brunswick, N.J., 1937-1941; Scientific dir. and conslt., American Home Products Corp., 22 E. 40th St., New York 16, N.Y., 1941-1946; dir. of nutritional res., Schenley Industries, Cincinnati, 2, Ohio; scientific conslt., own business, 1947-1950. More than 50 scientific publications in enzymology, hormonology, vitaminology, fermentation, dairy sc., toxicology. Award: Billings M. from A.M.A., 1936. Author: "Une étude de chimiotherapie de la tuberculose," 1933, "Lactoflavin," 1936. Monographs: "The bioaasy of vitamin K," 1941. "Para-aminobenzoic acid," 1944. Mem.: A.A.A.S., A.C.S., Am. Inst. Chem., AMA, A.P.H.A., A.S.Biol.C., Am. Soc. Prof. Biol. (pres. of N.Y. chapter, 1949-50), Assoc. Study Internal Secretions, Med. Soc. County of Queens., Acad. of Sc. (N.Y.), Physiol. Soc. Phila., Soc. Exp. Biol. & Med.—Soc. Med. Jurisprudence, Swiss Chem. Soc. Honorary memberships: The Soc. of the Sigma Xi, The Scientific Res. Soc. of America. Club: Chemists' (New York). Hobbies: out of door work, swimming, dancing.

ANTHONY, Bernard William, secy., treas., Oronite Chem. Co., 38 Sansome St., San Francisco, Calif.; res. Rt. 3, Box 1895, Lafayette.
Accountant; b. Cleveland, O., 1906, s. of B.W., Sr., and M. E. (Stanley) Anthony; ed. Ohio Northern U. 1923-25, Ohio State U. 1925-27; mem.: Sigma Phi Epsilon; m. Elizabeth Williams, 1925; ch.: Joan E. Snook. Acct. for S.O. Co. of Calif; acct., audit., Standard Stations, Inc.; Chem. Co. Dir. Calif, Spray Chem. Corp., Oronite Chem. Co.

ANTHONY, Myron Vernon, asst. prod. mgr., Stauffer Chem. Co., Inc., 420 Lexington Ave., N.Y.C. 17.; res. 22 Eldridge Ave., Ossining.
Asst. prod. mgr.; b. Louisville, O., Jan. 15, 1909, s. of Levi and Gusta Anthony; ed. Ohio State U., B.S. in Agri. 1930; M.S. 1932, Ph.D. 1935; mem.: Alpha Zeta, Gamma Alpha, Gamma Sigma Rho, Sigma Xi; m. Elizabeth Shoemaker, Dec. 26, 1934; ch.: Richard C., Marilyn J. Asst. entomol., Tenn. Agri. Exp. Sta.; C.P.I. fel. Conn. Agri. Exp. Sta., entomol., Stauffer Chem. Co.; plant supt. Chauncey, N.Y. plant, Stauffer Chem. Co.; plt. mgr. same co.; asst. prod. mgr. Stauffer Chem. Co. Mem.: A.A.E.E., A.A.A.S. (fellow).

APELAND, Casper, director market research and public relations, Atlas Powder Co., Indust. Finishes Dept., North Chicago, Ill.; res. 345 Douglas Ave., Waukegan, Ill.
Mfr. of paint for indust. use; b. Chicago, July 28, 1891; s. of Hans and Hannah Apeland; m. Anna Louise Casler; ch.: Elizabeth, Donald. 1905-16, bank clerk; 1916-18, office mgr., tannery, Waukegan; 1918, U.S.A.; 1919-33, pres., Waukegan Chem. Co. (succeeded in 1929 by Brevolite Lacq. Co.); 1933 to 1950, gen. mgr., Atlas Powder Co., Indust. Finishes Dept. now mkt. res. and pub. relat; res. in chem. fld. Clubs: Rotary; Glen Flora Country; Masons; Knight Templars; Shriners; Red Cross of Constantine; Amer. Legion. Hobbies: hiking, gardening.

APPEL, Kenneth B., hd. New Prods. Dept., Lederle Labs.; Div. Am. Cyanamid, 30 Rockefeller Pl., N.Y.C.; res. 46 Glenwood Rd., Upper Montclair, N.J.
Exec.; b. Bklyn., N.Y., Mar. 19, 1906, s. of Charles P. and Eve R. Appel; ed. Princeton, B.S. chem. 1929; m. Edna Boyd, Sept. 14, 1940; ch.: Patricia B. 1932-40 with Calco Chem. Co., pharmaceut. div., sales and advertiz.; 1940 to date with Lederle Labs. adminis. work in pckging., market res., trade marks. Clubs: E. Orange T.C.; Glen Ridge T.C. Hobbies: tennis, gardening.

APPELBAUM, Alan Israel, v.p., treas., Internat. Prods. Corp., P.O. Box 118, Trenton 1, N.J.; res. 333 Ardmore Ave., Trenton 9.
Chemist; b. Phila., Pa.; ed. U. of Pa., B.S. in chem. 1914; m. Sarah E. Levy, 1917; ch.: Robert Morris, Louise Audrey. v.p., treas., dir., Internat. Prods. Corp. Mem.: A.C.S. Club: Yardley Golf. Hobbies: sailing, gardening.

APPLEBAUM, Samuel Bernard, v.p., Liquid Conditioning Corp., subsidiary, Cochrane Corp., Pa. 3130 N. 17 St., Phila. 22; res. Meadowbrook, Pa.
Engr.; b. New York City, Feb. 18, 1891, s. of Bernard and Ida Applebaum; ed. C.E., Columbia College, 1913; mem.: Phi Beta Kappa, Sigma Xi; m. Stella B., in 1936. v.p., Permutit Co., N.Y., 1913-1946; pres. Liquid Conditioning Corp., 1946-1949; v.p., same co., 1949 to date; mgr. of Cold Process Dept. of Cochrane Corp., Phila. Specialist in water treatment. Many arts. in tech. publications. Mem.: A.C.S., A.S.M.E., A.W.W.A.

APPLETON, Martin D., tech. dir., Com. & Ind. Prods. Co., Childs, Lackawanna Co., Pa.; res. 417 Main St., Childs, Pa.
Ind. Chem.; b. Bangor, Pa., Feb. 11, 1917; s. of Edward and Esther (Weiss) Appleton; ed. U. of Scranton, B.S. 1939; Pa. State Coll., M.Sc., 1941; Columbia U., 1946, grad. wk.; mem.: Pi Mu Alpha, Gamma Sigma Delta; m. Anita Newmark Stone, Oct. 19, 1941; ch.: Susan, John Harvey. Grad. scholar, Pa. State Coll., 1939-41; res. asst. org. chem., Mt. Sinai Hosp., N.Y., 1941-42; U.S.A., instr., C.W.S., 1942-45; sr. res. chem., Nuodex Prods. Co., Elizabeth, N.J., 1945-46; tech. dir., Com. & Ind. Prods. Co., Childs, Pa., 1946 to date. Res., dev. & prod. of fungicides, antiseptics, disinfectants, soaps, detergents; fundamental res. in quaternary ammonium cmpds. & phosphoric esters; conslt. ind. chem. problems. Com. & Ind. Prods. Co. (partner). Mem.: A.I.C. (fellow), A.C.S. A.A.A.S. Hobby: reading.

APPLETON, Wesley Howard, southern sales mgr., Potash Co. of Am., 409 Candler Bldg., Atlanta, Ga.; res. 1834 Greystone Rd. N.W., Atlanta.
Sales, potash matls.; b. Collinsville, Ala., Aug. 9, 1900; s. of Dr. T.H. and Emma (Coker) Appleton; ed. Collinsville Public Schls. 1907-18; Ala. Polytech. Inst., Auburn, Ala., B.S., M.S., 1919-22, 1923-25; mem.: Square & Compass; m. Sara Elizabeth Schlater, July 15, 1933; ch.: Elizabeth, Mary Coker. Teacher of agric., Southern Agric. & Mech. Inst., Greensboro, Ala.,

July 1922-Aug. 1923; agronomy & soils dept., Ala. Agric. Expt. Station, Sept. 1923-July 1927; agronomist, NV Potash Export My., covering Ala., July 1927-Mar. 1933; agronomist, salesman, Nitrogen Div., Barrett Co., Aug. 1933-Nov. 1936; sales wk., Potash Co. of Am., Nov. 1936 to date. Southland Hatchery, Collinsville, Ala. (partner). While working with Ala. Expt. Station, conducted res. wk. which led to revolution in growing of winter legumes for soil improvement; main points determined had to do with time of planting, as well learning that turning them under could be done much earlier in spring than previously thought; also contributed to determining rate of absorption of nitrogen by cotton & oats. Club: East Lake Country (Atlanta, Ga.). Hobbies: hunting, fishing, attending football games, farming.

APPLEZWEIG, Norman, conslt. biochem., 31 South St., New York 4, N.Y.; res. 101 W. 60th St., New York 23, N.Y.
Biochem.-physiologist; b. N.Y.C., Sept. 21, 1917, s. of Benjamin and Minnie Applezweig; ed. Wash. Sq. Coll., 1941, A.B., N.Y.U. Grad. Schl., 1947; M.S. in Biochem.; m. Sylvia Weissman, Dec. 3, 1938; ch.: Barbara, Erica. N.Y.U. Med. Coll., Dept. of Immunology, asst., 1 yr.; Mt. Sinai Hosp., Allergy Clinic, biochem., 1 yr.; Biochem. Res. Labs., owner and dir., 1 yr.; Debruille Chem. Corp. (Lobica Inc.), res. dir., 1940-44; Corps of Engrs., Engr. Bd., Ft. Belvoir, conslt., 1943-45; Amer. Home Prods. Corp., Exec. Offices, prod. dev. conslt., 1944-46; gen. mgr. and tech. dir., Hygrade Labs. Inc., pharmaceut. div. of Hygrade Food Prods. Corp., 1946-49; res. in ion-exchange, alkaloid isolation, adrenal cortical steroids, heparin and blood coagulation. Fellow, A.A.A.S., A.I.C.; mem.: N.Y. A.S., A.C.S., A.P.A., A.S.P.B.. Club: Chemists'. Contrib arts. to sc. jls.; also monographs as follows: Section on "The Mfr. of Alkaloids," in "Intersci. Encyc. of Chem. Tech," Intersci. Pub., N.Y., 1947; "Ion Exchange Adsorbents as Lab Tools," monogr. on Chromatography, Annals of N.Y. Acad. of Sc., 1948; chapter, "The Use of Ion Exchange Adsorbents in Biochem. and Physiolog. Studies," in "Ion Exchange Theory and Application," Academic Press, N.Y., 1949; also chapter "Ion Exchange Recovery of Alkaloids" in above. Hobby: painting.

ARDEN, Frederic, dir. market res., Mathieson Bldg., Baltimore, Md., res. Savage, Md.
Chem. econ.; b. Everett, Mass., Mar. 2, 1901; s. of Peter F. and Dusolina M. Arden; ed. Tufts Coll., B.S. Chem. 1921 Harvard U., grad. sch. bus., M.B.A. 1926; mem. Beta Kappa; m. Ruth du Tremblay, June 18, 1928. 1921-24 paper mfgr.; 1924-26 stud. Harvard bus. sch.; 1926-29 H.C. Hopson Co., N.Y., audits, appraisals, publ. utility rate cases; 1929-31 Allied Chem. & Dye Corp., spec. repts.; Comptrollers Dept. 1932-42; own lab., N.Y.C., res., dev., principally bldg. matls., ceramics, cements, also dev., pilot plant operation, design, spray drying, chilling, foods, chems.; 1942-45 War Prod. Bd., Depy. Chf., Glass Alkalies and Gas Sect.; 1946-47 Civilian Prod. Adm. Depy. Dir., chem. div.; 1948-49 Dept. Comm., chf. chem., drugs, off. domestic comm., other govn. responsibilities; 1949 to date Mathieson Chem. Corp., dir. market res.

ARENSON, Saul Bryan, prof, inorg. chem., emeritus, U. of Cincinnati; res. 1884 Laurel Canyon Blvd., Hollywood 46, Calif.
Prof. inorg. chem. (retired); b. Lincoln, Nebr., June 21, 1895, s. of Robert and Rebecca Arenson; ed. U. of Nebr. Ph.C. 1916; B.Sc. 1917; M.A. 1918; Ph.D. 1924; mem.: Zeta Beta Tau, Alpha Chi Sigma, Lambda Chi Upsilon, Sigma Xi, Sigma Gamma Epsilon. 1918-24 instr. inorg. chem. U. of Nebr.; 1924-26 instr. inorg. chem. U. of Cincinnati; 1926-30 asst. prof., 1930-35 assoc. prof., 1935-46 prof., 1946 to date prof. emeritus, same coll. Author: "How to Solve Probs. in Quant. Analysis" 1938; "Chem. Arithmetic," 2nd ed. 1940; co-author with H.G. Deming, "Excerises in Gen. Chem.," 5th ed. 1940; with Rieveschl, "Introduction to Quant. Analysis," 1942; author: "Chemistry for Lithographers" (2 vols.) 1945. Mem.: A.A.U.P., A.A.A.S. Hobbies: photography, travel.

ARIES, Robert S(ancier), pres., R.S. Aries & Associates, consltg. chem. engrs. & economists, 400 Madison Ave., N.Y. 17, N.Y.; res. 168 E. 74th St; summer res., Jamaica, Vt.
Consltg. chem. engr., chem. economist; b. July 21, 1919; s. of Robert Emile and Sophie (Presente) Aries; ed. magna cum laude, Am. Coll.; attended U. of Minn., Polytech. Inst. of Bklyn., Sorbonne (U. Paris), Yale U. Degrees: M.Ch.E., M.A. (Econ.), M.Sc., Ph.D., D.Ch.E.; m. Elsie Hassett, May 19, 1946; ch.: Vivian Sue, Lynn Odette. Chem. engr., Northwood Chem. Co., Phelps, Wis.; Conn. Hard Rubber Co., New Haven; Sargent & Co., New Haven; Publicker Industries, Inc., Phila.; Natl. Foam System, Inc., West Chester, Pa.; tech. dir., Northeastern Wood Utilization Council, New Haven, 1942 to date; res. assoc., Mason Lab., Yale U.; adjunct prof. of chem. engrg. (part-time), Polytech. Inst. of Bklyn., 1945 to date, in chg. of grad. courses in chem. engrg. economics. Over 80 publ. & 12 pats. dealing with chem. processes, petrochems., wood utilization & plastics; conslt. to many companies & banks in U.S.A., France, England, Spain, Belgium, Sweden, Mexico, India, Brazil & Cuba. Author: "The Marketing of Chem. Prods." 1948; "Long Range Forecasting in the Chem. Process Industries" 1950; "The Economics of the Printing Ink Indus." 1950; "Economics of the Chem. Indus." 1950; contrib. to the Kirk-Othmer Encyclopedia of Chem. Tech. 1948 & Perry's Handbook of Chem. Engrs. 1950. Mem.: A.C.S., A.I.C. (fellow). Chem. Market Res. Assn. (charter mem.), A.S.M.E., A.I.Ch.E., Natl. Soc. of Prof. Engrs., Sigma Xi, A.E.A., Am. Management Assn., Am. Marketing Assn., T.A.P.P.I., Forest Prods. Res. Soc., S.C.I. Treas., Assn. of Consltg. Chem. & Chem. Engrs. 1949 to date; Public Relations Comm., A.I.Ch.E., 1950 to date. Club: Chemists. Hobbies: tennis, skiing, international travel, public speaking. Northeastern Wood Utilization Council, Inc., New Haven (dir.); Plastics Matls. Corp., Portland, Me. (dir.); Overland Com. Corp., N.Y.C. (dir.); Chemonomics, Inc., N.Y.C. (pres., dir.).

ARMSTRONG, Don L(eigh), chf. res. chem. Aerojet Engrg. Corp., 6352 N. Irwindale Ave., Azusa, Calif.; res. 818 Chester Rd., Covina, Calif.
Chem.; b. Alhambra, Calif., June 7, 1916; s. of Roy C. and Frankie L. Armstrong; ed. 1936, A.B. chem., U.C.L.A.; U. of So. Calif., 1937 M.S., 1945 M.S., chem. eng., 1942 Ph.D. chem.; m. B. Caroline Hayes, May 24, 1940; ch.: Alan L., Carol Lee. 1938-41. teaching fellow, U. of So. Calif., Los Angeles, Calif., 1941-46 res. assoc.; 1945 to date, Associated Consultants, Los Angeles, Calif.; 1946 to date, chf. res. chem., Aerojet Engrg. Corp., Azusa, Calif. Chem. of volatile inorg.; high vacuum technique. Mem.: A.C.S., Phi Lambda Upsilon, Sigma Xi, Am. Rocket Soc. Hobbies: guns, hiking.

ARMSTRONG, Earle B., supt., du Pont Co., Chambers Wks., Deepwater, N.J.; res. 642 Billings Ave., Paulsboro, N.J.

Chem. engr.; b. Paulsboro, N.J., Aug. 9, 1893, s. of Delano P. Armstrong and Isabella (Tracy) Armstrong; ed. Paulsboro High School, 1910, Bucknell U., 1914, B.S. in chem. engrg.; mem. Sigma Chi; m. Jeannette Cooke, Aug. 20, 1917; ch.: Jeannette, Catherine, Elizabeth. 1914-16, anal. & div. hd. anal. lab., Eastern Lab., du Pont; 1916-1918, asst. div. hd., res. on dye intermediates, du Pont; 1918-1920, asst. div. hd., Jackson Lab., Intermediates Div., du Pont; 1920-1929, plant supvr., Chambers Wks., du Pont; 1929-1939, chf. supvr., Chambers Wks., du Pont; 1939-1950, supt. at Chambers Wks. Mem.: A.C.S. Member and pres., Paulsboro Council, 9 yrs.; member & pres., Bd. Ed., Paulsboro, 32 yrs. Clubs: Masonic, Kiwanis, Woodbury C. C. Hobby: golf.

ARMSTRONG, Wallace David, prof. and hd. Dept. of Physiolog. Chem., U. of Minn., 17 Med. Sciences Bldg., U. of Minn., Minneapolis 14; res. 12 Orlin Ave. S.E., Minneapolis 14, Minn.
Prof. Med. Schl., U. of Minn.; b. Hunt County, Tex., July 8, 1905, s. of Charles Alexander and Eva (Halsey) Armstrong; ed. B.A., U. of Tex., 1926; M.S., N.Y.U., 1928; Ph.D. U. of Minn., 1932; M.D., U. of Minn., 1937; mem.: Alpha Omega Alpha, Phi Lambda Upsilon, Sigma Xi; m. Mary Garland, 1929; ch.: Margaret A., John W. Asst. (or chem.), U. of Tex., 1925-26; Natl. Res. Council asst., U. of Tex., 1926-27; Parke-Davis Fellow, N.Y.U., 1927-28; res. chem., The Texas Co., June, 1928-Sept., 1929; asst. in physiolog. chem., U. of Minn., 1929-32; instr., 1932-33; asst., 1933-34; instr., 1934-47; asst. prof. 1937-40; assoc. prof. and dir. of lab. of dental res., 1940-43; prof. of physiolog. chem., 1943-46; prof. and hd., physiolog. chem., 1946 to date; res. in fluorine analysis; dental caries; growth of bone; acid-base balance; radioactive tracers. Mem.: A.S.Bio.C.; A.C.S.; Internatl. Assoc. for Dental Res. (pres. 1945-46); A.A.A.S.; S.E.B.M.; Northwest Pediatric Soc.; Macy Conference on Metabolic Interrelations (chmn. 1948 to date); Southern Minn. Med. Assoc. Prize and Award.

ARMSTRONG, Wallace F., operating supt., Ethyl Chloride Div., Ethyl Corp., Baton Rouge, La., res. 3820 Hyacinth.
Chem. engr.; b. Castor, Alberta, Canada, Apr. 26, 1915; s. of George A. and Margaret Faris Armstrong; ed. B.S.Ch.Eng., 1938, U. Fla. (hons.); M.S. 1940; mem.: Sigma Tau, Gamma Sigma Epsilon, Phi Eta Sigma, Phi Kappa Phi; m. Eileen Ratterree, Aug. 15, 1941; ch.: Betty Eileen, George, Robert. Ethyl Corp., July 1, 1939 to date; mem.: A.C.S., A.I.Ch.E.

ARNER, William J(oseph), res. chem., L.O.F. Glass Co., 1701 E. Broadway, Toledo 5, Ohio, res. 1607 Watova Rd., Toledo 14.
Physical chem.; b. Allentown, Pa., Dec. 28, 1898; s. of Granville W. and Ida Kistler Arner; ed. Lehigh U., Met. Eng. 1921; M.S. 1926; Chicago U., Ph.D. (physical chem.) 1930; mem. Sigma Phi Epsilon; m. Hazel Reed, June 25, 1928; ch.: Marilynn D., William G., Michael R. Anal. chem., U.M.H.K., Elisabethville, Belgian Congo 1921-22; sales engr., Traylor Eng. Co., Allentown, Pa. 1923-25; asst. frmn., draughtsman, Am. Steel & Wire, Allentown, Pa., 1925-26; Pfister & Vogel Leather Co., Milwaukee, Wisc., chem. 1926-28; Linde Air Prods. Co., Buffalo, N.Y., 1930-31, res. chem.; Libbey-Owens-Ford Glass Co., res. physical chem., 1931 to date. Res. in spectrochem.; spectro photomery; phys. prop. of glass & safety glass, heat flow, daylight illum., atomic disintegration of al.; mem.: Tau Beta Pi, Sigma Xi, Eng. Soc. (Ill.); club: Maumee River Yacht. Hobbies: swimming, bridge.

ARNOLD, Chester Lee, dir. of res., Stauffer Chem. Co., 1415 S. 47th St., Richmond, Calif.; res. 36 Stratford Rd., Berkeley 7, Calif.
Chem.; b. Sacramento, Calif., Sept. 10, 1904; s. of Emery C. and Jennie B. Arnold; ed. U. of Calif., B.S., 1929; U. of Pitts., Ph.D., 1932; mem.: Alpha Chi Sigma; m. Florence Pos, June, 1950. Federal Labs., Pitts., Pa., org. chem., 1934-35; Phoenix Glass Co., Monaca, Pa., chf. glass tech., 1935-43; Stauffer Chem. Co., San Francisco, Calif., div. of res., western div., 1943-49; dir. of res., 1949 to date. Mem.: A.C.S., A.I.Ch.E.

ARNOLD, David Bullard, Jr., plant supt., Dewey & Almy Chem. Co., Lockport, N. Y.; res. 555 Pine St., Lockport.
Plant supt.; b. Boston, Mass., July 14, 1922; s. of David B. and Virginia B. Arnold; ed. Harvard Coll., S.B., 1944; Harvard Grad. Schl. of Bus. Adm., Oct. 1947 M.B.A.; m. Dorothy Q. Warren, Dec. 6, 1943; ch.: Dorothy T., Virginia W., David B. III.

ARNOLD, Edwin H. (Hodges), pres., treas., chmn. bd. Arnold, Hoffman & Co., Inc., 55 Canal St., Providence, R.I.; res. Roaring Brook Farm, Greene, R.I.
Merchant (mfg. chems.); b. Greene, R.I., July 15, 1899; s. of Edward E. and Mittie H. Arnold; ed. Choate Schl., Wallingford, Conn.; M.I.T., class of 1923; m. Agnes Anderson, Jan. 31, 1927; ch.: Virginia H., Elizabeth Ann. 1927-30, Belle Alkali Co., Belle, W.Va., supt.; 1930-37, New England Water, Light, & Power Associates, trustee, dir.; 1930-37, Pawtuxet Valley Water Co., pres., supt.; Warwick & Coventry Water Co., pres., supt.; E. Greenwich Water Supply Co., pres., supt.; Wakefield Water Co., pres., supt.; 1930-34, House of Representatives, State of R. I. (rep. from Coventry); 1936-37, R.I. State Republican Central Comm., treas.; 1937 to date, Arnold, Hoffman & Co., Inc., pres., treas., chmn. of bd. Indus. Trust Co., dir.; Natl. Assn. of Mfrs., dir. from R.I.; Franklin Process Co., dir.; Belle Alkali Co., dir.; Kent Co. Water Authority, treas.; Coventry Republican Club, chmn.; Western Coventry Fire District, chf. Mem.: A.C.S., A.A.T.C.C. Trustee, St. Andrew's Schl. (Episcopalian). Clubs: Turks Head, Hope, Anawan, Squantum, Swan Island, Antique Automobile of Am. Hobby: antique automobiles.

ARNOLD, J. Howard, chem. process engr., 1058 Pomona Ave., Berkeley 6, Calif.; res. same.
Conslt. & author; Montevideo, Minn., Apr. 14, 1907, s. of J. Clarence & Martha (Wanous) Arnold; ed. Montevideo Pub. Schls.; U. of Minn., B.S. in Chem. E., 1927; Iowa St. Coll.; M.I.T., Sc.D., 1931; mem.: Tau Beta Pi, Phi Lambda Upsilon, Sigma Xi; m. Frances L. Kelly, Jan. 1, 1937; ch.: Martha Ellen, James Frederick, Jonathan Wayne, Joellen Marie. Various academic posts 1930-1944, principally U. of Iowa 1937-1944; chem. process design engr., Stan. Oil Co. of Calif., 1944-1949; conslt. & author, 1949 to date; res. diffusion processes incl. psychrometry, devel. & process design synth. detergent & para-xylene recovery plants; author "Chem. Engrg. Stoichiometry," (1941), "Chem. Engrg. Thermodynam." (1950). Mem. A.I.Ch.E., A.C.S.

ARNOLD, Kenneth Alan, res. dir. bag div., St. Regis Paper Co. P.O. Box 328, Oswego, N.Y.; res. 69 Sixth Ave., Oswego.
Chem. engr.; b. Buffalo, N.Y., Feb. 23, 1916, s. of Samuel and Florence Arnold; ed. Syracuse U. 1934-38, B.S. chem. engr., (magna cum laude); Inst. of Paper Chem., Lawrence Coll. 1938-42, M.S. Ph.D.; m. Louise E. McCrosky, June 13, 1942; ch.: Gary Alan, Linda Louise. 1939 res. chem., engr., Scott Paper Co.; 1940 res. chem.,

engr. Ohio Boxboard Co.; 1941 chem. engr. Union Bag and Paper Corp.; 1942-45 tech. dir. of Pulp Mill, Brown Company; 1945 to date res. dir. St. Regis Paper Co.; res. pulping variable Kraft process, rheology of clay coatings; application polyethylene resin to paper for specialized packaging; paper treatments for insect and fungus resistance. Mem.: Tau Beta Pi; Phi Kappa Phi; Pi Mu Epsilon; T.A.P.P.I., A.C.S., A.S.T.M. Club: Oswego Fortnightly Men's.

ARNOLD, Melvin Roy, res. supvr., The Girdler Corp., Gas Proc. Div., 2820 W. Broadway, Louisville, Ky.; res. Station H, Box 52, Louisville.
Chem.; b. Ambrose, N. Dak., Aug. 11, 1915, s. of Roy and Elsie (Gifford) Arnold; ed. Jamestown Coll., Jamestown, N.D., B.S. 1938; U. of S. Dak., Vermillion, S.D., 1939; N. Dak. Agric. Coll., Fargo, N.D., M.S. 1940; with S. Dak. State Chem. Lab., Vermillion, S.D., asst. State Chem., 1939; Indiana Ordn. Wks. (duPont), Charlestown, Ind., chem-supvr., 1941-43; with The Girdler Corp, Gas Proc. Div., res. supvr., 1943 to date. Contrib. arts. to sci. jls Holds sev. U.S. Pats.. and other appls. for pats. have been filed; flds. of specialization; production and purification of gases; catalysts; military explosives. Mem.: A.C.S.

ARNOLD, Orlan M., res. conslt. 1330 Kensington Rd., Grosse Pointe Park 30, Mich.
Res. and dev. consult.; b. York, Nebr., May 14, 1904, s. of James and Minnie M. (Brown) Arnold; ed. Grinnell Coll., B.A. 1928; U. of Wis., Ph.D. 1934; m. Virginia G. Safford, Sept. 1, 1930; ch.: James Erwin, Joyce Marie. Asst. and instr. in chem., U. of Wis., 1928-35; instr. and asst. prof. of chem., Rensselaer Polytech. Inst., 1935-44; hd. of phys. chem. res., Chrysler Corp., 1944-46; conslt. service, res. conslt., 1946 to date; notable wk.: dieletric constant electrical conductivity of aqueous solutions of electrolytes, phys. chem. properties of high polymers, surface chem., detergents, electrochem., lubrication, anomalous dispersion, fuels, coatings for metals. Author of Sect. on Dialectric Constant & Anomalous Dispersion in Contributions of the Chemist to Insulation Research—Natl. Res. Council 1949. Hobbies: choral music, woodworking.

ARNOLD, Robert Bacon, dir. of res. dept., Va. Carolina Chem. Corp., Richmond, Va.; res. 365 Lexington Rd., Richmond.
Chem.; b. Terre Haute, Ind., Feb. 17, 1881; s. of Wm. F. and Mary (Foote) Arnold; ed. Rose Polytech. Inst., B.S., M.S.; M.I.T., one yr. post grad.; m. Josephine A. Moore, 1929; ch.: Robert B., Jr., Mary Jo. Entire career with Va. Carolina Chem. Corp., its subsidiaries & predecessors; 1904-24, asst. chem. to branch mgr.; 1925 to date, res. chem. to dir. of res. Expert in tobacco by-prods., esp. the prod. & use of nicotine, & in the use of other insecticides. Mem.: A.C.S., A.I.Ch. E., Am. Assn. Econ. Entomols., A.A.A.S. Club: Country of Va.

ARNOLD, Samuel Tomlinson, provost, Brown U., Brown U., Providence 12, R.I.; res. 10 Euclid Ave., Providence.
Adm. of U., prof., chem.; b. Fall River, Mass., Aug. 23, 1892; s. of Henry and Annie Tomlinson Arnold; ed. Brown U., A.B. 1913, A.M. 1914, Ph.D. 1916; m. Vera Stockard, June 24, 1950; ch.: David Stockard, Samuel Tomlinson, Henry Jerome. Instr., chem. Brown U. 1916-17; asst. prof. 1917-22; assoc. prof. 1922-30; prof. 1930 to date; acting dean 1929-30; dean, undergrads. 1930-37; dean, col. 1937-46; dean, U., 1946-49; provost, U., 1949 to date. Consult., War Dept., Corps of Engrs. 1943-46. Mem.: Phi Beta Kappa (pres. R.I. Alpha 1938-40), Sigma Xi (pres. Brown chapt. 1926-28), A.C.S. (R.I. sect., secy. 1918, chmn. 1922-25), exec. com., Coll. Entrance Exam. Bd. 1946-to date, v.p. 1949- East. Assn. of Deans & Advisers of Men (v.p. 1934-35; pres. 1936-37), Nat. Coll. Athletic Assn. (v.p. 1934-35), Am. Council on Education (2d v.p. 1946), New Eng. Assn. of Coll. & Secondary Schs. Pres., 1947, Providence Eng. Soc. Nat. Assn. of Deans & Advisers of Men, East. Coll. Personnel Officrs., Assn. of N.R.O.T.C. Colls. (sec.-treas. 1946-48; pres. 1948-50). Clubs: Providence Art, Univ., Brown (N.Y.), Brown (R.I.). Hobbies: photography, walking.

ARNOW, L. Earle, dir. of res., Sharp & Dohme, Inc., Med. Res. Div., Glenolden, Pa.; res. 376 Kirks Lane, Drexel Hill.
Dir. of res.; b. Micanopy, Fla., June 22, 1909, s. of Joseph Leslie and Mabel (Thrasher) Arnow; ed. U. of Fla., Ph.G. and B.S. in Pharm., 1930; U. of Minn., Ph.D. in biochem. 1934; M.B. and M.D. 1940; mem. Gamma Sigma Epsilon (hon. frat.-chem.) Rho Chi (hon. frat.-pharmacy), Phi Sigma (hon. frat.-biology), Alpha Epsilon Delta (hon. frat.-pre-med.), Alpha Omega Alpha (hon. frat.-med.), Sigma Xi (hon. frat.-sc.); m. Jennie Martin, July 17, 1933; ch.: Peter. 1931-34 asst. physiol. chem. and biophys., 1934-40 instr. physiol. chem. U. of Minn., and asst. prof. 1940-42; dir. biochem. res, Sharp & Dohme, 1942-44; dir. of res. same co. 1944 to date. Author: "Introd. to Physiolog. and Patholog. Chem.," 3rd ed. 1949; co-author with H. C. Reitz, "Introd. to Org. and Biol. Chem.," 2nd ed. 1949. Mem.: A.M.A. (affil. fel.), A.A.A.S. (fel.), N.Y.Acad. Sc. (fel.), A.C.S., A.S.Biol.C., S.E.B.M., Assoc. for the Study of Internal Secretions, A.A.U.P., Physiolog. Soc. of Phila. Mem.: Sigma Chi (social), Phi Beta Pi (med.-social) Gamma Alpha (grad.-social). Club: Phila. Art Alliance. Hobby: music.

ARTZ, Neal E., res. chem. Corn Prods. Refin. Co., Argo, Ill.; res. 1805 N. 74th Ave., Elmwood Pk.
Chem.; b. Lancaster, O., June 18, 1901, s. of Frank E. and Minnie (Walters) Artz; ed. Ohio Wesleyan U., A.B.; Syracuse U., M.S.; Ph.D.; mem. Alpha Sigma Phi, Alpha Chi Sigma; m. Ruth Stoody, 1924; ch.: John L., Barbara J. 1923-25 tchr. sc. Sunbury H.S., Sunbury, O.; 1925-36 instr. org. chem. Syracuse U.; 1926-30 instr. biol., 1930-38 asst. prof. biol., 1938-45 assoc. prof. biol. Syracuse U. Coll. of Med.; 1945 to date res. chem. Corn Products Refin. Co.; res. on inositol, phytates, carbohydrates. Mem.: A.C.S., Sigma Xi.

ARVESON, M(aurice) H(enshaw), tech. dir., Indoil Chem. Co., 910 S. Mich. Ave., Chicago 80, Ill.; res. 815 Argyle Ave., Flossmoor, Ill.
Chem.; b. Antigo, Wis., 1902; s. of Arthur M. and Louise (Henshaw) Arveson; ed. Lawrence Coll., Appleton, Wis., A.B. 1924; post grad. wk. (no degree) Northwestern, U. of Chicago, U. of Wis.; mem.: Delta Iota, Phi Beta Kappa; m. Caterine Bryan, June 1, 1932; ch.: Catherine Louise, Bryan Henshaw. Stand. Oil Co. (Ind.), chem. 1924-30, res. in rheology 1930-31, pat. advisor 1931-35, tech. advisor 1935-38, sr. technologist 1938-45; Indoil Chem. Co. (S.O.Co.Ind.Sub.), sr. technologist 1945-48, tech. dir. 1949 to date. Flow of pet. lubricating greases; numerous U.S. pats. Mem.: A.C.S. (dir., past chmn. Chicago sec.); Natl. Chem. Exposition (exposition trustee, past chmn.); A.C.S. (councilor, mem. council policy comm.); N. Y. Chemists Club; Chicago Chemists Club. Chmn., governing bd., Flossmoor Community Church. Hobby: professional society organizational work.

ASH, Maurice E., dir. of pur., Merck & Co. Inc., Rahway, N.J.; res. 716 Valley Rd., Montclair, N.J.

Bus. exec.; b. E. Orange, N.J., Aug. 20, 1906; s. of David M. and Harriet E. Ash; ed. Cornell U., B. Arch. 1929; Newark U., LL.B., 1938; m. Katherine E. Burnett, June 16, 1934; ch.: Katherine Terry, Frances Shelley. Pur. Agents Assn. of N.Y. (mem. of exec. comm.), Natl. Assn. Pur. Agents. Trustee, Kimberley Schl., Montclair, N.J. Club: Cornell (N.Y.). Hobby: architecture.

ASHBY, Carl Toliver, dir. of develop., Servel, Inc., 119 N. Morton St., Evansville 20, Ind.; res. 6811 Newburgh Rd., Evansville.

Refrig. engr. spec. in adsorp. meths.; b. Vale, Ark., June 26, 1905, s. of Robert Newton and Nolie (Turley) Ashby; ed. U. of Texas, B.A. chem., 1929 (with high honors); M.A. chem. 1931; Ph.D. phys. chem. (first minor chem. engr., second minor appl. maths.) 1934; m. Jonnie Fay Todd, Jan. 11, 1929; ch.: Robert Newton, John Allison. 1929-34 instr. chem. U. of Tex.; 1934-38 dev. engr. Servel, Inc.; 1938-43 sr. dev. engr., 1943 to date dir. of dev. same co.; holds twelve patents on absorption refrigeration. Mem.: A.C.S., Sigma Xi, Phi Lambda Upsilon, A.S.Ref.E., Phi Beta Kappa. Hobby: gardening.

ASHCRAFT, Lee, chmn. and dir., Ashcraft-Wilkinson Co., Atlanta, Ga.; 601 Trust Co., Georgia Bldg., Atlanta; res. 1341 Ponce de Leon Ave., Atlanta, Ga.

Exec.; b. Ashland, Ala., Jan. 14, 1871, s. of Andrew Jackson and Eleanor (Wiley) Ashcraft; ed. pub. schls., State Tchrs. Coll., Florence, Ala., grad. of Ala. Polytech. Inst., Auburn, Ala.; mem. S.A.E.; m. Mary Bayless; ch.: Rebecca (Mrs. R. D. Warren). Chmn. and dir. of following companies: Interstate Milling Co., Cairo, Ill.; Flag Sulphur & Chem. Co., Tampa, Fla.; Agric. Sulphur & Chem. Co., Dothan, Ala.; Valley Chem. Co., Greenville, Miss.; Interstate Fertilizer Co., Cairo. Ill.; v.p. and dir. of Amer. Warehouse & Storage Co., Savannah, Ga.; dir. and mem. of Exec. and Trust Comms. of First Natl. Bank, Atlanta, Ga.; dir. of West Point Mfg. Co., West Point, Ga.; Lanett Bleachery & Dye Wks., West Point, Ga.; Dixie Mfg. Co., La Grange, Ga.; Cabin Crafts, Inc., Dalton, Ga.; Columbus Mfg. Co., Columbus, Ga.; Wellington Sears Co., Boston, Mass.; Anderson Fertilizer Co., Anderson, S.C.; Continental Gin Co., Birmingham, Ala.; Atlanta Art Assoc., Atlanta, Ga.; chmn. Georgia Branch, Newcomen Soc. of England, Atlanta, Ga.; ch. English Speaking Union Branch, Atlanta, Ga. Decorated Chevalier de la Legion d'Honneur (France). Clubs: Druid Hills Golf (Atlanta), Capital City (Atlanta), Piedmont Driving (Atlanta), Homosassa Fishing (Homosassa, Fla.)

ASHCROFT, Alfred Griffin, dir. of res. and dev., and prof. engr., Alexander Smith & Sons Carpet Co., Yonkers, N.Y.; res. 37 Garden Ave., Bronxville, N.Y.

Adm. of res. and prof. engr.; b. Bklyn., N.Y., Mar. 7, 1899, s. of Walter E. and Martha Virginia Ashcroft; ed. Cornell U., M.E.; 8 months P.G. work in ordn. engr., M.I.T.; 2 yrs. Grad. Schl. Evening, U. of Pittsburgh; 2 yrs. Grad. Schl. Evening, Columbia U.; m. Emily A. Mount, Oct. 29, 1921; ch.: Martha Ellen. 1921-23 1st Lieut. U S.A. Ordn. Dept., dev. testing of 16" coast def. gun; 1924-26 with Jones & Laughlin Steel Corp., Pittsburgh, Pa., dev. of shops and foundries under Taylor Syst. of Sc. Mgmt. (dev. engr.); 1926-31 Pittsburgh Diagnostic Clinic, dev. of new type of med. org., in chge. of all functions exc. the med. (supt.); 1931-33 Mohawk Carpet Mills, Amsterdam, N.Y.; dev. of qual. contr., tech. serv. and prod. dev. (prod. engr. in chge. of prod. dev. and contr.); 1934 to date Alexander Smith & Sons Carpet Co., (dir. of res. and dev.). Mem. of Comm. in chge. of Dev. of ASA Manuals, Z1.1, Z1.2 "Guide for Qual. Contr. & Contr. Chart Meth. of Anal. Data," 1941, and Z1.3 "Contr. Chart Meth. of Controlling Qual. dur. Prod." 1942. Contrib. numerous arts. to sc. jls. Conslt. to NRC Adv. Comm. to QMC. Pres., Textile Res. Inst.; mem.: Admin. Comm. on Ult. Consumer Goods of Amer. Soc. for Testing Matls.; mem. A.S.M.E., Consumer Goods Comm. of Amer. Stds. Assoc. Fellow of American Society for Quality Control.

ASHE, Lauren Hewitt, mgr. professional serv. dept., E.R. Squibb & Sons, 745 Fifth Ave., N.Y. 22, N.Y.; res. 1230 Park Ave., N.Y. 28.

Exec. in phar. indus.; b. Greenville, Pa., Apr. 30, 1892; s. of Newton Dewit and Margaret (Eberhart) Ashe; ed. U. of Pitts., Coll. B.S. cum laude, 1914; post grad. 1914-17, entered W.W.I; mem.: Alpha Chi Sigma; m. Rosalind M. Mallory, May 5, 1927. Mellon Inst. Indus. Res., fellow, baking indus., 1914-17; C.W.S., 1st Lt., U.S.A., stationed Rockefeller Inst., 1917-18; chf. chem., prod. mgr., Capitol City Prods. Co., Columbus, Ohio. 1918-20; res. prods. dept., Ward Baking Co., N. Y.C., 1920-24; E.R. Squibb & Sons, 1924 to date. Aided in discovery & dev. of various yeast nutrients, shortenings, bread conditioners, vitamin sugars & similar prods. for the baking & food industries; aided in discovery of bacillus acetoethylicum & dev. of fermentation process for prod. of acetone & ethyl alcohol; numerous papers in collaboration with various colleagues publ. in sc. jls. bet. 1915-25. Mem.: A.C.S., Alpha Chi Sigma.

ASHEN, Philip, mgr., M.W. Hardy & Co., Inc., 141 Broadway, N.Y.C.; res. 721 Empire Blvd., Bklyn., N.Y.

Chem.; b. Bklyn., N.Y., Nov. 5, 1915; s. of Joel and Fannie Ashen; ed. B.A. (in chem.), Bklyn. Coll., 1936; post grad. wk., St. Johns U., Bklyn. Polytech. Inst., N.Y.U. Chf. chem., Alco Mfg. Corp., 1936-48; mgr., M.W. Hardy & Co., Inc., 1948 to date. Lecturer on civilian defense, 1941-45; gas reconnaissance officer, Kings Co., 1941-45. Mem.: A.I.C. (fellow), A.C.S., Metropolitan L.I. Chem. Group, N.Y. Paint & Varn. Prod. Club. Hobbies: photography, tropical fish, music.

ASKIN, Simon, v.p. Heyden Chem. Corp., 393 Seventh Ave., New York 1, N.Y.; res. Fort Hill Rd., Scarsdale, N.Y.

Exec.; b. Charlotte, N.C., Mar. 18, 1910, s. of Charles and Goldie (Nairn) Askin; ed. Lehigh U., B.S. 1932; mem. Pi Lambda Phi; m. Lucille Bunin, Dec. 24, 1939; ch.: Neil Zachary, Glenn Nairn. 1933-35 asst. sales mgr., off. mgr. Consolidated Laundries, Inc.; 1935-43 secy., treas. Askin's Retail Stores, Inc.; 1943 to date v.p. and dir. Heyden Chem. Corp. Clubs: Chemists; Sales Executives Club (N.Y.). Pres. and dir. Amer. Plastics Corp.; v.p. and dir. Nyal Co.; v.p. and dir. Jamieson Pharmacal Co.; dir. The Rumford Co. and the Amer. Potash & Chem. Corp.

ASTON, John Geldart, prof. of chem., dir. of the Cryogenic Lab., Chem. Dept., The Pennsylvania State Coll., State College, Pa.; res. 720 N. Allen St., State College, Pa.

Prof. of chem.; b. Barrow-in-Furness, England, Dec. 30, 1902, s. of G.F. and A.E.A. Aston; ed. B.S. 1923, Calif., M.S., 1924, Calif.; Ph.D. chem., 1926, Calif.; Fellow of Am. Physical Soc.; teaching Fellow in chem., Calif., 1925-26; mem.: Phi Lambda Upsilon, Gamma Alpha, Sigma Pi Sigma, Alpha Chi Sigma; m. Henrietta Bonita Stanislowski, Aug. 25, 1927; ch.: Janet S., Timothy S., Jerome S. Res. asso. and Milton Fellow, Harvard, 1926-28; instr., Northwestern, 1928-29; instr., physical chem., Penn State, 1929-31; asst.

prof. chem., 1931-35; asso. prof. chem., 1935-36; prof. of chem., 1936 to present; dir. Cryogenic lab., 1938 to present; With Office Sc. Res. & Dev.; U.S.N. Chem. Soc. Res. in org. and physical chem. of nitrogen, low temperature thermal measurements on oganic compounds, thermodynamic functions from molecular data, thermodynamics of adsorbed films. Author: Chapter IV, Taylor and Gladstone, "Treatise on Physical Chemistry." Mem.: Sigma Xi, A.C.S., Am. Physical Soc.

ATCHISON, Lowell Chrysler, chf. chem., Denver & Rio Grande W. R. R. Co., 1531 Stout St., Denver 1, Colo.; res. 2432 S. Gilpin St., Denver 10.
Chem. engr.; b. Denver, Colo., Apr. 19, 1901; s. of Clyde A. and Ade E. Atchison; ed. Colo. Schl. of Mines, Ch.E.; m. Jerry Louise Stephens, Nov. 1, 1928; ch.: Carla Joan. Inspector, Mo. St. Hwy. Dept.; chf. chem., Crystal Oil Refining Co.; supt., West Texas Oil Co.; gen. mgr., Pet. Processsing Co. Numerous publ. in tech. journals. Mem.: A.C.S. (Colo. councilor, mem. council Ed. Comm.), A.A.A.S., S.A.E. Atchison Chem. Co. (gen. mgr.).

ATKINS, Leland Gannaway, v.p., asst. treas., dir., Southern Dyestuff Corp., P. O. Box 1045, Charlotte, N.C.; res. 824 Harvard Pl., Charlotte.
Mech. engr.; b. Roanoke, Va., 1902; s. of George F. and Alice (Rector) Atkins; ed. Pratt Inst., cert. of grad., mech. engrg., 1925 (attended Pratt on scholarship given by Mathieson Chem. Co.); mem.: Delta Theta; m. Katherine Crowell, Nov. 5, 1938; ch.: Katherine C., Leland Gannaway Jr. Upon grad. entered employe of Mathieson Chem. Corp., Saltville, Va., plant student, 2 yrs., 1927, test engr. power plant, 1928 supt. of power, 1934 supt. ammonium soda prod.; Feb. 1936, joined small group to organize & form present affiliate, Southern Dyestuff Corp., 1936-37, supt., plant engr., secy., dir., 1937-41, gen. mgr., dir., secy., 1941 v.p., asst. treas., dir. Mem.: A.A.T.C.C. (past chmn. Piedmont sec.). Clubs: Charlotte Country (Charlotte, N.C.), Poinsett (Greenville, S.C.), Piedmont (Spartanburg, S.C.), Charlotte Engineers (Charlotte, N.C.). Hobbies: golf, hunting, wood work. Southern Chem. Corp. (v.p., dir.); Piedmont Chem. Corp. (secy., dir.).

ATKINSON, Edward Redmond, assoc. prof. chem., U. of New Hampshire, Durham, N.H.; res. Durham.
Coll. prof.; b. Boston, Mass., Feb. 15, 1912, s. of Joseph and Florence (Byron) Atkinson; ed. M.I.T., B.S. 1933; Ph.D. 1936; mem. Alpha Chi Sigma; m. Lorraine Crittendon, 1944; ch.: Kathleen. 1936-38 instr. Trinity Coll. (Conn.); 1938 to date asst. and assoc. prof. U. of New Hampshire; res. in chem. of diazo compounds; history of chem. Mem.: A.C.S., A.A.U.P., Sigma Xi, Alpha Chi Sigma (N.E. Distr. Counselor).

ATKINSON, Elliott W., treas., dir., Lion Oil Co., Lion Oil Bldg., El Dorado, Ark., res. 104 E. Grove St.
Treas., dir.; b. Maysfield, Texas, May 30, 1901; s. of Hubert L. and Hattie Williams Atkinson; ed. U. Texas, B.B.A.; mem. Lambda Chi Alpha; m. Mildred DeWoody, June 10, 1926; ch.: Gordon Allen, Emily Louise, Elliott W., Jr. Lion Oil Co. 1924, shipping clerk; progressive advancement to treas. and dir., 1943 to date.

ATKINSON, James Dudley, Jr., mgr., Protein Div., The Buckeye Cotton Oil Co., Cincinnati, Ohio; res. 849 Biggs St., Memphis, Tenn.
Chem. engr.; b. New Orleans, La., July 9, 1912, s. of J. D. Sr., and Mabel (Stevens) Atkinson; ed. Tulane U., B.E. 1933; M.S. 1935; wk. in chem. Johns Hopkins, 1936; U. of Wis., 1937; mem. S.A.E., Alpha Chi Sigma; m. Virginia Powell, 1938; ch.: James Dudley III, John Powell, Michael Lloyd, Virginia Anne. 1934-36 (summers), engr. Dibert, Bancroft & Ross Co., Ltd.; 1937-47 res. chem. engr.; 1947-50 hd. proc. and equip. div., 1950 to date mgr. protein div., Buckeye Cotton Oil Co.; res. in all types of Alpha Cellulose Pulping and utilization; dev. of procs. and equip. Mem.: A.I.Ch.E., T.A.P.P.I., A.C.S., Sigma Xi. Clubs: Engineers, F. & A.M. Hobbies: fishing, photography.

ATWOOD, Kenneth F., chem. ind. res., The Glidden Co., 11001 Madison Ave., Cleveland, O.; res. 1535 Wagar Ave., Lakewood, Ohio.
Chem.; b. Lewiston, Maine, Dec. 27, 1903, s. of Fred S. and Laura M. Atwood; ed. B.S., Bowdoin Coll. 1926; mem. Theta Delta Chi; m. Avis Fairbanks Kilbourn, Oct. 16, 1937; ch.: Alan R., Phyllis. Chem., Heywood Wakefield Co., Gardner, Mass., 1926-1927; chem., Pratt & Lambert, Buffalo, N.Y., 1927-1932; chem. The Gilbert Spruance Co., Phila., Pa., 1932-1941; chem. The Benjamin Franklin Paint & Varnish Co., Phila., Pa., 1941-1947; ind. res. chem., The Glidden Co., Cleveland, O., 1947 to present. Mem. A.I.C. (Fellow 1936). Clubs: Cleveland Paint & Varnish Prod., Bowdoin Alumni of Cleveland.

AUDRIETH, Ludwig Frederick, prof. of chem., Noyes Lab., U. of Ill., Urbana, Ill.; res. 1005 W. California, Urbana.
Chem., inorg.; b. Vienna, Austria, Feb. 23, 1901, s. of Ludwig A. and Frieda M. Audrieth; ed. Colgate U., B.S. 1922; Cornell U., Ph.D. 1926; Natl. Res. Fellow, U. of Rostock, Germany, 1931-2; mem. Sigma Nu, Alpha Chi Sigma, Phi Lambda Upsilon, Phi Beta Kappa, Sigma Xi, etc.; m. Maryon L. Trevett, Mar. 27, 1937; ch.: Kaaren Laurice, Elsa Craven. 1926-28 res. asst. (post doct.) Cornell U.; since 1928 on faculty of U. of Ill.; except, 1931-2 Natl. Res. Fellow, U. of Rostock, Germany; 1942-6 active duty, Ordn. Dept., U.S.A. at Picatinny Arsenal and U.T.C., MTO, Florence, Italy; conslt. to chem. since 1937. 23rd Annual Priestley Lecturer, Penn. State (1949), NDRC, Off. Investigator, (1940-42); res. in nitrogen and phosphorus chem.; non-aqueous solvents; nitrogen compounds such as azides, hydrazine; rare earths; about 100 publications; also patents issued and pending in these fields and explosives, propellants, etc. Author: "Acids, Bases and Nonaqueous System," 1949; "Inorganic Syntheses," Vol. III, 1950; "Chem of Hydrazine," 1950. Mem.: A.C.S., A.O.A., World War II serv. ribbons; ed.-in-chf. Vol. III "Inorganic Syntheses"; Phi Lambda Upsilon, natl. editor, 1938-42; natl. v.p. 1946 to date. Clubs: Champaign County Country; Chaos (Chicago); University (Champaign-Urbana.).

AULT, William E, Jr., tech. writer, mkt. res., Monsanto Chem. Co., 1700 So. 2nd St., St. Louis, Mo.; res. 6655 Winona Ave., St. Louis 9.
Chem. engr.; b. Jeffersonville, Ind., Aug. 8, 1914; s. of William E. and Edith H. (Laidley) Ault; ed. Washington U., St. Louis, B.S. chem. engr. 1935; m. Frances Marquardt, Feb. 1, 1941; ch.: Gail Jean, Marcia Ann. Dec., 1935 to June, 1937, General Chem. Co., E. St. Louis, chem. cont.; June, 1937 to Oct., 1940, Natl. Lead Co., St. Louis, chf. chem. white lead mfr.; Nov., 1940 to Mar., 1949, Monsanto Chem. Co., Monsanto, Ill., chem. cont, chf. chem. prod. supvr.; Mar., 1949 to date, Monsanto Chem. Co., St. Louis, tech. writer, mkt. res. Mem.: A.C.S., A.I.Ch.E.

AUSTIN, A. B., mgr. Joplin Branch Office, Hercules Powder Co., 506 Joplin Natl. Bank Bldg., Joplin, Mo.; res. 506 N. Byers Ave., Joplin, Mo. Sales dir.; b. Beaumont, Tex., Feb. 2, 1910, s. of Ethel (Vail) Austin; ed. Rice Inst., Houston, Tex., 1927-29; Colo. Schl. of Mines, Golden, Colo., 1929-32, E.M.; mem. Sigma Alpha Epsilon, Theta Tau; m. Jean Davis, May 8, 1935; ch.: Linda Jean, Sharon Ann. After completing coll., worked lease on gold property in Cripple Creek, Colo.; in 1933 employed by Hercules Powder Co. to do sales and serv. wk. in var. parts of country until 1947; in that year became asst. mgr. Chicago Branch Office; in 1949 became mgr. of Joplin Branch Office. Mem.: A.I.M.M.E. Clubs: Twin Hills Golf; Joplin. Hobby: golf.

AUSTIN, Russell Heyden, prof. of chem., hd. of chem. dept., State College, Arkansas; res. State College, Jonesboro, Ark.
Tchr.; b. Clinton, Mo., Feb. 20, 1892, s. of John Summerfield and Minnie Austin; ed. U. of Ark., B.S.A. 1917; Mich. State Coll., M.S. 1925, Ph.D. 1928; m. 1st, Jan. 1, 1918, Pauline Moores (dec.); m. 2nd, Margaret Henderson Clements, Sept. 10, 1930; ch.: Hayden John, Ruth Pauline, Allen Russell. Asst. agronomist, U. of Ark.; grad. asst. Mich. State Coll.; asst. prof. agron. U. of Tenn.; asst. prof. soils, U. of Wis.; prof. chem., W. J. Bryan U.; prof. agric. John Brown U.; prof. chem. and hd. dept. Ark. State Coll.; chem. of State Soils Lab. while at U. of Wis.; res. in reactions of phosphates in soils; effect of fertilizer treatments and soil types on composition of soybean plants. Mem.: A.C.S., A.A.A.S., Ark. Acad. Sc.; (pres. 1950-51.) Clubs: Alpha Zeta, Phi Sigma, Beta Beta Beta, Sigma Xi.

AUTENRIETH, John Stork, tech. sales rep., Hercules Powder Co., 3615 Olive St., St. Louis 8, Mo.; res. 6921 Southland Ave., St. Louis 9.
Res. chem.; b. Weehawken, N.J., Dec. 28, 1916; s. of George C. and Lisette E. Autenrieth; ed. B.S., 1937, C.C.N.Y.; Ph.D., 1941, M.I.T.; mem.: Delta Kappa Epsilon; m. Jean Price, Apr. 6, 1946. 1941-44, Hercules Powder Co., Expt. Station, Wilmington, Del., res. chem.; 1944-48, Hercules Powder Co., home office, Wilmington, Del., tech service; 1948 to date, Hercules Powder Co., St. Louis, Mo., tech. sales rep. Mem.: A.C.S., Sigma Xi, St. Louis Paint & Varn. Prod. Club: St. Louis Paint, Varn. & Lacq. Assn.

AVEDIKIAN, Souren Z., pres., treas., tech. dir., Tidings Corp. of America; tech. dir., Avedikian and Co., 613-615 Fenimore Rd., Mamaroneck, N.Y.; res. 58 Willow Ave., Larchmont.
Chem.; chem. engr. exec.; b. Sivas, Turkish Armenia, July 3, 1911, s. of Zacharia H. and Veron Z. (Ghazarian) Avedikian; ed. pub. and high schl. of Bklyn., N.Y.; scholarship awards in gen. studies, chem., Latin, history; Columbia U. B.A. (with honors in chem.) 1932; M.A. 1933; Ph.D. 1934; mem.: Phi Beta Kappa, Phi Lambda Upsilon, Sigma Xi (Dept. of Chem. Engr.); m. Araxia Virginia Baliozian, Jan. 16, 1943. 1932-33 asst. anal. chem. lab., Chem. Dept., 1932-36 asst. to prof. Chem. Engr. Dept., Columbia U.; 1936-46 asst. chem. engr. with promotions to sr. chem. engr., War Dept. C.W.S., Edgewood Arsenal to 1940; N.Y. Procurement Distr. to 1946; 1947 to date pres., tech. dir., treas. of Tidings Corp. of Amer.; 1932 to date partner, tech. dir. of Avedikian and Co. Special work: 1. Chem. warfare materiel, defense-offense. 2. Amalgam cell-utilization in chem. reactions. 3. Pats. dealing with processes for bleaching of flour, tobacco, etc. 4. Processes and prods. for polishing silver and stainless steels. Author: "A Study of the Thermal Decomposition of Barium Nitrate," 1934 (thesis for Ph.D.) Mem.: A.C.S., (sr. since 1934); A.I.Ch.E. (assoc. mem.); A.I.C. (fellow since 1940); E.S. (sr. mem. since 1934); A.A.A.S.; first prize in A.C.S. contest in N.Y. State in 1928. Clubs: Chemists; Larchmont Shore; Rotary of Mamaroneck (secy. elect 1950-51). Hobbies: research, golf, recordings (wire), gardening, writing. Founder (with father) of Avedikian & Co.; chmn. of bd. Tidings Corp. of Amer.

AXELRAD, Felix F., pres. Fiber Chem. Corp., P.O. Box 218, Matawan, N.J.; res. Bond St., Cliffwood, N.J.; mailing address: P.O. Box 218, Matawan.
Chem.; b. Belgrade, Yugoslavia, Jan. 31, 1903, s. of Joseph and Leontine Axelrad; ed. Technical University, Vienna, Austria, Ch.E.; Technical University, Berlin-Charlottenburg, Germany, Diplom Engr.; m. Hedi Traub, Dec. 21, 1933; ch.: Eva Ruth. 1927-28 chem. Wiener Leder-Industrie, Rannersdorf, Austria; 1928-29 chem. Dr. Paul Englaender, Vienna, Austria; 1930-33 tanning chem. dept., Oranienburger Chem. Wks., Oranienburg, Germany; 1933-35 mgr., textile and tanning chem., Schwarz Rudolf & Co., Budapest, Hungary; 1935-39 own conslt. lab. in Vienna; 1939 gen. mgr. Ak-An, Istanbul, Turkey; 1940-43 mgr. tanning chem. dept. Richards Chem. Wks., Jersey City, N.J.; 1943 to date pres., mgr. Fiber Chem. Corp., Cliffwood, N.J.; holds pats. in textile and leather processing, particularly in field of synthans, optical whitening agents, crushproofing. Mem.: A.C S., Am. Leather Chem. Assoc., A.A.T.C.C. Hobby: photography.

AYERS, Joseph Williams, v.p., C. K. Williams & Co., pres. Agrashell, Inc., 640 N. 13th St., Easton, Pa.; res. 22 N. 14th St., Easton.
Exec.; b. Easton, Pa., Jan. 6, 1904, s. of Charles Pierson and Emma Cottman (Williams) Ayres; ed. B. Chem., Cornell U., 1927, grad. wk. in chem. res. 1927-28; m. Caroline Brooke Stone, Oct. 6, 1934; ch.: Katharine Stone, Phyllis. Employed by C. K. Williams & Co., Easton, Pa., 1928, dir. of res. from 1930-48, v.p. since 1945, dir. since 1935; organizer Blacks, Inc., Casmalia, Calif., 1936-37; Calcium Chem. Corp., Adams, Mass., pres. and dir. from 1937-48; v.p., dir. and tech. adv., Agrashell, Inc., Los Angeles, Calif., 1939-45, pres. and dir. since 1945; pres., Productos Oleaginosos, S.A. de C.V. Mexico. Conslt. to U.S. Engrs. on camouflage problems, 1942-43; mem. indust. tech. adv. comm., chem. branch, W.P.B., 1942-45. Contrib. numerous arts. to tech. jls. and prepared lectures and sci. papers for reading before many tech. societies; holds 22 pats. Author also of "The Elements of Color" (pub. in bk. form for N.E. lecture course); "Tech. Data on the Use of Shelblast WD-4B by the Rubber Industry," Agicide Labs. Inc., 1947, and others. Mem.: Delaware Valley Area Council of B.S.A.; dir. Easton Y.M.C.A.; Fellow, A.I.Ch.E., A.I.C.; mem. A.C.S.; Intercolor Council, A.S.T.M., A.A.A.S., Soc. of Rheology, Zeta Psi. Clubs: Cornell, Chemists (N.Y.), Country Club of Northampton County (Easton, Pa.); Pomfret (Easton). Hobbies: golf, skating.

AYERS, Lewis Royston, lab. mgr., Gair Cartons Div., Robert Gair Co., Inc., Piermont, N.Y., res. Gilbert Ave., Pearl River, N.Y.
Chem. engr.; b. Seneca Falls, N.Y., June 12, 1918; s. of George Lewis and Helen Royston Ayers; ed. N.Y. St. Coll. of Forestry; Syracuse U., B.S. (cum laude), 1940; mem. Alpha Chi Sigma, Phi Kappa Phi; m. Naomi E. Coambe, May 19, 1945; ch.: Helen Louise, Robert Lewis. Inst. of Paper Chem., 1940-48, res. asst. (1947-48); tech. assoc. (1945-47); tech. asst. (to 1945); Robert Gair Co., Inc., lab. mgr., 1948 to date, Gair Cartons Div.; mem.: A.C.S., T.A.P.P.I. Hobby: chess.

AYERS, Lorenz Kneedler, pres., C. K. Williams & Co., 2001 Lynch Ave., East St. Louis, Ill.; res. 37 Brentmoor Park, St. Louis 5, Mo.

B. Easton, Pa., Apr. 15, 1891; s. of Charles Pearson and Emma C. (Williams) Ayers; ed. Lafayette Coll, B.S.; mem.: Phi Gamma Delta; m. Anna Spackman, Sept. 27, 1919; ch.: Helen S., Barbara. C. K. Williams & Co., 1913-17; W.W.I., Lt. in Air Corps, 1917-19; C. K. Williams & Co., 1919 to date. Mem.: Chemists Club. Clubs: Noonday, Racquet, Bellerive Country, Northampton Country, Mo Athletic, Union League. Hobbies: hunting, golf. Midwest Mining Co. (pres.); Acme Barite Co. (pres.).

AYERS, William Roscoe, gen. supt., Monsanto Chem. Co., Springfield, Mass.; res. 942 So. Branch Pkwy., Springfield.
Chem.; b. Milwaukee, Wis., June 7, 1913, s. of Roscoe N. and Florence (Voss) Ayers; ed. U. of Dis., B.S. 1935; M.S. 1937; Ph.D. 1940; mem. Alpha Chi Sigma; m. Marjorie E. Martin, 1937; ch.: Robert M. 1937-38 contr. and anal. chem., Monsanto; 1938-40 grad. asst. U. of Wis.; 1940-44 anal. dev. chem., Monsanto; 1944 plant tech., grp. ldr. same co.; 1945-46 operating supt. same co.; 1946 to date gen. supt. same co.; res. and study of cadium chromite formation. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S., A.I.Ch.E. Hobby: sports.

AYRES, Eugene, tech. asst. to exec. v.p., Gulf Res. & Devel. Co., Pittsburgh 30, Pa.; res. Evergreen Hamlet, Pittsburgh 9.
Exec.; b. Sumpter, S.C., 1891; s. of Eugene E. and Ada V. Ayres; ed. Swarthmore Coll., A.B., 1912; mem.: Sigma Xi; m. Carol Meeser, Feb., 1914; ch.: Jeanne Anna, Edmond. 1912-14, res. chem., du Pont Co.; 1915-24, devel. engr., Sharples Specialty Co.; 1925-29, partner, Ballard, Ayres, Sharples Co.; 1930 to date, mgr., Gulf Cos.

AYRES, Gilbert Haven, assoc. prof. of chem., Dept. of Chem., U. of Texas, Austin, Tex.; res. 3307 Perry Lane, Austin.
Chem. tchr.; b. Upland, Indiana, Aug. 29, 1904, s. of Burt Wilmot and Etta (Huggins) Ayres; ed. Taylor U., A.B. 1925; U. of Wis., Ph.D. 1930; post-doctorate res. U. of Mich., 1939; m. Helen Shoemaker, Aug. 17, 1926; ch.: Margaret Jane, Alice Barbara. 1930-31 instr. in chem. U. of Wis.; 1931-37 asst. prof. of chem., Smith Coll.; 1937-47 assoc. prof. of chem. same coll.; 1947 to date assoc. prof. of chem. U. of Texas; res. fields: properties of colloidal hydrous metal oxides; spectro-photometric methods of anal; evaluation of accuracy in photometric anal. Author: "Experiments in Gen. Chem." 1935; "Quantitative Anal. Lab. Manual," 1948; "Semimicro Qualitative Anal. Lab. Manual," 1948. Mem.: A.C.S., A.A.A.S., A.A U.P., Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma.

B

BABBITT, Harold E., prof. of sanitary engr., 204 Civil Engr. Hall., U. of Illinois, Urbana, Ill.; res. 705 W. Main St., Urbana.
Tchr.; b. East Orange, N.J., Jan. 7, 1888, s. of Charles Jacob and Cornelia (Snow) Babbitt; ed. M.I.T., B.S. 1911; U. of Ill., M.S. 1917; m. 1st. Helen Hayward Tainter, Oct. 16, 1912 (dec. 1924); m. 2nd. Elma Jones Benedict, July 29, 1930. 1903-05 rodman, Westinghouse Church Kerr Co.; 1911-13 computer, Sanitary Distr. of Chicago; 1913 to date instr. U. of Ill. Conrtib. sev. arts. to sc. jls. Author: "Plumbing," 1922, and 2nd Ed. 1950; "Sewerage and Sewage Treatment," 6th Ed. 1948; "Water Supply Engineering," 4th Ed. 1949. Mem.: A.W.W.A. (Fuller Award, 1949); Ill. Soc. of Prof. Engrs., (Ill. Award, 1941); A C.S., A.S.C.E., Soc. for Engr. Education. Officer in First Congregational Church, Champaign, Ill. Clubs: Kiwanis. Secy-treas. Ill. Soc. of Prof. Engrs.; moderator, First Congreg. Ch., Champaign, Ill.

BABCOCK, Dale Friend, mgr., Proc. Dev., Grasselli Chem. Dept., E. I. du Pont de Nemours & Co., Wilmington, Dela.; res. 711 River Rd., Wilmington.
Chem. engr.; b. Minneapolis, Kansas, Oct. 5, 1906, s. of Seth and Minnie (Reno) Babcock; ed. Kansas State Coll., Pittsburgh, B.S. 1924; U. of Ill., Ph.D. 1929 (phys. chem.); mem. Sigma Xi, Phi Lambda Upsilon; m. Marion A. Gregg, June 17, 1930; ch.: Byron Dale, Ardis Lee. 1929 to date with E. I. du Pont de Nemours; 1929-38 res. chem, Chem. Dept.; 1938-42 res. supvr. Nylon Div.; 1942 N.D.R.C. Tech. Aide to Oxygen Comm.; 1942-44 tech. spec. (plutonium dev.) Explosives Dept.; 1944 to date mgr. Proc. Dev., Grasselli Chems. Dept. Holds pats in field of gas purification; processing of nylon fibers and chem. synth. Mem.: A.C.S., A.I.Ch.E. Hobby: bridge.

BABCOCK, Donald Eric, tech. & res. conslt., Republic Steel Corp.; res. 65 Leighton Ave., Youngstown 12, Ohio.
Res. chem. & metallurg. engr.; b. Canton, Ohio, Nov. 10, 1907; s. of Fred A. and Chloe (Hake) Babcock; ed. B.A. with honors, Ohio State U, 1931, M.A., 1933, Ph.D., 1935, Phi Beta Kappa 1931, Sigma Xi, Phi Lambda Upsilon; m. Leah E. Brink, Oct. 10, 1936; ch.: Beverly Jean, Shirley Ruth, Eileen Kay. Asst. dept. chem., Ohio State U., 1931-35; res metallurgist, Republic Steel Corp., Massillon & Youngstown, Ohio, 1935-38; indus. fellow, Mellon Inst., 1938-40; mgr. chem. engrg. lab., Owens-Corning Fiberglas 1940, res. mgr. 1940-42; asst. dir., Ohio State U. Res. Foundation, 1942-43; asst. chf. metallurgist, Republic Steel Corp, Youngstown, 1943-47, Youngstown district res. engr. 1944-47, tech. & res. conslt. 1947 to date. Surface chem. & lubrication of glass fibers; blast furnace slag control; operational anal. glass re-enforced plastics; synthetic rubber; silicones; electro-org. reduction. Mem.: A.C.S., A.I.M M.E., A.S.M., A.I.Ch.E., Army Ordnance Assn., Am. Iron & Steel Inst. Award: A.I.S.I.M. 1949. Hobbies: research in vitamins, nutrition & cancer, microscopical mineralogy, politics, economics, history.

BABCOCK, Sidney Henry, Jr., dir., Chem. Prod. Sect., Lederle Labs Div., Am. Cyanamid Co., Pearl River, N.Y.; res. 42 Kinderkamack Road, Park Ridge, N.J.
Chem.; b. Atoka, Okla., Apr. 4, 1909; s. of Sidney H. and Ida May Kelsey Babcock; ed. Vanderbilt U., A.B. 1930; M.S. 1931; U. Ill. Ph.D., 1934; mem. Phi Beta Kappa, Sigma Xi; m. Margaret M., July 11, 1947; ch.: Marney Carolyn. Teach. asst., U. Ill., Jan., 1934-June, 1934 instr., June, 1934- Sept., 1934; spec. res. asst., Sept., 1934-Jan., 1936; instr., U. Calif., Davis, Calif., Jan., 1936-41; conslt. (on leave from U.), Gelatin Prods. Co., Detr., Mich., Jan., 1941-July, 1941; asst. prof. U. Calif., Davis, Calif., July, 1941-Feb., 1943; chem., Lederle Labs., Pearl River, N.Y., Feb., 1943-Aug., 1943; dir., chem. prod., Aug., 1943 to date. Patents pantothenic acid field; mem.: A.C.S., A.A.A.S., S.A.B., Mycolog. Soc. Am. Club: Chem. (N.Y.C,). Hobby: chamber music.

BABER, Clinton Wiley, mgr., chem. res. dept., Larus & Bros. Co. Inc., 22nd & Cary Sts., Richmond 17, Va.; res. R.F.D. 9, Box 155, Richmond, Va.
Chem. engr.; b. Fluvanna Co., Va., Sept. 12, 1909; s. of Clinton T. and Lily N. Baber; ed. 1931-35, B.S. chem. engrg., hon. curriculum, Va. Polytech. Inst., Blacksburg, Va.; mem.: Omicron

Delta Kappa, Phi Kappa Phi, Phi Lambda Upsilon, Tau Beta Pi, Pi Delta Epsilon; m. Lucille Anderson, May 31, 1941. Lab. asst., Tobacco By-Prods. & Chem. Corp., Richmond, Va. 1927-31, chem. engr. 1935-39; U.S.A., 1940-45 Lt. Col. Chem. Corps; mgr., chem. res. dept., Larus & Bro. Co. Inc., 1945 to date. Cigarettes & smoking tobacco mfg. technology, tobacco chem., prod. & fld. application of nicotine insecticides. Mem.: A.C.S., Va. Acad. of Sc., A.S.Q.C., Reserve Officers Assn. of U.S. Clubs: County Club of Va., Officers Club of Va. (dir.). Hobbies: use of statistical methods in research & quality control, golf.

BACAL, Harry S., pres. Pioneer Paint and Varnish Co., 438 W. Congress St., Tucson, Ariz.; res. 3332 Terra Alta, Tucson, Ariz.
Exec.; b. Chicago, Ill., Jan. 19, 1902, s. of Samuel and Bertha Bacal; ed. Ill. Inst. of Tech. (Chicago), 1920-24, B.S. Ch.E.; m. Elizabeth, 1930; ch: Martin, Richard, Andrea. 1925-26 chem., Grand Rapids Varnish Corp.; 1926-34 chf. chem. and plant mgr. of Cloverleaf Paint, Varnish and Lacquer Corp.; 1935 to date pres. Pioneer Paint and Varnish Co., Tucson, Ariz. Mem.: A.I.C. (fellow). On adv. bd., Tucson Medical Center. Club: Rotary. Hobby: fishing.

BACHER, Frederick Addison, chem., Merck & Co., Inc., Rahway, N.J.; res. 401 Harrison Ave., Westfield, N.J.
Chem.; b. Northampton, Mass., July 18, 1915; s. of Frederick and Minnie (Johnson) Bacher; ed. Harvard Engrg. Schl., S.B. c l., 1936; Rutgers U., M.Sc., 1945; m. Margaret Hamlin, Aug. 26, 1944; ch.: Beatrice Edith. E.I. du Pont de Nemours, plastics dept., Leominster, Mass., nitration and water control, 1936-38; Merck & Co., Inc., Rahway, N.J., res. and devel. div., physical chem. dept., chem., 1939 to date. Studies on purity of organic compds. Mem.: Phi Lambda Upsilon, A.C.S., A.A.A.S.

BACHER, Robert Fox, dir., Norman Bridge Lab. of Physics, prof. of physics, chmn. of div. of physics, math. & astronomy, Calif. Inst. of Tech., Pasadena, Calif.; res. 515 S. Wilson, Pasadena.
Physicist; b. Loudonville, Ohio, Aug. 31, 1905; s. of Harry and Byrl (Fox) Bacher; ed. B.S., U. of Mich. 1926; Ph.D. 1930 physics, Natl. Res. Fellow, Physics, Calif. Inst. of Tech. 1930-31, M.I.T. 1931-32, Alfred Lloyd Fellow, U. of Mich. 1932-33; mem.: Kappa Sigma; m. Jean Dow, 1930; ch.: Martha, Andrew Dow. Instr., Columbia U., 1934-35; instr., Cornell U., 1935-37, asst. prof 1937-40, assoc. prof. 1940-45; radiation lab., M.I.T., 1940-45; in chg. div. of radar receiver & indicator components & radar beacons, 1942-43; Los Alamos Lab. Atomic Bomb Project 1943-Jan., 1946; prof. of physics, Cornell U., 1945-49, hd. exptl. physics div. 1943-44, hd. bomb physics div. 1944-45, dir. of lab. of nuclear studies, 1946; mem. U.S Atomic Energy Commis., Oct. 28, 1946-May 10, 1949. Co-author: Dr. S. A. Goudsmit "Atomic Energy States" McGraw-Hill, 1932, 582 pages. Mem.: A.Phys.S., Natl. Acad. of Sc., A.Phil.S., A.A.A.S., Am. Assn. of Physics Teachers, Sigma Xi. Award: M. for Merit, Jan., 1946—Doctor of Sc., U. of Mich., June, 1948. Club: Cosmos (Wash., D. C.). Consolidated Engrg. Corp., Pasadena, Calif. (mem. bd. of dir.); Rand Corp., Santa Monica, Calif (mem. bd. of dir.).

BACHMAN, G(ustave) Bryant, prof. of chem., Purdue U., Lafayette, Ind.; res. 923 N. Chauncey Ave., W. Lafayette, Ind.
Teacher; b. Kansas City, Mo., Aug. 18, 1905; s. of G. W. and Madge (Bryant) Bachman; ed. B.A., magna cum laude, Colo. U., 1926; Ph.D., Yale U., 1930; mem.: Chi Psi, Phi Beta Kappa, Phi Lambda Upsilon, Sigma Xi, Alpha Chi Sigma; m. Nancy Powell 1929; ch.: William P., Madge, John B. Instr., 1930-33, asst. prof. 1933-36, Ohio State U.; chem. 1936-39, Eastman Kodak Co.; assoc. prof. 1939-41, prof. 1941 to date, Purdue U. Numerous publ. & pats. in gen. fld. of syn. org. chem.; rubbers, plastics, medicinals. Author: "Org. Chem." McGraw-Hill Book Co., N.Y.C. 1949. Mem.: A.C.S., A.A.A.S., Ind. Chem. Soc., Ind. Acad. of Sc., Jour. Org. Chem. (mem. bd. of edit.), Yale Chem. Assn. (pres.). Clubs: Rotary, Torch. Hobbies: music, sports.

BACHMAN, Paul W., mgr. dev. planning, Davison Chem. Corp., Balt., 3, Md., res. 303 Club Rd., Balt., 10, Md.
Mgr. dev. planning; b. Newport News, Va., Aug. 28, 1899; s. of Ernest and Hedwig Bachman; ed. Johns Hopkins U., B.S. 1923; Ph.D. 1926; mem. Phi Gamma Delta; m. Nancy George Hazell, Oct. 29, 1932; ch.: Ann, Rebecca Elizabeth. 1931-37 Victor Chem. Wks., Nashville, Tenn., res. chem.; 1937-42 Gen. Chem. Co., 20 Rector St., N.Y.C., mgr. res.; 1942-49 Comm. Solv. Corp., Terre Haute, Ind., mgr., tech. dev.; 1949 to date The Davison Chem. Corp., mgr. dev. planning; mem.: A.A.A.S., A.C.S., Am. Gas Assn., A.I.Ch.E., A.P.I., Natl. Assn. Corrosion Engrs. (Bd. Dirs.), Sigma Xi, Gamma Alpha.

BACHMANN, Werner Emmanuel, prof. of chem., Moses Gomberg U., dept. of chem., U. of Mich., Ann Arbor, Mich.; res. 1608 Brooklyn Ave., Ann Arbor.
Prof. of chem.; b. Detroit, Mich., Nov. 13, 1901; s. of A. William and Bertha (Wurster) Bachmann; ed. B.S.E., Mich., 1923, M.S. 1924, Ph.D. chem. 1926; Rockefeller Foundation Fellow, Zurich, 1928-29; Henry Russell Award, U. of Mich., 1933; Guggenheim Mem. Foundation Fellow, London & Munich, 1935-36; mem.: Alpha Chi Sigma, Gamma Alpha, Sigma Xi, Tau Beta Pi; m. Marie Knaphurst, Sept. 14, 1927; ch.: Joan Marie, Roger Werner. Instr., org. chem., U. of Mich., 1925-28, asst. prof. 1929-35, assoc. prof. 1935-39, prof. 1939-47, Moses Gomberg U. prof. of chem. 1947 to date; with Office of Sc. Res. & Dev. 1940-45. Free radicals; molecular rearrangements; cancer-producing cmpds.; syn. of sex hormones; attempted syn. of penicillin; explosives; Grignard reaction. Co-author: "Lab. Manual of Org. Chem.," 1930 with L. C. Anderson. Mem.: Natl. Acad. of Sc., A.C.S. Awards: Naval Ordnance; President's Cert. of Merit; King's M. (British). Hobbies: gardening, golf.

BACKUS, Harrison S., chf. engr. dev., G. D. Searle & Co., P. O. Box 5110, Chicago 80, Ill., res. 8118 Kolmar Ave., Skokie, Ill.
Chem. engr.; b. Independence, Ia., Dec. 22, 1909; s. of George L. and Ada S. Backus; ed. Calif. Inst. Tech., B.S. Chem. Engr. (hon.) 1933; M.S. Chem. Engr. 1935; mem. Tau Beta Pi (hon.), Sigma Xi; m. Alice R., June, 1937; ch.: Susan, Virginia. 1934 Cutter Labs., Berkeley, Calif., res. engr.; 1935-38 Cutter Labs., res. engr.; 1938 to date G.D. Searle & Co., Chicago, Ill., plant supt., chf. engr. dept. Grad. wk. thermody. of hydrocarbon solution (A.P.I.); res. on blood serum proc., cultured virus vaccine mfgr., design, constr. chem. proc., pharm. mfg. facilities; mem.: A.C.S., A.I.Ch.E., Tau Beta Pi.

BACON, Egbert K(ing), prof. of chem., Chem. Lab., Union Coll., Schenectady 9, N.Y.; res. Eastern Parkway, Schenectady.
Coll. prof.; b. Sault Ste. Marie, Mich., Aug. 20, 1900, s. of William R. and Amanda (King) Bacon; ed. U. of Mich., B.S. 1922; M.S. 1923; Ph.D. 1926; mem. Alpha Chi Sigma, Phi Lambda

Upsilon, Gamma Alpha, Sigma Xi; m. Ida May Dudley, June 22, 1926; ch.: Eleanor. 1920-22 asst. quat. anal., U. of Mich.; 1922-26 tchg. asst. gen. chem.; 1926-30 instr. Brown U.; 1930-32 instr. Union Coll.; 1932-43 asst. prof.; 1943-50 assoc. prof.; 1950 to date prof.; lecturer Albany Coll. of Pharm., 1945-46; city chem., Health Dept., City of Schenectady, 1941 to date. Secy-treas. Eastern N.Y. Sect., A.C.S. 1930 to date. Mem.: A.C.S., A.A.U.P., A.A.A.S. (fellow) Hobbies: fishing, gardening, stamp collecting

BACON, Frank R(ider), Jr., res. chem., Owens-Illinois Glass Co., 1700 N. Westwood Ave.; Toledo 1, Ohio; res. 2115 Alvin St., Toledo 7. Res. chem.; b. Wilton Jct., Iowa, Apr. 28, 1914, s. of Frank R. and Grace W. Bacon; ed. Iowa State Coll., B.S. in Ch.E. 1935; Washington U., M.S. in Chem. 1937; m. Eleanor Bennett, June 25, 1938; ch.: John, George, Katherine. 1935-37 asst. in chem. engrg. Washington U.; 1937 to date, gen. res. and new dev. div., Owens-Illinois Glass Co.; res. chem. durability of glass, color of glass. Mem.: Tau Beta Pi, Sigma Xi, A.C.S. (chmn. Toledo Sect., 1950-51), Am. Ceramic Soc.

BACON, Frederick Sayford, sr. partner, Frederick S. Bacon Labs., 192 Pleasant St., Watertown 72, Mass.; res. 42 Hyde Ave., Newton 58, Mass. Consulting chem.; b. Newton, Mass., Oct. 28, 1893, s. of William Francis and Bessie E. (Sayford) Bacon; ed. A.B., Harvard Coll., 1915, A.M., Harvard U., 1917; mem. Alpha Chi Sigma; m. Lenice Woods Ingram June 2, 1921; ch.: Bessie Rilla (Bacon) Milne, William Elisha Bacon. Res. chem., Federal Dyestuff & Chem. Co., 1917-1918; res. chem., Monsanto Chem. Co., 1919; Pres., Puritan Dye & Chem. Co., 1920-1925; res. chem., Arthur D. Little, Inc., 1926-1929; supvr., Monsanto Chem. Co., 1929-1930; res. chem., Boston Blacking & Chem. Co., 1930-1937; conslt. Gustavus J. Esselen, 1937-1939; sr. partner, Frederick S. Bacon Labs., 1939 to date. Res. in adhesives, plastics, dyestuffs, pet., hydraulic fluids, org. synthesis. Chem. Eng. Div., NDRC of OSRD, Asst. to chf. div. II, Holder U.S. Pats. shoe adhesives. Mem.: A.C.S., A.I.Ch.E., A.A.A.S., AO.C.S., Soc. Chem. Ind., A.S.T.M. Treas., Rebecca Pomroy Home, Newton, Newton Y.M.C.A. (pres.), Newton Savings Bank, trustee. Clubs: Harvard (Boston), Brae Burn Country (Newton), St. Boltolph (Boston), Eastern Pt. Yacht, Rear. Comm. (Gloucester). Hobbies: yachting, woodworking.

BACON, Leslie Randolph, res. supvr., Wyandotte Chem. Corp., Wyandotte, Mich.; res. 1856 23rd St., Wyandotte. Physical chem.; b. Henniker, N.H., Mar. 16, 1903; s. of Elgin S. and Carrie M. Bacon; ed. U. of N.H., B.S. 1924; N.Y.U., M.S. 1925, Ph.D. 1927; m. Isabelle B. Bradley, June 15, 1929; ch.: John E., Robert E. Teaching asst., N.Y.U., 1924-26; instr. in chem., Drexel Evening Schl.; res. chem., Am. Doucil Co., 1927-31; res. chem., Phila. Quartz Co., 1931-39; res. supvr., Wyandotte Chem. Corp., 1939 to date. Flds. of activity: ind. & domestic detergents, inhibited detergents, soluble silicates, base exchange matls. & water treat., heavy chem., chem. specialties, sanitation. Mem.: A.C.S., Am. Ceramic Soc., A.P.H.A., Cranbrook Inst. of Sc., Mich. Mineralog. Soc. Hobbies: geology, mineralogy.

BACON, Raymond F., conslt. chem. engr., 500 Fifth Ave., New York 18, N.Y.; res. 98 Rockledge Rd., Bronxville, N.Y. Conslt. chem. engr.; b. Muncie, Indiana, June 29, 1880, s. of Charles E. and N. V. (Wiggs) Bacon; ed. DePauw U., B.S. 1899, A.M. 1900; U. of Chicago, Ph.D. 1904; D.Sc. (Hon.) from DePauw U. and U. of Pittsburgh; mem. Delta Kappa Epsilon, Alpha Sigma Chi, Phi Lambda Upsilon; m. Edna Hine, 1905; ch.: Raymond Charles, Mrs. Patricia B. Murray. 1905-10 chem., Bur. of Sc., Manila; 1910-11 chem., Bur. of Chem. (Washington); 1911-14 asso. dir. Mellon Inst., 1914-21 dir., 1921 to date conslt. chem. engr.; contrib. numerous papers to sc. jls. holds numerous pats. on gasoline from heavier oils; sulfur from sulfur dioxide and sulfide ores. Coll. C.W,S. 1917-18; chf. tech. Div. C.W.S., A.E.F. Awarded DSM 1922; sc. conslt. to Philippine Govt. 1939. Co-author with W. A. Hamor, "Amer. Petr. Indus." 2 vols. 1916; with W. A. Hamor, "American Fuels," 1922. Mem.: A.C.S., A.I.Ch.E., A.I.M.M.E., E.S., Chem. Soc. (London); Ind. Chem. Soc. of London. Dir. of Boyce Thompson Inst. of Plant Res.; dir. B.T. Res. Corp. Clubs: Chemists, Union League, Hudson River Coun., Bonnie Briar Country, Bronxville Field. Hobbies: golf, bridge. Dir. Molybdenum Corp. of Amer.; pres. and dir. Mercantile Metal & Ore Corp.

BACON, William Van Vliet, div. mainten. engr. spec., Westvaco Chem. Div., Food Machinery & Chem. Corp., Drawer 8127, South Charleston 3, W.Va.; res. 427 Kanawha Ter., St. Albans, W.Va. Chem. engr.; b. Ridgewood, N.J., July 20, 1912, s. of Daniel Read, Sr. and Julia Marion Bacon; ed. Princeton U., Schl. of Engrg., B.S. Ch.E., 1934; grad. study, 1935; coll. club: Dial Lodge; m. Barbara Burrlein Sattes, May 18, 1939; ch.: Barbara Katurah, Adrianne Lyle, Marion Michèl. 1935 cadet, 1936 nite supvr., 1939 salt div. foreman, 1940 test. engr., 1943 plant mainten. engr., Westvaco Chlorine Prods. Corp.; 1948 plant engr., Westvaco Chem. Div., Food Machinery & Chem. Corp., 1950 div. m.e. specialist, same div., same corp. Mem.: A.I.Ch.E., A.S.T.M. (comm. member). Hobbies: Natl. Rifle Assoc. (life member); book, stamp and coin collecting.

BADEN, Martin William, conslt. petroleum geol. and dir. of testing and res. lab., Consolidated Gas Utilities Corp., First Natl. Bank Bldg., Winfield, Kans. res. 1219 E. Ninth Ave., Winfield. Conslt. Petroleum geolog.; b. Independence, Kansas, Nov. 25, 1878, s. of John Peter and Adelaide Elizabeth Baden; ed. St. Johns Coll. (Junior Coll.), Winfield, Kansas; Southwestern Coll., Winfield, Kans., A.B.; Pittsburgh U., Pittsburgh, Pa., hon. degree, Sc.D.; m. Grace C. Curnett, Mar. 3, 1900; ch.: Adelaide Elizabeth Barnard. 1919-21 conslt. geol.; 1921-31 with Benecum-Trees Oil Co.; conslt. geol. and oil producer, 1931-40; Marland Oil Co., 1940-41; conslt. geol. 1941-42; conslt. geol. 1943 and chf. proc. engr. Boeing Airplane Co., Wichita, Kansas, 1943-44; geol. for Kanetex Ref. Co. 1946-47; geol. for Consolid. Gas Utilities Corp. 1947-48; conslt. petrol. geol. and operating testing & research laboratory 1948-50; res. in the field of fluorescence anal. in chem.; dev. the photoelectric colorimiter; ultraviolet ray anal. of oil well cuttings and cores; res. in oil field brines; study of oil well cuttings and geophys. field work with radioactivity meths. Co-author: "Colormetric Methods of Analysis"; and writer for "World Oil." Former mem.: A.I.E.E., A.C.S., A.S.M.E., A.I.M.M.E., Am. Soc for Petroleum Geologists; all memberships discont. in 1938. Hobbies: res. in both chem. and phys.

BADGER, Walter Lucius, conslt. engr., (indep.), 309 S. State St., Ann Arbor, Mich.; res. 1055 Cedar Bend Dr., Ann Arbor. Conslt. engr.; b. Minneapolis, Minn., Feb. 18, 1886, s. of Minor Campbell and Mary Helen (Albro) Badger; ed. U. of Minn., B.A. 1907; B.S. 1908; M.S. 1909; mem. Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi, Tau Beta Pi; m. Helen Elizabeth Franklin, 1913; ch.: Elizabeth Helen (Mrs. R. W. Ward). 1909, chem., Great Western Sugar Co.; 1910, instr. in chem. U. of Minn.; 1910-12 asst. in chem., U.S. Bur. of Stds.; 1912-37 (instr. 1912; asst. prof. 1915; prof. 1918) Chem. Engrg. Dept., U. of Mich.; 1937-44 div. mgr. The Dow Chem. Co.; 1918 to date dir. of res. and cons. engr. Swenson Evaporator Co., Harvey, Ill.; 1929-32 pres. Whiting-Swenson Co.; 1944 to date indep. conslt. engr.; res. on theory of evaporator design and appls. to practice; dev. of practical appls. of high-temperature heating media. Author: “Heat Transfer and Evaporation,” 1926; co-author (with E. M. Baker) “Inorganic Chem. Tech.” 1928; co-author (with W. L. McCabe) ‘Elements of Chem. Engr.” 1931; also Chapt. VIII of Perry’s “Handbook,” 1934, 1941, 1950 editions; Part of Chapt. III in Kent’s “Mechanical Engineer’s Handbook,” 1936 and 1950 editions; over 60 research papers. Mem.: A.C.S., A.I.Ch.E. Clubs: Chemists; University (Chicago). Hobbies: gem cutting, gardening, history of chem. engrg.

BAEHR, William Byron, v.p. North Continent Utilities Corp., 231 S. LaSalle St., Room 1833, Chicago 4, Ill.; res. 360 Palos Rd., Glencoe, Ill.
Corp. exec., chem. engr.; b. Denver, Colo., Oct. 29, 1902, s. of William Alfred and Mabel Scott (Christie) Baehr; ed. U. of Wis., B.S. in chem. engr., 1924; Harvard U., M.B.A. 1926. 1926-50 various positions, incl. v.p. and secy. and dir. North Continent Utilities Corp. and subsidiaries; 1929-41 v.p. and secy., North Shore Gas Co.; 1927-41 v.p. and dir. res., North Shore Coke & Chem. Co.; 1934-50 v.p. and secy. The S. W. Shattuck Chem. Co. Mem.: A.I.Ch.E. Dir., officer and mem. various Episcopal Church Agencies, Councils, Boards, Comms. Clubs: Chicago Athletic Assoc., Mid-Day, Skokie Country. Hobbies: boys’ work, outdoors, tennis. Pres. and dir. Arizona Manganese Corp., pres. and dir. Norshore Chem. Indus., Inc.; treas. and dir. Sodium Corp. of Amer.; trustee of two Trusts.

BAER, Herbert L., treas., City Chem. Corp., 132 West 22nd St., New York 11, N.Y.; res. 112 Central Park South, New York 19.
Exec.; b. Bklyn., N.Y. Aug. 10, 1899, s. of Abraham and Esther (Marks) Baer; ed. Coll. of the City of N.Y., B.S. 1921; m. Ede Sarnoff, Apr. 5, 1925; ch.: Richard. 1923-30 with Sherlow Chem. Co. (pres. 1927-30); 1931 to date with City Chem. Corp. (treas.) Mem.: A.C.S., A.S.M., Army Ordnance Assoc. Hobby: golf. Officer: chmn. of bd. Tempil Corp., 132 W. 22nd St., New York City 11.

BAEZA, Walter J., pres. Industrial Res. Co., 50 E. 41st St., N.Y.C.; res. N.Y.C.
Conslt. chem., b. Philadelphia, Pa., 1900, s. of I. L. and Gertrude (Ezekiel) Baeza; ed. B.S., Ch.E., D.Sci., Bklyn. Polytech., Columbia U., U. of Lima (Peru).

BAGDASARIAN, Andrew, proc. hd., Merck & Co. Inc., Rahway, N.J.; res. 660 W. Scott Ave., Rahway, N.J.
Chem. engr.; b. New Britain, Conn., Apr. 20, 1914, s. of David and Anna Bagdasarian; ed. B.S. in Chem. Eng., U. of Ala., 1943; M.S. in Eng., Columbia U., 1945; mem. Tau Beta Pi. With Merck & Co. from 1943 to date.

BAILAR, John C(hristian), Jr., prof. of chem., secy. chem. dept., U. of Illinois, Urbana; res. 304 W. Pennsylvania, Urbana.
Chem., educator; b. Golden, Colo., May 27, 1904, s. of John Christian and Rachel Ella (Work) Bailar; ed. B.A. (magna cum laude) 1924, M.A. 1925, U. of Colorado, Ph.D. U. of Mich. 1928; m. Florence Leota Catherwood, Aug. 8, 1931; ch.: John Christian, III, Benjamin Franklin. Teaching fellow, U. of Mich., 1926-28; 1928 until present, U. of Ill., from instr. to prof.; res. fellow, Colo. 1924-25; res. fellow. U. of Mich. 1925-26. Res.: metals ammines, especially their stereochem.; valence stabilization through coordination; structures of dye lakes. Co-author with B S. Hopkins “Essentials of General Chem.” 1946; and “Gen. Coll. Chem.,” 4th ed., to be pub. 1950; editor in chief, Vol. IV, “Inorganic Syntheses.” Mem.: A.C.S. (member of many comm. and local sec. offices); chmn. div. of chem. ed., 1947; secy-treas., div. of phy. and inor. chem. 1948; chmn.-elect of this div. 1949; chmn. 1950; ed. bd. Jl. A.C.S. 1950; Electrochem. Soc., Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon. Club: Chaos.

BAILEY, Clyde H., dean Dept. of Agri., U. of Minn., University Farm, St. Paul 1, Minn.; res. Doswell Ave., St. Paul 8, Minn.
Dean, and prof. of agri. biochem.; b. Minneapolis, Minn., Apr. 15, 1887, s. of George A. and Sophie (McKenney) Bailey; ed. North Dakota Agri. Coll., B.S. 1913; U. of Minn., M.S. 1916; U. of Maryland, Ph.D. 1921; mem. Alpha Zeta, Alpha Chi Sigma, Gamma Alpha; m. Anne L. Wilkins June 20, 1910; ch.: Barbara A. (Mrs. Sidney Miller). 1905-07 anal., Howard Lab.; 1907-11 sc. asst. U.S. Dept. of Agri.; 1911 faculty U. of Minn.; 1924-25 dir. of Tech Bur., Biscuit and Cracker Mfg. Assoc.; 1929-38 dir. of res., General Mills, Inc.; 1941 to date dean and dir. Dept. of Agri., U. of Minn. Thomas Burr Osborne Medalist 1932; Nicolas Appert Medalist 1946; listed among “Ten Ablest Agricultural and Food Chemists of the U.S.” by Chicago Section of the A.C.S., 1947; included among the “100 living Great of Minn.” by the Jr. Chamber of Commerce, 1949. Author: ‘Chemistry of Wheat Flour,” A.C.S. Monograph, 1925; “Physical Tests of Flour Quality,” Food Res. Inst., 1940; “Constituents of Wheat and Wheat Prod.,” A.C.S. Monograph, 1944, and over 250 sc. jl. papers. Mem.: Sigma Xi (pres. Minn. Chapt. 1927-28); Gamma Sigma Delta (Natl. secy. 1921-23; pres. Minn. Chapt. 1922-23); Phi Lambda Upsilon; A.C.S., fellow, A.A.A.S., A.A.C.C. (pres. 1937-38); Amer. Soc. Naturalists; Minn. Acad. Sc.; Deutsche Akad. Naturforscher. Clubs: Rotary International, Cosmopolitan, Campus. Hobbies: foreign dietaries and menu cards. V.p. and dir. St. Anthony Park State Bank.

BAILEY, George Corbin, plant mgr., du Pont Co., 71 Buckingham Ave., Perth Amboy, N.J., res. 260 W. Jersey St., Elizabeth, N.J.
Chem.; b. Eureka, Kans., Dec. 1, 1885; s. of G. L. and Margaret Corbin Bailey; ed. U. Wis., B.A. 1909; Yale U., M.A. 1914; Ph.D. 1916; mem. Alpha Chi Sigma; m. Anita Klein, Aug. 7, 1912. 1916 chem. Winchester Arms Co., New Haven; 1917-21 group leader, Barrett Co., Shadyside, N.J.; 1921-26 group leader Natl. Aniline & Chem. Co., Buffalo, N.Y.; 1926 to date, plant mgr., du Pont Co. Res. in coal tar prods., dye interm., calalytic oxidation, rubber accelerators; mem.: Sigma Xi; Perth Amboy Indust. Assn., (secy., treas.). Club: Springdale Golf (Princeton, N.J.). Hobbies: travel, golf, reading.

BAILEY, Marion V., dir. agric. res., Amer. Cyanamid Co., 30 Rockefeller Plaza, New York 20, N.Y.; res. One Wellyn Close, Bronxville, N.Y.
Agronomist; b. Lockington, Ohio, Oct. 21, 1892, s. of Henry Philip and Cynthia Ann Bailey; ed. U. of Mich., 1913-14; Ohio State U., 1915-18, B.S. in Agri.; M.S. 1926-27; mem. Alpha Zeta; m. Helen McKinney, June 16, 1921; ch.: John McKinney. 1920-24 County Agri. Agent, Hocking and Fairfield counties, Ohio; 1925-29 extension soils

specialist, Ohio State U., Columbus, Ohio; 1930-42 field agriculturist; 1943 to date dir. of agri. res., Amer. Cyanamid Co. Mem.: A.S.A., Amer. Soils Sc. Soc. Hobby: golf.

BAILEY, Paul Frederick, asst. chem., Dept. of Chem., Loyola U., New Orleans, La.; (6363 St. Charles Ave.); res. 725 Napoleon Ave., New Orleans 15, La.
Prof. of chem.; b. Abbeville, La., Feb. 11, 1904, s. of Paul H. and Stella (Guilbeau) Bailey; ed. Loyola U. (New Orleans), 1922-26; St. Louis U., B.S. 1928-29; Loyola U., M.S. 1940; mem.: Upsilon Beta Lambda. 1926-28 prof. of chem., Jesuit H.S. (New Orleans); 1930 to date Dept. of Chem., Loyola U. (New Orleans). Author: "Lab. Experiments in Elementary Inorganic Chem.," 1948. Mem.: A.I.C. (fellow); A.C.S., New Orleans Acad. of Sc., Blue Key, Theta Beta. Hobbies: fishing, hunting.

BAILEY, Thomas Leonard, prof. chem., Okla. Baptist U., res. 229 W. Midland, Shawnee, Okla.
Prof. chem.; b. Strasburg, Mo., Sept. 24, 1885; s. of Jerry and Elizabeth Hendrickson Bailey; ed. Okla. Baptist U., A.B. 1919; A.M., U. Okla. 1921; U. Colo., grad. stud.; m. Alma Sigmon, Sept. 24, 1913; ch.: Dr. Philip Sigmon, Frances B. Kennemer. b. on farm, near Strasburg, Mo., grad. Normal Coll., Warrensburg, Mo.; taught Co. Sch., near Lee's Summit, Mo., taught city schs., Hugo, Lawton, Chickash, Okla.; prof. chem., Okla. Baptist U., 1921 to date. Author: Lab. Manual in "Gen. Chem.," "Household Chem." (mns. form), "Toxicology" (mns. form); mem.: Okla. Acdy. Sc., A.C.S.; Kappa Delta Pi. Hobbies: poultry, fishing, strawberry raising, roses.

BAILEY, William J(ohn), assoc. prof. of chem., dept. of chem., Wayne U., Detroit 1, Mich.; res. 665 W. Hancock, Detroit 1.
University prof.; b. East Grand Forks, Minn., Aug. 11, 1921; s. of Admiral Ross and Erva Violet Bailey; ed. U. of Minn., B. chem. with highest hon. June, 1943; U. of Ill., Ph.D. Feb., 1946; mem.: Alpha Chi Sigma; m. Mary Caroline Worsham, Aug. 27, 1949. Arthur D. Little, postdoctoral fellow, M.I.T., 1946-47; asst. prof. of chem. 1947-49, assoc. prof. of chem., 1949 to date, Wayne U. Cyclic dienes; oriented high polymers; sodium polymerization, strained rings; free radical reactions. Mem.: A.C.S., A.A.A.S., Phi Beta Kappa, Phi Lambda Upsilon, Phi Kappa Phi, Pi Mu Epsilon, Sigma Xi. Hobby: sports.

BAIN, Joseph Paul, tech. dir., The Glidden Co., Naval Stores Div, Box 389; res. 407 W. 61st St., Jacksonville, Fla.
Chem.; b. Richmond, Va., May 3, 1914; s. of Irvin and Julia Paul Bain; ed. B.S. in chem., U. of Fla., Ph.D. in chem., U. of Fla.; m. Catherine Takach, Aug. 26, 1940; ch.: Joseph Paul, Jr. Held the following positions with The Glidden Co., Naval Stores Div.; res. chem., 1937-1942; dir. of res., 1942-1946; tech. dir., 1946 to present. Not. wk.: publications and pats. relating to the chem. and applications of pine tar, rosin, terpenes, catalytic aklylation. Mem.: A.C.S., Sigma Xi, Phi Kappa Phi. Hobbies: chess, fishing.

BAIN, William Allen, Jr., dir. chem. res. and dev., The Kellex Corp., 233 Broadway, N.Y.C.; res. 8 Mercer Ave., Chatham, N.J.
Chem. engr.; b. Norfolk, Va., July 11, 1915, s. of William Allen and Corrie Eugenia (Neblett) Bain; ed. North Carolina State Coll., B.S. chem. engr. (with high honors) 1936; U. of Wisconsin, M.S. chem. engr. 1938; Ph.D. 1943; mem.: Alpha Kappa Pi; m. Anne Elizabeth Whitehurst, Dec. 20, 1938; ch.: Anne Lee. 1936-37 res. fel., 1937-39 instr. in chem. engr. U. of Wis.; 1939-42 asst. prof. chem. engr. North Car. State Coll.; 1942-43 res. fel. U. of Wis.; 1943-45 chem. engr., 1945-47 hd. engr. dept., Central Research Laboratory, Gen. Aniline & Film Corp.; 1947-48 tech. asst. to dir. of res. and dev., 1948-49 act. dir. chem. res. and dev., 1949 to date dir. chem. res. and dev. and dir. of lab., The Kellex Corp. Mem.: A.C.S., A.I.Ch.E. Clubs: Tau Beta Pi, Sigma Xi.

BAINE, James Ogden, prof. chem., So. Methodist U., Dallas, Texas.
Prof. chem.; b. Ackerman, Miss., Oct. 11, 1909; ed. Southwestern Coll., B.S., 1931; N.Y.U., Ph.D. 1935; m. Emmie Slaughter, 1940; ch.: Mary, Robert. Postdoctoral res., U. Munich; Ia. St. Coll., M.I.T.; Southhwestern Coll., Memphis, 1935-44; So. Methodist U. 1944 to date. Res. in org. anal., org. metal. compds.; mem.: A.C.S. Hobbies: sailing, photography.

BAIRD, Parker K., Sr., chem., U.S. Forest Prods. Lab., Madison, Wis.; res. 2210 Fox Ave., Madison, Wis.
Chem. res. supvr.; b. Monroe, Wis., Jan. 31, 1894, s. of George W. and Fannie Baird; ed. Lawrence Coll., B.A. 1916; Ohio State U., M.A. 1917; U. of Wis. grad. wk. 1922-24; mem.: Beta Theta Pi, Sigma Xi, The Mace; m. Maude Millin, May 20, 1920; ch.: Parker K. Jr., Dorothy Carol, Donald James. Inland Empire Paper Co., chem. 1919-22; Forest Prods. Lab., chem. pulp and paper div., 1922 to date. C.W.S. 1918. Hobbies: radio, photography, astronomy, electrical and mechanical gadgets.

BAIZER, Manuel M., hd., res. dept., N.Y. Quinine & Chem. Wks., Inc., 99 N. 11th St., Bklyn. 11, N.Y.; res. 159-03 Sanford Ave., Flushing, N.Y.
Chem.; b. Phila., Pa., May 20, 1914, s. of Joseph and Bessie Baizer; ed. U. of Penna., B.S. 1934; M.S. 1937; Ph.D. in chem. 1940; mem. Delta Phi Alpha, Sigma Xi; m. Mary M. Meshkov, Feb. 3, 1939; two ch. 1934-35 control chem., J. Eavenson & Sons, Camden, N.J.; 1938-39 res. asst. Phila. Inst. for Med. Res.; 1941-44, 1946-47, instr. Bklyn. Coll., Bklyn, N.Y.; 1942-44 res. assoc., N.D.R.C. contract, U. of Penna., Phila., Pa.; 1944-46 res. chem. Gen. Chem. Co., Laurel Hill, Long Island, N.Y.; 1946 to date res. chem., N.Y. Quinine & Chem. Wks., Bklyn., N.Y. Contrib. numerous arts. to sc. jls; holds pats. Author of "Lipids" in Jacobs: "The Chem. and Tech. of Food and Food Prods.," Intersc. Publishers, N.Y. 1944; also "Amino Acids and Proteins," ibid. Mem.: A.C.S., N.Y. Acad. of Scs., Metrop. Long Island Sub-Group of A.C.S. O.S.R.D. certificate of effective service; Naval Ordn. Dev. Award.

BAKE, Louis S., hd. cement div., du Pont Rubber Lab., P.O. Box 525, Wilmington, Del., res. 15 Ziegler Tract, Penns Grove, N.J.
Chem.; b. Nov. 21, 1896, Anderson, Ind.; s. of Henry Perry and Eliza C. Bake; ed. Rose Poly. 1918 B.S.; 1941 Ch.E.; mem. Alpha Tau Omega; m. Margaret Irene Pflaging, June 11, 1921; ch.: Louis S., Jr., Mrs. Rita Patricia Alcorn, 1918 Cosden Oil Co., Tulsa, Okla.; 1918 to date E. I. du Pont de Nemours & Co., Wilmington, Del., 1919-24 hd. anal. lab., Lodi, N.J.; 1924-26 res. on anal. meths. org. compds.; 1926-39 org. res.; 1939 to date rubber lab. Res. on neo. synth. rubber; lead tetra ethyl; mem.: A.C.S., A.I.Ch.E., Horological Inst. Am. Hobby: horology.

BAKER, Arthur Wallace, tech. dir., Ill. Powder Mfg. Co., 730 Pierce Bldg., St. Louis 2, Mo., res. Garden Ave., Webster Grove 19, Mo.

Chem. engr.; b. N.Y.C., July 9, 1904; s. of John Wallace and Mabel Crane Baker; ed. Phillips Exeter Acdy., Exeter, N.H., 1922; M.I.T., Cambridge, Mass. 1926, B.S. U. Dela. 1939; m. Bernice Carter Brown, July 26, 1929; ch.: Arthur Frederick, Phyllis Carlota, Barbara Bernice, Pamela Field. Hercules Powder Co., 1926-43; chf. chem., acid supvr., explosives res. chem.; Ill. Powder Mfg. Co., 1943 to date, tech. dir.; expl. conslt., blast damage, vibrations, accidental expl. 1945 to date. Dev. new explosives, publs., patents; mem.: Am. Rocket Soc. Club: Alumni Assn. (M.I.T.). Hobbies: bridge, reading, sailing.

BAKER, Chester L., v.p. mfg. and chem. depts., Phila. Quartz Co., Phila., Pa.; 1156 Public Ledger Bldg., Phila. 6.; res. 730 Clarendon Rd., Penn Valley, Narberth, Pa.

Chem. engr.; b. Fairmount, N. Dak., June 22, 1901, s. of Almond J. and Guilo B. (Cornwell) Baker; ed. U. of Calif., B.S. in chem. (with honors); mem.: Sigma Xi, Phi Lambda Upsilon; m. Edith Garnett, Oct. 11, 1937; ch.: John Chester, Mary Margaret. 1925-26 asst. chf. chem. and supt. Mill Room, Pacific Sanitary Mfg. Co., Richmond, Calif.; 1926-27 chf. chem. and asst. plant mgr., West End Chem. Co., West End, Calif.; 1927-35 chf. chem. and chem. engr. Phila. Quartz Co. of Calif., Berkeley, Calif.; 1935 to date with Phila. Quartz Co. of Phila., Pa. in following positions: 1935-40 tech. advisor; since 1940 chem. dir.; since 1943 v.p. Mfg. and Chem. Depts.; since 1940 mem. exec. comm., mem. bd. dirs. Notable wk.: dev. of procs. and equip. for commercial mfg. of soda ash and borax from Searles Lake brine; dev. and design for continuous furnace and other equip. and procs. for mfr. of silicate of soda; orig. dev. of meth. of commercially mfg. sodium metasilicate pentahydrate and other crystalline alkali metal silicates; considerable wk. on commercial detergent and adhesive engr. Holds numerous U.S. pats.; has contrib. numerous arts. to sc. jls. Mem.: A.C.S., Franklin Inst., A.I.Ch.E.

BAKER, Crosby Fred, Robinson prof. of chem., Tufts Coll., Medford 55, Mass.; res. 53 Johnson Ave., W. Medford 55, Mass.

Prof.; b. Hampden, Maine, Feb. 15, 1887, s. of Fred C. and Cora I. (Cole) Baker; ed. Tufts, B.S. in chem. 1910; M.S. 1911; mem. Alpha Kappa Pi; m. Ruth Ellingwood, June 15, 1914; ch.: Crosby F. Jr., Barbara (Mrs. McKenzie), Betsy. 1909-11 asst. in chem., 1911-19 instr. in chem., 1919-24 asst. prof., 1924-46 prof. of chem., 1946-49 Henry Bromfield Pearson prof. of natl. sc., 1949 to date Robinson prof. of chem., 1946 to date chmn. Dept. of Chem., Tufts College. Notable work: conslt., tin smelting, 1919-30; textile, oil dev., 1930-48; conslt. Pepsodent Co. 1946-48; lithographic plates, 1949 to date. Author: "Industrial Res. at Tufts College," Industry, May, 1945. Mem.: A.C.S., A.I.M.M.E.; Soc. Chem. Ind. (London); A.S.M.; Sigma Xi; Phi Beta Kappa (v.p.). Trustee, A.F. & A.M. Trustee, Methodist Church; chmn. Leadership Training, Boy Scouts of America, 1940-45. Club: Appalachian Mt. Hobbies: fishing, photography.

BAKER, Edwin Ruggles, mgr., Central Res. Labs. Continental Oil Co., Ponca City, Okla.; res. 1420 So. 8th St., Ponca City.

Chem.-lawyer; exec.; b. Boston, Mass., s. of Albert R. and Harriot Despard (Ruggles) Baker; ed. Sheffield Sc. Schl., Yale U., B.S. magna cum laude, 1929; Suffolk U. Law Schl., LL.D. with honor 1939; 3 yrs. Yale Grad. Schl.; m. Julia Mae Drumm, July 24, 1948; ch.: Geoffrey Ruggles. 1932-40 res. chem. The Plymouth Co., East Boston, Mass.; 1940-41 dir. of textile res., Quaker Chem. Prods. Co., Conshohocken, Pa.; 1941-46 asst. chf. tech. div. for res. and dev., C.W.S., U.S.A., 1946-48 dir. of dev. Emery Industries, Inc., Cincinnati, Ohio; 1948 to date mgr. Central Res. Labs., Continental Oil Co., Ponca City, Okla.; directed entire war-time research of C.W.S. Author: "Report of Activities of the Tech. Div. during W.W.II," 1946. Mem.: Sigma Xi, A.C.S.; Legion of Merit, U.S.A. 1945. Dir.: Armed Forces Chem. Assoc., 1949-51. Vice-chmn. Comm. on Cooperation with the Chem. Corps., A.C.S.; mem.: Chem. Corps Res. Council. Coll. in Chem. Corps Reserve. Hobbies: model railroading, bowling.

BAKER, George LeRoy, prof. of pharmaceut. chem., U. of Toledo, 2801 W. Bancroft, Toledo 6, Ohio; res. 3344 Harley Rd., Toledo 13.

Prof.; b. Bottineau, N.D., Nov. 16, 1906; s. of Alfred William and Elizabeth Ruth Baker; ed. Ph.C., U. of Colo., 1931; B.S. (with honors), 1932; M.S., U. of Fla., 1933; Ph.D., Purdue U., 1935; m. Isabelle Ann Briggs, Nov. 16, 1927; ch.: Donald LeRoy, Jeanne Elizabeth. Phi Delta Chi Scholarship M., 1929; Lehn & Fink Scholarship M., 1932; U. of Fla. Scholarship, 1933; Eli Lilly Fellowship, 1934-35. Anal. chem., 1935-36, Burroughs-Wellcome Co., Tuckahoe, N.Y.; instr. pharmacy, Ohio Northern U., 1936-37, Ada, Ohio; assoc. prof. phar. chem. & dir., div. of pharmacy, U. of Toledo, 1937-38; prof. phar. chem. & dean, Coll. of Pharmacy, U. of Toledo, 1938-46; on leave of absence, 1942-46, serving on active duty as Lt. (jg.), Lt. & L. Cdr., U.S.N.R.; professional pharmacist, C.R. Bundt Co., Toledo, Ohio, 1946-47; prof. phar. chem., U. of Toledo, 1947 to date. A study of the assay of aconite & the stability of its preparation; solubilities of some strychnine benzoates. Mem.: Sigma Xi, Phi Delta Chi, Phi Lambda Upsilon. Hobby: woodworking.

BAKER, George Louis, res. prof., U. Delaware, Agri. Exp. Sta., res. 271 Orchard Rd., Newark, Del.

Chem.; b. Dorset, Vt., Dec. 7. 1899; s. of Albert J. and Minnie E. Woodell Baker; ed. B.Sc. U. Mass., 1922; M.Sc. U. Del. 1925; mem.: Kappa Gamma Phi; m. Louise Duncan Pomeroy, Aug. 23, 1924; ch.: Mrs. Ann (deForest) Baker Spaulding. Sept. 1922-Mar. 1923 high schl. tchr., West Springfield, Mass.; Mar. 1923-Dec. 1936 asst. res. prof., U. Del., Agri. Exp. Sta,; Jan. 1937-Dec. 1941 assoc. res. prof.; Jan. 1942-Dec. 1943, res. prof.; Jan. 1944-June 1949; res. prof., asst. to dir.; July 1949-Feb. 1950 res. prof., asst. dir.; Feb. 1950 to date res. prof. Res. in pectins, jellies, gelling agts. Author: "Adv. in Food Res. I," 1948, "High-Polymer Pectins and Their Deesterification"; mem.: A.C.S., I.F.T.. Phi Kappa Phi, Assn. Food Cont. Inst. (inst mem.). Club: Faculty (Del. Coll.). Hobbies: travel, gardening.

BAKER, Henry Gardner, Jr., commis., Federal Mediation & Conciliation Serv., Washington, D. C.; res. 2000 F. St., N.W., Washington, D.C.

Indus. relations adv.; b. Tuscaloosa, Ala., Oct. 31, 1906, s. of Henry Gardner and Rubye (Bates) Baker; ed. B.S. in chem. engr., U. of Alabama, May, 1928, prof. degree chem. engr., May, 1937; m. Lena Lee, Sept. 24, 1931. Chem. engr., du Pont Rayon Co., Old Hickory, Tenn., 1928-1931; matls. engr., State of Alabama, 1932-1935; commis. U.S. Conciliation Service, 1935-1942; Lt. Col., C.W.S., U.S. Army, 1942-45; commis., Federal Mediation & Conciliation Serv., 1945 to present. Labor relations, plant protection, and industrial safety during W.W.II. Mem.: A.I.Ch.E., A.C.S., A.M.A., Washington Soc. of Engrs., Chem. Engrs. Club: (Washington) S.A.M., S.A.M.E., A.A.E., Legion of Merit. Club: Chemists' (New York).

BAKER, J. Allen, prof. of chem and chmn., div. of sc., Simpson Coll., Indianola, Iowa; res. 1101 N.C. Street, Indianola, Iowa.
Prof. of chem.; b. McMinnville, Ore., July 23, 1883; ed. B.S., Linfield Coll., 1905; A.B., Denison, 1907, A.M., 1908; Wisconsin, 1914; Illinois, 1919-20; Chicago, 1921; Ph.D. (chem.), Iowa, 1926; m. Anna C., 1911; ch.: Mildred A., Allen M., Louis W. Instr. chem. and physics, Linfield Coll., 1906; chem., Simpson Coll., 1908-17; prof., Iowa Wesleyan Coll., 1919; Simpson Coll., 1920 to date. Res. chem., Des Moines ordn. plant, U.S. Rubber Co., 1943-44. U.S.A., 1918-19. Determ. of tin in Babbitt and other alloys; solubilities of inorg. salts in sulfur monochloride; chem. reactions of sulfur monochloride with inorg. salts. Mem.: A.C.S., fellow, Iowa Acdy. (pres. 1947).

BAKER, James Hannington, pres. Gar-Baker Labs. Inc., 110 W. 18th St., New York 11, N.Y.; res. 35-35 75th St., Jackson Hghts., L.I.
Chem.-bacteriol.; b. Himrods, N.Y., July 1, 1906, s. of Gordon Harrington and Louise (Harlow) Baker; ed. Acadia U., Nova Scotia, B.A.; Columbia U., N.Y., M.A.; m. Stafoni Elizabeth Wakman, June 8, 1934. 1929, anal. chem. Seil, Putt & Rusby, Inc., N.Y.C.; 1930-31 with McFadden Pubs., N.Y.C.; 1931 to date with Gar-Baker Labs. Inc., as pres. and chem. Mem.: A.C.S., Amer. Pub. Health Assoc., Soc. of Cosmetic Chems., A.O.C.S. Secy. Pat. Equity Assoc. Inc., pres. Gar-Baker Labs. Inc.

BAKER, Perley D., dean, Norwich U., Northfield, Vt., res. 18 Crescent Ave.
Chem.; b. Bow, N.H., May 8, 1897; s. of Rufus Henry and Grace Tuck Baker; ed. B.S. Chem., Norwich U., 1920; A.M. 1926; Ph.D. 1940, Columbia U.; mem. Theta Chi; m. L. May Lloyd, Apr. 29, 1918; dept. chem., Norwich U., instr. chem. 1920; asst. prof. 1923; assoc. prof. 1929; prof. 1939; dept. hd. 1946; dean of univ. 1950 to date. W.W.I., priv., CWS; W.W.II, Major, Lt. Col., CWS; instr. in chem. Army U. Center, Biarritz, France. Res. in sorption of anions by hydrous alumina; mem.: Phi Lambda Upsilon, Sigma Xi, A.C.S., (W.Vt. Sect.). Club: Northfield Country. Hobbies: golf, skiing, organized Reserve Corps.

BAKER, Robert Henry, prof. of chem., asst. dean Graduate School, Northwestern U., Evanston, Ill.; res. 2420 Brown St., Evanston.
Teacher; b. Central City, Ky., June 14, 1908; s. of A.T. and Mary Henry Baker; ed. Bethel Coll. A.A. 1927, U. of Ky., B.S. 1929, M.S., 1931, U. of Wis. Ph.D. 1940; mem.: Phi Kappa Tau; m. Frances Holland, March 25, 1932; ch.: Robert H., Jr., Peter B. 1931-41, instr., and asst. prof., U. of Ky.; 1941 to present, asst. prof., assoc. prof., prof. of chem., and asst. dean Grad. School, Northwestern U. Res. in aluminum alkoxides, oxidation, potentials of ketones, antimalarials, The Passerini Reaction, catalytic hydrogenation, steroids.Mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi, A.C.S. (dir., Chicago Section). Club: Chaos. Hobby: golf.

BAKER, William Burdell, dir., phar. dev. div., E.R. Squibb & Sons, Bklyn., N.Y.; res. 76-10 34th Ave., Apt. 6-S, Jackson Heights, N.Y.
Phar. chem.; b. Baltimore, Md., May 20, 1909; s. of John J. and Ester S. (Michel) Baker; ed. Schl. of Pharmacy, U. of Md., Baltimore, Ph.G. 1930, B.S. 1932, M.S. 1933; m. Barbara Elizabeth Harrington, Aug. 6, 1949; ch.: Barbara G. (previous marriage). Instr. in pharmacy, Schl. of Pharmacy, U. of Md., 1930-35; labs. dir., Sutliff & Case Co. Inc., phar. mfrs., Peoria, Ill. 1935-42; dir. of tech. service, phar. dept., Calco Chem. Div., Am. Cyanamid Co., Bound Brook, N.J., 1942-45; tech. dir., Laboratorios Uribe Angel (div. of Allied Drugs of So. Am.), Medellin, Colombia, S.A. 1945-47; dir., phar. dev. div., res. & dev. labs., E.R. Equibb & Sons, 1947 to date. Publ. pertaining to phar. & medical subjects i.e. sulphonamides, ointments & ointment bases, tablets, thiouracil, menadione, phenothiazine, dev. of new prods. Mem.: A.Phar.A., A.C.S., A.I.C., Rho Chi. Clubs: Montauk Lodge No. 286, F. & A.M., A.A.S.R. 32 deg. (Aurora Grata), Rotary (Bklyn.), Y.M.C.A. Hobbies: golf, swimming.

BAKETEL, H. Sheridan, M.D., pres., Reed & Carnrick, 155 VanWagenen Ave., Jersey City 6, N.J.; res.; 40 Glenwood Ave., Jersey City 6.
Physician; b. Hopedale, O., Nov. 15, 1872; s. of Oliver S., D.D., and Rosie L. Mack Baketel; ed. Phillips Exeter Acad., 1890; spec. med. prep. course, Boston U. 1892; Darmouth Coll., M.D. 1895; post grad. Harvard Med. Sch. & abroad; Mem.: Beta Theta Pi, Alpha Kappa Kappa; m. Corinne Phillippi Sellers, Mch. 30, 1915; ch.: H. Sheridan, Jr. Practiced med. 1896-1939: attending urolo. House of Relief, N.Y. Hosp., Beekman St. Hosp.; asst. urolo. N.Y. Skin & Cancer Hosp.; instr. urolo. L.I. Coll. of Med. 1913-18; prof., preventive med. & hygiene, 1915-31, emeritus prof. since; lect. med. econ., L.I. Coll. Med. since 1915. Ed., Gaillards Med. Jl. (1905-08), Med. Times (1911-26); pres., Amer. Med. Eds. Assn. (1920-21); cofdr., ed. in chf., Med. Economics (1923-date). Del., U.S. Pharmacopoeial Conv. 1930-40. 1st v.p. and chmn., bd. trustees, Columbia U. Coll. Pharm. (1938-42). Mem.: Am. Coll. of Physicians (life fellow), A.M.A. (fellow), N.Y. Acad. of Med. (fellow). Amer. Urolo. Assn. chmn., Reed & Carnrick Inst. for Med. Res. Entered U.S. Army 1st lt. M.R.C. 1912, 33 mos. act. serv. W.W.I, advancing to col., now col., A.U.S. (ret.). Author: "Treatment of Syphillis," (Macmillan 1920). Mem.: var. med., chem. & phar. socs. Clubs: Darmouth, Pilgrims, Repub., Newcomen Soc. (N.Y.); Army & Navy (Wash. D.C.); Bahama Shores Yacht (St. Petersburg, Fla.); Athenaeum (Portsmouth, N.H.). Hobby: collector of antique clocks.

BAKKEN, Herman Ernst, v.p., gen. mgr., Aluminum Ore Co., 1500 Mississippi Valley Trust Bldg., St. Louis 1, Mo.; res. 825 Morewood Ave., Pittsburgh, Pa.
Metallur., chem.; b. Sept. 13, 1892; s. of G.H. and Mary (Haugen) Bakken; ed. St. Olaf Coll., A.B. 1915; U. of Minn., 1916-18; mem.: Alpha Chi Sigma, Phi Lambda Upsilon; m. Helen Thomas, Dec. 24, 1919, Phila., Pa.; ch.: Jane Audrey (Mrs. Beetz), Herman E., Jr. Supt., Sm. Magnesium Corp., Niagara Falls, 1924-28; asst. dir., res., Aluminum Co. of Amer. 1928-42; assoc. dir., res. 1942-8/1/50, v.p., gen. mgr. beginning 8/1/50, Aluminum Ore Co. Res. in purific. of magnesium & other metals; preparation of barium & strontium; mfr. of phosgene. Mem.: A.C.S., A.I.M.&M.E.

BAKKER, Lubertus, indust. org. chem., Southwest Res. Inst., P.O. Box 2296, San Antonio 6, Texas.
Indust. org. chem; ed. Polytech. Inst. of Arnhem, Holland, B.S., chem. tech. (equiv. to our M.S.); Ph.D. candidate U. of Utrscht, Holland, (exams. not taken, German Occupation closed coll.). 1937-49 with Shell Oil Co., Res. and Dev. Lab., Amsterdam, Holland; 1947-49 asst. dir. of Dev. Lab.; 1949-50 with Natl. Oil Prods. Co. (NOPCO), Harrison, N.J., res. chem. and indust. dev., conslt. chem.; notable wk.: res., dev. and pilot-plant wk. on many chems. involving: dehydrogenation, cyclization, isomerization, cracking, alkylation, carbochlorination, amination, chlorination, sulphochlorination, etc.; appl. to such

chems. as: cresol, cyclohexanones, lube-oil dopes, alkylated salicylates, insecticides, adipic acid, fatty acids from hydrocarbs., sulphonium compds., plasticizers, cinylchloride, cinylidene chloride, synth. lub. oils, chlorohydrines, Vitamin C, sorbitol, phenothiazine, phenothiazone, cholesterol, synth. tanning agents, drugs, etc.; special fields: catalytic procs., chems. and petroleum, OXO proc., emulsifiers and emulsion breakers, plastics and plasticizers, greases, spray-drying and drum-drying, and org. structure; related spec. abilities for res.: surface-active chems; aldehydes, alcohols, glycols; anal. of high-sulfur, high-chlorine org. compds.; extreme pressure reactions. Granted one U.S. pat. and has appl. for sev. others in The Netherlands.

BALASSA, Leslie Ladislaus, chem. conslt., 47 Washington Rd., West Barrington, R.I.; res. same.
Conslt. chem.; b. Yugoslavia in 1903, s. of Bela and Bella Balassa; ed. U. of Vienna, Ph.D., 1926, cum laude, postdoctorate wk. at Iowa State Coll., Ames, Iowa, 1927; m. Alice Hussey in 1933; ch.: John P. Res. chem., United Piece Dye Wks., Lodi, N.J., 1928; chem. & metallurgist, Amer. Smelting and Ref'g. Co., Mexican dept., 1929-30; res. chem., E.I. du Pont de Nemours, 1930-44; res. dir. U.S. Finishing Co., 1944-49; conslt. chem. 1949 to present. Was the first to succeed in forming organo-lead compounds in which lead was linked to a tertiary hydrocarbon group. (Iowa State Coll. Jl. of Sc. Vol. III, No. 1 p. 1, 1928). 11 U.S. pats. issued so far, 20 more pending. Mem.: A.C.S., A.I.C. (fellow), A.A.A.S., N.Y. Acad. of Sciences, Textile Res. Institute, The Textile Institute, The Soc. of Dyers and Colorists, Amer. Assn. of Textile Chems. and Colorists, Assn. of Conslt. Chems. & Chem. Engrs. Club: The Chemists'. Hobby: tennis. L. Balassa and Associates, pres., Aula Chemicals, Inc., v.p., Lessing, Inc., pres; Balassa Research Laboratories, director.

BALDINGER, Lawrence Henry, dean of the Coll. of Sc. and prof. of chem., U. of Notre Dame, Notre Dame, Ind.; res. 814 E. Corby Blvd., South Bend 17, Ind.
Teacher of chem., adm.; b. Galion, O., Jan. 12, 1907, s. of Edward N. and Margaret (McCartney) Baldinger; ed. Western Res. U., Ph.C., 1928; B.S. 1929; M.S. maxima cum laude, Notre Dame U., 1931, Ph.D. cum laude, Notre Dame U., 1933; mem.: Phi Delta Chi, Rho Chi, m. Helen M. Dwyer, Aug. 10, 1929; ch.: Lawrence H. Jr., Margaret Ann, James Edw., Charles D. Instr. of Pharmacy, 1929-33, hd. of the dept. of Phar. 1933-39; asst. dean, Coll. of Sc., 1933-43; dean, 1943 to present. All positions at the U. of Notre Dame. Mem.: A.A.A.S. (fellow) Acad. of Sc. (Ind., fellow), A.C.S., A. Phar.A. Hobbies: photography, gardening.

BALDUS, Joseph T., supt., U.S. Vanadium Corp., Niacet Chem. Div., Pine Ave. & 47th St., Niagara Falls, N.Y.; res. 762 Fourth St.
Chem. engr.; b. Tarentum, Pa., Dec. 19, 1898; s. of Fred and Helen Baldus; ed. U. Pittsburgh, B.Ch. chem.; mem.: Phi Kappa; m. Marguerite M. Cox, June 3, 1933; ch.: Mary Helen, Anne Louise. Mellon Inst., Pittsburgh, Pa., Carbide & Carbon Fellowship, 1922-24; Carbide & Carbon Chem. Corp., Niagara Falls, N.Y., supvr., 1924-25; Niacet Chems. Corp., Niagara Falls, N.Y. (asst. supt., 1933), 1925-45; Niacet Chems. Div., U.S. Vanadium Corp., supt. 1945 to date.

BALDWIN, A. Richard, sect. leader. Corn Prods. Refining Co., Argo, Ill., res. 6844 W. 32 St., Berwyn, Ill.
Chem.; b. Palmyra, Mich., Feb. 20, 1918; s. of Arthur T. and L. Bessie Baldwin; ed. B.S., John B. Stetson U. 1940; Ph.D. U. Pitts. 1943; mem.: Delta Sigma Phi, Phi Lambda Upsilon, Phi Society, Gamma Sigma Epsilon, Pi Kappa Delta, Mu Soc.; m. Eleanor A. Warner, 1942; ch.: Eleanor Louise. U. Pitts., grad. asst. 1940-42; Swift & Co., fellow, 1943; Nutrition Foundation, fellow, 1943-44; Corn Prods. Refining Co., 1944 to date sect. leader. Ed. Jl. of Am. Oil Chem. Soc. 1949 to date; mem.: A.C.S., A.O.C.S., A.A.A.S., Inst. Food Tech. Hobbies: lapidary, philately, woodworking.

BALDWIN, Ernest J., prof. chem., dean, Coll. of Liberal Arts, Idaho State Coll., Pocatello, Idaho, res. 526 S. 8th.
Coll. tchr., admn.; b. Hewins, Kans., Dec. 24, 1890; s. of William Worth and Winifred Crawford Baldwin; ed. B.S. Chem. Engr., U. Kans. 1915; M.S., 1916; Ph.D. Stanford U. 1931; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi; m. Madge Kring, Sept. 4, 1915; ch.: Donald, Barbara, JoAnn. Asst., St. Chem. Res., U. Kans. 1915; asst. instr. chem., U. Kans. 1916; instr. chem., U. So. Dak. 1916-17; state food & drug chem., St. of So. Dak. 1918; asst. prof. chem., U. Idaho, 1919-27; prof. chem., Southern br., 1927-47; prof. chem., dean, coll. of Liberal Arts, 1947 to date. Author: "Principles of inorg., anal. chem." 1940; "Lab. Manual for Qual. Anal." 1946; mem.: A.C.S., A.A.A.S., Sigma Xi, Alpha Chi Sigma. Hobbies: fishing, hunting, photography, landscape gardening.

BALDWIN, Maynard Martin, supvr., chem. res., Battelle Memorial Inst., Columbus 1, Ohio; res. 1360 Haines Ave., Columbus 12.
Res. chem.; b. Walla Walla, Wash., Apr. 25, 1904; s. of Julius M. and Gertrude B. Baldwin; ed. Whitman Coll., 1922-26, B.S.; U. of Wash., 1930-35, Ph.D.; m. Eleanor Rounds, 1932; ch.: Jerome, James, Roger. H.S. teacher 1926-30; teaching fellow, U. of Wash., 1930-35; res. assoc., Schl. of Mineral Industries, Pa. State Coll. 1935-38; Battelle Memorial Inst., res. chem. 1938-44, asst. supvr. chem. res. 1944-47, supvr. 1947 to date. Syn. of org. chem., destructive hydrogenation, fungicides, deterioration of matls. & utilization of chem. Mem.: A.C.S., A.A.A.S., Sigma Xi, Phi Lambda Upsilon. Hobbies: stamp collecting, chess, spectator sports,

BALDWIN, Paul C., asst. gen. mgr. of paper mills, Scott Paper Co., Chester, Pa.; res. Brookhaven Rd., Rose Valley, Pa.
Mfr. of paper prods.; b. Tully, N.Y., May 19, 1914; s. of Fred L. (dec.) and Grace (Clay) Baldwin; ed. B.S.Ch.E. (magna cum laude), Syracuse U., 1936; M.S., Lawrence Coll., 1938; Ph. D., 1940; mem.: Phi Kappa Psi, Alpha Chi Sigma, Tau Beta Pi, Phi Kappa Phi; m. Margaret Fargo, Nov. 2, 1940; ch.: Barbara F., Paul C., Jr. Scott Paper Co., Chester, Pa., dev. chem. 1940-41; tech. dir. 1942-43; paper mill supt., 1943-46; plant mgr., 1946-50; asst. gen. mgr. of paper mills, 1950 to date.

BALDWIN, Paul M., prod. supt., Blockson Chem. Co., Joliet, Ill.; res. 706 Cowles Ave., Joliet, Ill.
Chem. engr.; b. Joliet, Ill., Aug. 28, 1900; s. of William A. and Helen I. Baldwin; ed. B.S., U. of Ill., 1925; mem.: Alpha Chi Sigma; m. Alice R. Brown, Jan. 7, 1921; ch.: Jean B., Donald M. Universal Oil Prods. Co., Mar. 1927 to Mar. 1930; Blockson Chem. Co., Mar. 1930 to present.

BALL, A(lpheus) M(esserly), mgr. explosives res. div., Hercules Powder Co., Wilmington, Del.; res. 1314 Woodlawn Ave., Wilmington.

Chem. engr.; b. Lincoln, Nebr., Feb. 13, 1905; s. of Jesse W. and Mary (Messerly) Ball; ed. Calif. Inst. Tech., B.S., 1926; Yale U., Ph.D., 1929; mem.: Tau Beta Pi, Sigma Xi, Gamma Alpha, Alpha Chi Sigma; m. (1st) Mary Caroline Finlay, 1929; m. (2nd) Frances Swift Tatnall, 1947; ch.: Frank Finlay, Beverly, Henry Lea Tatnall. Hercules Powder Co., 1929 to date; Expt. Station, 1929-41; Radford Ordnance Wks., tech. dir., 1941-45; Expt. Station, 1945 to date. R.D.B., Ord. Comm., Ammunition Explosives Panel, 1948 to date; chmn. 1949 to date. Mem.: A.C.S., A.I. Ch.E. Trustee, Tatnall Schl., Wilmington, Del. Clubs: University (Wilmington, Del.), Hercules Country.

BALL, Eric Glendinning, prof. biol. chem., Harvard Med. Schl., Boston, Mass.; res. 26 Alexander Rd., Newton Highlands.
Prof. biol. chem.; b. Coventry, Eng., July 12, 1904 (now U.S. cit.); ed. Haverford Coll., S.B. 1925, A.M. 1926; U. of Pa., Ph.D. 1930; Haverford, D.Sc. (hon.) 1949; m. Grace Snavely, Sept. 10, 1927. 1926-28 asst., Schl. of Med., U. of Pa.; 1929-30 Natl. Res. Fel., 1930-33 instr. phys. chem., Johns Hopkins Med. Schl.; 1932 Internat. Physiol. Cong. Fel., Rome; 1933-40 assoc. phys. chem. Johns Hopkins Med. Schl; 1937-38 Guggenheim Mem. Found. Fel., Institut fur Zell physiologie, Berlin-Dahlem; 1940-41 asst. prof. biol. chem., Harvard Med. Schl.; 1940 Eli Lilly Prize; 1941-46 assoc. prof. biol. chem., Harvard Med. Schl.; 1941-45 offl. investigator on two OSRD. contrs.; 1946 to date prof. biol. chem. Harvard Med. Schl., Boston; contrib. extens. to numerous sc. jls. Mem.: A.S.Biol.C., A.C.S., Amer. Acad. Arts and Scs., Biochem. Soc. of Gr. Brit., Natl. Acad. Scs., Sigma Xi, A.A.A.S., Soc. Gen. Physiol. On Lalor Fellowship Com., Marine Biol. Lab., Woods Hole; conslt. Eli Lilly Co.; ed. bd. Biochem. Preps.; Biochem. Com., Chem.-Biol. Coord. Center, Natl. Res. Council; Atomic Energy Com., Predoctoral Fellowships in Biolog. and Med. Scs.; conslt., Army Chem. Corps; subcom. on Biochem. Nomenclature, Natl. Res. Council; ed. bd. Jl. Biol. Chem. Trustee, Marine Biol. Lab., Woods Hole; secy. Biochem. Panel, Bd. for Coord. of Malarial Studies, Washington, (1944-46); visiting prof. U. of Brazil Med. Schl. (1945); Cruziero do Sol (Order of the Southern Cross), Brazil. Club: Harvard.

BALL, John Sigler, refinery engr., U.S. Bur. of Mines, Pet. & Oil Shale Expt. Station, Laramie, Wyo.; res. 916 Ord St., Laramie.
Pet. res.; b. Hamlin, Tex., Aug. 2, 1914; s. of N.L. and Christine (Sigler) Ball; ed. Tex. Tech. Coll., B.S. in Ch.E. 1934, M.S. 1936; U. of Colo., 1936-38; m. Virginia Noell, Sept. 17, 1938; ch.: Louise, Evelyn, Kathleen, Margaret. Jr. chem. engr., Pet. Expt. Station, Laramie, 1938 thru various grades to principal refinery engr. 1949 to date; assoc. dir., Am. Pet. Inst. Res. Project 48A, 1948 to date. Res. on sulfur cmpds. in pet.; composition of shale oil; anal. meths. for pet. & shale oil. Mem.: A.C.S., A.S.T.M., Sigma Xi, Tau Beta Pi. Club: Kiwanis. Hobby: photography.

BALLANTYNE, Ford, Jr., v.p., secy., Wyandotte Chem. Corp., Wyandotte, Mich.; res. 308 Touraine, Grosse Pointe Farms 30, Mich.
Corporation exec.; b. Detroit, Mich., Dec. 19, 1915; s. of Ford and Margaret (Wilson) Ballantyne; ed. Lehigh U., class of 1939, B.S. bus. adm.; mem.: Chi Psi; m. Mary Elizabeth Campbell, July 6, 1940; ch.: Ford III, Thomas C., George C. Natl Bank of Detroit 1940-41; Wyandotte Chem. Corp., 1942-43, asst. to v.p., mfg., 1944-46, asst. to v.p., 1947-48, asst. v.p., 1949 secy., asst. to pres., 1950 to date, v.p., secy. Club: Country Club of Detroit. Hobbies: golf, photography.

BALLARD, Seaver Ames, hd. org. syn. dept., Shell Dev. Co., Emeryville, Calif.; res. 235 Glorietta Blvd., Orinda, Calif.
Org. chem.; b. Cleveland, Ohio, May 16, 1913; s. of Thomas P. and Frances A. Ballard; ed. Yale, B.S. 1934, Ph.D. 1937; mem.: Alpha Chi Sigma, Gamma Alpha; m. Elizabeth Lindsley, Mar. 11, 1939; ch.: Elizabeth L., Thomas H. Shell Dev. Co., 1937-43 res. chem., 1943 to date dept. hd. Exploratory org. chem. res. on chem. derivatives of pet., structure of penicillin. Author: "The Chem. of Penicillin" chapter 26, "The Chem. of B-Lactams"; "Heterocyclic Cmpds." Vol. I, chapter 2, "Derivatives of Aztec." Mem.: A.C.S. Mem. of Bd. of Trustees of Orinda Union Schl. District. Hobbies: gardening, masonry.

BALLENGER, H(arvey) F(ranklyn), asst. prof. of chem, Baylor U., Waco, Texas; res. 1614 Connor Ave., Waco.
Coll. teacher; b. Council Bluffs, Iowa, May 10, 1914; s. of H. L. (dec.) and Mary Lealia Ballenger; ed. B.A., U. of Iowa; M.A., U. of Colo.; m. Mary Katherine House, Dec. 26, 1937; ch.: Barbara Ann, Timothy Franklyn. Des Moines, New Mex., H.S. chem. teacher, 1935-37; Clovis, New Mex., H.S. chem. teacher, 1937-41; Hardin-Simmons U., asst. prof. physics, 1941-42; Army Air Corps, civilian instr. in physics & meteorology, 1942-43; res. chem., Radiation Lab. U. of Calif., Manhattan Project, 1943-45; asst. prof. of chem., Fresno State Coll., 1945-46; supt., Cutler Acad., Los Angeles, Calif., 1946-48; asst. prof. of chem., Baylor U., 1948 to date. Res. & papers on toxic dust & short-wave radiation hazards while with Manhattan Project; one publ. paper entitled "Polatographic Meth. for the Quantative Determination of Uranium in Dust Samples."

BALLINGER, Robert Eugene, sec'y., Thompson Hayward Chemical Co., 2915 Southwest Blvd., Kansas City 8, Mo.; res. 2110 W. 49th St. Terrace, Kansas City 2.
Pur. Agent., mgr. consumer prods. dept.; b. Kansas City, Mo., Aug. 29, 1912, s. of Rolla Frank and Ethel Madeline (Kay) Ballinger; ed. B.S., chem. engr., U. of Ill., 1933; mem.: Sigma Tau; m. Yvonne Virginia Davidson, Apr. 29, 1939; ch.: Todd Robert, b. Jan. 8, 1946, James Kay, b. July 7, 1949. Position Thompson Hayward Chemical Co., since 1934. Club: Rockhill Tennis. Hobbies: tennis, bridge, travel.

BALLMAN, Donald Karl, gen. sales mgr., Dow Chem. Co., Midland, Mich., res. 1001 Helen St., Chem., salesman; b. Indianapolis, Ind., Apr. 18, 1910; s. of Frank E. and Fern Ballman; ed. Butler U. 1925-27; U. Ind. 1927-30-31 A.B., M.A.; mem.: Kappa Sigma; m. Elizabeth M. Jerome, Nov. 19, 1938; ch.: Donald Karl, Jr., Brenda Katherine. 1934-37 salesman, Dowicide div.; 1937-43 mgr.; 1943-45 mgr., dev. div.; 1945-49 asst. gen. sales mgr.; 1949 to date gen. sales mgr.; 1931-34 Sears Cabinet Co., Indianapolis, Ind.; mem.: A.C.S. Hobbies: fishing, golf, gardening.

BALZ, Emil H., res. supvr., Glass Fibers Inc., Waterville, Ohio; res. R 2, Box 302, Waterville.
Chem. eng.; b. Columbus, O., May 28, 1892, s. of Emil and Louise (Buchsieb) Balz; ed. B.Sc., Ohio State; Ph.D., U. of Pgh.; mem.: Phi Lambda Upsilon, Sigma Xi, Alpha Chi Sigma; m. Dorothy Pickering, 1923; ch.: George P., Louise, Rebecca. Res. dir., Duplate Corp., 1931-33; fellow, Mellon Inst., to 1937; Prod. Dept., Plaskon Co., to 1945; conslt. 1945-49; res. supvr., Glass Fibers, 1949

to date; notable wk.: plastics-molding compds. and adhesives; combinations of glass with plastics —safety glass, glass fibers, adhesion of glass and plastics. Mem.: A.C.S. Hobby: farming.

BANBURY, Fernley H., conslt. engr., Banbury Mixer Dept., Farrel-Birmingham Co., Ansonia, Conn.; res. 17 Beach Ave., Woodmont.
Conslt. engr.; b. St. Germans, Cornwall, England, Dec. 22, 1881, s. of Richard and Susan Banbury; ed. Plymouth Tech. Schl., Plymouth, Eng.; Penzance Schl. of Mines, Penzance, Eng.; Purdue U., B.Sc. of E.E., 1906; m. Christine Bickle, 1910; ch.: Richard D. H. Apprentice dftsman., Bickle & Co., Plymouth, Eng.; dftsman, Sargent & Lundy, Engrs., Chicago, Ill.; spec. engr., Commonwealth Edison Co., Chicago, Ill.; engr-supt., Acheson-Oildag Co., Niagara Falls, N.Y.; sales engr., Werner & Phleiderer, Saginaw, Mich.; factory mgr., Birmingham Iron Fdry., Derby, Conn.; dept. mgr., Farrel-Birmingham Co., Ansonia, Conn.; conslt. engr., Banbury Mixer Dept., Farrel-Birmingham Co., Ansonia, Conn.; dir., Farrel-Birmingham Co. Inventor: Banbury Mixer for mixing heavy rubber compds. and other heavy plastics; co-developer of proc. of devulcanizing rubber in spec. Banbury mixer; holds sev. pats. Awarded Scroll as Modern Pioneer, 1940; Doctor of Engrg., Purdue U., 1948. Club: Chemists' (N.Y.). Hobbies: golf, horseback riding, travel.

BANDELIN, Fred John, tech. dir., Flint, Eaton and Co., Decatur 60, Ill.; res. 1757 E. Cantrell St., Decatur.
Pharm. chem.; b. Cincinnati, O., Mar. 24, 1913, s. of Fred and Lillian Bandelin; ed. Cincinnati Coll. of Pharm., U. of Cincinnati, 1932-36, B.S.; grad. wk. U. of Cincin., 1936-38; grad. wk.: U. of Dayton, 1941-42; Antioch Coll., (Yellow Springs, O.) 1942-43; Stevens Inst. of Tech. (Castle Pt., N.J.), 1943-44; U. of Ill., (Urbana, Ill.), 1945-47; m. Mary Margaret Johnson, May 29, 1940; ch.: Mary Jean, Fred John. 1936-39 res. chem., Dept. Org. Res., Wm. S. Merrell Co., Cincinnati, O.; 1939-42 asst. prof. of pharm., Cincinnati Coll. of Pharm.; 1941-43 tech. dir. Fidelity Med. Supply Co., Dayton, Ohio; 1943-44 res. chem. Vick Chem. Co., N.Y.; 1944 to date tech. dir. Flint, Eaton and Co., Decatur, Ill.; res. in synth. and testing of germicides, local anesthetics, hypnotics, alkaloids, radiopaque X-ray contrast media; studies on and testing of fever prod. substances; anal. mthd. for numerous therapeutic substances, esp. vitamins. Mem.: A.C.S., A.Phar.A., A.A.A.S., Assoc. of Vitamin Chems., fellow, A.I.C.; chmn. Sci. Sect., A.Phar. Mfrs. Assoc., 1947-48; mem. combined Contact Comm. A.D.M.A.-A.P.M.A. Club: Cosmopolitan. Hobby: photography.

BANKS, C(larence) Kenneth, dir. of Res. & Dev., Metal & Thermit Corp., Rahway, N.J., P.O. Box 471; res. 280 Chestnut St., Bound Brook, N.J.
Chem. res.; b. Kansas City, Mo., June 1, 1914, s. of James C. and Mary M. Cleaveland Banks; ed. Kansas City, Mo. Jr. Coll.; A.B. (dist.) U. of Kansas City, 1936; M.Sc., U. of Nebraska, 1938; Ph.D., U. of Nebraska, 1940; m. Lucile Evelyn Baker, June 9, 1940; ch.: C. Kenneth, Jr. Sr. res. chem., Parke Davis & Co., Detroit, Mich., 1940-1942; div. hd., 1942-1949; res. dir., Metal & Thermit Corp., Rahway, N.J., 1949 to present. Papers on organometallic cmpds., org. heterocyclic cmpds., sulfa cmpds., organo-selenium cmpds., analytical methods, pharmaceuticals, tropical diseases. Contributor to "Advancing Fronts in Chemistry," Vol. II Chemotherapy, N.Y., 1946. Reinhold Publishing Corp., Chapter 5, pp. 71-103. Mem.: Phi Lambda Upsilon, Pi Mu Epsilon, Sigma Xi, A.A.A.S., A.C.S., Amer. Pharmaceutical Assoc., Eastern Union County Chamber of Commerce, Ind. Hygiene Foundation of Am., Ind. Res. Inst., of the Natl. Res. Council, Inst. of Metals (British), Assoc. of Res. Directors.

BANTON, Madison Whitten, dir. engrg. & res., Congoleum Nairn, Inc., 195 Belgrove Dr., Kearny, N.J.; res. 79 Blackburn Rd., Summit, N.J.
Engr.; b. Montville, Me., Oct. 24, 1888; s. of Edmund F. and Lillian E. (Whitten) Banton; ed. Harvard U., U. of London; m. Margaret S. Hamilton, June 29, 1921; ch.: Arabelle G., Marion W. Maine Central R.R., motive power dept., 1906-16; Harvard U., 1916-17; W.W. I, 1917-19; Gen. Chemical Co., 1920-28; Congoleum Nairn Inc., 1928 to date. Mem.: A.S.M.E.

BANUS, Mario Douglas, asst. dir. chem. res., Metal Hydrides Inc., Beverly, Mass., res. Heartbreak Rd., Ipswich, Mass.
Chem.; b. Geneva, Switzerland, Nov. 11, 1921; s. of Mario Garcia and Marjorie Douglas Banus; ed. undergrad. M.I.T. 1940-43; S.B. 1944; Hayden Mem. Fellowship, M.I.T. scholarships 1941, 1942, grad. wk., 1946-49; Ph.D. 1949, Moore Fellow Chem. 1948-49; mem.: Scabbard and Blade, Pi Tau, Pi Sigma; m. Grace Markham Lupton, Jan. 29, 1943; ch.: Markham Douglas, Christopher Thomas, Gregory Charles. 1943-46 U.S.A. Sign. Corp., 1st Lt. Sign. Corps. U.S.A.R. to date; 1946-48 adv. teach. fellow, anal. chem., M.I.T.; 1949 chf. res. chem., Metl. Hydrides Inc.; Nov. 1949 to date asst. dir. chem. res.; res. in preparation, reduction boron halides, res. in preparation, reaction of primary, secondary hydrides; mem.: A.C.S., Sigma Xi.

BARBAN, Charles, conslt. chem., chem. engr., 645 Ocean Ave., Bklyn. 26, N.Y.
Conslt. chem., chem. engr.; b. N.Y.C., Nov. 11, 1896; s. of Robert and Ann Barban; ed. C.C.N.Y., B.S. 1917; Lic. chem. engr., N.Y., May 1922. Res., prod. chem., Consol. Color & Chem. Co., 1916-18; chem., chem. engr., U.S. War Dept., 1918-20; conslt. 1920 to date; tech. conslt. Natl. Hairdressers' and Cosmetologists' Assn. 1937 to date; mem.: A.C.S., A.I.C. (fellow), N.S.P.E., A.A.A.S., Armistice Lodge No. 1008 F.&A.M.

BARCUS, W. Herman, mgr. dev. lab., chem. & engr. div., Sun Oil Co., Marcus Hook, Pa.; res. 837 Turner Ave., Drexel Hill, Pa.
Chem. engr.; b. Dover, Del., Apr. 14, 1904, s. of John E. and Edna P. (Piggot) Barcus; ed. B.A. Chem., Swarthmore Coll., 1927; m. Viola R. Blittersdorf, Sept. 15, 1930. Trainee, Scott Paper Co., June, 1927 to Jan., 1928; chem., Sun Oil Co., Jan., 1928 to 1930; chem. engr., Sun Oil, 1930 to 1939; chf. chem. eng. sec., Sun Oil, 1936-1947; mgr. dev. lab., Sun Oil, 1948 to present. Res.: chem. and chem. engr. dev. in petroleum processes, directed toward improvements in appar. and prods. Several pats. issued in fld. of appar. for mfg. lubricating oil and new cracking process for mfg. aromatics and high octane components of gasoline. Mem.: A.C.S., A.I.Ch.E., A.P.I., Franklin Inst., Armed Forces Chem. Asso., Registered Prof. Engr. in State of Pa. Hobbies: gardening, photography, woodworking, bridge, bowling.

BARD, John William, tech. supvr., Marathon Corp., Rothschild, Wis.; res. Rothschild.
Chem. engr., b. Antigo, Wis., Aug. 21, 1914, s. of Burtis and Augusta Bard; ed. B.Ch.E., Iowa State Coll., 1936, Insti. of Paper Chem., M.S. 1938, Institute of Paper Chem., Ph.D. 1940; m. Helen Hauke in 1942; ch.: William, James. Chem. engr. res. dept., Marathon Corp., 1940-1946; Quality Control supvr., Rothschild Pl., Marathon Corp., 1946-1948; tech. supvr., Rothschild Pl., Marathon

Corp., 1948-1950. Mem.: T.A.P.P.I., Amer. Pulp and Paper Mill Superintendents' Asso. Hobbies: fishing, outdoor activities, amateur photography.

BARDWELL, Dwight Cooley, res. advisor, Oak Ridge Natl. Lab., Oak Ridge, Tenn.; res. 93 Outer Dr., Oak Ridge, Tenn.
Chem.; b. Aspen, Pitkin County, Colo., Jan. 20, 1897, s. of Alonzo Frink and Mary Louise (Cooley) Bardwell; ed. 1911-15 Salt Lake City H.S.; 1915-16 U. of Utah; 1916-19, U. of Calif. (B.S. Chem.); 1919-21, U. of Calif., Ph.D., Phys. Chem., 1921; m. Maud Scott, Aug. 9, 1919; ch.: Elizabeth Louise, Walter Scott (dec.). Asst. phys. chem. and assoc. phys. chem., U.S. Bur. of Mines & Fixed Nitrogen Res. Lab., Reno, Nev., and Wash., D.C., 1921-26; res. chem., The Solvay Proc. Co., Syracuse, N.Y., 1926-35; proj. supvr. and lab. dir., same co., 1935-41; lab. dir. The Solvay Proc. Co., N.Y.C., 1941-43; lab. dir., Allied Chem. & Dye Corp., Morristown, N.J., 1943-47; res. on chem. effects of alpha particle ionization prod. by radon from radium; supvd. res. on gas mfr., purification, instrumentation and catalysis; dir. of res. on org. and inorg. chems. and proc.; author of var. arts. in sc. jls. Mem.: A.C.S., A.A.A.S., A.I.C., Phi Beta Kappa, Sigma Xi, Alpha Chi Sigma, Phi Lambda Upsilon. Club: Chemists'.

BARDWELL, Robert Cousins, supt. water supply, Chesapeake & Ohio Ry., Richmond 10, Va.; res. 2408 Rosewood Ave., Richmond 20.
Chem. engr.; b. Tipton, Iowa, Jan. 1, 1888, s. of C. M. and Anna (Wolchen) Bardwell; ed. A.B., U. of Ill., 1909; mem.: Psi Upsilon and Phi Lambda Upsilon; m. Wendla J. McCaskey, Mar. 31, 1910; ch.: Robert C. Jr., Richard A. and Claire P. Chem., asst. engr., chf. chem., engr. water serv., on Mo. Pac. R.R., 1910-1922; supt. water supply on R. & O. Ry., 1922 to date. Res.: water supply surveys on several railroads in the United States & Cuba. Many articles on railroad water supply and treatment in tech. jls. Mem.: Am. Ry. Eng'r. Asso. (past dir.) A.I.Ch.E., Master Boiler Makers Asso. (honorary). Club: Hermitage Country. Hobbies: golf and fishing.

BARE, Bruce M., Jr., dist. mgr., Sharples Chemicals, Inc., 80 E. Jackson Blvd., Chicago, Ill.; res. 405 Briar Pl., Itasca, Ill.
Chem.; b. Oct. 19, 1915, s. of Bruce M. and Pearl D. Bare; ed. A.B., chem., Gettysburg Coll., (Summa Cum Laude); mem.: Phi Beta Kappa, Alpha Tau Omega; m. Margaret S. Aug. 16, 1941; ch.: Bruce M. III., Patricia. Res. chem., E. I. du Pont, Parlin, N.J., 1936-1938; tech. sales and dev., Sharples Chemicals, Inc., 1938-1942; staff commanding gen., VII Bomber Command, Saipan and Okinawa, 1942-1946; dist. mgr. Sharples Chemicals, Inc., 1946 to present. Mem.: A.I.C. (Fellow) A.C.S., Drug and Chemical Asso. (Chicago). Clubs: Chemists' (New York), Mid-Day (Chicago).

BARHAM, H(arold) N(athan), prof. of chem., ind. chem., Dept. of Chem., Kansas State Coll., Manhattan, Kansas; res. 820 Bluemont Ave., Manhattan.
Chem.; b. Almena, Kansas, Aug. 5, 1897, s. of Lewis E. and Sadie M. Brown; ed. A.B., Bethany Coll., Lindsborg, Kansas, 1916-1917, 1919-1921, Certificate, U. of Caen, France, 1919, M.S., Ohio State U., 1922, Ph.D. U. of Kansas, Lawrence, Kansas, 1926-1928; mem.: Theta Xi, Alpha Chi Sigma; m. Doris Consuelo Johnson, Jan. 1, 1924; ch.: Harold Nathan, Jr., Nov. 6, 1924, Doran Welton, Nov. 22, 1926, Shirley Lou, June 17, 1929. Prof. of chem., Montana Wesleyan Coll., Helena, Montana, teacher of gen. and org. chem., 1922-1923; instr., Eureka H.S., Eureka, Kansas, teacher of sc. and French, 1923-1924; prof. of chem., Bethany Coll., Lindsborg, Kansas, gen. anal. and org. chem., physics, 1924-1926; res. chem., Cities Service Co., Tallant, Okla., org. chem., 1928-1929; Kansas State College, Manhattan, Kansas, asst. prof., org. chem. catalysis, 1929-1932; assoc. prof., 1932-1943; industrial chem., 1938 to date; prof., 1943 to date. Res. in physico-organic chem., 1921-1922, elctrochemistry, 1926-1928; chem. of paraffin hydrocarbons, 1928-1929; org. chem., fermentation, 1929-1937; ind. utilization of sorghum grains, agricultural chem., org. chem., chem. of starch, liquid phase chlorination of starch, 1937. Collaborator, Northern Regional Research Lab., Peoria, Ill., 1944—, conslt., Kansas Ind. Dev. Commission, Topeka, Kansas, 1943—, conslt. Dodge City Industries, Inc., Dodge City, Kansas, 1945—; periodical writings about 24 scientific papers and bulletins published in various tech. jls. Mem.: A.C.S., Kansas Acad. Sc., Sigma Xi, Theta Chi Delta, Phi Lambda Upsilon, Gamma Sigma Delta. Club: Manhattan Chamber of Commerce. Hobbies: sports, language, music.

BARIL, Olier L., prof., Holy Cross Coll., Worcester 3, Mass., res. 91 Eureka St.
Prof. Org. Chem.; b. Spencer, Mass., July 21, 1898; s. of Arthur J. and Luce C. David Baril; ed. Holy Cross Coll., A.B. 1920; A.M. 1923; M.S. 1927; Columbia U., 1927; M.I.T. 1930-31; Clark U., Ph.D. 1943; m. Blanche G. St. Denis, Aug. 27, 1929; ch.: Pauline, Jeanne, Jeannette, Elaine, Olier, Jr., Estelle, Madeleine, Paul, Raymond. 1920-21 tchr. sc., high sch., W. Boyleston, Mass.; 1921-22 tchr. sc. People's Acdy., Morrisville, Vt.; 1922-26 lecturer, Holy Cross Coll.; 1926-30 asst. prof.; 1930-43 assoc. prof.; 1943 to date prof. org. chem., dir. chem. res. Conslt. Biochem., Fallon Clinic. Res. in catalysis, derivations for ident. sugar res., detergents, requestring agts., diels, old., gries reaction; mem.: A.C.S., A.A.C.C. Club: Harmony. Hobby: fishing.

BARKER, George Ernest, res. chem., Central Res. Lab., Atlas Powder Co.; res. Llangollen Estates, New Castle, Delaware.
Res. chem.; b. Cortland, N.Y., Aug. 8, 1907; s. of Joseph and Emma F. (Creighton) Barker; ed. M.I.T., S.B., 1930; Ph.D., 1935; mem.: Sigma Xi; m. Ida M. Johnson, Mar. 21, 1941; ch.: Ann Elizabeth, Joyce Helen. Asst., M.I.T., 1930-34; res. chem., Natl. Aniline & Chem. Co., 1934-38; industrial fellow, Mellon Inst., 1938-42; sr. industrial fellow, Mellon Inst., 1942-45; res. chem., Atlas Powder Co., 1945 to date. Development of surface active agents; dev. of lubricants for fine instruments. Mem.: A.C.S., A.O.C.S.

BARKER, Joseph Warren, chmn. of bd., pres., Res. Corp.; chmn. of bd., pres., Res. Construction Co. Inc., 405 Lexington Ave., N.Y. 17, N.Y.; res. 45 Beechmont Dr., New Rochelle, N.Y.
Engr., educator; b. Lawrence, Mass., June 17, 1891; s. of Frederick and Alice (Alletson) Barker; ed. U. of Chicago; M.I.T. S.B. 1916, S.M. 1925; hon. degrees, Sc.D. Northeastern U., 1940; LL.D., Bucknell U. 1940; Eng. D., Case Schl. of Applied Sc., 1942; LL.D., Union Coll., 1944; D. Eng., U. of Rochester, 1944; L.H.D., Muhlenberg, 1945; mem.: Phi Kappa Sigma, Theta Tau, Sigma Xi, Tau Beta Pi; m. 1st Mary Perin, June 17, 1916; 2nd Mary Mallon, Dec. 11, 1943; ch.: Beatrice P., John P., Michael Mallon. U.S.A., 2nd Lt. to Col. C.A.C., 1916-25; assoc. prof., M.I.T., 1925-29; prof., hd. of dept. of elec. engrg., Lehigh U., 1929-30; prof. of elec. engrg., dean, Schl. of Engrg., Columbia U., 1930-46; special asst. to Secy. of Navy 1941-45; pres., chmn. bd. of dir.,

Res. Corp. & Res. Construction Co., Inc., 1946 to date. Mem.: A.A.A.S., A.I.E.E., Am. Soc. of Civil Engrs., A.S.M.E., A.I.M.M.E., Illuminating Engrg. Soc. Trustee, Educational Testing Service. Clubs: Century, Columbia U., Engineers (N.Y.), Columbia Men's Faculty, Westchester Country. Hobbies: golf, woodworking.

BARNARD, Kenneth H. tech. asst. to mgr., Am. Cyanamid Co., Bound Brook, N.J.; res. Mountain Trail Rd., Bound Brook.
Chem.; b. Oct. 16, 1889, s. of Samuel Barnard and Susan L. (Conant) Barnard; ed. Harvard A.B., cum laude, chem., 1911, M.I.T., chem., 1912; m. Sallie Sprague, June 30, 1913; ch.: Mrs. Eleanor B. Calvin, Mrs. Mary McLean, William S. Barnard. 1912-16, New Jersey Zinc, res. chem., Palmerton, Pa.; 1916-1926, Am. Zinc Co., dir. Pilot Plant, supt. Hillsboro Plant, Ill.; 1926-1946, Pacific Mills, Lawrence, Mass., chf. chem., asst. supt., Dir. Res. Newark, N.J.; 1946 to date, Am. Cyanamid, Lab. mgr., tech. asst. div. mgr., Bound Brook, N.J.

BARNES, George I., plant mgr., Senter Plant, Atlas Powder Co., Box 72, Houghton, Mich.; res. 1114 College Ave., Houghton, Mich.
Exec.; b. South Sterling, Pa., Jan. 26, 1893, s. of Alvan E. and Dora A. Barnes; ed. Greene-Dreher H.S., Newfoundland, Pa.; Perkiomen Schl., Pennsburgh, Pa., Penna. State Coll., B.S. 1918; m. Besse C. Breon, Oct. 29, 1918; ch.: Jack B., Janet L. (dec.). With Atlas Powder Co. from May, 1918 to date; dur. W.W. II from July, 1941 to June, 1944, was gen. mgr., Weldon Spring Ordn. Wks., Weldon Spring, Mo.; plant mgr., Senter Plant, Atlas Powder Co., (High Explosives Plant), July 15, 1944 to date. Clubs: B.P.O.E., No. 861, (Webb City, Mo.); Houghton Rotary (Houghton, Mich.); Miscowaubik Club (Calumet, Mich.). Hobbies: sports of all kinds.

BARNES, Harry Milford, dir. org. chem. lab., Central Labs. Gen. Foods Corp., 1125 Hudson St., Hoboken, N.J.; res. 63 Hillside Ave., Florham Pk., N.J.
Chem.; b. Sept. 15, 1909, No. Brookfield, N.Y., s. of Charles and Kathryn Barnes; ed. B.S. (honor) Antioch Coll., 1934, Ph.D. U. of Wis., 1938; m. Ethel O'Neil, Oct. 10, 1936; ch.: Vera, Lerna, Elma. Res. asst., Harvard U. 1938-1939; General Foods Corp., 1939 to present. Mem.: A.C.S., A.A.A.S. Trustee, Brooklake Chapel.

BARNES, Kenneth Boyd, prof. of chem., hd. dept. of chem.; Heidelberg Coll., Tiffin, O.; res. 52 Ohio Ave., Tiffin, O.
Chem. prof.; b. Rockford, Ill., July 28, 1896, s. of Myron E. and Annie E. Barnes; ed. B.S., cum laude, Beloit Coll., Wis., 1920, M.S. U. of Chicago, 1924, further graduate wk., U. of Chic.; m. Elizabeth Todd Thompson, Sept. 4, 1926; ch.: Elizabeth Anne. Instr. in chem., Beloit Coll., 1920-1925; asst. in chem., U. of Chic., 1925-1927; asst. prof. of chem., Des Moines U. (Ia.), 1926-1927; prof. of chem. and hd. of dept., Heidelberg Coll., O., 1927 to present. Mem.: A.C.S., A.A.A.S. (Fellow), Phi Beta Kappa, Sigma Xi, A.A.U.P. Clubs: Rotary International, Methodist Church. Hobbies: travel, stamp collecting.

BARNES, Otis Avery, Verner Z. Reed prof. of chem. & hd. dept., Colorado Coll., Colorado Springs; res. 2202 Wood Ave., Colorado Springs, Colo.
Prof. chem.; b. Auburn, Ill., Apr. 15, 1894; s. of Ezra and Prudence (Browning) Barnes; ed. U. of Ill., B.S. 1916; M.S. 1918; Ph.D. 1922. Grad. asst. & instr., U. of Ill., 1916-22; U. of Utah, instr. chem., 1922-25; Colo. Coll., asst. prof. chem., 1925-28; assoc. prof., 1928-45; prof., 1945 to date. Col., C. W. S. Res.; Colo. Dept. R.O.A. (pres. 1934); res. on local anesthetics. Mem.: Sigma Xi, Alpha Chi Sigma, Scabbard & Blade, Pi Kappa Phi, Phi Lambda Upsilon, Delta Epsilon, Kappa Gamma Psi. Mason. Hobbies: rifle & pistol target shooting, silver crafts.

BARNES, Richard H., asst. dir. of res., Sharp & Dohme, Inc., Glenolden, Pa.; res. 339 Farwood Rd., Carroll Pk., Phila. 31, Pa.
Biochem.; b. San Diego, Calif., June 29, 1911, s. of Willard G. and Nell T. Barnes; ed. B.A., San Diego State Coll., 1929-33, Ph.D. U. of Minnesota, 1937-40; mem.: Lambda Delta Lambda, Phi Beta Pi; m. Marjorie Ironside, Mar. 24, 1942; ch.: Kyle, Marjorie Ann. Res. chem., Scripps Metabolic Clinic, 1933-37; asst. prof. physiol. chem., U. of Minne., 1940-44; dir. biochem. res., Sharp & Dohme, Inc., 1944-49; asst. dir. res., Sharp & Dohme, 1949 to present; honorary prof. of biochem., Rutgers U., 1948. Res.: fat metabolism, fat and protein nutrition. Contrib. extens. to sc. and tech. journals. Mem.: Am. Inst. Nutrition, Am. Soc. Biol. Chem., Soc. Exptl. Biol. & Med., A.C.S., A.A.A.S., Am. Assoc. Study Internal Secretions, Sigma Xi.

BARNES, Robert Percy, prof. of chem., dept. of chem., Howard U., Washington, D.C.; res. 1400 Kearny St., N.E., Washington 17, D.C.
Teacher; b. Washington, D.C., Feb. 26, 1898, s. of William H. and Mary Jane Barnes; ed. A.B., Amherst Coll., 1921; Phi Beta Kappa in Jr. yr.; A.M., 1930, Ph.D., 1933, Harvard U.; mem.: Omega Psi Phi; m. Florence Abrams, Nov. 28, 1933. Res. asst. in chem., Amherst Coll., 1921-22; teacher of chem., Howard U., 1922 to present. Studied at Harvard U. 1928-31 on a general education bd. fellowship. Contrib. extens. to sc and tech. journals. Mem.: Phi Beta Kappa, A.C.S., Acad. of Scs. (New York, Fellow), Acad. of Scs. (Washington), A.A.A.S., Natl. Inst. of Sc., Beta Kappa Chi Scientific Soc. Hobbies: fishing and ceramics.

BARNETT, Charles Edward, res. coordinator, The N.J. Zinc Co. (of Pa.), Palmerton, Pa.; res. 437 Lafayette Ave., Palmerton, Pa.
Physical chem.; b. Chicago, Ill., Aug. 23, 1905; s. of Torrence Dawson and Sada (Eberle) Barnett; ed. Hiram Coll., 1923-26, A.B.; Cornell U., 1926-30, Ph.D.; mem.: Gamma Alpha; m. Ellen Waterman McPherson, 1930; ch.: Mary Ellen, Patricia Ann, Judith McPherson. The New Jersey Zinc Co. (of Pa.), 1930 to date; investigator, res. div., 1930-38; chf., physics section, 1938-50. Res. in pigments, luminescence and rubber reinforcement. Mem.: A.C.S., A.Phy.S., Optical Soc. of Amer., Illuminating Engrg. Soc., Engrs. Club of the Lehigh Valley, Lehigh Valley Physics Club (pres. 1950). Dir. of Carbon County Chapter, A.R.C.; Palmerton Girl Scout Assoc. Clubs: Blue Ridge Country, Lehigh Valley Cornell Club.

BARNETT, J. Herman, Jr., gen. sales mgr., Reilly Tar & Chem. Corp., 1615 Merchant Bank Bldg., 11 South Meridian St., Indianapolis, Ind.; res. 20 Meridian Pl., Indianapolis.
Sales exec.; b. Sept. 5, 1909, Centerville, Tenn.; s. of Dr. J.H. and Susan (Worley) Barnett; ed. U. of Chattanooga, major in chem.; post grad. wk., Tenn. Schl. of Chem.; mem.: Pi Kappa Alpha Alumni Assoc.; m. Lillian Magill, Oct. 28, 1939; ch.: Charles, Robert, Warren. Lab. asst. to Dr. I.W. Grote, Chattanooga, Tenn.; Swann Chem. Co., Anniston, Ala., res. asst.; T.V.A., Chem. Testing Lab., Knoxville, Tenn.; Reilly Tar & Chem. Corp., Chattanooga, Tenn., southern distr. mgr. of the corp., since 1940; plant mgr. since 1936; now gen. sales mgr. at Indianapo-

lis, Ind. Author: articles in sc. & tech. jls. Mem.: Highway Res. Bd. (assoc., a div. of N.R.C.), A.C.S. (charter mem. & 1st chmn., Chattanooga sec.), Amer. Wood Preservers Assoc., Mfrs. Assoc. (chapter), Chattanooga Chamber of Com. Clubs: Chattanooga Amateur Radio (pres.), Kiwanis. Hobbies: amateur radio, rifle marksmanship, photography.

BARR, Frank Thomas, chem. engr., Dev. Div., Esso Labs., Standard Oil Dev. Co., Linden, N.J.; res. 54 Parkview Terrace, Summit, N.J.
Chem. Engr., b. Elwood, Ind., July 1, 1910, s. of Hugh H. and Elsie (Goshorn) Barr; ed. B.S., chem. engr., Washington U., 1929, M.S., physical chem., 1931; Ph.D., chem. engr., U. of Ill., 1934; mem.: Alpha Chi Sigma; m. Hope Kime, June 6, 1936; ch.: Jon Michael, Hugh Davidson, Gillian Hope. Teaching asst. in chem., Washington U., 1929-31; teaching asst. in chem. engr., U. of Ill., 1931-34; instr. in chem. engr., Ill. Inst. of Tech., 1934-36; chem. engr., Esso Labs., Esso Standard Oil Co. (Louisiana Div.) 1936; chem. engr., Dev. Div., Esso Labs., Standard Oil Dev. Co., 1937 to present. Res.: Hydrogenation of oils, synthetic fuels, hydrogen and synthesis gas manufacture, atomic energy dev., petroleum process dev. Mem.: Sigma Xi, Tau Beta Pi, Omega Chi Epsilon, A.C.S., A.I.Ch.E. Hobbies: music, golf.

BARR, James Allen, consulting engr.; Mt. Pleasant, Tenn.; res. Mt. Pleasant, Tenn., and Chassell, Mich.
Consulting engr.; b. Escanaba, Mich., July 21, 1884, s. of Hiram A. and Ellen L. Barr; ed. B.S., E.M., 1907, Mich. Coll. of Mines, now Michigan Coll. of Mining & Technology; mem. Theta Tau; m. Ellen I. Obenhoff, Feb. 10, 1910; ch.: James A. Jr., Glenn P., Wallace P. & Ellen Carman deceased. Chainman, C&NW. Ry., 1904; instr. dept. Metallurgy, Mich. Coll. of Mines, 1907-09; practical miner & millman, Silverton, Colo., 1910; engr. maintenance & construction, Charleston B.C. Mining & Mfg. Co., 1911-12; engr. Tenn. Div., International Agri. Corp., 1912-22; chf. engr., same co., now International Minerals & Chemical Corp., 1922-49; con. engr. Phosphate Recovery Corp., 1927-36; con. engr., Union Potash & Chem. Corp., 1936-40. Res. in flotation of phosphate starting in 1927; designed and operated pilot plant in Fla., to produce first commercial shipment of phosphate concentrate. Author: "Testing for Metallurgical Processes," 1912. Mem.: A.I.M.M.E., A.A.A.S., Technical Soc. (Tenn.). Clubs: Engineering (Chicago), Evanston U., Onigaming Yacht. Hobbies: writing, deep sea fishing.

BARR, William Milton, res. conslt., 903 Richfield Bldg., Los Angeles, Calif.; res. 332 South Orange Grove Ave., Los Angeles 36, Calif.
Chem. and metallurg. engr.; b. West Union, Iowa, Aug. 26, 1878, s. of Robinson A. and Nancy (Slocum) Barr; ed. U. of Iowa, B.Sc. 1902; honors in geol.; Grinnell Coll., M.A. 1904; U. of Penn., Ph D. 1908 (chem.); Harrison Fellow in chem. 1907-08; mem.: Sigma Xi, Phi Gamma Delta; m. 1st, 1909, Anna M. Lyndall (dec.); m. 2nd, 1950, Ruth Spear Elliott; ch.: William Milton, III. 1902-05 instr. chem. Grinnell Coll.; 1906 chem. U.S. Geol. Survey; 1905-06 asst. instr. chem. U. of Pa.; 1908-09 res. chem. Mallinckrodt Chem. Wks., St. Louis; 1912-16 mgr. same co. Eastern Plant; 1909-11 assoc. prof. metallurgy and engr. chem., Iowa State Coll.; 1911 supt. Andrews Chem. Wks., Davenport, Ia.; 1916 conslt. chem. Union Pacific RR.; 1921 chf. chem. and met. engr.; 1940 Res. & Stds. conslt.; retired Jan. 1, 1950; notable wk.: "The Spectrum and Bromides of Columbium" (thesis) 1908; var. papers on water for locomotives, RR. chem., alloy steel in locomotives, engine failures and matls., etc. Mem.: A.C.S., A.I.Ch.E., A.S.T.M., (pres. 1940-41); Am. Ry. Eng. Assoc. (life mem); A.S.M. Club: Engrs. (Omaha).

BARRETT, Clark, plant mgr., Am. Dyewood Co., 374 Main St., Belleville 9, N.J.; res. 15 Warren Pl., Montclair, N.J.
Chem. engr., mgr.; b. Youngstown, Ohio; s. of Jacob C. and Lydia (Peterson) Barrett; ed. M.I.T. S.B. 1923; mem.: Alpha Tau Omega; m. Dorothy Anne Schwenk, Mar. 26, 1927; ch.: Antoinette, Polly. Sales engr., Koppers Const. Co., 1924-31; v.p., gen. mgr., Van Tassel Leather Co., Norwich, Conn. 1931-42; plant engr., syn. div., U.S. Rubber Co., Los Angeles, Calif., 1942-47; plant mgr., Am. Dyewood Co., Belleville, 1948 to date. Mem.: Montclair Engrs. Club: South Side Assn., Montclair.

BARRETT, Elliott P(ierce), sr. fellow, Mellon Inst., Pittsburgh 13, Pa.; 4400 Centre Ave., Pittsburgh 13.
Indust. chem. res.; b. N.Y.C., Aug. 12, 1902, s. of Frederick Randolph and Jeannette (Pierce) Barrett; ed. Columbia Coll., A.B., 1924; Columbia U., M.A. 1926; Ph.D. 1933; mem.: Alpha Chi Sigma; m. Inez Price, Sept. 29, 1928; ch.: Mary Price. Asst. in chem., Columbia U., 1926-30; dev. engr., The Western Elec. Co. Inc., 1930-31; res. assoc. in Fuel Tech., The Penn. State Coll., 1932-35; fellow, Mellon Inst., 1935-40, sr. fellow since 1940. Holds two U.S. pats. on "Light-weight waterproof sheath for telephone cable"; U.S. pat. on "Bone black pigments"; also contribs. to sc. jls. on following subs.: "Adsorption of water vapor by various solids," "Fusibility and Clinkering of Coal-Ash" (in "Chemistry of Coal Utilization,") "Distribution of pore sizes in porous solids"; holds U.S., Mexican, Argentinian, British and Canadian pats. on "Granular Adsorbents for Sugar Refining"; res. also on Adhesives, confidential wk. for Mellon Inst., U.S.A.A.F. and the Fire Control Lab., Frankford Arsenal; dir. of res. and dev., Baugh and Sons Co., dir. U.S. Cane Sugar Refiners Bone Char Research Project, Inc. Mem.: A.C.S., A.A.A.S. (fellow); Pa. Chem. Soc. (secy.-treas); Sigma Xi; Amer. Comm. of Internatl. Commis. for Uniform Meths. of Sugar Anal.

BARRETT, Harold James, mgr. fld. res., electrochemicals dept., E. I. du Pont de Nemours & Co., Wilmington, Del.; res. 38 North Hill Dv., West Chester, Pa.
Res. chem.; b. Frankton, Ind., Sept. 10, 1898, s. of Festus Joseph and Emma (Armfield) Barrett; ed. A.B. West Va., U., 1919, M.S. W.V.U., 1920, Ph.D. Ohio State U., 1927; m. Effie K. Anderson, Dec. 26, 1940. Instr., Iowa State Coll., 1920-21; chem., W. Va. Agr. Exp. Sta., 1921-22; asst. in chem., O. State U., 1922-25; asst. prof., S.Dak. State Coll., 1925-26; res. chem., chem. dept., du Pont Co., 1926-35; Electrochemicals Dept., du Pont Co., 1935 to date. (Res. sup., 1935-36; dev. div., 1936-37, sales res. mgr. 1937-42; tech. asst. to dir. of sales, 1942-45; chem. res. mgr., 1945-49; field res. mgr., 1949 to present. Res.: Industrial res. on resins, plasticizers, sodium, cyanides, peroxides, chlorinated hydrocarbons, formaldehyde, vinyl prods., furfural derivatives. Mem.: Phi Lambda Upsilon, Sigma Xi, A.A.A.S., A.C.S., Chem. Market Res. Asso. Clubs: Niagara, Niagara Falls Country, du Pont Country, West Chester (Pa.) Golf & Country, Chemists' (New York). Hobbies: golf, gardening, old American glass.

BARROW, Henry Yeaman, sec'y. of Magnus Chem. Co., Inc., Garwood, N.J.; res. Cranford, N.J.
Exec.; b. New York City, May 12, 1885, s. of

Harry and Lilly Barrow; ed. Sewanee Military Acad., Sewanee, Tenn., U. of the South, Sewanee, Tenn.; mem. D.T.D.; m. Mollie Amolie Droescher, Nov. 4, 1916; ch.: Molly. Adv. mgr. Sweet-Orr & Co., N.Y.C.; ranch owner and operator, Montana; pres. Stand. Statistics Co., Inc., N.Y.C., chmn. of bd. Stand. Statistics Co., Inc.; vice-chmn. of bd., Stand. & Poor's Corp., N.Y.C. Club: Echo Lake Country. Hobbies: reading and golf.

BARRY, Aaron Wessels, pres., treas., dir. of res., Barry Labs., Inc. 9100 Kercheval Ave., Detroit 14, Mich.; res. 308 Fisher Rd., Grosse Pointe Farms 30, Mich.
Exec.; b. Saginaw, Mich., Nov. 24, 1907, s. of Carl Mattocks and Edithe Mae Wessels Barry; ed. Wayne U., 1927-1928, Albion Coll., 1928-1930; Men.; Alpha Tau Omega; m. Irma M. Jeffry, May 20, 1936; ch.: Jeffrey, John, Mary Elizabeth. V.p. and treas., C.M. Barry & Sons, Inc., 1929. 1932; organized Barry Allergy Lab. in 1932; reorganized company into The Barry Allergy Lab., Inc., and later re-organized into Barry Laboratories, Inc., 1935 to present. Not. work: Began publishing the daily pollen count in medical jls. and newspapers in 1934; expanded method of Barry treatment of allergies on a continental basis, 1936-1938; invented and dev. new treatments, 1940-1942; cooperated with U.S. Army Med. Depots in establishing allergy diagnostic and treatment service, 1943. Co-author (1945), "Allergy and The Modern Physician"—author, "Principles of Allergy Diagnosis and Desensitization" (1949) "Sterile Injectable (parenteral) solutions" (1949) —Chapter in The ASTA Course in Salesmanship. Mem.: Wayne County Medical Soc., Am. Surgical Trade Association—U.S. Power Squadron, Albion College Alumni Association, Alpha Tau Omega, Manufacturers Surgical Trade Assoc., Am. Phar. Manufacturers Assoc. Clubs: Kiwanis International, Yacht Club (Detroit), Lake Shore Club of Chicago.

BARRY, Richard H., dir. of res., Central Pharmacal Co., Seymour, Indiana; res. 226 Carter Blvd., Seymour.
Phar. chem.; b. Baggaley, Pa., Mar. 25, 1914; s. of James J. and Ella M. Barry; ed. Duquesne U., Schl. of Phar., B.S. (cum laude), 1939; U. of Maryland, M.S., 1941; Ph.D., 1943; mem.: Sigma Xi, Rho Chi; m. Marie Willenpart, 1939. Instr. in chem., U. of Maryland, Schl. of Phar., Balt., 1942-43; res. chem. (org.), Vick Chem. Co., Flushing, N.Y., 1943-45; res. chem. (org.), Maltbie Chem. Co., Newark, N.J., 1945-46; dir. of res., 1946-49; dir. of res., 1949 to date, Central Pharmacal Co., Seymour, Ind. Pubs. and pats. on pharmaceut. res. & devel. Mem.: A.C.S., A. Phar.A., A.A.A.S., Chem. Soc. of London, N.Y. Acdy. Scs. Club: Rotary.

BARRY, William D., v.p., Mallinckrodt Chem. Wks., 72 Gold St., N.Y. 8, N.Y.; res. 173 W. 78 St., N.Y. 24.
V.p.; b. Aug. 16, 1893; s. of Markham J. and Catherine (Power) Barry; m. Mary J. McGowan, Feb. 9, 1920. Entire bus. career with Mallinckrodt Chem. Wks. Clubs: Drug & Chem., Chemists', Downtown Athletic. Officer: Drug & Chem. Club (former pres., governor); Drug Chem. & Allied Trades Sec., N.Y. Bd. of Trade (former chmn., mem. exec. comm.).

BARRY, William H. chem. sales mgr,. Brown Co., 465 Congress St., Portland, Me.; res. 20 Hillside Ave., So. Portland, Me.
Sales mgr.; b. Portland, Me., Aug. 22, 1898, s. of Thomas E. and Nellie T. Barry; ed. S. Portland Public schools, H.S. m. Mary E. Maloney, July 18, 1927; ch.: William H. Jr., Elaine.

BARSEL, Norman, v.p. in chg. of res. dev., 45 Bergen St., Bklyn. 2, N.Y.; res. 133-17 Francis Lewis Blvd., Laurelton, N.Y.
Chem.; b. Safed, Palestine, Mar. 9, 1914, s. of Chaim and Sara Barsel; ed. B.S., June, 1938, Coll. of the City of N.Y., A.S.T.P. Certificate in C.E., U. of Utah; mem. Gibbs 38; m. Ann Stolberg, Aug. 19, 1946; ch.: Sara-Ellen. Res. dept., Non-Sectarian Anti-Nazi League, 1938-1940; chem., International Hormones, Inc., 1940-1943; U.S. Army, 1943-1946; asst. dir. Robert Gould Res. Foundation, 1946-1947; v.p., International Hormones, Inc. 1947 to present. Mem.: A.C.S., Amer. Acad. of Political and Social Sc., Phi Beta Kappa. Hobbies: antiques, chess.

BART, Edward Henry, dir. of dev., Calco Chem. Div., Amer. Cyanamid Co., Bound Brook, N.J.; res. 812 Cleveland Ave., Elizabeth, N.J.
Chem. Engr.; b. Phila., Pa., Sept. 11, 1892, s. of Henry and Anna Bart; ed. U. of Pa., B.S.; m. Jule; ch.: Edward H. Jr., Joanne. Mem.: A.I.Ch.E. Club: U. of Pa.

BARTA, Edward Joseph, chem. engr., Western Regional Res. Lab., U.S. Dept. Agri., Albany, Calif., res. 739 Curtis St., Albany 6.
Res. chem. engr.; b. Cedar Rapids, Ia., Nov. 16, 1899; s. of Louis and Mary Horak Barta; ed. U. Ia., B.S. 1921; M.S. 1922; Ph.D. 1925; mem.: Tau Beta Pi, Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma; m. Wilma Werba, June 14, 1921; ch.: Arthur Edward, Alberta Marie. 1922 U. Ia., grad. asst. chem.; 1925-27 hd. chem. dept., Midland Coll., Fremont, Nebr.; 1927-40 instr., asst. prof. chem. engr., U. Cincinnati, Cincinnati, Ohio; 1940-42 chem. off., Armored Force Bd., Fort Knox, Ky.; 1942-43 chem. off. II Armored Corps; 1943-44 chem. off. XVIII Corps.; 1944-46 chem. off. XVIII Airborne Corps.; 1946 to date chem. engr., Western Regional Res. Lab., Albany, Calif. Studies in Steffens Waste, Treatment of Berry Hallocks, des. of fluctuating temp. rooms, des. apple proc. equip.; mem.: A.C.S., A.I.Ch.E., Prof, Chem. Engr., (Calif.), Prof. Engr. (Ohio); Clubs: U.S.D.A., W.R.R.L., F&A.M., Royal Arch Masons, Couples. Hobbies: bowling, folk dancing, floriculture.

BARTELL, Ernest C., mgr. training and tech. employment, Merck & Co., Inc., Rahway, N.J.; res. 555 Mountain Ave., Westfield, N.J.
Personnel work; b. Sarver, Pa., July 1, 1903; s. of R.J.A. and Barbara (Pent) Bartell; ed. Princeton U., B.S., 1927; Phi Beta Kappa; mem..: Tiger Inn Club; m. Madeliene King, July 8, 1929; ch.: Shirley. Phillips Exeter Acdy. (N.H.), instr., 1929-37; Allegheny-Ludlum Steel Corp., personnel dir., 1937-41; Merck & Co., Inc., mgr. training & tech. employment, 1941 to date. Mem.: Natl. Assoc. of Training Dirs.; Amer. Soc. of Training Dirs.; Eastern, Middle Atlantic and Mid-West Coll. Placement Associations (3). Club: Tiger Inn Club (Princeton), Pres. Bd. of Governors. Hobbies: music, golf.

BARTELS, Charles Richard, hd., Process Engr. Dept., Chem. Dev. Div., E. R. Squibb & Sons, New Brunswick, N.J.; res. 308 Park St., Westfield, N.J.
Chem. engr., b. Yonkers, N.Y., Sept. 5, 1917, s. of Harold C. and Catherine A. (Linehan) Bartels; ed. B.S., 1938, M.S., 1939, M.I.T.; m. Genevieve M. Beckers, Sept., 1941; ch.: Genevieve, Mary Catherine, Anne, Charles Richard. Chem. engr., Natl. Oil Products Co., Harrison, N.J., 1939-1940; chem. engr., Fiske Bros. Refining Co., Newark, N.J., 1941; U.S. Army, Chem. Warfare Service, CWS Technical Command—Captain, CWS, 1941-1946; chem. engr., hd., Process Engineering dept., chem. dev. div., E. R. Squibb & Sons, New

Brunswick, N.J. Res.: process dev., antibiotic extraction, fine chem. manufacture. Mem.: A.I.Ch.E., A.C.S.,, A. Inst. Chems., A.A.A.S., Professional Engineer (New Jersey). Hobbies: photography, handicraft.

BARTENSTEIN, Frederick, Jr., gen. atty., asst. secy., Merck & Co., Inc., Lincoln Ave., Rahway, N.J.; res. 1974 St. George Ave., Rahway, N.J.

Lawyer; chem. industry; b. Warrenton, Va., Oct. 28, 1917; s. of Frederick and Anna C. Bartenstein; ed. Wash. and Lee Univ., B.A. (chem. major), cum laude, 1939; Wash. and Lee Univ. Schl. of Law, LL. B., 1941; m. Isabel B. Anderson, May 31, 1947. With Merck & Co., Inc., legal dept., Feb. 5, 1941, to date. Asst. secy. Merck & Co., Inc. Mem.: Omicron Delta Kappa, Phi Beta Kappa.

BARTHEL, Oliver E(dward), conslt. mech. and automotive engr., 2323 Dime Bldg., Detroit 26, Mich.; res. 24736 Graham Rd., Detroit 23, Mich.

Conslt. mech. and automotive engr.; b. Detroit, Mich., Oct. 3, 1877, s. of Albert Edward and Elizabeth (Haerter) Barthel; ed. Detroit pub. schls.; Detroit Business U., Mech. Dept. and priv. instr. under Prof. D. S. Cole in math. and machine design; m. Adele Gertrude Vargason, May 18, 1906; ch.: Oliver E., Jr., Draughtsman, Frontier Iron Wks., 1894; draughtsman, Chas. B. King Co., 1895—Apr., 1901; designing engr., Henry Ford, Apr., 1901-Oct., 1901; designing engr., Henry Ford Co., Oct., 1901-1902, when Henry Ford Co., became Cadillac Automobile Co.; designing engr., Barthel Motor Co., 1903; designing engr., Experim. Dept., Ford Motor Co., 1904; designing engr., Experim. Dept., Old Motor Wks., 1905; designed engines and other automobile units for Byron J. Carter, John D. Maxwell, Walter Marr (of Buick), A. R. Welch and other well-known automobile pioneers and mfrs., when he estbl. off. in Detroit in 1906 as conslt. mech. and automotive engr., wch. off. he has maintained without interrup. ever since; also retained in 1906 on a water power, flow line and hydroelec. and railroad survey for a hydro-elec. line from Nashville to Chattanooga, Tenn.; has been retained by var. cos. on retainer basis (such as Std. Steel Car Co. of Pittsburgh, Pa., 1912-19); designed gasoline and oil filters for Lentz Fuelators, Columbus, O., during war period and designed air filters for Army tanks dur. war period; designed the first outboard motor for Waterman Motor Co. in 1906; holds 35 U.S. pats. and one pat. pending on an articulator for artificial dentures; designed first porcelain insulator spark plugs and had the porcelain insulators made to order in July, 1901; pats. issued cover internal combus. engines, automobiles and accessories, steamboilers, oil burners, elevated railway, laundry machinery, variable pitch airplane propellors, color lamps, etc.; originated, designed and built in 1912 the first streamlined automobile body; invented and dev. taper automobile frame; was first to prod. a car with instrument board and concealed dash board; in 1917 designed and built first all-steel automobile body; in 1938 designed and prod. cold color lamp for treatment of many diseases; apptd. in 1935 Area Supvg. Engr. for W.P.A. in chge. of all mech., elec. and plumbing projs. in Wayne Co., Mich. Mem.: of Engrg. Soc. of Detroit, Amer. Soc. of Mech. Engrs., Natl. Aeronautics Assoc. of the U.S., Detroit Old Timers Assoc. (past pres.); Soc. of Amer. Military Engrs., life mem. of Automobile Old Timers Inc. of N.Y., Aero Club of Mich., fellow, Amer. Geographical Soc., Acad. of Political Sci., N.Y., and the Masons; also a charter mem. of Mich. Soc. of Prof. Engrs. and mem. of Amer. Ordn. Assoc., Amer. Polar Soc., Acad. of Political & Social Sci., (Phila.); Citizens' Housing & Planning Council of Detroit; Fed. for Railway Progress; Foreign Policy Assoc., Friends of the Detroit Pub. Library, Natl. Audubon Soc., Natl. Geographic Soc., The Detroit Historical Soc., The Great Lakes Hist. Soc., Men's Garden Clubs of Amer., Mich. Horticultural Soc. Clubs: Detroit Yacht (life mem.); Noontide Club. Hobbies: floriculture, metaphysics.

BARTHOLOMEW, Earl, gen. mgr. res. labs., Ethyl Corp., 1600 W. 8 Mile Rd., Ferndale 20, Mich., res. 2224 Yarmouth Rd., Birmingham, Mich.

Mgt. res. labs.; b. Norman, Okla., Jan. 1, 1901; s. of Benjamin Franklin and Ada Florence Burke Bartholomew; ed. U. Okla., A.B. 1921; B.S. Mech. Engr. 1922; M.S. Mech. Engr. 1923; mem.: Phi Beta Kappa, Sigma Tau; m. Juanita Snedeker, June 28, 1925; ch.: Leland Earl, Phyllis Jane. Instr. math., U. Okla., 1921-22; instr. mechanical engr., U. Okla., 1922-23; instr. mechanical engr., Harvard U. 1923-26; engr. Ethyl Corp., 1926-27; dir. engr., res., 1927-45; gen. mgr., res. labs. 1945 to date. Res. in dev. antiknock fluids for gasoline, dev. equip. for measuring antiknock qual. fels, mutual adaptation internal combustion engines, fuels; Author: "Potentialities of the New Fuels in Design of Passenger Car Engines," 1946; mem.: S.A.E., A.S.M.E., A.P.I.; dir. Engr. Soc. (Detr.) Clubs: Recess, Orchard Lake Country. Hobby: gardening.

BARTLETT, C. Julian, pres., Bartlett Chem. Inc., 1460 S. Peters St., New Orleans, La.; res. 5352 Coliseum St., New Orleans.

Pres.; b. New Orleans, La., July 1, 1913; s. of Aubrey and Nellie May (Munson) Bartlett; ed. Tulane U., New Orleans, B.E. in chem. engrg. 1935; mem.: Delta Kappa Epsilon, Phi Phi, Omicron Delta Kappa, Kappa Delta Phi; m. Jeannette B. Limerick, Dec. 2, 1939; ch.: Jeannette Limerick, Aubrey, Olivia Munson. Diamond Alkali Co., Pitts., Pa., sales, July, 1935—Mar., 1939; Bartlett Chem. Inc., New Orleans, pres., Mar., 1939 to date. Mem.: T.A.P.P.I. N.O. Chapter, Am. Red Cross; Children's Bu.; Gaudet Episcopal H.S. Clubs: Boston Club of N.O.; Louisiana Club; Metairie Country, Chemists' (N.Y.). Hobbies: golf, carpentry.

BARTLETT, Edward Payson, res. conslt., Agr. Exp. Sta., U. Del., Newark, Del., res; 806 Berkeley Rd., Wilmington, Del.

Chem.; b. Belchertown, Mass., Oct. 17, 1884; s. of Addison H. and Violet Isabel Bardwell Bartlett; ed. A.B., 1908 Dartmouth; M.A. Harvard 1913; Ph.D. 1915; mem.: Phi Beta Kappa; m. Eleanor Zader Sykes, June 17, 1924; ch.: Diantha E. Sc. instr., Blees Military Acdy., Macon, Mo. 1908-09; instr. chem., Pomona Coll., Claremont, Calif. 1909-1911; Austin Teaching fellow, Harvard U., Cambridge, Mass. 1911-13; asst. prof. chem., Pomona Coll. 1914-1918; act. dean, 1916-1918; Capt. U.S.A., 1918-19; assoc. prof. chem., 1919-24; asst. chem., assoc. chem., chem. sr. chem., U.S. Dept. Agri. 1924-29; res. chem. to sr. res. assoc., E.I. du Pont 1929-49; res. conslt., U. Del. 1950 to date. Res. in Piezochem., primarily proc. dev. during yrs. in indust. Author: "Friends in Wilmington", 1738-1938"; contrib. extens. to sc. and tech. jls.; mem.: A.C.S.; A.A.A.S. (fellow); Bd. Trustees, Wilmington Monthly Meeting of Friends; chrm., Bd. Mgrs., Wilmington Friends Sch. Dir. Brandywine Building & Loan Assn. Club: du Pont Country. Hobbies: photography, shop work, travel.

BARTLETT, Paul D(oughty), prof. of chem., dept. of chem., Harvard U., Cambridge 38, Mass.; res. 288 Concord Rd., Weston, Mass.

Chem.; b. Ann Arbor, Mich., Aug. 14, 1907; s. of George M(iller) and Mary Louise (Doughty) Bartlett; ed. A.B. Amherst Coll., 1928, A.M. Harvard, 1929, Ph.D. Harvard 1931; mem.: Theta Delta Chi, Alpha Chi Sigma, Phi Beta Kappa; m. Mary Lula Court, June 24, 1931; ch.:

Joanna Court, Geoffrey McSwain, Sarah Webster. Natl. res. fellow, Rockefeller Inst., 1931-1932; instr., U. of Minnesota, 1932-1934; instr Harvard U. 1934-1937; asst. prof. 1937-1940; asso. prof. 1940-1946; official investigator, nat. Def. Res. Comm. 1941-1945. Res.: on mechanism of org. reactions, kinetics, stereochemistry, Walden inversion, molecular rearrangements, polymerization, paraffin alkyletion, etc. Contrib. extens. to sc. and tech. journals, 1932 to the present. Mem.: A.C.S. (Award 1938) Natl. Academy, N.Y. Academy, Am. Academy (fellow). Club: Ouroboros. Hobbies: skiing, photography.

BARTON, Larry J., v.p. and director, Clorox Chem. Co., 850—42d Ave., Oakland 1, Calif.; res. 799 Juana Ave., San Leandro, Calif. Chem. engr.; b. San Francisco, May 21, 1896; ed. Stanford, chem. engr.; mem.: Alpha Chi Sigma. Hobby: amateur radio W6YI.

BARTON, T.H., chmn. of bd., Lion Oil Co., Lion Oil Bldg., El Dorado, Ark. Exec.; b. Marlin, Falls County, Tex., Sept. 20, 1881; ed. pub. and H.S. of Marlin; entered Texas A. & M. College at age of 16 where he spent schl. yr. 1897-98 and part of 1899. Enlisted in U.S.A., 1901, served with 12th and 7th Cavalry Regiments; disch. 1904 as corporal; served with Natl. Guard in Ark., commis. Capt. of Co. G, 2nd Ark. Inf. (1904) and served sev. yrs.; accepted Colonelcy in Tex. Natl. Guard and served as Lt. Col. and then Col. of 5th Cavalry (later 112th Cavalry Reserve), 1918; commis. Col. of Cavalry, U.S.R. and served in that capacity until 1936. Went to Ark. in 1920; entered oil business and 1921-28 was pres. and dir. of El Dorado Natural Gas Co. and Natural Gas and Fuel Corp.; in Jan., 1929 became pres. and dir. of Lion Oil Refin. Co. (now Lion Oil Co.) and served in that capacity until Oct., 1947 at which time he was elected chmn. of bd.; pres., The Sonbar Corp.; pres. and dir., The Barton Corp.; chmn. of bd. and pres., Ark. Radio and Equipment Co. (KARK-Little Rock); pres. and dir. Real Properties, Inc.; dir., Southwestern Bell Telephone Co. Mem. of bd. of dirs. and exec. comm., A.P.I.; mem. bd. of dirs. Independent Petroleum Assoc. of Amer.; mem. of Natl. Petroleum Council which succeeded Petroleum Industry War Council of which he was a charter mem.; councilor, Southwestern Distr., U.S. Chamber of Commerce; pres., Ark. Live Stock Show Assoc. since inception, 1937. Mem. of bd. of trustees, Midwest Res. Inst.; dir., Ark. Economic Council, State Chamber of Commerce; mem. bd. of trustees, George Peabody Coll. for Tchrs., Nashville, Tenn.; mem.: Regional Exec. Comm., B.S. of A.; mem. bd. of trustees, First Methodist Ch., El Dorado, also Education Comm.; v.p. and mem. bd., Cotton Bowl Athletic Assoc.; mem. also of: Amer. Legion; Voyagous, Voiture Locale No. 209, Forty and Eight; Little Rock Chapt. Military Order of World Wars; Frank Sexton Lodge No. 206, A.F. & A.M. (also mem. Ogilvie Chapt. and Ogilvie Council, Pittsburg, Texas); Shrine Temple, Scimitar Temple, A.A.O.N.M.S., Little Rock, Ark.; Little Rock, Court No. 12 Royal Order of Jesters; Natl. Press Club (Wash., D.C.); Bankers Club (N.Y.); Newcomen Soc. of England, N.A. Chapter; Dallas Petroleum Club; 25-Year Club of Petroleum Industry; charter mem. of Pipe Liners Club; mem. El Dorado Golf and Country Club; Jefferson Islands Club (Wash., D.C.); International House (New Orleans); Federal Hall Memorial (N.Y.); Ark. Chapt. of Texas A. & M. Club; v.p.-at-lge., Assoc. of Former Students, Tex. A. & M. College; hon. mem. Beta Gamma Sigma; Gamma Chapter, Phi Lambda Chi; mem. of bd. of dirs., Ark. Historical Soc. Recip. of award for most disting. serv. to community of El Dorado for 1937 by El Dorado Chamber of Commerce; recip. of Ark. Jr. Chamber of Commerce Trophy for most disting. serv. to State of Ark. in 1942; hon. degree, Doctor of Law, U. of Ark., 1941; same degree, Harding College, 1948; same degree, College of Ozarks, 1948; attended 3rd Army Orientation, Jan., 1943, at Fort Leavenworth, Kans.

BARTOW, Edward, prof. of chem. and chem. engrg., emeritus, State U. of Iowa, Chem. Bldg., Iowa City, Iowa; res. 403 Brown St., Iowa City, Ia. Chemistry-retired; b. Jan. 12, 1870, Glenham, N. Y.; s. of Charles Edward and Sarah Jane (Scofield) Bartow; ed. Williams, B.A., 1892; U. of Göttingen, Ph.D. 1895; m. Alice Abbott, Sept. 3, 1895; ch.: 1 dau. Williams Coll., asst. chem. 1892-94, instr. 1895-97; U. of Kans., instr. chem. 1897-99, assoc. prof. 1899-1905; U. of Ill., assoc. prof. 1905-06, prof. san. chem. 1906-20; Ill. State Water Survey, dir. 1905-17, Water Survey Div., chf. 1917-20; State U. of Iowa, prof., hd. dept. chem. and chem. engrg., 1920-40; prof. chem. and chem. engrg. emeritus, 1940 to date. Maj., 1917, Lt. Col. 1918, San. Corps., U.S.A. in France, 1917-19, Medaille d'Honneur. Mem. of Commis. to invest. cause coal mine explos., Kan. 1905; mem. and secy., Lake Mich. Water Commis. 1908; commis. Stds. Water for Interstate Carriers 1913-22; asst. ed., Chem. Abst. 1911 to date; 9th Internatl. Cong. Chem., Madrid, 1934, Tenth Internatl. Cong. Chem., Rome, 1938; Internatl. Chemical Union of Pure and Applied Chem., Lyons, 1922, Bucharest, 1925, Washington, 1926, Warsaw, 1927, The Hague, 1928, Liege, 1930, Madrid, 1934, Lucerne, 1936, Rome, 1938 and Amsterdam, 1949. Author of rep. on chem. and biolog. survey waters of Ill., 14 vols., papers on water purific., sewage disposal and trade waste treat. Mem.: A.C.S. (pres. 1936-37); A.A.A.S.; Soc. Chim. Industrie; Soc. Chem. Ind. (Great Britain); Soc. Am. Mil. Eng.; Am. Water Wks. Assoc. (trustee 1913, v.p. 1930, pres. 1921); A.I.Ch.E. (dir. 1936-39); Am. Soc. Civil Eng. (chmn., san. eng. div. 1932-34); Franklin Inst.; Am. Pub. Health Assoc.; A.S.T.M.; Soc. Prom. Eng. Educat.; Ill. Acdy. Sc.; Iowa Acdy. Sc. (pres. 1934); Natl. Inst. Social Sc.; Kans. Acdy. Sc. (pres. 1904); Spanish Acdy. of Scs. (corresp. mem.); A.I.C. Clubs: University (Chicago); Chemists' (N.Y., Chicago); Triangle; Theta Delta Chi; Phi Beta Kappa; Sigma Xi; Phi Lambda Upsilon; Alpha Chi Sigma; Tau Beta Pi. Hobby: stamp collecting.

BASH, Francis E., asst. v.p. & tech. dir., Driver-Harris Co., 201 Middlesex St., Harrison, N.J.; 21 Jardine Rd., Morristown, N.J. Chem. engr.; b. Port Townsend, Wash., Feb. 15, 1893; s. of C.B. and Emelia (Hearton) Bash; ed. B.S. in Chem. Eng. U. of Wis., 1916, chem. engr. U. of Wis., 1919; mem.: Delta Upsilon, Phi Lambda Upsilon; m. Barbara C. Smith, May 12, 1914; ch.: Robert E., James H., J. William, Mrs. F.R. Brush, Mrs. W.W. Purkiss. Leeds & Northrup Co., Phila. 1916-25 res. eng. (Electric furnace design and production) Prod. Mgr.; Electrical Alloys Co., Morristown, N.J., mgr. tech. dept., asst. v.p. & tech. dir. Mem.: A.S.T.M., A.C.S., A.S.M., Mtls. Sc. Club, Inst. of Radio Engrs. Club: Rock Spring Country.

BASHOUR, Joseph T., dir. Central Res. Lab., Eastern Div., Stauffer Chem. Co., 420 Lexington Ave., N.Y.C.; res. 120 W. 70th St., N.Y.C. Chem.; b. Hartford, Conn. 1906; s. of Tamir F. and Nazira Bashour; ed. Trinity Coll. (Hartford), B.S. 1927; N.Y.U., Ph.D. 1934; m. Dora S., 1933; ch.: Alice T. 1927-30 anal., Food & Drug Admin., U.S. Dept. of Agric.; 1934-39 res. chem., Columbia Coll. of Phys. and Surg.; 1939-40 res. asst., Columbia U. Dept. of Chem.; 1940-43 res. chem., Endo Prods., Richmond Hill, N.Y.; 1943-44 res. chem. E.R. Squibb & Sons, Bklyn., N.Y.;

1944 to date with Stauffer Chem. Co., N.Y.C.; notable wk.: 10 pubs. and 3 pats. in bile acids, sex hormones, org. synth., indust. chems. Mem.: A.C.S., A.I.C. (fellow, and mem. of council of N.Y.Chapt.); A.A.A.S., Sigma Xi, Phi Lambda Upsilon, A.A.Econ. Entomologists. Hobby: painting.

BASORE, Cleburne A., hd. prof. of chem. engr., Dept. of Chem. Engr., Ala. Polytech. Inst., Auburn, Ala.; res. 113 Mitcham Ave., Auburn, Ala.
Tchr. of chem. engr.; b. Broadway, Va., May 13, 1893; s. of Thomas Sidney Lee and Minnie (Ammen) Basore; ed. Ala. Polytech. Inst., B.S. 1914; M.S. 1915; U. of Mich., M.A. 1917; Columbia U., Ph.D. 1929; mem.: Tau Beta Pi, Phi Kappa Phi, Theta Chi; m. Annie E. Terrell, June 12, 1920. 1917-20 res. chem. The Koppers Co.; 1920-29 asst. prof. of chem., Ala. Polytech. Inst.; 1929-38 prof. of chem., Ala. Polytech. Inst.; from 1930 to 1942 part time in Eng. Exper. Station as asst. dir.; 1938 to date hd. prof. of chem. engr., Ala. Polytech. Inst.; notable wk.; teaching, consulting and research; articles, pats. and engr. bulletins relating to hard surfacing of metals, decolorizing carbon, briquetting of wood, charcoal and lignite; glass from blast furnace slag, etc. Author: "Introduction to Chem. Engr. Res." 1940. Mem.: Ala. Acad. of Sci. (past pres.); A.C.S. (past State chmn.); A.I.Ch.E. (prev. mem. stud. chapts. and prof. legis. comms.); Southern Assoc. of Sci. and Ind.; Tau Beta Pi, Phi Kappa Phi, Theta Chi. Club: Kiwanis. Hobbies: military history, athletics.

BASS, Lawrence Wade, v.p. in chg. of res. & dev., U.S. Industrial Chemicals, Inc., 60 E. 42 St., N.Y. 17, N.Y.; res. 67 Park Ave., N.Y. 16.
Chem. engr.; b. Streator, Ill., June 18, 1898; s. of John H. and Sara L. Bass; ed. Yale U., Ph.B., summa cum laude, 1919, Ph.D. 1922; studied also at Tulane U., U. of Lille, U. of Paris, Pasteur Inst.; mem.: Sigma Nu, Sigma Xi, Tau Beta Pi, Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Tau; m. Edna Maria Becker, Nov. 23, 1935. Sc. staff, Rockefeller Inst. for Medical Res., N.Y., 1925-29; exec. asst., Mellon Inst. of Ind., Res., Pitts., 1929-31; dir. of res., Borden Co., N.Y., 1932-36; asst. dir., Mellon Inst., 1937-42; dir., New England Ind. Res. Foundation, Boston, 1942-44; dir. of chem. res., Air Reduction Co., N.Y., 1944-48; dir. of res. & dev., U.S. Industrial Chemicals, Inc., N.Y. 1944-48, v.p. 1948 to date. Special asst., Natl. Defense Res. Comm., 1942-43; chmn., Comm. on Quartermaster Problems, Natl. Res. Council, 1943-47; mem.: Comm. on Equipt. & Matls., Res. & Dev. Bd., 1949 to date. "Chem. of the Inorg. Complex Cmpds." (translation) Wiley, 1923; co-author: "Nucleic Acids" with P.A. Levene, Reinhold, 1931; about 100 articles in sc. & tech. journals. Mem.: A.A.A.S., A.C.S. (bd. of dir. 1946-49); A.I.Ch.E. (pres. 1945); A.I.C.: Engrs. Joint Council 1946-49 (chmn. 1948); I.F.T., Soc. Chem. Ind. (Ex. Com. Am. Sect.); Yale Eng. Assn. (pres. 1950). Award: President's Cert. of Merit 1947. Clubs: Chemists', Cosmos (Wash. D.C.), Uptown, Yale.

BASS, Shailer Linwood, asst. gen. mgr., Dow Corning Corp., Midland, Mich.; res. 1805 West Sugnet Rd., Midland.
Chem.; b. Paducah, Ky., Apr. 5, 1906; s. of Bernard W. and Olivia C. (Sledd) Bass; ed. Butler U., A.B., 1926; Yale U., Ph.D., 1929; m. Elizabeth Alberti, Oct. 3, 1931; ch.: Jon Dolf, Arlen, Jeralyn Joan, Brendon, Heather, Derwin, Walden. Res. chem., organic lab., The Dow Chem. Co., 1929-36; res. dir., cellulose prods. div., 1936-43; res. dir., Dow Corning Corp., 1943-46; asst. gen. mgr., 1946 to date; dir. in following: Dow Corning Ltd., London; Midland Silicones Ltd., London; Societe Industrielle des Silicones et des Produits Chimiques du Silicium, Paris. Organic chemicals, plasticizers, cellulose, ethers, silicones. Mem.: Sigma Xi, A.C.S. Bd. of Education, Midland, Mich. Club: Kiwanis. Hobbies: fishing, woodworking.

BASS, Walter Louis, chem. engr., Rust Proc. Design Co., 575 6th Ave., Pittsburgh, Pa.; res. 2362 Fremont Pl., Pittsburgh.
Chem. engr.; b. Poughkeepsie, N.Y., Mar. 27, 1916; s. of Abraham and Sarah Bass; ed. Cooper Union Inst. of Tech., N.Y., B.S. in Ch.E. 1937; m. Jennette Schreiber, 1940; ch.: Isabel Anne, Carolyn Abby, Peter Lewis. 1937-46 proc. engr. The Lummus Co., N.Y.C.; 1946-48 proj. engr. Publicker Indust. Inc.; 1948 to date chem. engr. and mem.: of Exec. Mgt. Comm., Rust Proc. Design Co., dir. Rust Proc. Design Co. Mem.: A.I.Ch.E.; 1937 1st prize winner, A. McClaren White Award of A.I.Ch.E.

BATCHELDER, A(ugustus) H(ugh), asst. dir., Richmond Labs., Calif. Res. Corp., Richmond, Calif., res. 833 Mendocino Ave., Berkeley 7, Calif.
Chem.; b. San Francisco, Calif.; s. of John Hugh and Mary Batchelder; ed. U. Calif., B.S. 1927 chem.; mem.: Alpha Chi Sigma; m. Eva Gott, 1929; ch.: George, Paul, James, Ann, John. Calif. Ink, drying oils, plastics, 1927-30; Stand. of Calif. res. dept., its successor Calif. Res. Corp. 1930 to date, holding positions of res. chem., res. supvr., div. hd., mgr. pet. prods. res.; asst. dir. of labs, mgr. pet. res. 1942 to date. Publs., patents, drying oils, resins, asphalts, fuel oils, lubricants; mem.: Sigma Xi, Tau Beta Pi, Alpha Chi Sigma (prof.), Inst. Naval Engrs., S.A.E., A.C.S., Am. Pet. Inst. Hobbies: boating, fishing.

BATEMAN, George Monroe, prof. of chem., Ariz. State Coll., Tempe, Ariz.; res. 1106 Van Ness, Tempe.
Chem. prof.; b. Bloomington, Idaho, Sept. 12, 1897; s. of Alfred John and Clara (Hess) Bateman; ed. public schls., Paris, Idaho; B.S. Utah State Agric. Coll., 1921; M.S. chem., Cornell U., 1926, Ph.D. 1927; m. Florence Harris, May 24, 1922; ch.: Cornella, Flora Mae, Georgia Rose, Harold Harris, Instr. sc. & math., Grace, Ida.; high schl., 1921-22; prin. schl., Arimo, Ida., 1922-24; instr. dairy chem., Cornell U., 1925-27; prof. of chem., hd. sc. dept., Ariz. State Coll., Tempe, 1927 to date; pvt. U.S.A., 1918; Officers Reserve Corps, 1932-42; Capt., C.W.S., 1941-42 Contrib. arts, scien. journals. Mem.: A.A.A.S., A.C.S., Sigma Xi, Phi Kappa Phi. Hobbies: Boy Scouts, camping, swimming.

BATES, Allan, v.p. for res. and dev., Portland Cement Asso., 33 W. Grand Ave., Chicago 10, Ill.; res. Rural Rt. 1, Box 153, St. Mary's Rd., Libertyville, Ill.
Engr. adm.; b. Elyria, O., July 28, 1901; s. of A. P. anl Evelyn (Sipes) Bates; ed. A.B., Ohio Wesleyan, 1923, B.S. Case Inst. of Tech., 1925; M.S., Case, 1929; Am. Field Service fellow, univs., France, 1930-1931, Ph.D. (metal) U. of Nancy, France, 1931, hon. D.E. Steven Inst. Tech. 1944; hon. D.Sc. Rose Polytech., 9147; mem.: Phi Delta Theta, Tau Beta Pi, Sigma Xi; m. Ruth Barnes, Sept. 1, 1926; ch.: Richard Robert, Allan Charles. Res. metallurgist, Nat'l. Malleable & Steel Castings Co., 1925-1926; instr., metal, Case, 1927-1930; prof., Case, 1931-1937; mgr., chem. metal, res., Westinghouse Elec. & Mfg., Co., 1937-1946; v.p. for res. and dev., Portland Cement Asso., 1946 to present. Author: "Fundamentals of Ferrous Metallurgy," 1934. Mem.: A.I.M.M.E., A.S.T.M., A.C.S. Am. Concrete Inst., Am. Soc. of Mtls. Club: University (Chicago).

BATES, John R(eginald), dir. in chg. res. and dev., Sun Oil Co., 1608 Walnut St., Philadelphia 3, Pa.; res. 649 N. Chester Rd., Swarthmore, Pa.
Chem.; b. St. Ann's Bay, Jamaica, B.W.I., Dec. 17, 1902; s. of George Reginald and Clarisse Maude (Lewis) Bates; ed. Amherst Coll. 1924, A.B.; Princeton 1925, A.M.; Princeton 1927, Ph.D.; Nat. and Internat. Res. Fel.; Johns Hopkins and Univ. of Berlin, 1927-1929; mem.: Sigma Xi, Phi Beta Kappa, Phi Lambda Uusilon; m. Rhoda Todd, June 20, 1928; ch.: Sally Virginia, John Rhodes. Res. Assoc. Princeton U. 1929-32, taught chem.; asst. chem. prof., U. of Mich., 1932-35; assoc. chem. prof. U. of Mich. 1935-36; res. chem., Catalytic Dev. Co., Linwood, Pa. 1936-40; dir. of res., Catalytic Dev. Co., Linwood, Pa. 1940-42; dev. engr., Sun Oil Co., Phila. 3, Pa. 1942-44; asst. to v.p., Sun Oil Co., Phila. 3, Pa. 1944-47; dir. in chg. res. and dev., Sun Oil Co., Phila. 3, Pa. 1947 to date. dir. Sun Oil Co. Res.: Photochem., reaction kinetics, catalysis and petroleum tech. Mem.: A.C.S., S. Automotive E., Franklin Inst. Club: Shoreham Country. Hobby: boating.

BATES, Joseph Sumner, pres., Bates Chem. Co., Lansdowne, Pa.; res. Rocky Spring Farm, Media R.D. 1, Pa.
Exec.; b. Abington, Conn., Nov. 13, 1890; s. of Charles Frederick and Annie (Goffe) Sumner; ed. Yale, Ph.B., 1912; Ph.D., 1915; m. Jane Laflin Roessler, Oct. 11, 1916; ch.: Guy Carleton, William Roessler. Calco Chem. Co., plant devel. 1915-17; Natl. Aniline Chem. Co., mgr. dev. dept., Marcus Hook plant, 1920-23; Bates Chem. Co. pres. 1924 to date; Capt., Ordn. Dept., N.A. 1917-19; Civil Serv. Ordn. Dept., 1919-20; Major, Ordn. Res.; 1940-41, active duty, Lt. Col., Ordn. Dept., assigned to adm. Export Control; 1941-42, W.P.B. Chem. Div. "One Dollar Per Year"; 1942-43, exec. v.p. Gen. Aniline & Film Co., after seizure by U.S.A.; 1944, spec. asst. Treasury Dept., foreign surpluses, U.S. Matls.; 1945, chf. spec. mission for Secy. of War, survey I.G. Farben properties in U.S. Zone of Occupation, Germany; Jan. 1, 1947-Dec. 31, 1949, dir. Ciba States Ltd., pres. and dir. Ciba Pharmaceut. Prods. Inc.; dir. Summit Trust Co., Summit, N.J. Mem.: Sigma Xi, A.I.Ch.E.; served on Boro Council, Swarthmore, Pa.; chmn. Highway Comm., 1928-32; five terms trustee Swarthmore Presbyterian Ch., 1921-40; pres. 1940. Clubs: University, Chemists', Yale (New York); Rosetree Fox Hunting (dir.), Racquet, Union League, Yale (Phila.). Hobbies: golf, breeding half-bred hunters.

BATES, Philip Knight, pres., Riker Labs., Inc., 8480 Beverly Blvd., Los Angeles 48, Calif.; res. 363-17th St., Santa Monica, Calif.
Bacteriol.; b. Cohasset, Mass., July 2, 1902; s. of Edgar Wallace and Minnie Frances (Knight) Bates; ed. B.S., M.I.T., 1924; Saltonstall Fellow, Ph.D. (bacter.), 1929; m. Eleanor Johnson, July 9, 1929; ch.: Charles J., Philip K., Jr., Bradford. Asst. bacteriol., M.I.T., 1924-25; tchg. asst., pub. health, Med. Schl., Tufts Coll., 1924-26; res. assoc., food bacteriol., M.I.T., 1927-28; hd. dept. bacteriol., Frigidaire Corp., Dayton, 1928-32; res. assoc., M.I.T., 1933-35; bacteriol., United Drug Co., Boston, 1936-40; instr. phar. schl. med., Boston, 1945-46; dir., product devel. dept., Rexall Drug Co., 1941-49; pres., Riker Labs., Inc., 1949 to date. Mem.: I.F.T., Soc. Bact., A.C.S., P.H.A., S.C.I.

BATLEY, Harry Alexis, mgr., coordinating div., Nopco Chem. Co., First & Essex St., Harrison, N.J., res. Franklin Rd., Union Hill Sect., Denville, N.J.
Chem. engr.; b. Clayville, N.Y., Sept. 21, 1909; s. of John Armitage and Mary Gertrude Foley Batley; ed. Coll. Engr., Newark, N.J., B.S., prof. deg. Ch.E.; mem.: Phi Sigma Omega; m. Doretha Katherine Todd, Oct. 5, 1935. 1932-34 contr. chem., Nopco Chem. Co.; 1934-36 asst. frmn., compound dept., Indus. prod. depts.; 1936—frmn.; 1939-43 prod. mgr., sulph. compd. dept., 1943-44 asst. gen. prod. mgr., indust. prod. div.; 1944 to date mgr., coordinat. dept.; mem.: Tau Beta Pi, Morris Co. Engrs.; A.I.C. (fellow). Hobbies: horseback riding, dog raising.

BATTLEY, Joseph F., (Brig. Gen., U.S.A., retired), pres., Natl. Paint, Varnish & Lacquer Assoc., Inc., 1500 Rhode Island Ave. N.W., Wash., D.C.; res. 2644 S. Lynn St., Arlington, Va.
Exec.; b. Norfolk, Va., Dec. 19, 1893; s. of Joseph Franklin and Effie Ada (Sadler) Battley; ed. Norfolk, Va., Acdy.; Grad. Schl. of Business, Harvard U., 1926; Army Indus. Coll., 1933; Chem. Warfare Schl., 1938; Army War Coll., 1946; m. Pauline Nicholas Barclay, Dec. 22, 1917; ch.: Jeanne Pauline (Mrs. John J. Duffy). Federal service, Va. Natl. Guard, enlisted capacity, 1917-18; 2nd. Lt. Engr. Reserve, 1918; 1st. Lt., Regular Army, C.W.S., 1920; Capt. to Brig. Gen., G.S.C., U.S.A., 1933-44; retired, 1947; exec. asst. to pres. & pres., Natl. Paint, Varnish & Lacquer Assoc., 1947 to date. Army experience largely adminis. & exec.; included prod., procurement & distrib. of chem. warfare supplies, indus. mobilization, planning, selective service & labor matters, construction responsibility, & public relations; on loan from Army to N.R.A., 1933, as Admin. of Chem. Div., Paint, Rubber, Paper, Soap & Chems. Codes. Distinguished Service Medal, 1945; Legion of Merit, 1946; Army Commendation Ribbon with 2 clusters. Clubs: Army-Navy, Army-Navy Country, Natl. Press, The Fort Lesley J. McNair Mess, The River, Kansas City, Harvard.

BATY, Joseph A., pres., Cresset Chem. Co., Cresset Res. Corp., Weston, Ohio.
Chem.; b. Colgate, Okla., Dec. 5, 1904; s. of James F. anl Mary J. Baty; ed. U. Mont., B.A. 1930; Cornell U., Ph.D. (Chem.) 1935; m. Ann Cardozo, June 15, 1932; ch.: George Franklin, Ralph Farrand, Joseph Bruce. U.S. Rubber Co. Lab. 1935-37 res.; 1938-43 hd. anal. lab.; C.P. Hall Co., Akron, 1943-46 tech. dir.; Cresset Chem. Co., & Cresset Res. Corp., corps. organized by self in 1946 & 1948 resp. Res. in dev. of microporous plastic compositions, new chem. anal. of rubber; mem.: A.C.S.

BAUDER, Frederick William, assoc. prof. in chem., Newark Coll. of Engrg., Newark 2, N.J.; res. 19 Great Hills Terrace, Short Hills, N.J.
Assoc. prof. of chem.; b. Newark, N.J., July 24, 1897; s. of John F. and Anna M. Bauder; ed. Worcester Polytech. Inst., B.S., 1920; Stevens Inst. of Tech., M.S. 1945; grad. wk., Columbia U. & N.Y.U.; mem.: Phi Sigma Kappa, Omicron Delta Kappa; m. Florence Mehne, June 24, 1922; ch.: Stephanie Ann. 1920-26, plant chem., Cooper Chem. Co.; 1926-27, supvr. of rug printing div., Congoleum-Nairn Co.; 1928-29, Holdt Paint Co., mgr.; 1929-41, instr., 1941-48, asst. prof., 1948 to date, assoc. prof., Newark Coll. of Engrg.; 1930 to date, owner, Bauder Prods., protective coatings. 1942 to date, supvr. of courses & conferences on protective coatings at Newark Coll. of Engrg.; conslt. on protective coatings & potable water treat. Newark Coll. of Engrg. Manuals, Introduction to Qualitative Anal.; Qual. Anal. Notes; Sanitary Chem. & Bacteriology. Water, Fuel and Gas Analysis. Mem.: A.I.C. (fellow), A.C.S., Am. Soc. for Engrg. Ed. Hobbies: music —dir. of 102nd Cavalry Band 1924-29, dir. of orchestras, sports—Coach of basketball, Newark Coll. of Engrg., in chg. of varsity sports.

BAUER, Charles Wilfred, prof. of chem., 179 Longwood Ave., Boston, Mass.; res. 107 Lowell Road, Wellesley Hills, Mass.
Prof. biochem.; b. Hastings, Neb., June 6, 1899; s. of Conrad A. and Kathryn Stroh Bauer; ed. St. Anthony Idaho High School 1919, Valparaiso U., Valparaiso, Ind., Ph.G. Ph.C. 1921, Creighton U., Omaha, Neb. B.S. 1927, M.A. 1929, The State U. of Iowa, Iowa City, Iowa, Ph.D. 1937; Phi Delta Chi, Rho Chi, Sigma Xi, Phi Lambda Upsilon; m. Ruth Litton August 27, 1931; ch.: Mary Alice. Chem. Utah-Idaho Sugar Co., Sugar City, Idaho 1921-22, Sc. Teacher, St. Anthony Idaho High Schl. 1922-1923, Chem. U.S. Steel Co. Gary, Ind. 1923-1924, prof. chem. Creighton U., Omaha, Neb. 1924-1937, prof. chem. Mass. Coll. of Pharm., Boston, Mass. 1937—to date. Res. Conslt. United Rexall Drug Co., Boston, Mass. 1942-1946. Med. exped. among Eskimos of Alaska 1934, res. in field of enzymes, Phar. chem., coal tar preparations used in med. Mem.: A.-Phar.A., A.A.A.S., A.C.S., New Engl. Asso. Chem. Teachers. Clubs: Pres. Wellesley Congregational Club (2 yrs.), Mason. Hobbies: gardening and trout fishing.

BAUER, Jackson, chf. chem. Fred Whitaker Co., Ridge Ave. & Scotts Lane, Phila. 29, Pa.; res. 223 Newportville Rd., Croydon, Pa.
Chem.; b. Philadelphia, Pa., July 8, 1913; s. of John M. and Frances C. Bauer; ed. Bristol High School, Temple U. A.B. in chem. 1937; m. Mildred Dyer October 2, 1939; ch.: Fay Jean, Joan Karen. Chem. L.D. Davis Co., Edgely, Pa. 1937-1938, chf. chem. Fred Whitaker Co., Phila., Pa., 1939-50. Dev. several improved methods of wool processing, particularly in carbonizing wool. Author arts. on wool processing. Mem.: A.C.S., A.A.Tex. Chem. & Colorists, A.S.T.M., Franklin Inst. Hobbies: music, sports, photography.

BAUGH, Robert Henry, gen. branch mgr., Cleveland sales office, Monsanto Chem. Co., 875 Union Com. Bldg., Cleveland 14, Ohio; res. 3615 Tolland Rd., Shaker Heights, Ohio.
Exec.; b. Birmingham, Ala., Jan. 25, 1906; s. of R.H. and Martha (Webb) Baugh; ed. U. of Ala., 1927, B.S. in E.E., Phi Beta Kappa, Tau Beta Pi; Oxford U., England, 1930, B.A. in physics; mem.: Delta Kappa Epsilon; m. Loreene Huggett, Aug. 11, 1937; ch.: Robert Webb. Monsanti Chem. Co., 1932 to date. Mem.: A.C.S. Clubs: Mayfield Country (Cleveland), University Club of Pitts. Hobby: golf.

BAUM, Sidney Jacob, gen. mgr., Am. Polymer Corp., Peabody, Mass., res. 12 Grove St., Beverly Farms, Mass.
Chem. engr.; b. Newark, N.J., Jan. 29, 1916; s. of Phillip and Helen Baum; ed. B.S. Newark Coll. Engr. 1935; M.S., M.I.T., 1936; Ph.D. Columbia U. 1940; m. Nettie Schlanger, Aug. 29, 1940; ch.: Carol, Evelyn. 1936-38 E.I. du Pont de Nemours & Co., chem. engr.; 1938-40 Newark Coll. Engr., instr.; 1941-42 Celanese Corp., chem. engr.; 1942-44 Am. Resinous Chem. Corp., chem. engr.; 1944 to date Am. Polymer Corp., dir., gen. mgr.

BAUMANN, Carl A(ugust), prof. of biochem., U. of Wis., Madison 6, Wis.; res. 803 State St., Madison 5, Wis.
Biochem.; b. Milwaukee, Wis., Aug., 10, 1906; s. of Edw. C. and Minna (Einwaldt) Baumann; ed. U. of Wis., B.S., 1929; M.S., 1931; Ph.D., 1933; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Phi Beta Kappa, Sigma, Xi, etc. U. of Wis., 1929-39; Gen. Educ. Bd. Fellow, Heidelberg, Cambridge, Copenhagen, 1934-36; asst. prof. of biochem., U. of Wis., 1939, prof., 1946; Also Mission 1945; res. in vitamins, nutrition, cancer. Author of abt. 100 arts. in sc. jls. Mem.: A.C.S., A.S.Bio.C., A.I.N., A.I. Cancer Res., A.A.A.S., Soc. Exp. Biol. Med.; res. M. of Freedom, Certif. of Merit, Order British Empire.

BAUMANN, Robert James, market analyst, chem. dept., Gen. Elec. Co., Pittsfield, Mass.; res. 429 Pomeroy Ave., Pittsfield.
Chem.; b. Chicago, Ill., Oct. 30, 1918; s. of Edward H. and Theresa Baumann; ed. 1940, B.S. cum laude, Elmhurst Coll. (Ill.); 1943, M.S., U. of Ill.; mem.: Phi Lambda Upsilon, Alpha Chi Sigma; m. Catharine D., Nov. 19, 1941; ch.: Susan L. 1941-42, res. chem., Sherwin-Williams Co.; 1943, plant chem., Am. Aniline Prods. Co.; 1944-46, U.S.N., Pacific Theatre; 1946-49, market res. dept., Indoil Chem., Co.; Oct. 1949 to date, Gen. Elec. Co. Mem.: A.C.S., Chem. Market Res. Assn., Comm. Chem. Dev. Assn. Club: Stanley (Pittsfield, Mass.).

BAVETTA, Lucien A., prof. biochem., nutrition, Sch. Dentistry, U.So. Calif., Los Angeles 7, Calif.; res. 4712 Louise Ave., Encino, Calif.
Biochem.; b. N.Y.C., June 4, 1907; s. of Andrew and Bertha Bavetta; ed. N.Y.U., 1930, B.S.; U.S.C., M.S., 1933; Ph.D. 1942; m. Mildred Pamoroy, Nov. 9, 1933; ch.: Ruth, Andrew; prof. biochem., nutrition, sch. dentistry, U.So. Calif. Res. in adrenalectomy, fat absorption; mem.: Phi Sigma, Sigma Xi.

BAWDEN, Arthur Talbot, prof. chem. College of Pacific, Stockton, Calif.; res. 666 W. Mariposa.
Tchr.; b. Rochester, N.Y., Nov. 21, 1897; s. of H.H. and Susan Talbot Bawden; ed. Denison U. B.S. 1920, Ohio State U. M.S. 1921, Ohio State U. Ph.D., 1924; mem.: A.A. Commons Clubs; m. Elizabeth Cooper, Sept. 22, 1923; ch.: Horace, Barton. Chem. Dept. Ottawa U. 1923-26, Baylor College tchr. Science Dept., 1926-29, U. of Shanghai, prof. chem. 1929-31, College of Pacific, prof. chem. 1931-42, 1949, Stockton College, Prof. chem. 1937-42, 1949, Stockton College, Principal, 1942-48. Author: Man's Physical Universe (Macmillan), 3 editions, 1937, 1941, 1950. Mem.: Phi Beta Kappa, A.C.S., Natl. Ed. Assoc., Calif. Teachers Assoc. Clubs: Am. Assoc. of Commons Clubs. Hobby: fishing.

BAXTER, Albert Lawrence, res. chem., 1st & Wash. Sts., Commercial Solvents Corp., Terre Haute, Ind., res. 211 N. 36 St.
Chem.; b. Jan. 21, 1907, Terre Haute, Ind.; s. of Albert Lewis and Emma Jane Baxter; ed. B.S. 1929 Ind. St. Teachers Coll. in Ed., chem.; mem.: Delta Lambda Sigma; m. Ethel Marie McCullough, May 11, 1930. Tchr. high sch., Culver, Ind., 1929-35; res. chem. Commercial Solvents Corp. 1935 to date; mem.: A.C.S. Club: B.P.O.E. Hobby: men's glee club singing.

BAXTER, Gregory Paul, Theodore William Richards prof. of chem. emeritus, T. Jefferson Coolidge Memorial Lab., Cambridge, Mass.; res. 59 Francis Ave., Cambridge 38.
Prof. of chem. (retired); b. Somerville, Mass., Mar. 3, 1876; s. of George Lewis and Ida Florence (Paul) Baxter; ed. Harvard, A.B., 1896; A.M., 1897; Ph.D., 1899; S.D., U. Mich. (hon.), 1929; m. Amy Bailey Sylvester, June 2, 1906; ch.: Elizabeth Paul (Baxter) Boardman. Asst. in chem., Harvard, 1895-97; instr. in chem., 1897-99; instr. in chem., Haverford, 1899-1900; asst. prof. chem., Swarthmore, 1900-02; instr. in chem., Harvard, 1902-05; asst. prof., 1905-15; prof., 1915-25; Theodore William Richards Prof., 1925-44; emeritus, 1944 to date. Determ. of physicochemical constants, esp. atomic weights. Chmn., Internatl. Comm. Atomic Weights, 1931-47; Richards Medal, 1934. Author: "Researches on the Atomic Weights," Carnegie Inst., 1910. Mem.: Natl. Acdy., Am. Acdy. Arts & Scs., A.C.S., Phi Beta Kappa, Sigma Xi.

BAXTER, John Franklin, II, prof. chem. Wash. & Lee U., Lexington, Va.; res. 13 Univ. Pl., Lexington.
Prof. chem. (tchr.); b. New Castle, Pa., Dec. 11, 1909; s. of J. Franklin and Leah (Perrine) Baxter; ed. Bethany Coll. (W.Va.), A.B. 1932; Johns Hopkins U., Ph.D. 1942; mem.: Beta Theta Pi; m. Bonnie Elizabeth Elledge, Aug., 1940; ch.: John Franklin, III, Harvey Elledge, Nancy Scott. 1933-37, secondary schl. tchr. (Ill. & Ohio); grad. asst. chem., Johns Hopkins, 1937-42; instr. phys. chem., Loyola Coll. (Balt.), 1939-42; asst. prof. chem., Gettysburg Coll., 1942-43; lect. chem., Johns Hopkins, 1943-46; assoc. prof. (1946-49); prof. 1949, Washington & Lee U. Res. on acidity of hydrat. metal. ions.; Mem.: A.C.S., A.A.A.S., Va. Acad. Sci., Sigma Xi, A.A.U.P. Hobbies: lacrosse coach, Wash. & Lee, music, taxonomic botany.

BAYHA, Kenneth Waldrick, Western fld. rep., tech. serv. div., Commercial Solvents Corp., 110 Sutter St., San Francisco, Calif.; res. 1673 Edgewood Dr., Palo Alto, Calif.
Chem.; b. Hamilton, Ohio, Sept. 26, 1915; s. of C. Fred and Julia Bayha; ed. Antioch Coll., B.S., 1938; m. Marjorie Rost, July 7, 1939; ch.: Robert Kent. 1934-35, Carborundum Co., res. dept.; 1935-38, du Pont Co., Labs.; 1938-40, W.A. Hammond Drierite Co., chf. chem.; 1940-46, Westvaco Chlorine Prods. Co., Market Develop.; 1946-48, W.A. Hammond Drierite Co., asst. to proprietor; 1948 to date, with Commercial Solvents Corp., tech. serv. div. Mem.: A.C.S., A.A.A.S., Amer. Assoc. Econ. Entomologists, Golden Gate Production Club.

BAYS, Alfred W., v.chmn., secy., gen. counsel, Abbott Labs., North Chicago, Ill.; res. 2330 Ewing Ave., Evanston, Ill.
Lawyer; b. July 12, 1876; s. of Enos W. and Elizabeth Bays; ed Knox Coll., B.S. 1901; Northwestern U., LL.B., 1904; Knox Coll., hon. LL.D. 1950; m. Anna Carnahan, Sept. 10, 1912; ch.: Catherine, (Mrs. L.L. Parrish), Marjorie, (Mrs. Paul Peter). Presently v.chmn., secy., gen. counsel, Abbott Labs., North Chicago, Ill.

BEADLE, Walter Jay, v.p. (dir. and mem. exec. comm.), E.I. du Pont de Nemours & Co., Wilmington 98, Del.; res. 1101 Westover Rd., Wilmington 79, Del.
Exec.; b. Feb. 24, 1896; s. of Clifford J. and Elizabeth (Ocumpaugh) Beadle; ed. M.I.T., S.B. 1917; mem.: Delta Upsilon; m. Christine S. Spofford, June 3, 1922; ch.: Sarah Spofford, Spofford Jay, Elizabeth Ocumpaugh. Mech. engr., Engr. Dept., Natl. Aniline and Chem. Co., 1917 and 1920; traffic engr., Phila. Rapid Transit Co., 1921-24; transportation mgr. 1925-27; dev. dept., E.I. du Pont de Nemours & Co., 1928, asst. dir. 1929-41, asst. treas. 1942-46, treas. 1946-48, v.p. and dir. since 1946, mem. of Exec. Comm. since 1948; served as 2nd Lt. Inf., U.S.A., W.W.I.; instr. A.E.F. Univ.; participated in Meuse-Argonne offensive; with Army of Occupation. Dir. Canadian Industries Limited, Montreal, Canada. Mem.: Franklin Inst., Penn. Acad. Fine Arts, Acad. Natural Scis. of Phila. Clubs: du Pont Country (Wilmington). Hobby: skiing.

BEAL, George Denton, asst. dir., Mellon Inst. of Ind. Res., 4400 Fifth Ave., Pittsburgh 13, Pa.; res. 4255 Parkman Ave., Pittsburgh 13, Pa.
Asst. dir.; b. Scio, Ohio, Aug. 12, 1887; s. of James Hartley and Fannie Snyder (Young) Beal; ed. Ph.C., Scio Coll. of Pharmacy, 1906, Pharm. D. 1907; Ph.B., Scio Coll., 1908; A.M., Columbia U. 1910, Ph.D. 1911; Pharm.M. hon., Phila. Coll. of Pharmacy, 1933; Sc.D. hon., Mt. Union, 1933; Rutgers 1943; mem.: Phi Lambda Upsilon (natl. pres. 1917-19), Alpha Chi Sigma, Lambda Chi Alpha, Gamma Alpha, Sigma Xi, Psi Kappa Omega; m. Edith Downs, July 3, 1912; ch.: George Denton Jr., Marjorie Downs Beal. Instr. in chem., U. of Ill., 1911-14, assoc. in chem. 1914-18, asst. prof. of chem. 1918-20, assoc. prof. of anal. & food chem. 1920-24, prof. of anal. & food chem. 1924-26; asst. dir., Mellon Inst. of Ind. Res., 1926 to date. Contr. to tech. journals. Richard Butler Scholar in Chem., Columbia U., 1910-11; Ebert Prize, Am. Phar. Assn., 1920; Remington M. Am. Phar. Assn. 1941. Am. Phar. Assn. (first v.p. 1934-35, pres. 1936-37, councillor 1942 to date. chmn. of council 1945 to date); Am. Council on Phar. Ed. (pres. 1948 to date); A.C.S. (councillor-at-large 1939-44); A.A.A.S. (fellow); A.P.-H.A. (fellow); A.S.T.M.; Pa. Chem. Soc. (pres. 1945-49); Pa. Phar. Assn.; Pa. State Chamber of Com.; Am. Leather Chem. Assn., Pa. Sewage Wks. Assn.; I.F.T.; Ind. Hygiene Foundation. Mem.: bd. of trustees, Mt. Union Coll., 1936 to late; mem., bd. of trustees, Phila. Coll. of Pharm. & Sc. 1936 to date; dir., Am. Druggists' Fire Ins. Co., Cincinnati, Ohio. Clubs: Chemists' (N. Y.), University (Pitts.), Faculty (U. of Pitts.), v.chmn., Advisory bd. on Q.M. Res. & dev., N.R.C.; Auxiliary Mem. of Comm. of Revision, U.S. Pharmacopeia, Tenth Decennial Revision, 1920-30; delegate, U.S. Pharmacopeial Convention, 1930, 40, 50; mem., Comm. of Revision, U.S. Pharmacopeia, Eleventh Decennial Revision, 1930-40, chmn. of sub-comm. on org. chems.; mem., Comm. of Revision, U.S. Pharmacopeia, Twelfth, Thirteenth & Fourteenth Decennial Revisions, 1940-50, 1st v.chmn. of Gen. Comm. & chmn. of sub-comm. on org. chems.; mem., Comm. of Revision, U.S. Pharmacopeia, Fifteenth Decennial Revision; Comm. on the Phar. Survey, Am. Council on Ed.

BEAL, Ralph B., pres., The Flox Co., Inc., 1409 Willow St., Minneapolis, Minn.; res. 4243 Glenwood Ave., Minneapolis 5, Minn.
Exec.; water treatment chems. and serv.; b. Jan. 8, 1896; La Porte City, Iowa; ed. grade and high schls., Albert Lea, Minn.; U. of Minn., B.A., 1919; m. Theone E.; ch.: Carol Ann, Barbara T., Polly C., David J. 2nd Lt., Ordn. Corps, Texas, Ga., Va., 1918; salesman, Minneapolis Fire Brick Co., 1919-21; partner, Smith-Beal Fire Brick Co., 1922-27; partner, The Flox Co. Inc., May 1, 1924, pres. Feb. 1, 1926; managing dir., Alfloc, Ltd., London, England, 1929-31. Chmn., Meadowbrook Independent Schl. Distr. No. 89, 1941-48; v.p. Gen. Alumni Assoc., U. of Minn., 1943-46. Mem.: Delta Kappa Epsilon, Sigma Delta Chi; assoc. mem. Inst. of Chem. Engrs.

BEALE, Leonard Tillinghast, chmn. of bd., Penn. Salt Mfg. Co., 1000 Widener Bldg., Phila. 7, Pa.; res. "The Cedars," Penllyn, Montgomery Co., Pa.
Mfr.; b. Phila., Pa., May 28, 1881; s. of Edward Fitzgerald and Maria Litchfield (Lewis) Beale; ed. Haverford Schl.; Princeton U.; U. of Penn., B.S. in M.E.; mem.: Delta Psi; m. Anna Lewis, Dec. 9, 1911; ch.: Frances Lewis (Mrs. Evan Randolph, Jr.), Edward Fitzgerald, III, Anne (Mrs. Alfred W. Putnam). 1904 began as chf. engr. of John T. Lewis & Bros. Co., a subsid. of Natl. Lead Co., being successively purch. agent, sales mgr., secy., and v.p. until 1928 when became pres. of Penn. Salt Mfg. Co., and its subsids, until 1949; then became chmn. of bd. of Penn. Salt Mfg. Co. chmn. of bd., Penn. Salt Mfg. Co.; dir., Bell Telephone Co. of Penn.; dir. Penn. R.R.; trustee, Penn Mutual Life Ins. Co.; dir. Phila. Contributionship; dir. Penn. Co. for Banking and Trusts; dir. Natl. Lead Co.; dir. Penn. Salt Mfg. Co. of Washington; dir. Natrona Water Co.; dir. Natrona Light & Power Co.; dir. Pennsalt Coal Co.; dir. Pennsalt Internatl. Corps.; dir. Fire Assoc. of Phila.; dir. Reliance Ins. Co. of Phila.; dir. Phila., Balto., & Wash. R.R. Co.;

dir. Pittsburgh, Cincinnati, Chicago & St. Louis R.R. Co. dir. of University Museum, Phila.; Mfg. Chemists' Assoc. (v.p. and dir.). Clubs: Philadelphia; Midday (Phila.); Penllyn (Pa.); Chemists' (N.Y.). Hobbies: horseback riding, billiards.

BEALS, Carlos Loring, dir. of res., Otis Clapp & Son, 344 Newbury St., Boston, Mass.; res. 26 Marked Tree Rd., Needham, Mass.
Chem.; b. May 13, 1889; s. of George Newell and Eliza A. (Marcy) Beals; ed. Mass. Agricultural Coll. B.S. 1912, Mass. Agri. Coll., M.S. 1915; mem.: Alpha Gamma Rho; m. Clara M. (Cushman) July 7, 1915; ch.: (Mrs.) Barbara (Beals) Ross, Dorothy Beals. Asst. Chem. Mass. Agr. Coll. (Expt. Station), 1912-1915; asst. res. prof. of chem., Mass. Agr. Coll. (Expt. Station), 1915-1921; res. chem.-Sheffield By-Products Co., Hobart, N.Y., 1921-1928; asst. chem. Navy Yard, Boston, 1928-1929; dir. of res., Otis Clapp & Son, Boston, 1929 to date. Res. in animal nutrition vitamin studies, drugs and pharmaceutical specialties. Contrib. extensively to sc. and tech. journals. Mem.: A.C.S., A.I.C. (fellow), formerly associated with Natl. Res. Council. Club: St. Andrews Lodge of Masons, A.F. & A.M. No. 289. Hobby: electrical gadgets.

BEAR, Firman Edward, prof. of agric. chem., Rutgers U.; editor-in-chf., Soil Sc.; N.J. Agric. Expt. Station, New Brunswick, N.J.; res. 57 Nichol Ave., New Brunswick.
Res., teaching; b. Germantown, Ohio, May 21, 1884; s. of Ira Frank and Emily (Harris) Bear; ed. B.Sc., M.Sc., Ohio State U.; Ph.D., U. of Wis.; mem.: Alpha Zeta; m. Helen Judy, July 6, 1911; ch.: Firman E. Jr., Robert J. Prof. of soils, U. of W. Va., 1914-16; hd., soils dept., Ohio State U., 1916-29; dir., Agr. Res., Am. Cyanamid Co., 1929-38; sc. editor, Country Home Magazine, 1938-40; chmn. soils dept., Rutgers U., 1940 to date. Res. in liming matls. & fertilizers with special reference to cation relationships & trace elements in plants & soils. Author: "Theory & Practice in Use of Fertilizers," 2nd ed. 1938; "Soils & Fertilizers" 3rd ed. 1942. Mem.: A.C.S., Am. Soc. Plant Physiologists, Soil Sc. Soc. Am., Am. Soc. Agronomy, Soil Conservation Soc. of Am., A.A.A.S., Sigma Xi. Club: Rutgers. Hobbies: gardening, travel.

BEARD, Earl Edson, pat. chem., Jackson Lab., P.O. Box 525, Wilmington, Del.; res. 113 Blue Rock Rd., Edgewood Hills, Wilmington.
Pat. chem. in dyes; b. Bowling Green, Ohio, Apr. 30, 1903; s. of James M. and Stella A. Beard; ed. Ohio State U., B.Sc. in Educ. 1925, M.A. 1926, Ph.D. 1929; mem.: Gamma Alpha; m. Dorothy M. Thomas, Oct. 1933; ch.: Lynn Frances, Charles Frank. With E.I. du Pont de Nemours & Co. Oct. 1929 to date. 16 pats. as sole inventor; some half doz. or more as co-inventor, all in fld. of dyes, dye intermediates, pigments. Mem.: Phi Lambda Upsilon, A.C.S., Photographic Soc. of Am. Club: Delaware Camera. Hobby: photography.

BEARD, Harold Chatfield, assoc. prof. of chem., Florida State U., Tallahassee, Fla,; res. 1107 E. 6th Ave., Tallahassee.
Assoc. prof. of chem.; b. Shelton, Conn., June 27, 1898; s. of Zina C. and May H. (Turney) Beard; ed. Oberlin Coll., A.B. 1921; Columbia U., M.A. 1925; Penn. State Coll., M.S., 1931; Ph.D. 1932; m. Helen R. Jupenlaz, Aug. 21, 1937. 1922-23 instr. in chem., Carnegie Inst. of Tech.; 1925-26 instr. in chem. N.C. State Coll.; 1926-29 prof. chem. Western Maryland Coll.; 1932-33 instr. chem. La. State U.; 1935-37 instr. chem. Penn State Coll.; 1941-47, summers, instr. Penn State, Bucknell, Albright, Muhlenberg, Lafayette Coll.; 1937-42 prof. sci., State Tchrs. Coll., Kutztown, Pa.; 1942-47 hd., Dept. Chem., Cedar Crest Coll., Allentown, Pa.; 1947 to date, assoc. prof. chem., Fla. State U.; res. in stick antimony electrodes; principles of dyeing with salt dyes. Mem.: A.C.S., A.A.A.S., Sigma Xi, Phi Lambda Upsilon, Gamma Sigma Epsilon. Hobby: photography.

BEARD, Harry Randall, res. dir., New England Fish Co., 1828 Exchange Bldg., Seattle 4, Wash.; res. 3338 43rd Ave. N.E., Seattle 5, Washington.
Res. and dev. wk.; b. Denver, Colo., Aug. 31, 1892; s. of Harry Ambler and Jenny (Jones) Beard; ed. B.A., U. of Colorado, 1917; M.S., U. of Wis., 1920; mem.: Sigma Chi, Acacia, Alpha Chi Sigma; m. Carol Belser, Nov. 22, 1918; ch.: Harry Randall, Jr. asst. chem., Puget Sound Navy Yard, June-Oct., 1917; U.S.A., Nitrate Div. Ordn. Dept., Nitrate Plant No. 1, Sheffield, Ala., as res. chem. 1917-19; res. chem., Nitrate Div. Ordn. Dept., U.S.A., Jan.-Oct., 1919; instr. in chem., U. of Wis., 1919-20; asst. tech., Dept. of Commerce, U.S. Bur. of Fisheries, San Pedro, Calif., 1920-24, and chf. tech., Washington, D.C. 1924-27; res. dir., N.E. Fish Co., dir. and asst. secy. Seattle, and The Canadian Fishing Co. Ltd., Vancouver, B.C., 1927 to date; fisheries technological res.; dir., N.E. Fish Co. of Oregon. Author: "Preparation of Fish Canning as Sardines," U.S. Dept. of Commerce, Bur. of Fisheries Doc. 1020 (1927). Mem.: Sigma Xi, A.C.S., Inst. of Food Techs., Natl. Fisheries Inst. Hobby: color photography.

BEARD, Milton C., v.p., secy., Foster-Heaton Co., 16 E. Fifth St., Paterson, N.J.; res. 32 Clinton Ave., Montclair, N.J.
Dyestuff mfr.; b. Phila., Pa., 1905; s. of William K. and Vida (Fleming) Beard; ed. Princeton U., A.B. 1927; m. Louise Steelman, 1935; ch.: Milton C. Jr., Anne Louise. 1928-30 sales, West & Co., Phila.; 1930-36 supt., The Great A. & P. Tea Co.; 1936-39 sales, Geo. H. McFadden Bros.; 1939 to date with Foster-Heaton Co. Trustee: Montclair Community Chest; trustee, Brookside School, trustee, Montclair Community Hosp., vestryman, St. Luke's Ch., Montclair.

BEARD, William T. (Tom), pres., assoctd. conslt. soil chem., engrg. and prod. Box 1801, Las Vegas, Nev.; res. Las Vegas, Nev., Phoenix, Ariz.
Soil chem., min. engr.; b. Marble Falls, Tex., Sept. 3, 1911; s. of De Witt and Clara Mills Beard; ed. Rochester Inst. Tech. 1930; Smith Hughes Agric. Schl. & Davis Coll. of U. of Calif.; post wk. U. of Ariz.; m. Virginia Sharp, Nov. 4, 1933; ch.: Betty Ann, Nina Jean. Field supt., entomologist dir., Pestco Labs, San Bernardino, Calif. 1933-34; owner, operator comml. & agric. minerals & inter-state trucking co. 1934-37; prod. fertilizers, minerals, res. plant food elements & mining engrg. 1938-42; operated comml. fertilizer & agric. minerals, & soil chem. & mining engrg., conslt. prodn. raw materials; pres., chmn. of bd., various corps. 1945 to present. Res. in dusting for control of agric. pests with chem. specialized materials; composted elements as plant food in high PH soils; mixed raw elements for organic reaction, bacteriologically reducing high PH of west. soils. Mem.: Natl. Fertilizer Assoc., Am. Trucking Assoc., Utah Mining Assn., Registered Bur. of Chem., State of Calif. Officer during war. Clubs: Elks, Organized Resv. Officers, Athletic. Hobbies: athletics, prospecting, writing.

BEARDSLEY, Walter Raper, pres., Miles Labs., Inc., 1127 Myrtle St., Elkhart, Ind.; res. 2233 Greenleaf Blvd., Elkhart.
Mfr. drugs & chems.; b. Elkart, Ind., Oct. 23, 1905; s. of Andrew Hubble and Helen Maude (Brown) Beardsley; ed. Phillips Andover Acdy.; B.S.,

Princeton, 1928; m. Marjory Buchanan, Nov. 20, 1929; ch.: Robert Buchanan. Asst. to pres., Miles Labs., Inc., medicines, 1929-33; v.p., 1933-47; pres., since 1947; pres. also of Elkhart Hotel Corp., Elkhart, Ind.; dir. of following: Elkhart Packing Co., First Natl. Bank, Truth Publishing Co., Buescher Band Instrument Co., C.G. Conn Co., Ltd.; all of Elkhart, Ind. Pres., Proprietary Assoc., 1948-50. Trustee, Elkhart General Hospital. Clubs: Union League (N.Y.), Chicago Athletic Assoc. (Ill.), Indianapolis Athletic. Hobbies: hunting, golf, tennis.

BEARSE, Arthur Everett, supvr., Chem. Res. Div., Battelle Memorial Inst., Columbus, Ohio; res. 1374 Mulford Rd., Columbus, O.
Res. chem.; b. Attleboro, Mass., Sept. 27, 1911; s. of William F. and Florence A. Bearse; ed. U. of Mass., B.S. 1933; M.I.T., Ph.D., 1936; mem.: Lambda Chi Alpha; m. Madeleine A. Trow, May 15, 1937; ch.: Richard A., Carol R., David T. 1936-38 res. chem., E.I. du Pont de Nemours & Co., Jackson Lab.; 1938-39 res. chem., Arthur D. Little, Inc.; 1939-43 res. chem. Battelle Memorial Inst.; 1943-47 asst. supvr., Chem. Res. Div., 1947 to date supvr. same div., same Inst.; res. and supervision of res. in applied chem. org. and inorg.; org. synth., org. sulfur compds., chems. from petroleum; holds sev. pats., and has contrib. arts. to sc. jls. Mem.: A.C.S., Sigma Xi, Phi Kappa Phi.

BEASLEY, Warren Franklin, mgr. engr., Naval Stores Dept., Hercules Powder Co., Wilmington, Del., res. Pt. Pleasant Farm, New Castle, Del.
Engr. adm.; b. Berkeley, Calif., Nov. 22, 1907; s. of Samuel David and Lucia Grace Beasley; ed. B.S. Engr., Princeton, 1929; mem.: Tau Beta Pi (Del.); m. Matilda Van Trump June 13, 1936; ch.: Matilda Van Trump, Alice Lambson. Hercules Powder Co., engr. design. 1929-36; plant engr. 1936-45; engr. adm. 1945-49; mgr. engr. 1949 to date.

BEATON, Roy Howard, div. hd., tech. divs., Gen. Electric Co., Hanford Wks., Richland, Wash.; res. 1618 DeRussey Pl., Richland.
Chem. engr.; b. Boston, Mass., Sept. 1, 1916; s. of Howard J. and Mary (La Voie) Beaton; ed. Northeastern U., B.S. Ch.E., 1939, (grad. "high honor"); Yale U., D.Eng. (Ch.E.), 1942; m. Margaret Louise Marchant, July 22, 1939; ch.: Constance Ann, Roy H. Jr. 1942-46 chem. engr. E.I. du Pont, Manhattan Proj.; 1946, assoc. prof. of chem. engrg., U. of Kans.; 1946-50 chf. of Chem. Dev. Sect., asst. div. engr., Design Div.; div. hd., Separations Tech., Gen. Electric Co., Hanford Wks. Mem.: A.I.Ch.E.

BEATTIE, James Alexander, prof physical chem., M.I.T., Cambridge, Mass., res. 59 Stults Rd., Belmont, Mass.
Teaching, res.; b. Louisville, Ky., July 24, 1895; s. of James W. and Alice Mount Beattie; ed. S.B. 1917, M.I.T.; M.S. 1918; Ph.D. 1920; mem.: Sigma Xi; m. Doris B. Bunker, July 14, 1920; ch.: Pamela B. Dotter, Barbara B. Abbott, James W. 1920-21 res. assoc. M.I.T.; 1921-22 Natl. Res. fellow; 1922-23 natl. res. fellow, Leiden, Holland; 1922-29 asst. prof. physical chem. res., M.I.T.; 1929-38 assoc. prof. physical chem. res.; 1938 to date prof. physical chem.; 1919 C.W.S. U.S.A.; 1942-46 staff mem. M.I.T., Radiation Lab. Res. on ionic solutions, themody. prop. of gases, equations of state, therod. temp. scale; mem.: A.C.S., A.Phys.S.; A.A.U.P.

BEAVER, Charles E., asst. sales mgr., Res. Corp., 405 Lexington Ave., N.Y. 17, N.Y.; res. 405 Hawthorne Ave., Bound Brook, N.J.
Chem. engr.; b. Allentown, Pa., Mar. 27, 1903; s. of Edwin and Lillian Beaver; ed. Lafayette Coll., 1925, B.S. in Ch.E., 1928 Ch.E.; mem.: Phi Kappa Tau, Alpha Chi Sigma; m. Aurelie L. Rissmiller, Oct. 12, 1928; ch.: Margaret Ann. 1925-26, tech. dept., Res. Corp.; 1926-27, in chg. brass foundry, Ingersoll Rand Co.; 1927-28, in chg. Copperas Plant, C.K. Williams Co.; 1928-50, sales engr., 1950 to date, asst. sales mgr., Res. Corp. Natl. Technicians Salvage Advisory Comm. during W.W.II; application of electrical precipitation equipt. for gas cleaning. Cottrell Electrical Precipitation Equipt., Some Tech. & Engrg. Features, Recent Dev. & Application in Chem. Fld., publ. in Transaction of A.I.Ch.E., Apr. 25, 1946. Mem.: A.I.Ch.E., Tau Beta Pi, A.A.A.S., Prof. Engr. N.J. Trustee, Bound Brook Presbyterian Church. Club: Raritan Valley Country. Hobby: golf.

BEAVER, D(avid) J(ohn), sr. scientist, Monsanto Chem. Co., 1700 S. Second St., St. Louis 4, Mo.; res. 1131 McKnight Rd., St. Louis 17, Mo.
Res. chem.; b. Schenectady, N.Y., Feb. 23, 1893; ed. Union, B.S., 1915; Columbia, M.A. 1917, Ph.D. 1921; Sc.D., Union Coll., 1950; m. Dorothy D. Russell, May 24, 1924; ch.: 2 daus. With Firestone Tire & Rub. Co., res. chem., 1921-23; Grasselli Chem. Co., res. chem. 1923-24; Combustion Utilities Corp., asst. dir. res., 1924-32; Monsanto Chem. Co., Rubber Serv. Lab. asst. dir. res. from 1932; sr. scientist to date. C.W.S., 1917-18. Co-author of sev. papers on colloidal gold sols, thermostat controls, thermal changes dur. vul., abrasion tests rubber com., effect var. types carbon black on phys. prop. rubber and reenforcing action pigment mixt. on rubber comps. Mem.: A.C.S., A.A.A.S., Sigma Xi, Phi Lambda Upsilon. Hobbies: gardening, hiking.

BEBEE, Francis Hastings, asst. to pres., asst. secy., Interchem. Corp., 67 W. 44th St., N.Y. 18, N.Y.; res. 73 Poplar St., Douglaston, N.Y.
Pat. lawyer; b. Buffalo, N.Y., Sept. 20, 1909; s. of Edwin L. (dec.) and Belle (Hastings) Bebee (dec.); ed. B S. in engrg., U. of Mich., 1931; L.L.B., N.Y.U. Schl. of Law, 1939; mem.: Sigma Phi; m. Josselyn McLean, Nov. 24, 1932; ch.: Edwin McLean, Anne. 1932-33, pat. asst., Bean & Brooks, Buffalo, N.Y.; 1933-35, asst. pat. atty., Remington Rand, Inc.; 1935-37, asst. pat. atty., Union Carbide & Carbon Res. Labs. Inc.; 1937-42, pat. atty., Interchem. Corp., 1942-45, asst. secy., Wash. rep., 1945-49 asst. secy., adm. asst. to v.p. & dir. of res., 1949 to date asst. secy., asst. to pres. Mem.: Tau Beta Pi, Phi Eta Sigma, A.I.C. (fellow). Clubs: University (N.Y.), Douglaston. Hobbies: music, people.

BEBER, Adolph Joseph, hd. Anal. Div., General Tire & Rubber Co., Akron, Ohio; res. Rothrock Rd., R.D. No. 1, Copley, O.
Chem.; b. Carbohado, Wash., Feb. 26, 1908; s. of Frank and Augusta Beber; ed. B.S. Chem. Engr., U. of Minn.; Ph.D. Chem. and Physiol., U. of Minn.; mem.: Kappa Sigma, Alpha Chi Sigma; m. Lido Sears Jury, 1935. Prof. chem. and biol., Southwest Mo. State Coll., 1937-42; res. chem., B.F. Goodrich, 1942-49; hd. Anal. Div., Gen. Tire & Rubber Co., 1949 to date; res. in copper and brass plating, photosynth., plant and animal metabolism, rubber chems., accelerators of vulcanization; holds numerous pats. in above fld. Mem.: A.C.S. (Rubber Div); Sigma Xi. Hobbies: gardening, raising fancy poultry.

BECHER, Harold, dir. of engrg., Dellenbarger Mach. Co. Inc., 379 W. Broadway, N.Y. 12, N.Y.; res. 932 Carroll St., Bklyn. 25, N.Y.
Consltg. chem. & engr., prof. engr.; b. Poland,

1901; s. of Harris B. and Rachel Becher; ed. Craven Park Schl., London, Eng.; Bklyn. Polytech. Inst. 1922, B.S. in chem. (Tandy Memorial M.); grad. studies to Ph.D. condidate, Cornell, Columbia & Bklyn. Polytech. Inst.; mem.: Alpha Phi, Phi Lambda Upsilon; m. Cora Augusta Greenbaum, Mar. 18, 1935; ch.: Avi Gail, Barry Harris. 1924-34, chf. chem., conslt. in fur dyeing; 1934-40, wks. mgr., Climax Rubber Co.; 1941-43, chf. chem. Peerless Fur Dyers Inc.; 1943, prod. mgr., Insuline Corp. of Am.; 1944-48, pres., gen. mgr., First Natl. Tech. Co. Inc.; 1949 to date, dir. of engrg., Dellenbarger Machine Co. Inc., conslt. to A. Hollander & Son, Goldhill Tanning Ltd., Rathbun & Bird, Inc.; dir. First Natl. Tech. Co. Inc. Inventions of processes & equipt. in fur dyeing, rubber, textiles, electronics, packaging equipt. & confectionery. Author: "How to Judge Furs" 1926, "Meth. of Teaching Thermodynamic Functions" Jou. Chem. Ed. 1939; articles in trade publ. Mem.: Natl. & State Societies of Professional Engrs., A.I.C. (fellow), A.C.S., A.A.A.S., A.C.C.C.E., Phi Lambda Upsilon. Trustee & former pres., Ninth St. Temple, Bklyn.; exec. comm., Am. Economic Comm. for Palestine. Hobbies: reading, public speaking, golf.

BECHTEL, V.R., budget dir., Amer. Cyanamid Co., N.Y.C., (30 Rockefeller Plaza); res. Harrison, N.Y.
Exec.; b. Scotland Co., Mo., July 20, 1895; s. of George B. and Amy Irene Bechtel; ed. (accounting and exec. training courses); m. Alice Bishop, June 16, 1935; ch.: W. Raymond. 1914-15 schoolmaster, Scotland Co., Mo.; 1916-25 cost clerk, factory acct., asst. to exec. vice pres., Burroughs Adding Machine Co., Detroit, Mich.; 1925-26 budget controller, Allied Chem. & Dye Corp., N.Y.; 1926-28 asst. controller, Colgate Co., Jersey City, N.J.; 1928-29 treas. and dir. Amer. Dept. Stores Corp., N.Y.C.; 1929 to date budget dir., Amer. Cyanamid Co., N.Y.C.

BECHTNER, Paul, pres. & gen. mgr., American Colloid Co., 222 N. Bank Dr., Chicago 54, Ill.; res. 46 E. Oak St., Chicago.
Exec.; b. Milwaukee, Wis., 1882; s. of Paul and Anna (Tancre) Bechtner; ed. high schl.; unm. Operating official of sev. non-metallic mines and plants in the silicate and the clay industry; organized American Colloid Co., 1927; (pres., gen. mgr., dir.). Non-metallic production & res. in bentonite. Various papers on bentonite tech. & usage. Mem.: A.C.S., A.I.M.E., A.Cer.S., Amer. Foundrymens Soc. Clubs: Union League (Chicago), Newcomen Soc. of Amer., Merchants & Mfrs. (Chicago).

BECHTOLD, Frank, Jr., chf. chem., Garwood Wks., Aluminum Co. of America, South Ave. and Center St., Garwood, N.J.; res. 8 Columbia Ave., Cranford, N.J.
Metallurg. chem.; b. Bklyn., N.Y., Aug. 5, 1896; s. of Frank, Sr., and Franziska (Schmitt) Bechtold; ed. Bklyn. Poytech. Inst., B.S. in chem., 1918; grad. study, Columbia U., 1920 and 1921; m. Mary Howes, Aug. 3, 1935. Supv. chem., Doehler Die Casting Co., Bklyn., N.Y., 1919-20; asst. chf. chem. and supvr. Metal & Alloying Dept., Aluminum Die Casting Corp., Garwood, N.J., 1921-27; chf. chem. and hd. Metal and Alloying Dept., U.S. Aluminum Co., Garwood, N.J., 1928-33; chf. chem. and hd. of Metal and Alloying Dept., Garwood Plant, Aluminum Co. of America, 1933-42; chf. chem. Garwood Plant, since 1933; admin. of Plant Accident & Compensation Relations, 1921-38; admin. of First Aid and Med. Relations, 1939-42. Mem.: A.C.S., A.S.M., A.I.C. (fellow). Club: 25 Year Club of the Aluminum Co. of America. Hobbies: sports of all kinds; travel.

BECK, Harris Graybill, Jr., tech. dir., Industrial Finishes Dept., Atlas Powder Co., North Chicago, Ill.; res. Great Lakes, Ill.
Chem.; b. Deland, Ill., June 24, 1917; s. of Harris G. and Jessie (Wheat) Beck; ed. U. of Chicago, 1939, B.S.; m. Jane Hopkins, Apr. 22, 1942; ch.: Barbara Jane, Catherine Diane. 1939-40 res. chem. Central Proc. Corp., Chicago, Ill.; 1941-45 Lt. Comdr., U.S.N., Bur. of Ordn.; 1940-41, 1945 to date, res. chem. to tech. dir., Atlas Powder Co., North Chicago, Ill. Mem.: Natl. Fed. of Paint and Varnish Prod. Club; A.I.C. Club: University (Waukegan).

BECK, Leo L., v.p. Catalin Corp. of Amer., 1 Park Ave., N.Y.C.; res. Mendham Rd., Morristown, N.J.
Exec.; b. Austria, Nov. 2, 1901; ed. Rutgers, B.S. 1922; m. Helen Taylor, Sept. 30, 1926; ch.: 1 son and 1 daughter. Gen. Elec. Co., phys. res. 1922-25; Claude Neon Lights, dir. res. 1925-32; Ecksol Corp., v.p. and gen. mgr., 1932-34; Catalin Corp. of Amer., res. and dev. engr. from 1934; at pres. v.p. and dir.; res. rare gases. Mem.: Alpha Kappa Pi. Club: Manhattan (N.Y.C.).

BECKER, Charles W., v.p. chg. res., tech. div., Wilson & Co., Inc., 4100 Ashland Ave., Chicago 9, Ill.; res. 180 Chestnut St., Winnetka, Ill.
Res. & tech. exec.; b. Chicago, Ill., Aug. 7, 1896; s. of Charles V. and Laura McNair Becker; ed. U. Chicago; mem.: Psi Upsilon; m. Pauline Hayward, Sept. 9, 1920; ch.: Hayward Charles, Barbara Ann Behel, Laurie Morgan. Wilson & Co., Inc., meat packers, Dec. 1918; successively bank messenger, financial & foreign financial depts., secy's off., treas's off., foreign & gen. accounting depts., asst. v.p., chg. by-prods. sales 1918-32; sales mgr., hair & insulation div. 1932-46; elected v.p., 1946; v.p. chg. res., tech. div., also hair prods. div. 1947 to date; Clubs: Chicago Athletic Assn. (dir.), Glenview, Indian Hill (Winnetka, Ill). Hobbies: squash, golf, curling.

BECKER, Ernest I., asst. prof. of org. chem., Bklyn. Poly. Inst., 85 Livingston St., Bklyn., N.Y.; res. 99 Joralemon St., Bklyn.
Tchg. and Res.; b. Cleveland, Ohio, Aug. 18, 1918; s. of Harry and Esther Becker; ed. B.S. in pharm., 1941, Western Reserve U., M.S. in chem. 1943, Ph.D. in chem. 1946; Graduate School, Western Reserve U.; mem.: Alpha Zeta Omega; m. Marion Ferris, Dec. 20, 1947. Student until Sept., 1946; instr. in chem., Sept. 1946; asst. prof. Sept., 1947 to date; res. on the Diels-Alder reaction; reaction of 3,4-Epoxy-1-butene with Grignard reagents. Mem.: Sigma Xi, Rho Chi, Phi Lambda Upsilon, A.C.S., A.I.C. Club: Chemists'.

BECKMAN, Arnold O., pres. Beckman Instruments, Inc., pres. Helipot Corp., pres. Arnold O. Beckman, Inc., 820 Mission St., South Pasadena, Calif.; res. 2166 E. Crescent Dr., Altadena, Calf.
Mfr. of sc. instruments; b. Cullom, Ill., Apr. 10, 1900; s. of George W. and Elizabeth E. (Jewkes) Beckman; ed. U. of Ill., B.S. Ch.E. 1922; M.S. phys. chem. 1923; Calif. Inst. of Tech., Ph.D. photochem., 1928; mem.: Delta Upsilon; m. Mabel Stone Meinzer, June 10, 1925; ch.: Gloria Patricia, Arnold S. 1924-26 worked with Dr. Walter A. Shewhart, Bell Teleph. Labs., N.Y.C; 1926-40 on chem. staff, Calif. Inst. of Tech.; 1928 conslt.; 1934 to date with Natl. Tech. Labs. (now known as Beckman Instruments, Inc.), (a founder), mfrs. of pH meters, spectrophotometers, etc; became pres. 1939; 1944 to date pres. of Helipot Corp., founded in 1944 mfrs. of precision multi-turn potentiometers (called Helipots); 1946 to date pres. of Arnold O. Beck-

man, Inc. (inc. 1946), mfrs. of oxygen analyzers, gamma ray dosimeters. Mem.: A.C.S., Instrument Soc. of Amer., E.S., A.A.A.S., Sigma Xi, Alpha Chi Sigma, Phi Lambda Upsilon. Clubs: Oneonta; Altadena Town & Country. Hobbies: photography, music.

BECKMAN, John Woods, conslt., 7157 Chabot Rd., Oakland 18, Calif.; res. same as above.
Conslt.; b. Stockholm, Sweden, Dec. 26, 1881; s. of Ernst and Louise Woods (Baker) Beckman; ed. Kungl. Tekniska Högskolan, Stockholm, Sweden, chem. engr.; m. Gertrude Wheeler, Mar. 18, 1908; ch.: Sarah Tuthill Eichorn, June Wheeler Cunningham. With Gen. Elec. Co., Alminum Co. of America, American Cyanamid Co. as conslt. since 1911; res. in bacterial recovery of vegetable oils; started new industries in Calif. and Mexico, "Smog" elimination process. Mem.: A.C.S. Hobby: gardening.

BECKMANN, Robert Bader, assoc. prof. of chem. engrg., chem. engrg. dept., Carnegie Inst. of Tech., Pittsburgh, Pa., (13); res. 6822 Meade St., Pittsburgh 8.
Assoc. prof. of chem. engrg.; b. Sept. 15, 1918; s. of Harry F. and Lydia M. Beckmann; ed. Okla. U., 1936-37; U. of Ill., 1937-40, (B.S. in Ch.E.); U. of Wis., 1940-44, (Ph.D. in Ch.E.); mem.: Phi Lambda Upsilon, Sigma Xi, Sigma Pi; m. Barbara Lee, Sept. 5, 1942; ch.: Robert Lee, Mary-Lee. 1942-44 instr., U. of Wis.; 1944-46 res. chem.-Pilot Unit Res., Humble Oil & Refin. Co.; 1946-50 asst. prof., 1950 to date assoc. prof., Carnegie Inst. of Tech.; pubs. and res. in heat and mass transfer and process design in chemically reacting systems. Mem.: A.I.Ch.E., A.C.S. Hobby: sports.

BEEBE, Ralph Alonzo, chmn. dept. of chem., Amherst Coll.; res. 67 Dana St., Amherst, Mass.
Prof. of chem.; b. Monson, Mass., Mar. 8, 1898; s. of Alonzo M. and Minnie A. (Smith) Beebe; ed. Amherst Coll., A.B. 1920; Princeton U., Ph.D. 1923 (in chem), Phi Beta Kappa, Sigma Xi; mem.: Phi Alpha Psi; m. Elizabeth Wagner, 1928; ch.: John Harvey, David Scott, Christopher. Instr. chem., Amherst, 1923-25, assoc. prof. 1925-27, prof 1937 to date. Res. in adsorption of gases on solid surfaces with numerous articles in sc. jls. Mem.: A.C.S., A.A.A.S.

BEEBER, Allan R. A., dir. of chem. res., Keuffel & Esser Co., 300 Adams St., Hoboken, N.J.; res. 5 Crown Pl., Matawan, N.J.
Chem.; b. Bronx, N.Y., Mar. 1, 1913; s of Charles and Bertha Beeber; ed C.C.N.Y., B.S.; Columbia M.S., Ph.D.; m. Elsie C. Powers, June 24, 1944. Ames & Co., Jersey City, N. J., metallurg. chem.; Breinig Bros., Hoboken, N.J. paint chem.; Keuffel & Esser Co., Hoboken, N.J., res. chem., now dir. of chem. res. Photoengraving, precision images for optical instr., high vacuum technics, plastic coatings on paper, cloth, metal; several U.S. pats. Mem.: A.C.S., A.I.C. (fellow), A.A.A.S., Assn. Res. Dir. (secy.-treas.). Club: Chemists'. Hobbies: gardening, reading, photography.

BEECHEM, Henry A., owner, Beechem Labs., 1102 W. State St., St. Johns, Mich.; res. 205 W. McConnell St., St. Johns.
Chem.; b. Claridge, Pa., Apr. 30, 1906; s. of Joseph and Victoria Beechem; ed. Mich. State Coll., B.S. chem.; U. of Chicago; m. Mabel Crandell, Dec. 24, 1937; ch.: Katherine, Michael, Jane. Anal. chem., Ohio Agric. Exper. Sta.; jr. bacteriol., Mich. Dept. of Health; chem., Std. Brands, Inc.; chem. Wahl-Henius Inst.; dir. of res. and dev., The Rex Co.; owner, Beechem Labs.; res. in chem. of lithography; res. in acid cleaners; pats. in destruction of thermo-phyllic bacteria; over 100 pubs. in trade and tech. jls. Mem.: A.A.A.S.; Assoc. of Operative Millers; Allied Dairy Assoc. Hobby: oil painting.

BEECHER, Evan Ronald, hd., project engineering & construction dept., Colgate-Palmolive-Peet Co., Jersey City 2, N.J.; res. 70 Tillotson Rd., Fanwood, N.J.
Chem. engr.; b. Cranford, N.J., Sept. 18, 1912; s. of Henry W. and Lavinia Beecher; ed. Newark Coll. of Engineering, B.S. in chem. eng. 1935; Columbia U., 1938 Graduate Extension; mem.: Phi Sigma Omega; m. Katharine Morton White, Sept. 6, 1941; ch.: Katharine Morton, Evan Ronald, Jr. June 1935 to Sept., 1936, Krebs Pigment Div., E.I. du Pont, Org. chem., res.; Sept., 1936 to June, 1937, Am. Chicle Co., anal. chem.; June, 1937 to Apr., 1941, U.S. Rubber Co., chem. engr.; Apr., 1941 to June, 1943, Merck & Co., chem. engr.; June, 1943 to date, Colgate-Palmolive-Peet Co., chem. engr. Mem.: A.I.Ch.E., Natl. & New Jersey Soc. of Professional Engrs. Club: Keyport Yacht. Hobbies: Chmn., Comm. Sea Scout Ship, Westfield, N.J., sailing.

BEEGHLY, Hugh Ford, hd. Appl. Sci. Sect., Div. of Met. Res., Gen. Tech. Dept., Jones & Laughlin Steel Corp., 40 Longworth St., Pittsburgh 7, Pa.; res. 4423 Clairton Blvd., Pittsburgh 27.
Chem., chem. engr.; b. Brandonville, W. Va., May 21, 1912; s. of Lloyd M. and Elvina M. (Thomas) Beeghly; ed. W. Va. U., B.S. Ch.E., 1936; m. Leona M. Nieman, Aug. 17, 1935; ch.: Anne M., Carole R., Jane E., James H.L. 1936 to date with Jones & Laughlin Steel Corp. as follows: 1936-37 Aliquippa Wks., Metallurg. Div.; 1937-38 Chem. Div.; 1938-48 Res. and Dev. Div.; 1948 to date Div. of Metallurg. Res.; notable wk.: discovered ester-halogen reagents for use in isolating alum. nitride and other non-metallic compds. from steel; devised the quantitative meth. for determ. this compd. in steel and showed experimentally that the amt. of this compd. in steel could be changed by heat treatment dur. fabrication; dev. the meth. based on X-ray fluorescence for the continuous non-destructive measurement of tin coating thickness on steel; devised improved steam distillation meth. of anal. steel for nitrogen. Prepared annual review arts. on "Applied Ferrous Analysis" for Anal. Chem., 1948; 1949; 1950 in preparation. Councilor, A.C.S., 1946-47; 1951-53. Editor, "The Crucible," pub. by Pittsb'gh. Sect. A.C.S. 1946 to date and mem.: Exec. Comm. 1946 to date. Mem.: A.C.S., A.I.Ch.E., A.A.A.S., A.S.M., A.Crystallographic Assoc. Also, The Soc. for Pub. Analysts (England), The Soc. for Chem. Indust. (England), The Chem. Soc. (fellow) (London), The Spectroscopy Soc. of Pittsburgh. Mem.: Comm. E-3, A.S.T.M. Rec. citation of Pittsburgh Chamber of Commerce for "outstanding service in the fld. of Chem. in Pittsburgh in 1949." Mem. of Bd. of Admin. of Ch. and chmn. of its Finance Comm. Club: Chemists' (Pittsburgh). Hobby: hunting.

BEEKLEY, John Sherman, chem. dir., polychem. dept., E.I. du Pont de Nemours & Co., Wilmington, Del.; res. 1702 Bancroft Parkway, Wilmington.
Chem.; b. W. Chester, Ohio, Dec. 7, 1894; s. of William H. and Flora (Stein) Beekley; ed. Miami U., A.B. 1915; U. of Ill., M.A. 1917; Princeton U., Ph.D., 1924; mem.: Phi Kappa Tau, Gamma Alpha, Phi Beta Kappa; m. Louise W. Tatnall, Apr. 18, 1927; ch.: Anne Ferris (Beekley) Waldo, Sarah S., John S. Jr., Frances T. E.I. du Pont de Nemours & Co., res. chem. 1924-36, mgr. process sec. ammonia dept. 1936-41, asst. chem. dir. ammonia dept. 1941-43, chem.

dir. ammonia dept. 1943-50, chem. dir. polychem. dept. 1950 to date. Mem.: A.C.S., A.I.Ch.E., S.C.I. Trustee, Tatnall Schl. Inc. Club: Wilmington Country.

BEELER, Emerson C., plant engr., Wyeth Inc., 1201 Washington Ave., Phila. 47, Pa.; res. 826 Windermere Ave., Drexel Hill, Pa.
Chem. engr.; b. Springfield, Ill., Oct. 6, 1909; s. of Ralph W. and Bertha F. Beeler; ed. U. of Ill., 1933; m. Mabel C. Jeffers, Feb. 5, 1932; ch.: Robert Alan. 1934, Abbott Labs., N. Chicago, Ill., production; 1937, Am. Phar. Assn. Labs., Wash., D.C., chem.; 1942, Wm. S. Merril & Co., Cincinnati, Ohio, phar. chem.; 1943 to date, Wyeth Inc., Twelfth St. Lab., Phila., Pa., plant engr. Res. on ointment bases in phar. fld. Hobby: radio.

BEERY, Donald Wilson, sen. engr., Synth. Fuels & Chem Dept., Chem. Plants Div., Blaw-Knox Const. Co., 321 Penn Ave., Pittsburgh, Pa.; res. 410 N. Neville St., Pittsburgh 13.
Chem. engr.; b. Passaic, N.J., July 8, 1917; s. of Nicholas O. and Jennie S.Z. Beery; ed. Newark Coll. of Engrg., B.S. in Ch.E., 1939; Stevens Inst. of Tech., M.S. 1942; m. Williamina Thompson, June 2, 1945; ch.: Susan Frances, Nancy Jean. 1938-41 jr. engr., Irvington Varnish & Insulator Co.; 1941-43 dev. engr., Tide Water Assoc. Oil Co.; 1943-44 dev. engr. U.S. Rubber Co.; 1944-48 dev. engr., grp. ldr., Johnson & Johnson; 1948 to date sen. engr., Chem. Plants Div., Blaw-Knox Construction Co. Mem.: A.I.Ch.E., A.C.S., Am. Gas Assoc. (ind. mem.). Clubs: Passaic Lodge No. 67, F. & A.M., Centennial Chapt., No. 34, R.A.M., Adoniram Consistory, Thirty second degree, A.A.S.R., Salaam Temple, A.A.O.N.M.S. Hobbies: music, literature, bridge.

BEESON, Carrol Menefee, assoc. prof. pet. engrg., U. of Southern Calif., Los Angeles, Calif.; res. 1050 Wooster St., Los Angeles 35.
Teacher, conslt.; b. Jacksonville, Ala., Dec. 13, 1903; s. of William James and Auline (Moore) Beeson; ed. 1935, B.A. with highest hon. in chem., U. of Calif., Los Angeles; 1939, Ph.D., Calif. Inst. of Tech.; mem.: Phi Beta Kappa, Sigma Xi, Alpha Chi Sigma; m. Helen Elizabeth Beeson, Jan. 1, 1924; ch.: Barbara Carol, Virginia Lee (Beeson) Ruffolo. 1924-38, owned & operated, Beeson Bros. Ice Distributors; 1938-42, owned, Beeson Bros. Ice Dist., Los Angeles, Calif.; 1938-40, chem. engr., General Pet. Corp., Los Angeles, 1940-48, supvr. prod. res. div.; 1948 to date, assoc. prof. pet. engrg., U. of Southern Calif., Los Angeles. Chem engr. registration No. 104, pet. engr. registration No. 49, State of Calif. Numerous publ. in chem. journals. Mem.: A.I.M.M.E. (organizer, 1945, & first chmn., 1946, of subcom. on lab. meths. of prod. res.; chmn. of student assoc. comm. 1949); A.P.I. (mem. of exec. comm. of central comm. on drilling & prod. practice, 1947 to date; mem. of Pacific Coast district subcomm. on core anal. & well logging, 1947 to date; natl. chmn. of natl. subcomm. on core anal. & well logging, 1947-48); A.C.S. (Southern Calif. sec.; chmn. of hospitality comm. 1945-46; mem. of publ. comm. 1946-47; assoc. edit. of Scalacs, 1947-48; mem. edit. staff of Scalacs, 1948-49; mem. of social comm. 1948-49). Hobbies: sports, gardening.

BEISLER, Walter Herman, hd. prof., Dept. of Chem. Engrg., U. of Fla., Gainesville, Fla.; res. 1036 N.E. 4th St., Gainesville, Fla.
Prof.; b. Newark, N.J., Apr. 21, 1896; s. of Anthony and Anna Beisler; ed. 1914-18, Rutgers, tech, course in chem., B.S.; 1918-19 Rutgers, maj. anal. chem.; minors mech. and elec. engrg., M.S.; 1919-22 Princeton, maj. org. chem., minor phys. chem., M.S., DSc.; mem.: Pi Kappa Phi; m. Georgia M. Wallace, June 29, 1921; ch.: Elaine L. (Mrs. W.L. Gaither). May-Oct., 1918, du Pont Engrg. Co., Carney's Pt., N.J. and Old Hickory, Tenn., lab. tests on nitrocellulose and smokeless powder; June-Sept., 1920, 1921, 1922, Noil Color & Chem. Co., N.Y.C., plant wk. on mfr. of azo dyes; res. wk. on vat dyes; June-Sept., 1923, Grasseli Chem. Co., Grasseli, N.J., constr. wk. on a contact sulfuric acid plant; Sept., 1934-Sept., 1936, Crown Cork & Seal Co., Baltimore, Md., res. wk. on lithographic inks and coating; June-Oct., 1938, Fruit Treating Corp., Orlando, Fla., part-time conslt. wk. in connec. with pat. litigation on fruit coloring proc.; 1943-44, War Res. Lab., U. of Fla.; part-time wk. in res. and conslt. on secret proc.; June-Sept., 1945, Fla. Power Corp., indust. survey; 1919-22, grad. asst. in chem., Princeton; 1922-23, asst. prof. of chem., U. of Fla.; 1923-34, prof. of chem. engr., same U.; 1936-39, prof. of chem. engr., same U.; 1939 hd. prof. of chem. engr., same U.; 1940-44, part-time wk. as State Coord. of E.D.T., E.S.M.D.T. and E.S.M.W.T. courses for training men and women for war industries. Contrib. numerous arts. to sc. jls.; holds sev. U.S. pat. in his fld.; also author of "Fluid Flow Apparatus" and "A Vacuum Drier Modified for Experim. Purposes," appearing in "Chem. Engrg. Lab. Equipment," by Zimmerman & Lavine, pub. 1943 by Indust. Res. Serv., Dover, N.H. Mem.: A.I.Ch.E., A.C.S., (secy.-treas. Fla. Sect., 1926-27; chmn. Fla. Sect., 1934); A.S.E.E.; fellow, Fla. Engrg. Soc. (secy., 1943-46; dir. 1947 to date; 2nd v.p., 1949-50; 1st v.p., 1950 to date); reg. prof. engr., State of Fla.; mem.: also of Phi Kappa Phi, Sigma Tau, Gamma Sigma Epsilon.

BEITZEL, George Breuninger, pres., Pa. Salt Mfg. Co., 1010 Widener Bldg., Phila. 7, Pa.; res. 148 Summit Rd., Springfield, Del. Co., Pa.
Exec.; b. Phila., Pa., July 23, 1893; s. of William Henry and Hester Jacoby (Brenner) Beitzel; ed. U. of Pa., Wharton Schl.; m. Mary Elizabeth Bickley, Sept. 10, 1918; ch.: George Bickley, Anna Margaret. 1911-12, Com. Trust Co., sales; 1913-25, John T. Lewis & Bros. Co., sales mgr.; 1925-29, Yarnall Paint Co., v.p.; 1930-41, mgr. of sales, 1942-48 v.p., Apr. 27, 1949 to date, pres. Pa. Salt Mfg. Co. Del. Co. Hosp., dir.; Methodist Hosp., bd. of trustees; Home Missionary Soc. of Phila., pres.; Phila. Missionary & Church Ext. Soc., dir.; Springfield Township Schl. Bd. Clubs: Midday (Phila.); Chemists' (N.Y.); Sunday Breakfast (Phila.). Hobbies: hunting, fishing, riding. Officer: Pa. Salt Mfg. Co. of Wash. (v.p.); Natrona Water Co. (pres.); Natrona Light & Power Co. (pres.); Pennsalt Coal Co. (pres.); Pennsalt Internatl. Corp. (dir.); Wypenn Oil Co. Inc. (v.p., dir.); Fidelity-Phila. Trust Co. (dir.).

BELCHER, Verner A., asst. mgr. tech. serv., N. J. Zinc Co., 160 Front St., New York, N.Y.; res. 50 Vernon Pkwy., Mt. Vernon, N.Y.
Chem. engr.; b. Milan, Mich., June 17, 1885; s. of John and Rebecca Belcher; ed. U. of Mich., B.Ch.E.; mem.: Sigma Xi, Phi Lambda Upsilon; m. Deborah Fullam, Sept. 28, 1917; ch.: John, Alfred. West. Elec. Co., res. chem. and chem. engr. 4 yrs.; res. on metal coatings, 2 yrs.; N.J. Zinc Co., sales engr. from 1917 to date, asst. mgr. Tech. Serv. Mem.: A.C.S. Club: Chemists' (N.Y.). Hobbies: camera, gardening.

BELCHETZ, Arnold, 125 Woodbine Ave., Larchmont, N.Y.
Chem., pet. conslt.; b. South Africa, Jan. 23, 1904; s. of Wolf and Annette Chautin Belchetz; ed. Ph.D. Emmanuel Coll., Cambridge U., England; M.Sc. Rhodes U. Coll., U. South Africa; m.

Pearl Sarah Komaiko, Dec. 7, 1934; ch.: Sarah Judith, Deborah Anne, Ruth Naomi. Jan. 1929-Oct. 1938, Royal Dutch Shell group, chf. tech., Shell Pet. Refiners; Dec. 1938-June, 1943; Marc. 1946—June 1948, M.W. Kellog Co., hd. new proc. dept.; July, 1943-Feb. 1946, dir. res., dev., Stauffer Chem. Co.; July, 1948-June, 1950, v.p. Sc. Design Co.; July, 1950 to date chem., pet. conslt. Large scale app. of cataly. pet. indust., basic patents in fluid cataly. crack., hydroforming, polym. Inventor proc. for prod. insoluble sulphur; mem.: A.I.C.; A.C.S.; A.I.Ch.E.; A.P.I.; A.-A.A.S.; A.T.S.; S.C.I. (Am. sect.); Trustee Larchmont Temple. Club: Chem. (N.Y.), Hobbies: music, tennis.

BELFER, Samuel, owner and dir., The Belfer Labs., 746 Jefferson Bldg., Peoria, Ill.; res. 309 Miller Rd., Peoria Heights, Ill.
Biochem.; b. Milwaukee, Wis., Jan. 25, 1911; s. of Meyer and Esther Belfer; ed. U. of Wis., B.A. 1935; M.A. 1940; m. Elizabeth Ruth Gilbert, July 1, 1937; ch.: Mary Rebecca. Res. asst., physiolog. chem., U. of Wis.; clinical biochem., Methodist Hosp. of Central Ill.; owner and dir. The Belfer Labs.; lecturer in biochem., Bradley U.; res. papers on "Autolysis", pub. in Jl. Biolog. Chem., Amer. Jl. Digestive Diseases and Nutrition. Mem.: A.C.S.; A.I.C. (fellow); A.A. Clinical C.; Amer. Pub. Health Assoc. Dir.: Peoria Assoc. of Commerce. Clubs: University, Rotary. Hobbies: civic betterment projects.

BELIN, Wallace K., prod. supt., Monsanto Chem. Co., 5045 W. Jefferson Ave., Trenton, Mich.; res. 22623 W. River Rd., Grosse Ile, Mich.
Prod. Supvr., chem. engr.; b. Minneapolis, Minn., Dec. 13, 1918; s. of William and Emma Belin; ed. U. of Minn. B.Ch.E., Plumb Bob (inst. tech. sr. hon. schlrshp. & ldrshp.); A.I.Ch.E. (pres.), Minnesota Techno-Log (editor); mem.: Alpha Chi Sigma; m. Merle Schwappach, May 11, 1946; ch.: Sandra Michele. 1941, Monsanto Chem. Co., Anniston, Ala., laborer, oprtr.; 1942, design engr., same plnt.; 1942-45, operating shft. foreman, Trenton, Mich. plant: 1945-46 act. persnl. mgr., Trenton, Mich. plant; 1946, same plant, chem. engr.; 1947-50, asst. prod. supvr., same plant; 1950, prod. supt., same plant; mem.: Alpha Chi Sigma-Det. Prof. Chptr., Detroit Downriver Tech. Soc., Amer. Speakers' Club, Trenton Jr. Chamber of Comm. (past pres.), Downriver Chamber of Commerce, Grosse Ile Golf & Country Club, The Islanders, Monsanto Recreation Club. Hobbies: golf, sailing, bowling, bridge, public speaking, fishing.

BELL, Alan, sr. res. chem., Tenn. Eastman Corp., Kingsport, Tenn.; res. 3225 Ridgeway, Kingsport, Tenn.
Chem.; b. Vancouver, B.C., Canada, July 12, 1911; s. of John Frederick (dec.) and Ruth (Dent) Bell; ed. U. of British Columbia, B.A. 1933, M.A. 1934; McGill U., Ph.D. 1937; mem. Sigma Xi; m. Doris Tallent, Apr. 8, 1944; one child; 1937-43 res. chem., Eastman Kodak Co.; 1943-44 prod. supvr., Clinton Eng. Wks., Tenn. Eastman Corp.; 1944-45 prod. supt. same wks., same co.; 1945 to date res. chem. Tenn. Eastman Corp. Mem.: A.C.S., Tenn. Acad. of Sci. Club: Lions.

BELL, Cameron H., chf. chem., Forbes Finishes Div., Pittsburgh Plate Glass Co., 3800 W. 143 St., Cleveland 11, Ohio; res. 28017 Sites Rd., Bay Village, Ohio.
Org. protective coatings chem.; b. Freeport, Penn. Sept. 10, 1910; s. of Albert C. and Florence (Rea) Bell; ed. U. of Pittsburgh, B.S. in Ch.E.; m. Lillian M. Tuohey, Nov. 27, 1942; ch.: Kathleen M., Michael A. Chemist, Pruett-Schaeffer Chem. Co.; chf. chem., Boydell Bros.; chf. chem., Forbes Finishes Div., Pittsburgh Plate Glass Co. Hobbies: shooting, marksmanship.

BELL, Edward A., v.p., Textile Aniline & Chem. Co., 49 Blanchard St., Lawrence, Mass.; res. 4 Bertram St., Lowell.
Chem.; b. Lowell, Mass. Oct. 29, 1902; s. of William and Mary E. Bell; ed. Lowell Textile Inst., B.T.E., 1924. Mem.: A.A.T.C.C.

BELL, Harold G., plant supt., industrial chem. sales div., West Virginia Pulp & Paper Co., Covington, Va.; res. Clearwater Park, Covington.
Chem. engr.; b. Philipsburg, Pa., Nov. 15, 1894; s. of William and Ida Grace (Gill) Bell; ed. Penn. State Coll. 1916, B.S. Ind. Chem.; mem.: Alpha Chi Sigma, Scabbard & Blade, Phi Kappa Phi; m. Carla G. Heller, June 20, 1936. West Va. P. & P. Co.: lab. tech. & anal. pulp testing & dev. of sheetmaking & test meths., tech. control paper mill, supt. precipitated calcium carbonate & chlorine plants. Mem.: A.C.S., Electrochem. Soc. Club: Mason. Hobbies: color photography, flower gardening, music.

BELL, J(ames) E(dgar), visiting prof. chem., Rollins Coll., Winter Park, Fla., res. 3438 Vosburg St., Pasadena, 8, Calif.
Prof. chem., retired from Calif. Inst. Tech.; b. May 20, 1875; s. of James Barnet and Mary Ellen (Vandever) Bell; ed. U. Chicago, B.S. 1905; U. Ill., Ph.D. 1913; mem.: Gamma Alpha; m. Rosalie Mary Retz, June 26, 1915, dec'd.; ch.: Louise Jean Saurenman, Helen Elizabeth Black. Ottawa, Ill. Township High Sch., tchr., 1905-08; instr. chem., U. Wash. 1910-11, 1913-16; assoc. prof. chem., Calif. Inst. of Tech. 1916-18; prof. chem., 1918-45; visiting prof. chem., Rollins Coll. 1945 to date.

BELL, Kenneth E., v.p. and tech. dir., A.C. Lawrence Leather Co., Sawyer St., Peabody, Mass.; res. 122 Clifton Ave., Marblehead, Mass.
Chem. engr.; b. Malden, Mass., Oct. 21, 1894; s. of Alfred M. and Mertie (Rice) Bell; ed. 1913-17, M.I.T., SB.; mem.: Kappa Sigma; m. Vera M. Thresher, Sept. 11, 1920; ch.: Elizabeth (Bell) Scott, John T., V. Phyllis, Phoebe. 1917-18, E.I. du Pont de Nemours, res. on high explosives; 1918-19, C.W.S., U.S.A., 2nd Lieut.; aide to Col. commanding Edgewood Arsenal; 1919-20, M.I.T., res. assoc., res. lab. of appl. chem.; 1920-23, Lewis Recovery Corp., chem. engr., solvent recovery; 1923 to date, v.p. and tech. dir., A.C. Lawrence Leather Co.; notable wk.: separation of helium from natural gas by diffusion-Res. Lab. of Applied Chemistry; dev. on all phases of leather prod. Mem.: A.C.S. (chmn. N.E. Sect. 1933-34); A.-I.Ch.E. (chmn. Ichthyologists Sect. 1941-42); Amer. Leather Chemists' Assoc. Mem. of Visiting Comm., Chem. Dept., M.I.T.; former chmn. Res. Comm., N.E. Council; mem. Q.M. Advisory Bd. Club: Appalachian. Hobbies: music, photography, mountain climbing.

BELL, Richmond T., res. supvr., Res. and Dev. Labs., The Pure Oil Co., Crystal Lake, Ill.; res. 294 Westerfield Pl., Grayslake, Ill.
Chem., chem. engr.; b. Milwaukee, Wisc., Oct. 9, 1905; s. of Edgar Lee and Clara May (Greer) Bell; ed. 1923-27, U. of Wisc., B.S. chem.; 1927-30, U. of Va., Ph.D. physical chem.; mem.: Pi Kappa Alpha, Alpha Chi Sigma, Scabbard and Blade, Sigma Xi, Grad. Scientific Club; m. Francenia M. Hamilton, March 15, 1930, also m. Irene Winona Johnston, Dec. 27, 1934; ch.: Francenia May, Winona Johnston, Ruth Richmond, Richmond Thomas II. 1927-30, Teaching

Fellow, U. of Va.; 1930-35, act. asst. prof., genl. and inorg. chem., U. of Va., 1930-35, ss, prof., genl. & inorg. chem., U. of Va.; 1930-35, act. asst. dean, Coll., U. of Va.; 1935-37, instr. math., Andrew Lewis School; 1937-42, sr. res. chem., The Pure Oil Co.; 1942-50, res. supvr., The Pure Oil Co. 19 patents granted, 9 patents pending; three articles published. Mem.: Registered Prof. Engr., State of Ill., A.C.S., A.A.A.S., A.P.I.

BELLINGER, Frederick, prof., chem. engrg., Res. Proj. Dir., Conslt., Schl. of Chem. Engrg., Georgia Tech., Atlanta, Ga.; res. 1551 The By Way, N.E., Atlanta.
Chem. engr.; b. New Orleans, La., Aug. 14, 1904; s. of Lyle Frederick and Annie Beall (Dobbs) Bellinger; ed. B.S. chem. engr., Georgia Tech., 1926; M.S. chem., Emory U., Ga., 1935; Dr. Engr. chem. engr., Yale U., 1940; mem. Kappa Alpha; m. E. Marie Parker, June 6, 1937; ch.: Barbara Lynn. 1926-28 C.W.S., Edgewood, Md., jr. and asst. chem. engr., Plants Dept.; 1928-32, R. & H. Chem. Co., Perth Amboy, N.J., chem. engr. dev. and peroxide prod.; 1932-33 Mfrs. Conslt. Engrs., Atlanta, Ga., chem. engr.; 1933-34 U.S. G.S. Aerial Mapping Proj., Atlanta, Ga., chf. computer; 1934-37 student, 1935-37, Yale U. instr.; 1937-40 Hercules Powder Co., Wilmington, Del., re. chem. engr.; 1940-41 C.W.S., Edgewood, Md., chf. Plants Design.; 1941-42 C.W.S., Huntsville Arsenal, 1941 sr. chem. engr., 1942 chf. chem. engr.; 1942-45 C.W.S., Wash., D.C., Major and Lt. Col., Staff, A.C. C.W.S. for materiel; 1945 C.W.S., Huntsville, Ala., Lt. Col. chf. FRED Project; 1945 to date Ga. Tech., Atlanta, Ga.; 1945-47 assoc. prof., 1947 to date prof. chem. engr., also res. proj. dir., State Eng. Exper. Sta.; 1945 to date conslt., chem. engr.; registered engr.; 1949 conslt., War Dept.; res. in absorption tower operation, chem. propellants, freezing of foods; asst. War Dept. conslt. in 1949 re status of German Chem. Industry. Author of arts. pub. in sc. jls. on absorption, chem. propellants and preservation of foods by freezing. Mem.: A.I.Ch.E., A.C.S., Natl. Soc. Prof. Engrs., Ga. Soc. Prof. Engrs., Armed Forces Chem. Assoc., Ga. Engr. Soc., Tau Beta Pi, Sigma Xi; Lt. Col. Chem. Corps, U.S.A. Reserve. Legion of Merit. Club: Atlanta Athletic. Hobbies: golf, swimming, first aid.

BELMORE, Edward Arthur, engr., res., dev. dept., Hooker Electrochem. Co., 4700 Buffalo Ave., Niagara Falls, N.Y., res. 8618 Jacob Pl., Niagara Falls.
Chem. engr.; b. Schuyler, Va., Sept. 6, 1912; s. of Albert J. and Mabel Johnson Belmore; ed. Lehigh U. 1931-32; U. Va. 1932-35; B.S.Ch.E.; mem.: Sigma Phi Epsilon, Alpha Chi Sigma, Tau Beta Pi; m. Josephine Ross, Sept. 10, 1938; ch.: Edward Ross. Engr. res. dept., Westvaco Chlorine Prod. Corp., So. Charleston, W. Va., 1935-40; engr., res., dev. dept. Hooker Electrochem. Co., Niagara Falls, N.Y. 1940 to date. mem.: A.I.Ch.E., A.C.S.

BENDER, Alfred William, mgr. chem. dept., Parke Davis & Co., Detroit 32, Mich.; res. 715 Washington Rd., Grosse Pointe 30, Mich.
Chem.; b. Batavia, N.Y., Jan. 8, 1889; s. of Alfred and Catherine Bender; ed. U. Buffalo, grad. 1911, anal. chem. A.C.; m. Lulu O. Warren, June 30, 1914; ch.: Alfred William, Jr. With Parke Davis & Co., lab. and mfg. since 1911. Mem.: A.C.S., Univ. Lodge, F. & A.M., Sojourners Chapt., R.A.M. Club: Mens Garden Club of America. Hobbies: gardening, home movies, touring.

BENDER, Howard Leonard, asst. supt. res., Bakelite Div., U.C.C., 230 Grove St., Bloomfield, N.J., res. 7 Carteret St.
Res. chem.; b. Williamstown, W.Va., Sept. 14, 1893; s. of Peter J. and Nellie H. Bender; ed. Marietta Coll., A.B. 1917; M.A. 1918; Case Inst., B.S. Chem. Engr. 1919; Columbia U., Ph.D. 1923; mem.: Phi Beta Kappa, Nu Phi; m. Dorothy G. Corner, June 29, 1918; ch.: Rose Margaret (decd.), Nancy June, Howard L., Jr. Res. chem. engr., Dow Chem. Co., Midland, Mich. 1919-21; Bakelite Fellow Columbia U. 1922-23; instr. Marietta Coll. 1921-22; res. chem. synthetic resins, Bakelite Corp. 1923 to date. Res. in synth. resins of phenol-aldehyde type, patents, artls. in A.C.S. publs.; mem.: A.C.S., British C.S., A.A. A.S., Natl. Rifle Assn. Club: Lake Mohawk (Sparta, N.J.). Hobbies: fishing, hunting.

BENDER, William A., sect. hd., Colloid Tech., Central Labs., Gen. Foods Corp., 1125 Hudson St., Hoboken, N.J., res. 58 E. Church St., Bloomfield, N.J.
Chem.; b. Phila., Pa., Oct. 8, 1884; s. of Charles F. and Anna Albinson Bender; ed. A.B. 1905, Clark U, Worcester, Mass.; 1924-26 U. Rochester; 1940-42 Bklyn. Polytech. Inst.; m. Lucy G. Butterfield, Sept. 14, 1912; ch.: Robert C. U.S. Bur. Chem., F.&D.A., 1905-12; 1915-18, finally chf., San Francisco Lab.; Certo Corp., and predecessors, 1912-15; 1919-30, chf. chem., dir.; Gen. Goods Corp., 1930 to date, res. chem., sect. hd. Res. in investigation composition, mfr. cider vinegar; tech., prod. liquid concentrate of pectin, powdered pectin, methd. detection, assay of pectin; mem.: A.C.S., I.F.T. Hobbies: gardening, humane treatment of animals, hist. of English Language.

BENDIX, Gordon H., mgr. of chem. & phys. labs., Continental Can Co., 4633 W. Grand Ave., Chicago 39, Ill.; res. 733 So. Hamlin Ave., Park Ridge, Ill.
Chem.; b. Vesta, Minn., Dec. 19, 1912; s. of Frank H. and Emilie Bendix; ed. B.S., U. of Minn., 1935; M.S. 1936; m. Charlotte Brunkow, 1937; ch.: James Gordon, Nancy Sue. Chem., Continental Can Co. Inc., 1936; sect. chf., same co, 1939; mgr. Matls. Control, same co. 1943; asst. dir. proc. res. same co., 1945; mgr., chem. & phys. labs. same co., 1950 to date; notable wk.: pubs. and pats. on meths. & equip. for rapidly measuring tin coatings. Mem.: Sigma Xi, Phi Lambda Upsilon. Hobby: electronic instrumentation.

BENEDICT, Manson, dir. of process dev., Hydrocarbon Res. Inc., 115 Broadway, N.Y.C.; res. 465 Topping Hill Rd., Westfield, N.J.
Physical chem.; b. Lake Linden, Mich., Oct. 9, 1907; s. of C. Harry and Lena (Manson) Benedict; ed. Cornell U., B.chem., 1928; M.I.T., M.S. 1932, Ph.D. 1935; m. Marjorie O. Allen, July 6, 1935; ch.: Mary Hannah, Marjorie Alice. Natl. Res. fellow in chem., Harvard U., 1935-36; res. assoc. in geophysics, Harvard U., 1936-37; res. chem., Natl. Aniline & Chem. Co., 1937-38; res. chem., M.W. Kellogg Co., 1938-43; in chg. of process dev., Kellex Corp., 1943-46; dir. of process dev., Hydrocarbon Res. Inc., 1946 to date. Dev. equation of state for hydrocarbon mixtures; in chg. of process design of gaseous diffusion plant for separation of uranium-235. Co-editor: "Engrg. Dev. in the Gaseous Diffusion Process," McGraw-Hill, 1949. Mem.: A.C.S., A.I.Ch.E., Sigma Xi, Walker Award of A.I.Ch.E.

BENEDICT, Robert Glenn, bacteriolog., fermentation div., Nor. Regional Res. Lab., Bur. Agric. & Indust. Chem., U.S.D.A.; res. 1015 Ridge Rd., Peoria 5, Ill.
Res. in antibiotics; b. Ionia County, Mich., July 16, 1911; s. of Ralph Eric and Margaret May Benedict; ed. B.S., Med. Biol., Mich. State, 1936; M.S. Biol., Va. Poly. Inst., Blacksburg, Va.,

1938; Ph.D. Agr. Bact., U. of Wis., 1942; m. Althea H. Cone, Apr. 21, 1945; ch.: Robert C., Barbara J. Instr., Agr. Bact., U. of Wis., 1941-42; bacteriolog., Culture Coll. Sect., F.D., July, 1942-May, 1945; bacteriolog., Survey & Dev. Sect., F.D., May, 1945 to date; res. in antibiotics-penicillin, penicillinase, other antibiotics from molds; polymyxin; streptomyces antibiotics, hydroxy streptomycin. Contrib. numerous arts. to sc. jls. Mem.: Sigma Xi, Sigma Alpha Beta, Phi Sigma; Soc. Am. Bact., Soc. Ill. Bact., Lasker Group Award, 1948; Superior Serv. M., U.S.D.A., 1950. Hobbies: fishing, collection of insects.

BENEMELIS, Robert Lorenzo, chf. chem., Ridgway Plant, Sinclair & Valentine Co., Front St., Ridgway, Pa.; res. Lookout Ave., Ridgway, Pa. Res. chem.; b. Pittsfield, Mass., Sept. 3, 1918; s. of Lorenzo and Grace Benemelis; ed. Mass. State Coll., B.S. 1940; U. of Cincinnati, M.S. 1941; Ph.D. 1947; mem.: S.A.E.; m. Bonnie Owen, 1943; ch.: Lynne Anne. 1943-46 res. chem., Naval Res. Lab.; 1947 to date with Sinclair and Valentine Co., Ridgway, Pa. Thesis (Ph.D.), The Drying of Lithographic Inks. Mem.: Phi Lambda Upsilon, Sigma Xi. Club: Rotary. Hobbies: garddening, photography.

BENGER, Ernest Baden, chem., conslt., inventor, legis., retired; res. 1111 Brandon Lane, Wilmington, Del. Chem., conslt.; b. Belvidere, Ill., Dec. 20, 1885; s. of John and Ida (Nourse) Benger; ed. Grinnell Coll., B.S. 1907; U. of Wis., M.S. 1913; Ph.D. (U. of Wis.) 1917; D.Sc. (hon.) Grinnell Coll. 1938; mem.: Phi Lambda Upsilon, Alpha Chi Sigma, Sigma Xi; m. Ella Hope Steele, 1908; ch.: Ernest Steele. 1907-14 tchr. in high schls. of Minn. and Ky.; 1915-16 fellow, U. of Wis.; 1915-17 instr. chem. U. of Wis.; 1917-47 res. chem., lab. dir., chem. supt., chem. dir., tech. div. mgr., du Pont Co.; 1947 to date conslt. for chem. indus., chmn. Adv. Bd. U.S. Naval Ordn. Lab., mem.: Delaware Gen. Assembly; res. in telluric and selenic acids, photochem., rayon and cellophane, motion picture film, artificial leather, nylon, orlon. Mem.: A.C.S., U.S. Power Squadrons, Comdr. 1940-41; Phi Beta Kappa. Club: du Pont Country. Hobbies: golf, yachting.

BENINGTON, George Arthur, pres., Mutual Chem. Co. of America, 270 Madison Ave., N.Y.C.; res. West Rd., New Canaan, Conn. Exec.; b. N.Y.C, Sept. 16, 1893; s. of Arthur and Eliza (Davidson) Benington; ed. pub. and priv. schls.; m. Agnes Baylis Bigelow, June 10, 1927; ch.: 1 son, 1 dau. W.R. Grace & Co., 1913-23, New York, 1913-17, Canada, 1917-19, London, 1919-20, Canada, 1921-23; Am. Agri. Chem. Co., 1924-33, Bowker Chem. Co. (a subsidiary), Pres. 1925-26, Am. Agri. Chem. Co., Asst. to Pres., then V.P. chg. sales 1927-33; Mutual Chem. Co. 1933 to date. Pres. and dir., Mutual Chem. Co. of Amer.; pres. and dir., Mutual Lime Co.; dir., West Penn Electric Co.; dir., West Penn Power Co. U.S.N. during W.W.I, 3rd Fld. Artillery, Mex. border. Clubs: Chemists', New Canaan Country, Union League. Hobby: tennis.

BENJAMIN, Howard A., group supvr., Am. Can Co., 11th & St. Charles Rd., Maywood, Ill.; res. 255 Niagara, Elmhurst, Ill. Chem. engr.; b. Saginaw, Mich., Oct. 1, 1908; s. of A.W. and Letticia A. Benjamin; ed. B.S. Mich. State Coll. 1930; mem.: Alpha Chi Sigma, Lambda Chi Alpha; m. Evelyn Johnson, May 20, 1933; ch.: Richard, Thomas, Evelyn, Paul; with Am. Can Co., res. div. 1930 to date. Hobbies: music, photography, radio-electronics.

BENNE, Erwin John, prof. res., Dept. of Agric. Chem., Mich. State Coll., E. Lansing, Mich.; res. R.F.D. 4, Mason, Mich. Res. prof. of agric. chem.; b. on a farm near Morrowville, Kan., May 21, 1902; s. of Henry and Bertha (Thrun) Benne; ed. Kansas State Coll. of Agric. & Applied Sc. B.S. with high honor, 1928; M.S. 1931; Ph.D. 1937; m. Gladys Ethel Meyer, Aug. 22, 1928; ch.: Richard Gene, Max Erwin. Sc. instr., Wilson Co. H.S., Fredonia, Kan., 1928-29; sc. instr., Manhattan H.S., Manhattan, Kan., 1st. semester 1929-30; instr. of chem., Kansas State Coll., Manhattan, Kan., 1930-38; Mich. Agric. Exp. Station, Mich. State Coll., res. asst. 1938-43, res. assoc. 1943-46, prof. of res. 1946 to date. Res. in agric. chem., esp. as pertains to composition of agric. crops & dev. of chem. anal. meths. Author or co-author of approx. 40 sc. publ. Mem.: A.C.S., A.S.A., A.A.A.S., Mich. Acad. of Sc., Sigma Xi, Phi Kappa Phi, Phi Delta Kappa, Assn. of Official Agric. Chem. Mem. of Bd. of Ed. of Okemos Cons. Schls., Okemos, Mich. Club: Mich. State Coll. Hobbies: owning & operating a small farm, wood & metal working.

BENNER, Frank C., dir., chem. dept., Natl. Res. Corp., 70 Memorial Dr., Cambridge, Mass.; res. 25 Colonial Ave., Waltham, Mass. Res. chem.; b. Detroit, Mich., Nov. 26, 1912; s. of Clarence W. and Della (Durack) Benner; ed. B.S., Wayne U., 1934; M.S., Ph.D. U. of Mich., 1937, 1941; mem.: Gamma Alpha grad. sc. frat.; m. Marie J. Brazdzons, May 29, 1948; ch.: Peter John. Kelvinator Corp., chem., 1934-36; Am. Pet. Inst. res. fellow, U. of Mich., 1937-42; Natl. Res. Corp., dir., chem. dept., 1942 to date. Surface chem. of solids, high vacuum distillation. Publ. papers in tech. journals. Mem.: A.C.S., Sigma Xi.

BENNER, Joseph A(llen), hd., closure dev. sect., res. labs., Armstrong Cork Co., Lancaster, Pa., res. 665 W. Chestnut St. Chem. engr.; b. Allentown, Pa., Oct. 23, 1914; s. of Charles F.H. and Emma C. (Rupp) Benner; ed. Pa. St. Coll., B.S. Chem. Engr. 1935; mem.: Alpha Sigma Phi (social); m. Barbara Jean Witmer, Nov. 4, 1937; ch.: Barbara Jo. Sept. 10, 1935 to date, Armstrong Cork Co.; 1935-36 lab. asst., contr., anal.; 1936-40 jr. chem., dev. wk. on container closures; 1940-44 factory contr. chem., Armstrong Closure Plant; 1944 to date hd., closure dev. sect., res. labs. Activities principally directed to dev. utility of improved matls. for closures appl. to glass containers used in proprietary, food, drug, cosmetic pkg. fields; mem.: A.C.S. Hobbies: external activities principally civic group projs., local ed. facilities, local prof. chem. group (A.C.S.).

BENNETT, Chester Wallace, assoc. prof. of chem., Western Ill. State Coll., Macomb, Ill.; res. 216 N. Ward St., Macomb. Coll. tchr.; b. Vernon, Iowa, Feb. 17, 1904; s. of Wm. Lee and Clara May (Hubbard) Bennett; ed. U. of Ill., 1926, B.S. (with high honors); M.S. 1927 Northwestern U.; Ph.D. 1930, U. of Ill.; mem.: Phi Eta Sigma, Phi Lambda Upsilon, Sigma Xi; m. Martha Eleanor Bennett, June 23, 1934; ch.: Eleanor J., Kathryn L., Donald C. 1927-30 res. asst., U. of Ill.; 1930-46 asst. prof., 1946 to date assoc. prof. Western Ill. State Coll.; notable wk. on fluorene derivatives. Author: "Outlines of Anal. Chem.," 1948. Mem.: A.C.S.; Ill. Acad. of Sci.; Ill. Assoc. of Chem. Tchrs.; Ill. Educ. Assoc.; Natl. Assoc. of Sci. Tchrs. past Natl. pres. of Sigma Zeta (hon. sci.); dir. of United Student Christian Found. at Western Ill. State Coll. and secy. of Bd. Hobbies: music, gardening, amateur carpentry.

BENNETT, Earl Willard, chmn. bd., Dow Chem. Co., Midland, Mich.
Chmn. bd.; b. White Cloud, Mich.; s. of Frank and Eudorah Bennett; ed. high schl., bus. coll.; m. Eva V. Barclay, Aug. 9, 1905; ch.: four sons, four daus., The Dow Chem. Co., chmn. Bd., v.p.; Dow Magnesium Corp., dir., pres.; Midland Ammonia Co., dir., treas.; Dow Chem. of Canada, dir., v.p.; Ethyl Dow Chem. Co., dir., v.p.; Cliffs Dow Chem. Co., dir., treas.; Dow Corning Corp., dir. Sayan Yarns Co., dir., treas. Hobby: yachting.

BENNETT, George W(ayland), prof of org. chem., Grove City Coll., Grove City, Pa.; res. 422 Summit St., Grove City.
Coll. teacher; b. Phila., Pa., Mar. 29, 1898; s. of Joseph A. and Sarah (Elliott) Bennett; ed. Denison U., B.S. 1922; Washington & Jefferson, M.S. 1924; Ohio State U., Ph.D., 1927; mem.: Lambda Chi Alpha; m. Ethel Fetherlin, Oct. 29, 1937; ch.: John Joseph, Richard Bond. Grad. asst., Washington & Jefferson, 1922-24; instr., Towne Sc. Schl., U. Pa., 1924-25; grad. asst., Ohio State U., 1925-26, Grasselli Fellow, 1926-27; asst. prof., Grove City Coll., 1927-37; asst. prof., Washington & Jefferson, 1937-39, prof. 1939-43; asst. prof., Bethany (W. Va.) Coll., 1943-46; prof. org. chem., Grove City Coll., 1946 to date. Author of some 25 papers in the prof. journals on aspects of classroom & lab. instruction; investigations on vapor-liquid equilibria, & history of chem. studies. Mem.: A.C.S., Pa. Acad. of Sc., A.A.U.P., Sigma Xi, Phi Lambda Upsilon. V.p. (West), Pa. Acad. of Sc., 1949. Hobbies: philately, iris culture.

BENNETT, Harry, pres., Glyco Prod. Co. Inc., 26 Court St., Bklyn. 2, N.Y.; res. 275 Central Park W., N.Y. 24, N.Y.
Chem. engr.; b. N.Y.C., May 28, 1895; s. of Louis and Esther (Cohen) Bennett; ed. N.Y.U., B.S. in Ch. Eng. 1917; Columbia U. 1913-15; m. Rose Michaels, Jan. 6, 1921; ch.: Helene Marion; Marilyn Shirley. British-Am. Chem. Co., 1917-18, chem. engr.; Anderson Chem. Co., 1918-19, control chem.; E.I. du Pont de Nemours & Co., 1919-20, res .chem.; Emerson Chem. Corp., 1920-24, tech. dir.; Arcadia Chem. Corp., 1924-26, tech. dir.; Glyco Prod. Co. Inc., 1926 to date, pres. U.S. pats., 1,807,563; 1,914,100; 1,953,741; 1,955,527; 1,981,608; 2,095,955; 2,097,753; 2,143,641; 2,275,494; 2,357,725; 2,372,171; 2,429,644; Canadian pat. 322,765; British pat. 420,760. Chem. Publ. Co. Inc. (pres.); Ankem Corp. (pres.); Genchor Inc. (pres.). Author: "Chem. Formulary" Vol. 1, 2, 3, 4, 5, 6, 7, 8, 9, (1932-50); "Practical Everyday Chem." 1934; "Stand. Book of Formulas" 1935; "More For Your Money" 1930; "Cosmetic Formulary" 1936; "Stand. Chem. & Tech. Dictionary" 1938; "Substitutes" 1942; "Practical Emulsion" 1944; "Com. Waxes" 1945; "Chem. Specialties" 1945; "Concise Chem. & Tech. Dictionary" 1946; "Trade-Marks" 1949. Mem.: N.Y. Acad. of Sc., A.A.A.A., A.T.C.&C., A.I.C., A.C.S., S.C.I., I.F.T., A.O.C.S., A.F.C.A. Hobbies: travel in Latin Am., tennis.

BENNETT, Harry Thomas, tech. dir., Mid-Continent Pet. Corp., P.O. Box 381, Tulsa 2, Okla.; res. 2115 E. 18th St., Tulsa.
Chem.; b. Wilmington, Del., Jan. 8, 1893, s. of Alexander and Wilhelmina Bennett; ed. Wilmington, Del. High School 1911, U. of Del. B.S. 1915, U. of Nebr. M.S. 1916; m. Clara Sayers, Sept. 29, 1918; ch.: Mildred, William. Chem. Okla. A.&M. Exp. Station 1916-17; chem. Cosden & Co. 1917-19; chf. chem. Transcontinental Oil Co. 1919-20; res. chem., chf. chem., tech. dir. Cosden & Co. (now Mid-Continent Pet. Corp.) 1920 to date. Stabilization cracked gasoline, solv. extraction lubricants. Mem.: A.C.S., S.A.E., A.S.T.M., A.P.I., Phi Kappa Phi, Sigma Xi, Alpha Chi Sigma, John Scott Award 1950. Hobbies: fishing, shell collector.

BENNETT, Harvey Childs, chf. chem., Los Angeles Soap Co., 617 E. 1st St., Los Angeles 54, Calif., res. 1853 Warwick Rd., San Marino 9.
Chem. engr.; b. Aurora, Ill., s. of John Franklin and Viola Childs Bennett; ed. B.S. Chem. Engr. 1909, U. Ill.; m. Lucy Spooner, June 14, 1917; ch.: James Alan. Commonwealth Edison Co., chem.; Union Pacific R.R., chem.; Am. Smelting & Ref. Co., dept. supt.; Los Angeles Soap Co., 1914 to date; mem.: A.C.S., A.O.C.S., A.S.T.M., Phi Lambda Upsilon. Hobbies: golf, bridge, photography.

BENNETT, James Leroy, mgr., Chem. Operations, Hercules Powder Co., Wilmington, Del.
Exec.; b. Toms River, N.J., Apr. 14, 1887; ed. U. of Kans.; m. Gertrude Uhl, Nov. 29, 1913. With Hercules Powder Co. from 1914 to date; var. chem. plant operations, 1914-19; main office, 1919 to date. Holder of sev. pats. Mem.: Alpha Chi Sigma, A.I.Ch.E., A.C.S., S.C.I. Club: Chemists' (N.Y.).

BENNETT, Martin Toscan, consltg. engr., 1627 K St., N.W., Wash., D.C., 150 Broadway, N.Y.C.; res. 27 Woodmont Rd., Belle Haven, Alexandria, Va.
Consltg. engr.; b. Saybrook, Conn., Sept. 5, 1901; s. of Martin Toscan and Josephine Beach (Day) Bennett; ed. U. of Wis., B.S. in Ch.E., 1925, Ch.E. 1935; m. Thistle M. McKee, M.D.; ch.: John Toscan, Michael, Heather. 1925-26, asst. supt., West Side Wks., Milwaukee Gas Light Co.; 1927-31, gas engr., State Engrg. Dept. of Wis.; 1932-37, gas & water utilities engr., engrg. auditor, Public Service Commis. of Wis.; 1938-41, principal valuation engr., asst. dir. res. & valuation, Public Service Commis. of N.Y.; 1942-43, chf. gas prod. div., Power Branch, War Prod. Bd.; 1943 to date, consltg. engr. in private practice. Manufacturers Overseas Inc., N.Y.C. (pres.). During W.W.II & immed. flwg. served as ind conslt. & chf. of ind. div., Enemy Branch, Foreign Economic Adm.; ind. adviser to President's Rep. on Reparations; chf. of staff, Reparations Mission to Europe & Far East. Mem.: A.C.S., Am. Gas Assn., Council on Foreign Relations, Dist. of Columbia Soc. of Prof. Engrs., Am. Inst. of Pacific Relations, Natl. Planning Assn. Clubs: Chem. Engrs. (Wash. D.C.); Chemists' (N.Y.C.). Hobbies: international affairs, economics, horticulture.

BENNETT, Richard E., pres. Farm Fertilizers, Inc., P.O. Box 351, South Omaha, Neb.; res. 520 Clark Ave., Council Bluffs, Iowa.
Exec.; b. Lincoln, Nebr., Dec. 9, 1891; s. of Edward E. and Marcia K. Bennett; ed. Public H.S., Lincoln, Nebr.; m. Angela S. Bennett, Jan. 1, 1920; ch.: Suzanne (Bennett) Joines, Lyman S. Officer & dir., Smith Dorsey Co., Lincoln, Nebr. 1911-50; pres., dir., Western Mineral Prods. Co., Omaha, Nebr. 1925-46; pres., dir., Farm Fertilizers, Inc., South Omaha, Nebr. 1947-50. Dir., Y.M.C.A., Omaha, Nebr., Sr. Warden, St. Paul's Episcopal Church, Council Bluffs, Iowa. Mem.: Omaha Athletic Club, U. Club, Rotary Club. Hobbies: golf, bowling, fishing.

BENOIT, Constant Alexandre, pres., Permatex Company, Inc., 1720 Avenue Y, Brooklyn 35, N.Y.; res. 2669 East 26th St., Bklyn 35, N.Y.
Gen. manager, dir. of Chem. Res.; b. Bklyn., N.Y., Feb. 20, 1884; s. of Alphonse V. and Julia (Ostheim) Benoit; ed. Polytech. Prep. Schl. and Polytech. Inst., Bklyn., N.Y., B.Sc. and M.Sc. in

Chem. (cum laude); mem.: Pi Kappa Phi; m. Jean Turner, Aug. 30, 1918; ch.: Constant Alexandre, Jr. Started business of Constant A. Benoit in 1909 mfg. automotive repair and service chem. prods.; incorporated this business under name of Permatex Company, Inc., 1921, and has continued as pres. and gen. mgr. to date. Developed and pat. var. automobile chem. repair and service matls. Mem.: A.C.S., A.I.C. (fellow). Dir., Bklyn. Chamber of Commerce; trustee, Industrial Home for the Blind in Bklyn.; former dir., Motor & Equipment Mfrs. Assoc.; former pres., Automotive Chemical Specialties Mfg. Industry. Hobbies: golf, fishing, photography, stamp collecting.

BENOLIEL, D. Jacques, pres., Quaker Chem. Prods. Corp., Conshohocken, Pa.; res. 607 W. Upsal St., Phila. 19, Pa.
Mgr., chem.; b. N.Y.C., Oct. 21, 1899; s. of S. D. and Theresa (Lindeman) Benoliel; ed. U. of Pa.; m. Katherine J. Krauss, Oct. 8, 1928; ch.: Peter Andre, Lynn Audrey. 1920-30, Internatl. Chem. Co., Phila., salesman, sales suvpr., sales & adv. mgr.; 1930 to date, Quaker Chem. Prods. Corp., Conshohocken, Pa., pres. & dir. Publ. many articles in tech. & trade magazines on metal cleaning, metal cutting & grinding, metal drawing & stamping, preparing surfaces for porcelain enamelling. Mem.: A.S.M., A.C.S., Am. Ceramic Soc. Club: University (Phila.). Hobbies: book collecting, deep sea fishing, travelling.

BENOLIEL, Louis Osmond, v.p., Quaker Chem. Prods. Corp., Conshohocken, Pa.; res. 626 W. Cliveden St., Philadelphia, Pa.
Executive; b. Niagara Falls, N.Y., July 4, 1903, s. of Solomon David and Theresa L. Benoliel; ed. B.S., U. of Pa. (chem.). Mem.: Phi Epsilon Pi; m. Marion Eileen Kratzer, June 20, 1929; ch.: Osmond Donald, Walter Ronald. International Chem. Co., tech. correspondence, purch., lab. dev. 1925-30; Quaker Chem. Prods. Corp., v.p. chg. of plant and labs., purch. 1930 to date. Mem.: Franklin Inst., A.S.T.M., Am. Soc. Textile Chem. & Colorists, U. Club, Philmont Country Club. Hobbies: fishing, music.

BENSON, Henry Kreitzer, prof. emer. of chem. engrg., U. of Wash., 1008 Western Ave., Seattle 4, Wash.; res. 6027 Princeton Ave.
Dir. of res., Laucks Labs. Inc.; b. Lebanon, Pa., Jan. 3, 1877; s. of William F. and Catherine (Kreitzer) Benson; ed. A.B., Franklin & Marshall Coll., 1899, A.M. 1902, D.Sc. 1926; Ph.D., Columbia U., 1907; mem.: Tau Kappa Epsilon, Phi Lambda Upsilon, Sigma Xi; m. Eva A. Ronald, June 15, 1906; ch.: Lt. Col. Henry K., Jr., W. Ronald, Betty (Benson) Runstad, Margaret (Benson) Martin. 1904-05, grad. student, Johns Hopkins U.; since 1907, prof. of chem. & chem. engrg., U. of Wash., hd. of dept. since 1920; ret. Sept., 1947; chmn. Div. of Chem. & Chem. Engrg., N.R.C., Wash., D.C., 1931-32; Capt. Ord. Dept. Army, 1918-19; res. dir., Laucks Labs., 1948 to date. Pollutional aspects of sulfite waste liquor; chem. of lignin; low temp. distillation of subbituminous coal; arc process of nitrogen fixation. Author: "Indus. Chem. for Engrg. Students," "Potential Chem. Industries of Wash." Mem.: A.I.Ch.E., A.C.S., A.S.A.Sc, T.A.P.P.I., A.S.E.E. Dir. on board Ruth Schl. for Girls. Club: Rainier. Hobby: horticulture.

BENSON, William Lyttle, chem, Merck & Co., Inc., Rahway, N.J.; res. 190 Edgar St., Woodbridge, N.J.
Chem.; b. West Hoboken, N.J., Oct. 13, 1909; s. of Orville and Margaret (Lyttle) Benson; ed. Middlebury Coll., B.S. 1929; Middlebury Coll., M.S. 1930; U. of Vt.; Rutgers; N.Y.U.; mem.: Beta Psi, Delta Tau; m. Jean W. Edwards, Aug. 30, 1930; ch.: Anne, William H., Robert O. Roessler & Hasslacher Co., chem., 1930-31; Middlebury College, instr., 1931-33; Woodbridge Township Schls., tchr., 1933-44; Heyden Chem. Corp., chem., 1937-45; Merck & Co., Inc., chem. 1945 to date. Res. in org. chlorination, high pressure amination, vitamins in food and feeds, animal protein factor. Mem.: A.C.S., A.I.C. On bd. of education, Woodbridge Township, 1945-48; Boy Scouts, 1949 to date. Clubs: Masonic Bodies of Vermont. Hobby: dairy farming.

BENT, Henry Edward, dean of graduate faculty, prof. chem., U. of Mo.; res. 116 Westwood, Columbia, Mo.
Prof.; b. Oglesby, Ill., Oct. 6, 1900, s. of Henry A. and Josephine (Roberts) Bent; ed. A.B., Oberlin Coll., 1922; M.S., Northwestern U., 1923; Ph.D., U. of Calif., 1926; m. Florence E. Demo, Aug. 4, 1924; ch.: Henry A., Robert D.; instr. chem., Harvard U. 1926-32; asst. prof. chem., Harvard U. 1932-36; assoc. prof. chem., U. of Mo. 1936-38; prof. chem., U. of Mo. 1938 to date; dean of graduate faculty, U. of Mo. 1938 to date. Res. published in J.A.C.S. in physical chem. Mem.: A.C.S., A.A.A.S., Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, Phi Delta Kappa, Alpha Chi Sigma, A.A.U.P., Kiwanis. Hobby: camping.

BENTON, Arthur F., prof., U. Va., Charlottesville, Virginia; res. same.
Univ. prof.; b. Cranford, N.J., May 7, 1895; ed. Princeton, A.B., 1916, A.M., 1919, Ph.D., 1920; m. Marion Duncan, Dec. 17, 1924; ch.: 1 son, 1 d. Princeton, Natl. Res. Fellow, 1920-21; Calif. Inst. Tech., Natl. Res. Fellow, 1921-24; U. Va., asst. prof., 1924-27; assoc. prof., 1927-28; prof., 1928 to date; chmn. chem. faculty 1928 to date. 2nd Lt., C.W.S., 1918-19. Res. mainly reaction kinetics, catalysis and adsorption. Mem.: A.C.S. (counc. 1928-33), A.A.A S. (fellow), Va. Acdy. Sc., Sigma Xi (pres. Va. Chap. 1932), Phi Beta Kappa.

BERCOW, Herman B., secy., treas., Rosenthal Bercow Co., 25 E. 26 St., N.Y.C.; res. 1108 E. 7 St., Bklyn., N.Y.
Exec.; b. N.Y.C., Mar. 31, 1898; s. of Bernard and Jennie Bercow; ed. high schl.; m. Rhoda Sherman, Oct. 11, 1925; ch.: Paul Sherman, Alan D. J. A. Van Brunt & Co., 1913-18; H. B. Bercow & Co., 1918-26; H. H. Rosenthal & Co., Inc., 1926-46; Rosenthal Bercow Co., 1946 to date. Active in Boys' Club, Navy Yard District. Clubs: Chemists', Willow Brook Country. Hobby: golf.

BERG, Frantz Frederick, assoc. dir. of phamaceut. applications, Calco Chem. Div., American Cyanamid Co., Bound Brook, N.J.; res. 108 Aspen St., Floral Park, N.Y.
Res. exec.; b. Colorado Springs, Colo., Oct. 10, 1893; ed. St. Louis Coll. Phar., Ph.G., 1914; Ph.C., 1917; m. Mary Morrison, Aug., 1922; ch.: Helen M., Ruth M. Meyer Bros. Drug Co., chf. chem.; John T. Milliken Co., chf. chem.; E.R. Squibb & Sons, 1920-49, mgr. Bklyn. labs. & dir. quality control; Calco Chem. Div., Amer. Cyanamid Co., Bound Brook, N.J., assoc. dir. pharmaceut. applications, 1950 to date. Mem.: A.C.S., A.Phar.A., A.I.C (fellow), N.Y. Acdy. of Sc. Club: Chemists'. Hobbies: gardening, travel.

BERG, Lloyd, prof., hd. chem. engr. dept., Montana State Coll., Bozeman, Mont.; res. 1 Park Dr., Bozeman.
Prof. chem. engr.; b. Paterson, N.J., Aug. 8, 1914, s. of Olav and Anita S. Berg; ed. Lehigh U., B.S.Ch.E. 1936, Purdue U., Ph.D. 1942; mem.: Theta Xi; m. Edna Barrowclough, Jan. 1, 1938; ch.: Sally C., Charles O., John W. Sherwin-William Co., Newark, N.J., ind. sales, 1936-39; Gulf Res. & Dev. Co., Pitts., Pa., chem. engr.

1942-46; U. of Pitts., lect., 1942-46; U. of Kansas, assoc. prof., 1946; Phillips Pet. Co., Bartlesville, Okla., conslt., 1948-50; Montana State Coll., prof. chem. engr., 1946 to date. Five U.S. pats.; several res. papers in Chem. Engr. Prog., Ind. Eng. Chem., J.A.C.S. Mem.: A.I.Ch.E., A.C.S., Am. Soc. for Engrg. Ed. Sigma Xi, Phi Lambda Upsilon.

BERGAMINI, Charles Edward, chf. chem., chem. engr., Woonsocket Falls Mill, 15 S. Main St., Woonsocket, R.I.; res. 440 Prospect St., Woonsocket.
Chem. engr.; b. Boston, Mass., Sept. 10, 1913; s. of Charles V. and Rose V. (Bentley) Bergamini; ed. Northeastern U., 1932-37, B.S.Ch.E.; mem.: Pi Gamma Pi; m. Helen L. Stelle, Nov. 2, 1940; ch.: Susan Ann, Edward B. 1937-39, Carl Stohn, Inc., E. Taunton, Mass., chf. chem.; 1939-40, Hercules Powder Co., Wilmington, Del., res. chem.; 1940-42, Lehn & Fink Prods. Corp., Bloomfield, N.J., chem. engr.; 1942 to date, E. F. Timme & Son, 1 Park Ave., N.Y.C., chf. chem., chem. engr., Woonsocket Falls Mill, Woonsocket, R.I., chf. chem. & chem. engr., Victoria Plush Mill, Swarthmore, Pa., chf. chem. & chem. engr. Syn. resins & resinoids; pile fabric fld.; fur fabrics, process dev.; latex applications. Mem.: A.C.S., A.I.Ch.E., A.A.T.C., A.A.A.S. Clubs: Chemists' (N.Y.), Winnesuket Country. Hobbies: golf, chess.

BERGANTZ, Joseph Arthur, chem. engr., Buffalo Electro-Chem. Co., Inc., Buffalo 7, N.Y.; res. 90 Byron Ave., Buffalo 23.
Chem. engr.; b. Knoxville, Tenn., June 8, 1914; s. of George Stanley and Maud M. (Manley) Bergantz; ed. 1930-34, Univ. of Tenn., B.S. chem. engr.; 1936-37, U. of Ill., M.S. chem. engr.; 1937-39, M.I.T., Sc.D., chem. engr. (1941); mem.: Sigma Chi, Alpha Chi Sigma; m. Joan Osborn, Apr. 24, 1943; ch.: Barbara Ann, William Arthur, George Osborn. 1934-36, Tenn. Valley Auth., chem. engr. aide; 1936-37, U. of Ill., teaching asst. in inorganic chem.; 1938, Union Oil Co. of Cal., asst. engr.; 1939-40, M.I.T. Instr. chem. engr.; 1940-42, M.I.T., dir., Parlin, (N.J.) Station, Schl. of Chem. Engrg. Practice, asst. prof. 1941-42; 1942-46, U.S.A., C.W.S., Manhattan Dist., Corps of Engr., 1st Lt., Capt.; 1946, American Cyanamid Co., Linden, N.J., process engr.; 1946 to date, Buffalo Electro-Chem. Co., chem. engr. T.V.A. res. in phosphate rock fusion and phosphoric acid production. C.W. gas mask and mustard gas research. Uranium chemical production and research. Uses of highly concentrated hydrogen peroxide. M.I.T. Sc.D. Thesis: High Pressure Solubility of Hydrocarbon Gases (1941). Mem.: A.C.S., A.I.Ch.E., Sigma Xi, Phi Kappa Phi, Tau Beta Pi, Licen. Prof. Engr. (N.Y.S.), Army Commendation Ribbon. Mem.: U. Club of Buffalo. Hobby: athletics.

BERGEIM, Olaf, prof. biol. chem., U. of Ill., Coll. of Medicine, 1853 W. Polk St., Chicago, Ill.; res. 190 Elmhurst Ave., Elmhurst, Ill.
Prof. biol. chem.; b. Watertown, S.D., Nov. 6, 1888, s. of Peter J. and Ingeborg (Oye) Bergeim; ed. South Dakota State Coll., Ph.G. 1906, B.S., 1908; U. of Ill., M.S., 1912; Jefferson Medical Coll., Ph.D. 1914; m. Liselotte Von Gehr, July, 1947. Inst., assoc., demonstrator, asst. prof. of physiolog. chem., Jefferson Med. Coll., Phila., 1914-23; asst. prof., assoc. prof., prof. biol. chem., U. of Ill., Coll. of Medicine, Chic., 1923 to date. Studies on nutrition & digestion, iron and calcium metabolism, amino acid metabolism. Co-author: "Practical Physiolog. Chem." 11th Ed., 1937. Mem.: A.S.Biol.C., Am. Physiolog. Soc., S.E. B.M., A.C.S., Inst. of Medicine, Chicago.

BERGER, Harold D., chf. chem., Latex Lab., 12-10 Jackson Ave., Stein Hall & Co., Long Island City, N.Y., res. 36-20 168 St., Flushing, N.Y.
Rubber latex chem.; b. New York, June 7, 1921; s. of Philip and Sarah Berger; ed. Bklyn Coll. (evening) 1943; Polytech. Inst. Bklyn, present; m. Elenor Suvalsky, Jan. 31, 1943; ch.: Robert Richard, Lee Mitchell. Coupland Labs., 1938-39; Revertex Corp. of Am., 1939-44; Army Air Force U.S.A., 1944-46, Capt.; Revertex Corp. of Am., 1946-48; Stein Hall & Co., 1948 to date. Mem.: A.C.S., rubber div., rubber group. Hobbies: photography, athletics.

BERGMANN, Werner, prof. of chem., Sterling Chem. Lab., Yale U., New Haven, Conn.; res. 94 Cottage St., New Haven 11, Conn.
Prof. of chem.; b. Bielefeld, Germany, Apr. 30, 1904, s. of Wilhelm and Caroline (Upmann) Bergmann; ed. Gymnasium at Bielefeld, 1914-23; Univs. of Göttingen, Tübingen, Germany; Ph.D. Göttingen, 1928; mem.: Alpha Chi Sigma; m. Johanna Eberhard, 1931; ch.: Barbara, Johannes. 1928, Ph.D. Göttingen; 1929-30, Liebig asst. Göttingen; 1930, res. chem. Wolff Pharm. Wks., Bielefeld, Germany; 1930-31, Rockefeller Found. Fellow, Edinburgh; 1931, Kaiser Wilhelm Inst., Heidelberg; 1931-39, res. fellow, Yale U.; 1939-43, asst. prof.; 1943-47, assoc. prof.; 1947 to date prof. same U.; res in sterols and chem. of marine prods. Mem.: A.C.S., A.A.A.S., Soc. of Biochems., Soc. of Cancer Res., Conn. Acad. of Arts and Scs., Sigma Xi, Corp. Bermuda Biol. Sta., Sci. conslt. Bingham Oceanographic Lab. Fellow, Trumbull Coll., Yale U. Hobbies: stamps, marine animals.

BERGSTRESSER, Karl S., staff member, Los Alamos Scientific Lab., Los Alamos, New Mexico; res. 739 42nd St., Los Alamos, N.M.
Res. anal. chem.; b. Bangor, Penn, Sept. 23, 1909; s. of Ira F. and Carrie G. (Newhart) Bergstresser; ed. B.A., 1931, North Central Coll., Naperville, Ill.; M.S., 1933, Ph.D., 1935, Washington U, St. Louis, Mo.; m. May Holmes, Sept. 22, 1934; ch.: Robert H., Thomas K., Paul R., Martha A. 1935-36, instr. in chem., North Dak. Agr. Coll., Fargo, N.D.; 1936-43, prof. chem., Ottawa U., Ottawa, Kans.; 1943-44, chf. chem., Foote Mineral Co., Phila., Pa.; 1944-46, res. chem., same co.; 1946 to date, staff mem., Los Alamos Sc. Lab., Los Alamos, N.M. Study of induced reactions; analyt. chem. of lithium, zirconium, and transuranium elements. Mem.: A.C.S., Sigma Xi.

BERK, A(braham) A(lbert), supervising chem., Bureau of Mines, College Park, Md.; res. Washington, D. C.
Chem.; b. N.Y.C., Aug. 1, 1907, s. of Harry and Esther Berk; ed. Cooper Union Inst. of Tech., B.S., Ch.E., 1928; N.Y.U., M.S., 1931; m. Esther Schilian, Dec. 20, 1931; ch.: Carolyn, Kenneth, Evelyn. Bureau of Mines, 1931 to date. Papers on anal. methods, mineral beneficiation, high temperature solubility & equilibria, boiler seam cracking, corrosion in steam & water, fuels utilization, etc., pats. on preventing boiler-seam cracking and on embrittlement detector. Co-Author: B.M. Bulletin 443, 1941; "Intercrystalline Cracking of Boiler Steel and Its Prevention." Mem.: A.C.S., Comm. D-19, A.S.T.M., Joint. Res. Comm. on Boiler Feedwater Studies, Chem. Engrs. Club., Wash. Hobbies: fishing, golf.

BERK, Bernard, dept. head, tech. serv. labs., E. R. Squibb & Sons, New Brunswick, N.J.; res. 20 Brookside Ave., Somerville, N.J.
Chem., chem. engr.; b. Brooklyn, N.Y., Dec. 23, 1915, s. of Adolph and Susie Berkowitz; ed. C.C.N.Y. 1933-35; Indiana U., B.A. cum laude

1937, M.A. 1938, Ph.D. 1940; Merck Postdoctoral Fellowship 1940-41, N.Y.U., M.Ch.E., 1947; m. Genia Berkovitz, Aug. 28, 1940. Indiana Ordnance Wks, Charlestown, Ind., 1941-42; Lawrence Richard Bruce, Inc., Stamford, Conn. 1942-46 (synthesis sulfa drugs, dyes, protein fractionation); E. R. Squibb & Sons, 1946-47 (res. assoc., antibiotic purification); mem. Squibb Inst. for Med. Res. 1947 (dept. head, tech. serv. labs.). Antibiotic purification processes, vapor phase catalytic hydrogenations, electrolytic halogenations. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S., N.Y. Academy of Scs., A.I.Ch.E.

BERKEY, Fred Minton, mfg. supt., Monsanto Chem. Co., Monsanto, Ill., res. 825 S. Church St., Belleville, Ill.
Chem. Engr.; b. Louisburg, Kans., Aug. 21, 1897; s. of Charles Carrol and Mary Jane Berkey; ed. Kans. U. 1922, B.S. Chem. Engr.; m. Lionne Bingaman, Oct. 27, 1923; ch.: Dorothy, Madge. chem., Larabee Flour Mills Corp., June, 1922-Sept., 1926; chem., Carey Salt Co., Hutchinson, Kans., Sept., 1926-Feb., 1927; prod. engr., Pitts. Plate Glass Co., Feb., 1927-Jan., 1934; supt. Southern Alkali Corp., Jan., 1934-Aug., 1941; mfg. supt., Monsanto Chem. Co., Oct., 1941 to date. Hobby: gardening.

BERLE, Charles H., v.p. in chge. Isco Chem. Div., Innis Speiden & Co.; res. Forest Rd., Lewiston, N.Y.
Chem. engr. and chem.; b. Newark, N.J., s. of Charles and Elizabeth (Duke) Berle; ed. Penn. State Coll., 1920; B.S. Ind. Chem., Columbia U.; mem. Sigma Chi; m. Winifred McCubbin, June 25, 1938; ch.: Carol Virginia, Elizabeth Louise. 1920-23 chem. engr., E. I. du Pont de Nemours & Co.; 1923-24 asst. sales mgr., Fumigators Chem. Co.; 1924-25 tech. adv. of chem. dir., Viscoloid Co.; 1925-41 hd. of dept., Innis Speiden & Co.; 1941-45 Colonel, U.S.A.; 1945 to date co-ordinator of sales and mfg., wks. mgr., v.p. in chg. Isco Chem. Div., Innis Speiden & Co. Mem.: A.C.S., Phi Lambda Upsilon, Sigma Tau, Phi Kappa Phi; recip. of Bronze Star M. Club: Niagara Falls Country.

BERLINER, J(ulius) F(rederick) T(homas), bus. 539 S. Franklin St., Chicago 7, Ill.; res. 4520 Clarendon Ave., Chicago 40.
Chem. & engr. conslt.; b. Santa Cruz, Teneriffe, Canary Is., July 16, 1902, s. of Sol and Jennie (Ottenberg) Berliner; ed. (Preparatory) Augusta Military Academy, Ft. Defiance, Va. 1913-18; George Washington U., Washington, D.C., B.S.-Ch.E. (cum laude) 1923, M.S. 1923, Ph.D. 1926; Mem.: Alpha Chi Sigma, Sigma Tau; m. Vera Bailey, July 19, 1924; ch.: J. F. Thomas, Jr. Asst. physicist, metallurgical div., Bur. of Stands., 1918-23; assoc. chem., color investigation lab., Bur. of Chem. 1923-26; assoc. engr. potash investigation, Bur. of Mines, 1926-28; conslt. chem. engr., Blair & Co. & Chase Natl. Bank, 1928-29 (survey foreign salt & potash deposits); dev. & res. engr., ammonia dept., E. I. du Pont de Nemours & Co., 1929-45; chem. & engr. conslt., 1945 to date. Palestic Corp. (dir.), Wonderwaste, Inc., (dir.). Intercrystalline embrittlement of mtls., vapor pressures of dye intermediates, chloramine treat. municipal water supplies, investigation geol. mining & refining foreign potash salts, high power motor fuels, chem. seasoning of lumber, resin treat. of wood, investigations on urea, glass beveling, dev. hardboard processes, paper from cotton stalks, investigation Mexican desert plants. Potash Bibliography-Anotated 1929, U.S. Bur. of Mines Bull. 327. Mem.: A.C.S., Am. Assoc. Adv. Sc., T.A.-P.P.I., Phila. Miner. Soc., U.S. Pilot Assoc. Hobbies: Mineralogy, paleontology.

BERLOW, Charles, partner, Berlow & Schlosser Co., 401 Ind. Trust Bldg., Providence, R.I.; res. 97 Fourth St., Providence.
Consltg. rubber chem. engr.; b. Boston, Mass., July 17, 1897; s. of Leo and Betty G. Berlow; ed. Northeastern U., Boston, Mass., 1919, B.Ch.E.; m. Ida Lunetzky, June 10, 1919; ch.: Cynthia, Evelyn, Leona Z. Dr. Lothar E. Weber, Boston, Mass., anal. chem.; Fisk Rubber Co., Chicopee Falls, Mass., res. chem.; Am. Wringer Co., Woonsocket, R.I., gen. supt.; Carr Mfg. Co., Bristol, R.I., gen. supt.; 1945 to date, partner, Berlow & Schlosser Co., Providence, R.I., consltg. rubber chemists & sales. Patented many inventions including tensilastic rubber. Mem.: A.C.S., A.C.S. Rubber Div., R.I. Rubber Club (past pres.). Hobby: music.

BERNARDI, Dr. Dominic J(oseph), asst. dir. of res., Interchem. Corp., 432 W. 45th St., N.Y. 19, N.Y.; res. 1670 Metropolitan Ave., Parkchester, N.Y.
Chem.; b. Dalzell, Ill., Jan. 24, 1913; s. of Emil and Ida Bernardi; ed. S.B., Chicago, 1934, M.S. 1935, Ph.D. org. chem. 1938, Phi Beta Kappa, Sigma Xi. Res. chem., 1939-50, asst. dir. of res. 1950 to date, Interchem. Corp. Mem.: A.C.S., N.Y. Acad. of Sc.

BERNE-ALLEN, Allan, prof., head. dept. chem. engr., Clemson Agri. Coll., Clemson, S.C.; res. 144 Riverside Dr., Clemson.
Chem. engr.; b. Staten Is., N.Y., Aug. 13, 1902. s. of Allan and Harriet Anna (Mallory) Berne-Allen; ed.: U. of Mich., B.S.E. (Ch.En.) 1924; Columbia U., Ch.E. 1933, Ph.D. 1936; mem. Phi Gamma Delta; m. Helen Louise Kelsey, June 24, 1926. Stand. Oil of N.J. 1924-31, (student engr. 1925), tech. serv. div. 1931; Vacuum Oil Co. 1931-32 (res. & dev. engr. 1932); E. I. du Pont de Nemours & Co. Inc., 1934-47 (res. chem. engrg., semi-wks. supervisor, res. supervisor, asst. to operation supervisor all at Waynesboro Wks., Va.) (Synth. & mfg. acetate rayon); military lease 1942-46; chem. corps (reserve 1926 to date, Lt. Col.) War serv., Ch. Lewisite Manf. 1942, Ch. Process engrg., 1943, Huntsville Arsenal, Ala., Ch. inspection div., Vigo Plant, C.W.S. 1944; Philippine Is. 1945; Ch. Chem. Industries Br., Ind. Div., E.S.S., G.H.Q., Supreme Comm. Allied Powers 1946; U. of Calif. (Berkeley) 1947, prof. mechanical engr. (mass & heat transfer); Clemson Agri. Coll., 1948 to date, prof., head, dept. chem. engrg. Responsible for successful completion & operation of first Lewisite (Betachlorovinyldichloroarsine) Mfg. Plant in U.S. (and so far as known in world); U.S. & foreign pats. concerned with dewaxing pet. lubricating oil fractions, acetate rayon mfg., polymerization inhibitors for vinyl acetate. Mem.: A.C.S., A.I.Ch.E., A.I.C. (fellow), A.A.A.S. (fellow), Va. Ac. Sci., Am. Soc. Engrg. Ed., A.A.U.P., Sou. Assoc. Sc. & Industry, Phi Lambda Upsilon, Sigma Xi, Life mem. U. of Mich. Union. Hobbies: political philosophy, investment management, aquatic sports, the military.

BERNHARDI, Tom George, chf. engr., proc. div., Swenson Evaporator Co., Harvey, Ill.; res. 18543 Argyle Ave., Homewood, Ill.
Chem. engr.; b. Council Bluffs, Iowa, Nov. 14, 1906, s. of George W. and Harriet B. Bernhardi; ed. B.S. (cum laude), Ch.E. 1930, Calif. Inst. of Tech.; mem.: Tau Beta Pi; m. Virginia Livingston, Mar., 1947. Dev. engr., Amer. Potash & Chem. Corp., Trona, Calif., 1930-41; chem. engr., 1941-45; asst. chf. engr., 1945-47; 1947 to date chf. engr., all at Swenson Evaporator Co. Mem.: A.I.Ch.E., Ill. reg. Prof. Engr. Hobby: woodworking.

BERNHART, Finn W., dir. res. & dev. dept., nutritional div. Wyeth, Inc., Mason, Mich.; res. 4102 Clever St., Holt, Mich.

Bio-chem.; b. Sioux Falls, S.D., July 5, 1907, s. of Peter and Fanny Bernhart; ed. Ph.C. 1929, B.S. 1932 S.D. State Coll., M.S. 1934, Ph.D. 1938, U. of Minn.; m. Adeline Puhr, July 6, 1932; ch.: Marie. U. of Minn., res. asst. 1933-35, teaching fellow 1935-38; Tulane U., instr. 1938-41; Cleveland Clinic Foundation, res. assoc. 1941-43; Wyeth, Inc., head, bio-chem. res. 1943-47, tech. dir. nutrition div. 1947-49, dir. res. & dev. dept., nutritional div. 1950 to date. Effects of ultra violet radiation on proteins, analyses of amino acids, purification of penicillin, hormone isolations, chem. of milk. Mem.: S.E.B.M., A.C.S., Sigma Xi, A.A.A.S., Am. Dairy Sc. Assoc. Hobbies: landscape painting, gardening, chess.

BERNS, Milton H., dir. of tech. serv., Electro Refractories & Alloys Corp., 344 Delaware Ave., Buffalo, N.Y.; res. 42 Dudley Ave., Hamburg, N.Y.
Ceramist; b. Feb. 8, 1913; s. of Christian J. and Grace (Thunell) Berns; ed. B.S. 1933, U. of Ala., University, Ala.; 1929-31, Canisius Coll., Buffalo, N.Y.; mem.: Gamma Sigma Epsilon; m. Grace Kingsland, Oct. 27, 1934; ch.: Joann, Shirley, Sandra, Kenneth. 1933-35, lab. asst., 1935-48 dir. res. & control, 1948 to date dir. tech. serv., Electro Refractories & Alloys Corp., Buffalo, N.Y. Mem.: Am. Ceramic Soc., Canadian Ceramic Soc., Sewage & Ind. Wastes Assn. Hobbies: reading, stamps, photography.

BERNSTEIN, Isidor Mayer, tech. dir., Gotham Ink & Color Co., 5-19 47th Ave., Long Is. City, N.Y., res. 18-86th St., Brooklyn, N.Y.
Res. chem.; b. Chicago, Ill., Nov. 2, 1896, s. of Mayer and Sarah Bernstein; ed. Armour Inst. of Tech., U. of Chicago, U. of Cincinnati, Brooklyn Polytechnic Inst.; m. Rose Yeretsky, May 27, 1923; ch.: Everett M., Marcia J. Chem. Heyl Labs., Inc., N.Y.C., 1920-21; Sigmund Ullman Co., 1921-25; chf. chem., Standard Printing Ink Co., Ohio, 1930-36; south div. Int. Printing Ink Co., 1936-40; dir. res., H. D. Roosen Co., N.Y., 1940-46; res. assoc. & dir., Natl. Printing Ink Res. Inst., Lehigh 1946-48; tech. dir., Gotham Ink & Color Co., 1948 to date. Papers published in fld. of drying oil polymerization, polymer fractionation, molecular weight cryoscopy, pigment dispersion evaluation, pigment identification, printing ink technol., pres., N.Y. Printing Ink Production Club 1946-47. U.S. pats. Mem.: A.C.S., A.A.A.S., Assoc. of Res. Dir., Tappi, Am. Inst. of Physics, N.Y. Microscopical Soc., N.Y. Acad. of Scs., Am. Inst. of Chem. (fellow), N.Y. Paint & Varn. Prod. Club, Sigma Xi, Chem. Club. Hobby: fishing.

BEROLZHEIMER, Daniel D., conslt. chem. in pat. and lit. search, bibliog., 60 E. 42nd St., N.Y. 17; res. 234 Woodmere Blvd., Woodmere, N.Y.
Conslt. chem. and bibliographer; b. N.Y.C., June 30, 1877, s. of Martin and Belle (Lauferty) Berolzheimer; ed. C.C.N.Y., N.Y.U., U. of Wuerzburg, 1897-1900; m. Violet Chambers, 1905 (dec.); ch.: Bertha L., D.D. Jr., A. Finlay. Dr. Judson Daland, asst. biochem. and analt. 1900-04; Biochem. and Analyt. Lab. N.Y., 1904-06; Arlington Chem. Co., anal. chem., 1906-10; Am. Chem. Soc. Libr., 1910-11; Chemists' Club (N.Y.) libr., 1910-15; Barrett Co., libr. 1915-19; Chem. Catalog Co., asst. tech. ed. 1919-22; conslt. chem. and tech. lit. expert, 1923 to date. 1st Lt., Harbor Patrol, N.Y.C., dur. W.W. I; estab. first bibliog. current lit. and pat. serv. in chem. and allied flds. while librarian of Chemists' Club; unoff. bblg. C.W.S. dur. W.W. I; notable wk., pub. in The Percolator and Ind. Eng. Chem. of 'The Berolzheimer Series of Alchemical and Historical Reproductions," 1930-43. Author: 'U.S. Pats. on Wood Preser.," 1916; "Bibliography on Phosgene," 1919; "Gases Used in Warfare," 1919; co-author, "Condensed Chem. Dictionary," 1919; "Bibliography of Bibliographies on Chem.," 1925, 1929, 1932; author "Catalog of Post. Cards & Lettersheets of U.S. & Colonial Poss.," 1936; also author of "Searching Chem. and Allied Literature," 1932; "Hist. Am. Sec., Soc. Chem. Ind.," 1942; "History, The Chemists' Club," 1948; ed. The Percolator, 1909-16; 1926-28, 1929-33, 1946-47. Mem.: A.C.S., S.C.I. (Exec. Comm., Am. Sec., 1943-47); Ohio Archeol. Hist. Soc., Freemason (past master), Am. Philat. Soc., U.S. Postal Station Soc. (chmn. Membership Comm.); U.S. Cancel. Club, Essay, Proof. Soc., U.S. Env. Soc. Clubs: The Chemists' (historian 1933-51), Keystone Yacht. Hobbies: philately, sailing.

BERRY, Norton E., dir. res., Servel, Inc., Evansville, Ind.; res. Newburgh, Ind.
Res. engr.; b. Hartman, Wash., Dec. 2, 1902, s. of Carl H. and Lena C. Berry; ed. U. of Calif., B.S. 1926, Ph.D. 1931; mem.: Alpha Chi Sigma; m. Ruth M. Brown, Feb. 10, 1933; ch.: Barbara Ruth, Richard Norton. Control chem., Calumet Chem. Co. 1926-27; chf. chem. Calumet Chem. Co., 1931-33; res. chem., Frigidaire Corp., 1927-28; res. dir., Diamond Crystal Salt Co., 1933-39; dir. engrg. res., General Foods Corp., 1939-42; supvr. process design & dev., Barrett div., Allied Chem. Co., 1942-43; dir. res., Servel, Inc., 1943 to date. Alum & phosphate prod., salt prod., food processing, syn. org., refrig. & air cond., corrosion. Mem.: A.C.S., Natl. Assoc. of Corrosion Engrs., (v.p.); Am. Soc. of Refrig. Engrs., Am. Soc. of Htg. & Vent. Engrs. Dir. of Newburgh Youth Foundation, Evansville Community Players. Hobbies: golf, music, dramatics.

BERTOLET, Elmer Conrad, dir. of Chem. Labs., Res. Inst., Temple U., Phila. 22, Pa.; res. 209 E. Tabor Rd., Phila. 20.
Chem.; b. Phila., Pa., Mar. 14, 1888, s. of William Henry and Emily May Bertolet; ed. Phila. Textile Inst.; mem.: Phi Psi; m. Aurelia Shoemaker, Aug. 1, 1912; ch.: Ruth Bertolet Oehrle, Elmer Conrad, Jr. 1908-19 instr., Phila. Textile Inst.; 1919-42 prof. in chge. chem. and dyeing dept., Phila. Textile Inst.; 1942-45 conslt. and tech., U.S.A. Q.M. Corps, Engrg. Div., Jeffersonville (Indiana) Q.M. Depot; 1945-47 chem. dir., Laurel Soap Mfg. Co. Inc., Phila., Pa.; 1947 to date Res. Inst. of Temple U., Phila.; notable wk.: application of fungicides to textiles for Army use; 34 yrs. educ. fld. of textile chem. Mem.: A.C.S., A.I.C. (fellow), A.A.A.S., A.A.T.C.C. Clubs: Engineers (Phila.), Union League (Phila.).

BERTORELLI, Ollie Leonard, mgr. of res., Box 831, Borger, Tex.; res. Huber Camp (Box 831), Borger, Texas.
Res. chem.; b. Milford, Mass., Nov. 8, 1910, s. of Charles and Gertrude Bertorelli; ed. U. of Mass., Boston U., B.S., M.A.; m. Lena Ianzito, Jan. 8, 1943; ch.: Ann, Paul.

BERTRAM, Leon L., operating supervisor, Va. Cell. Plant, Hercules Powder Co., Hopewell, Va.; res. R.D. 1, Hopewell.
Chem.; b. Corry, Pa., Jan. 8, 1917; s. of Martin D. and Alice (Hull) Bertram; ed. Pa. State Coll., B.S. chem., 1941; mem.: Phi Lambda Upsilon, Phi Kappa Phi; m. Hazel Rehnberg, Mar. 18, 1944; ch.: Diana Elizabeth. 1941, Hercules Expt. Station, Wilmington, Del., chem.; Va. Cellulose Plant, Hercules Powder Co., Hopewell, Va., 1941-45 res. chem., 1946-50 dev. supvr., April, 1950 to August, 1950 chf. chem., August, 1950 to date oper. supvr. Mem.: A.C.S. Mem. Bd. of Dir., John Randolph Hosp., Hopewell, Va. Club: Hopewell Rotary. Hobbies: gardening, mineralogy.

BEST, Albert H., asst. tech. dir., Glidden Co., Naval Stores Div., P.O. Box 389, Jacksonville 1, Fla.; res. 539 W. 66 St., Jacksonville 8.
Res. chem.; b. Dover, Kan., Dec. 11, 1914; s. of John Albert and Mabel Best; ed. Washburn U., Topeka, Kan., B.S. 1936; Columbia U., T.C., M.A., 1937, N.Y.; U. of Fla., Gainesville, Fla., 1938-41; m. Wilma H. Bristol, June 25, 1938; ch.: John Albert, Robert Allen, James Martin. Instr. in anal. & microbiolog. chem., Washburn U., Topeka, Kans., 1937-38; res. chem., U.S.D.A., B.P.I., Lab. for Tung Investigations, Gainesville, Fla., 1940-42; Glidden Co., Naval Stores Div., Jacksonville, Fla., asst. tech. dir., 1942 to date. Chem. composition, change in chem. composition & biolog. activity of dev. tung fruit with reference to oil syn.; res. in terpene chem. (myrcene, nopol, the pinenes, etc.) & res. & dev. of resins from rosin. Mem.: A.C.S., A.A.A.S., Fla. Acad. of Sc. Hobbies: electronics, control instrumentation for lab., pilot plant and plant, home workshop (machine & electronics).

BESTE, Eugene Welles, div. head, res. & dev. dept., Bakelite Div., Union Carbide & Carbon Corp., 230 Grove St., Bloomfield, N.J.; res. 42 Aldon Terrace, Bloomfield.
Chem.; b. Pasadena, Calif., June 21, 1912, s. of William and Blanche (Gilmore) Beste; ed. Monmouth Coll., B.S., cum laude; Columbia U., Ph.D.; mem.: Theta Chi; m. Elizabeth Scanlon, Sept. 18, 1943; ch.: Fred, Dorothy, Catherine, Barbara. Asst. in chem., Columbia U., 1933-36; U. Fellow, Columbia U., 1936-37; res. chem. Bakelite Div., Union Carbide & Carbon Corp., 1937 to date. High polymer chem. Mem.: A.C.S., A.A.A.S., Sigma Xi, Phi Lambda Upsilon. Hobbies: home movies, golf, model rr.

BESTHOFF, Silas, secy., v.p., Faesy & Besthoff, 325 Spring St., New York 13, N.Y.
Exec.; b. Bklyn., N.Y., May 9, 1899; ed. Coml. H.S., Bklyn.; m. Lucille Himmelreich, Nov. 26, 1925; ch.: 1 son, 2 daus. Chem. import and export, 1914-22; Truempy, Faesy & Besthoff, 1922-36, succeeded by Faesy & Besthoff, 1936 to date. Mem.: Fortitude Lodge No. 19, F.&A.M., Bklyn. (Master, 1927), Fortitude Fellowcraft Club (past pres.), Union Temple, Bklyn. (trustee; Men's Club past pres.), Inwood Country Club, L.I. (chmn., greens comm.). Hobbies: Masonry, bridge, fishing.

BETHEL, James Samuel, prof. of wood technol., N.C. State Coll., Raleigh, N.C.; res. N.C. State Coll.
Wood technol.; b. Aug. 13, 1915, New Westminster, B.C., Canada, s. of Mrs. Ruth Bethel; ed. U. of Wash., 1933-37, B.S.F.; Duke U. 1937-39, 1942-47 D.F.; m. Marinelle Rives, June 8, 1941; ch.: Ruth Anne, James S. Jr. Summers 1935-36-37-38 timber survey & forest prot., U.S. Forest Serv.; 1939-41, inst. in forestry, Pa. State Coll.; 1941-42, asst. prof. forestry & wood technol., Va. Polytechnic Inst.; 1942-46, chf., wood & glue branch, quality control div., A.A.F. Materiel Command, Wright Field, O.; 1946-49, plant mgr. & asst. gen. mgr., Tidewater Plywood Co., Brunswick, Ga.; 1949 to date, prof. of wood technol., N.C. State Coll. Wk. on testing methods for plywood glue joints; quality control methods for plywood prod., dev. techniques for controlling veneer drying. Mem.: A.A.S., Soc. of Am. Foresters, Forest Prods. Res. Soc., Sigma Xi, Xi Sigma Pi.

BETTS, Anson Gardner, conslt., West Cummington, Mass.; res. same.
Chem., metallurgist, electrochem.; b. Lansingburgh, Troy, N.Y., Apr. 14, 1876; s. of Edgar Ketchum and Harriet L. (Gardner) Betts; ed. Yale, 1897, Ph.B.; Columbia, 1898, A.M.; m. Grace Tompkins (dec.) 1907; Hattie A. Ramsey, 1918; ch.: John Wright, Edna H. (Betts) Hull, Horace G., Anson K., Thomas R., Doris L., Harold W. Private res. lab., 1898-1909; installed first electrolytic lead refinery Trait, B.C. & Newcastle-on-Tyne, England; worked out electrolytic zinc process as now operated 1905; pres., Madison Co. R.R. & Laurel River Logging Co. to 1914; since 1904 engaged in mineral & ore res.; owner, Taconic Manganese Mines, Plainfield, Mass. & Sandy Bottom barite-fluorite mines, Madison Co., N.C.; abt. 100 pats. in metallurgy & electrochem. Author: "Lead Refining by Electrolysis," 1908.

BETTS, Walter M., pres., Barada & Page, Inc., Guinotte & Mich. Aves., Kansas City 1, Mo.; res. 7101 Pennsylvania, Kansas City 5.
Pres., dir.; b. Kansas City, Mo., Sept. 15, 1897, s. of Miles J. and Maude Betts; ed. Kansas U. Clubs: Kansas City Club, Rotary, Mo. Athletic, (St. Louis), Native Sons of Kansas City, Past Potentate Ararat Shrine Temple. Hobbies: prep. & cooking of unusual foods.

BEUTEL, Albert Phillip, gen. mgr., Texas div., v.p. Dow Chem. Co., Freeport, Texas, res. Box N, Lake Jackson, Texas.
Exec.; b. Cleveland, Ohio, Nov. 13, 1892; s. of William C. and Sophie H. Beutel; ed. Case Inst. Tech., B.S. 1914; D.E. 1942; m. Belle B. Armstrong, Apr. 16, 1916; ch.: Phillip R., Betty Ann Ossanna, Richard A. 1914-16 Robert Gage Coal Co., Bay City, Mich.; 1916-20 engr., Dow Chem. Co.; 1920-31 supt. plant piping; 1931-32 asst. to pres.; 1932-41 asst. gen. mgr.; 1941-49 gen. mgr. Texas Div.; 1949 to date gen. mgr., v.p. Texas Div.; Off. Dow Chem. Co., gen. mgr. Texas div., dir., v.p.; Dowell, Inc., Tulsa, Okla., dir., pres.; Internatl. Cementers, Inc., Los Angeles, dir.; Brazos Oil & Gas Co., pres., dir. Mem. A.P.I., A.I.M.M.E., A.S.M.E., A.C.S; councillor Texas A&M Pres. Found., regent, Lamar St. Coll. Tech., Beaumont, Texas. Hobbies: varied.

BEVINGTON, Richard Earl, dept. supt., Tenn. Eastman Corp., res. R. 8, Box 395, Kingsport, Tenn.
Chem. engr.; b. Akron, O., Oct. 26, 1911; s. of Clarence Guy and Jesse Clara (Wood) Bevington; ed. H.S. Kingsport, Tenn., home study & night school in engrg.; m. Maxy Lee Hawk, July 18, 1936; ch.: Richard Earl, Jr. Positions held with Tenn. Eastman Corp., oper., 1931-33; gen. foreman, 1934-39; asst. dept. supt. 1940; dope dept. supt. 1940 to date. Mem. A.I.Ch.E. Club: Masons. Hobbies: woodcarving, fishing.

BEYLER, Roger Eldon, chem., Merck & Co. Inc., Rahway, N.J.; res. 215 Rose St., Metuchen, N.J.
Res. chem.; b. Nappanee, Ind., May 20, 1922; s. of O. L. and Ethel Beyler; ed. North Central Coll., Naperville, Ill., B.A. 1944; U. of Ill., Urbana, Ill., M.A. 1948, Ph.D. 1949; m. Herberta Hasewinkel, Aug. 29, 1944; ch.: Keith Herbert. Merck & Co., Inc., Oct., 1949 to date, chem. in org. & biochem. res. dept. Total syn. of sparteine & an isosparteine. Mem.: A.C.S., Phi Lambda Upsilon, Alpha Chi Sigma, Sigma Xi. Club: Research Club of Merck & Co. Hobbies: tennis, golf, swimming.

BEYNON, Lisabeth H., prof. chem., chmn. sc. div., Mercy Coll., 8200 Outer Dr., Detr. 19, Mich.
Chem., educator; b. Platte Co., Nebr.; d. of David and Elizabeth Ann (Hughes) Beynon; ed. A.B. Math., U. Nebr.; M.S. chem. U. Chicago; D.Sc., biochem., Johns Hopkins U. 1932 (scholarship, fellowship Johns Hopkins U.), Columbia U., U. of Wisc.; mem.: Iota Sigma Pi, Beta Sigma Omi-

cron. Central Coll. for Women, Inst., chem., physics; Joliet Township High Sch., Jr. Coll., instr.; St. Mary-of-the-Woods Coll., prof., hd. chem. dept.; Internatl. Critical Tables in Physics, chem., biol., asst. to ed.; Texas St. Coll., asst. prof., hd. dept.; Ill. Emerg. Relief, Nutrit. Adv.; Smith Coll., asst. prof.; Moravian Coll., prof. chem., dir. med. tech.; Lynchburg Coll., hd. chem. dept.; Hood Coll., prof. chem.; Ill. St. Normal U., assoc. prof.; San Francisco Coll. for Women, prof., head chem. dept.; Wilkes Coll., prof., hd. chem. dept.; Mercy Coll., prof., chmn. sc. div. Res. in electrolytic reduction of d-Gluconic-Lactone; Is Copper Essent. for Utiliz. of Iron in Metabolism of the Rat? Is Nickel Essent. for Normal Growth, Reproduction? Mem.: A.C.S., A.A.A.S., Iota Sigma Pi, Sigma Delta Epsilon, A.A.U.W.; past. capt. Girl Scouts, dir. summer camp for Assn. for Improv. Condition of Poor, N.Y.C. Hobbies: seeing and knowing America.

BEZANSON, Osborne, v.p., Monsanto Chem. Co., 1700 S. Second St., St. Louis 4, Mo.; res. 933 Lay Rd., Clayton 24, Mo. & Tatum, Tex.
Exec. adm.; b. Woburn, Mass., Nov. 10, 1888; s. of Stephen J. & Carrie (Cumming) Bezanson (deceased); ed. Wyman Schl., Woburn, Mass. 1893-1901; Woburn H.S., 1901-05; Northeastern U. 1907-08; m. (2nd) Marguerite Crouse, May 27, 1944; ch.: (1st marriage) Robert O., Elizabeth (Bezanson) Gammon, Dorothea (Bezanson) Kane, Richard B. (2nd marriage) Stephen George. Lab. asst., Merrimac Chem. Co., Woburn, 1906; chf. chem. 1910; dept. supt. 1912; supt. of West Side, Everett, Mass. Plant 1918; asst. to pres., 1920; wks. mgr., Woburn plant, 1921; prod. mgr., Woburn & Everett plants, 1927; after cons. of two plants at Everett, v.p. & dir., Merrimac Chem. Co., 1930; v.p. & trustee, New England Alcohol Co., 1933; upon Monsanto liquid. of Merrimac Chem. Co., 1935 made asst. v.p. of Monsanto Chem. Co.; gen. mgr., Texas div., Monsanto Chem. Co., early 1942; v.p., Monsanto Chem. Co., since 1942; gen. mgr., Organic Div., 1943; dir. since 1942; exec. adm. since 1948. Mem.: A.I.Ch.E., A.C.S. Clubs: A.F. & A.M. (Mount Horeb Lodge, Woburn), Mo. Athletic (St. Louis). Hobbies: hunting, golf, fishing, ranching.

BICKLEY, Harry G., supt. of pulp mill, W. Va. Pulp & Paper Co., Williamsburg, Pa.; res. 600 Second St., Williamsburg.
Chem. education; b. Phila., Pa., May 3, 1889; ed. Pa. State Coll., B.S., Phi Kappa Phi, 1912; mem.: Alpha Kappa Sigma, Phi Kappa Phi; m. Adah Phillippi, Nov. 1, 1913; ch.: Ida Phillippi. 1912, W. Va. Pulp & Paper Co., Tyrone, Pa., by-prods., 1913 Williamsburg, Pa., chf. chem., 1928 to date, Williamsburg, Pa., pulp mill supt.

BICKNELL, Alfred, pres., Macalaster Bicknell Co., 243 Broadway, Cambridge, Mass.; res. 122 Bowdoin St., Boston, Mass.
Exec.; b. London, England, 1883; s. of Arthur John and Mary Ann (Lindsay) Bicknell; ed. London and Bristol, England; m. Sarah E. Barrett, 1908; ch.: Constance B. Baird & Tatlock, London, 1897-1902; Bristol Coll., 1902-03; Gen. Electric Res., 1903-06; Thermal Syndicate, London, 1906-07; Macalaster-Wiggin X-Ray Co., 1907-20; Macalaster Bicknel Co., 1920 to date; pres., Macalaster Bicknell Co. and affiliated plants in New Haven, Conn., Syracuse, N.Y., Millville, N.J.; chmn., Alfred Bicknell Associates, Cambridge, Mass.; dir., Humphrey Wilkinson Chem. Co., New Haven, Conn Original devel. of transparent fused quartz in collab. with Prof. Shenstone, Bristol Coll.; res. under Drs. Whitney and Steinmetz, G.E. Co., Schenectady, N.Y. Mem.: Scientific Apparatus Mfrs. Assoc.; life mem. N.E. Soc. for the Preservation of N.E. Antiquities. Club: University (Boston). Hobby: work.

BIDDLE, John Wilbur, head resins lab., div. South Charleston Plant Labs., Carbide & Carbon Chem. Div., Union Carbide & Carbon Corp., 437 MacCorkle Ave., S. Charleston, W. Va.; res. 1701 Edgewood Dr., Charleston.
Chem. engr.; b. Griffin, Ark., Mar. 14, 1914; s. of A. J. (deceased) and Irma K. Biddle; ed. Columbia U., A.B. 1935, B.S. in Ch.E. 1936, Ch.E. 1937; mem.: Sigma Xi, Phi Beta Kappa, Phi Lambda Upsilon, Sigma Alpha Epsilon. Chem. engr. C.&C.C.C., 1937-40, project leader 1940-43, group leader 1943-46, present position (chg. of 5 groups) 1946 to date. Mem.: A.C.S., A.I.Ch.E.

BIDLACK, Verne C., exec. secy., Federation of Paint & Varn. Prod. Clubs, 1524 Chestnut St., Phila., Pa.; res. 407 Cheltena Ave., Jenkintown, Pa.
Chem.: b. St. Joseph County, Mich.; s. of Willis B. and Endora T. Bidlack; ed. U. of Mich., B.Sc. 1917; mem.: Phi Alpha Pi; m. Muriel Irene Huff, Sept. 29, 1917; ch.: Walter B., Verne C. Jr., Gerald H. Chem., Swift & Co., Chic., Ill. 1917-19; chf. chem., O'Brien Varn. Co., S. Bend, Ind., 1919-30; gen. prod. mgr., Brandram-Henderson, Ltd., Montreal, P.Q., 1930-33; tech. dir., Wardway Paint Wks, Chic. Heights, Ill., 1935-36; asst. to pres., McCloskey Varn. Co., Phila., 1936-47; exec. secy., Fed. of Paint & Varn. Prod. Clubs 1947 to date, Pa. Color & Chem. Co., Doylestown, Pa. (pres). With Tech. Ind. Intelligence Comm. in Germany at close of W.W.II. Author: Chapters on paint, varn. & lacquer for Vols. IV and V of Annual Survey of Am. Chem. Mem.: A.C.S. (member), A.I.C. (fellow); Fed. Paint & Varn. Prods. Clubs (past pres.). Clubs: F.&A.M. No. 675, So. Bend, Ind. Hobbies: gardening, baseball, golf.

BIDSTRUP, Perry Leonard, res. assoc., Midwest Res. Inst., 4049 Pennsylvania, Kansas City 2, Mo.; res. 1218 W. 26 St., Independence, Mo.
Chem.; b. Beaman, Mo., Nov. 3, 1909; s. of G. H. and Odessa J. (Norris) Bidstrup; ed. U. of Mo., A.B. & M.A. awarded Curators' Scholarship for grad. study; mem.: Alpha Chi Sigma; m. Laura Ellen Nelson, Aug. 8, 1936; ch.: Robert E., Martha Jane. Sc. teacher, Otterville Cons. Schls.; supt. of schls., Otterville Cons. Schls.; U.S. Internal Rev. Dept. Lab., chem. & chem. in chge.; U.S. Marine Corps, Artillery officer; Midwest Res. Inst., res. assoc. Res. & dev. in alcohol prod., cosmetics, foods & agric. chem.; magneto-optic studies. Mem.: A. S. Brew. C.; A C.S. (officer of local section); Highway Res. Bd., U.S. Marine Corps Res. (awarded Bronze Star 1945); Alpha Chi Sigma (past pres. of both coll. & prof. chapters). Clubs: Square Dance, Quarterback, Res. Officers. Hobbies: square dancing, photography, golf.

BIE, Rolf, associated with Bingham & Co. Inc., 96 Wall St., N.Y. 5, N.Y.; res. 333 Central Park West, N.Y. 25.
Chem. mfrs. representative, exporter, importer; b. Berlin, Germany, Sept. 20, 1907; s. of Hans and Else Bie; ed. U. of Geneva & Berlin, London Schl. of Economics; major subjects law & economics; deg. Dr. iuris, cum laude. Brit. Schering Ltd., London, Schering A.G., Berlin, Prodotti Schering, Milan, Laboratoire Gruet (Schering), Paris. These firms were subs. of world wide Schering organ.; pos. held, economist & market anal. 1933-39; independent chem. trader & representative 1940-49 except for 4 yrs. Army serv., Capt., U.S.A.R.; Jan. 1, 1950 to date, associated with Bingham & Co. & doing bus. in Bingham's or own name.

BIEFELD, Lawrence Paul, chf. chem., Owens-Corning Fiberglas Corp., Newark, Ohio; res. Granville, Ohio.
Chem.; b. Akron, Ohio, Aug. 30, 1909; s. of Paul Alfred and Emma (Bausch) Biefeld; ed. Denison U., A.B., 1930; Ohio State U., Ph.D. 1934; mem.: Beta Kappa, Phi Mu Alpha; m. Romona Miller, June 14, 1936; ch. Laurina June, Rebecca Sue, Lawrence Miller, Robert Malcolm. Grad. asst., Ohio State U., 1930-34; prof. of chem., Shurtleff Coll., 1934-37; instr., Purdue U., 1937-40; asst. prof., same U., 1940-42; res. chem., Owens-Corning Fiberglas, 1942-47; chf. chem., same firm, 1947 to date; res. in crystal structure, organic reagents for inorg. anal., tchg., surface treatments of glass fibers, reinforced plastics, coated fabrics. Mem.: Sigma Xi, Phi Lambda Upsilon, Phi Mu Alpha, A.C.S., A.A.T.C.C. Club: Elks. Hobbies: music, tennis, swimming.

BIFFEN, Frank Moody, res. spec. in anal. chem., Johns-Manville Res. Center, Manville, N.J.; res. 805 Osborne Ave., Plainfield, N.J.
Res. chem.; b. London, England, July 18, 1897; s. of John Arthur and Lilias Helen Biffen; ed. U. Coll., London, 1913-16, B.Sc.; Royal Inst. of Chem. of Gt. Britain & Ireland, F.R.I.C.; m. Olivia Elizabeth Brandt, Apr. 15, 1939; ch.: David, Muriel (by first wife—deceased). Analyst, Govt. Labs., London, 1917-27; wks. mgr., Vultex Prods., London, 1928-29; dir. of anal. labs., Foster D. Snell, Inc., Brooklyn, 1929-44; res. spec., Johns-Manville Res. Center, Manville, 1944 to date. Various papers on anal. chem. in chem. journals. Co-author; "Commercial Methods of Anal." (McGraw-Hill, 1944). Mem.: A.C.S.; Royal Inst. of Chem. of Gt. Britain & Ireland; A.S.T.M.; Soc. for Applied Spectroscopy. Hobby: color photography.

BIGELOW, Carle Muzzy, dir., Pharmaceut. Dept., Calco Chem. Div., Amer. Cyanamid Co., Bound Brook, N. J.; res. Old York Rd., Whitehouse Station, N.J.
Exec.; b. Woonsocket, R.I., Dec. 1889; s. of Ervin E. and Mary M. (Willis) Bigelow; ed. B.S., R.I. State Coll., 1912; M.E., 1921; Sc.D., Suffolk U., 1941; mem.: Theta Chi, Tau Kappa Alpha; m. 1st., June 6, 1914, Olve Nicholson; m. 2nd, Apr. 7, 1936, Maude E. Gotcher; ch.: Rosalind (Bigelow) Burkett, Ervin S., Olivia (Bigelow) Liebert. Sayles Finishing Plants, Saylesville, R.I., 1912-16, indus. engrg.; Cooley & Marvin Co., Boston, Mass., 1916-24, chf. engr.; Bigelow, Kent, Willard & Co., Boston, 1924-34, pres.: Calco Chem. Div., Amer. Cyanamid Co., 1934 to date, dir., Pharmaceut. Dept. Author of numerous arts. on mgmt, and papers before Amer. Pharmaceut. Mfrs. Assoc. and Amer. Drug Mfrs. Assoc. Mem.: A.S.M.E.; Soc. for Advancement of Management; Drug, Chem. and Allied Trades Sect., N.Y. Bd. of Trade (chmn. 1941); Inst. of Management (fellow, 1928; pres. 1936). Trustee, Somerset Hosp., Somerville, N.J. Clubs: Rotary (Bound Brook), pres. 1940-41; Chemists' (N.Y.C.); Drug & Chem. (N.Y.C.); Plainfield (N.J.) Country; Collectors' (N.Y.C.). Hobbies: philately, early tech. books.

BIGELOW, Lucius Aurelius, prof. of chem., Duke U., Durham, N.C.; res. 131 Pinecrest Rd., Durham.
Tchg. & res. in org. chem.; b. Boston, Mass., Jan. 31, 1892; s. of Lucius A. and Elizabeth Parker (Smart) Bigelow; ed. M.I.T., S.B., 1915; Harvard, 1916-17; Yale, Ph.D., 1919; m. Mary Cummings, June 25, 1932; ch.: Mary Elizabeth, Lucius Cummings. St. Lawrence, instr., 1919-20; Brown, org. chem., 1920-24; asst. prof., 1924-29; Duke, 1929-35; assoc. prof., 1935-41; prof. 1941 to date; U. of Edinburgh, exchg. lect., 1933-34. Res. action of elementary fluorine on org. cmpds.; serv. with O.S.R.D., U.S.N. Articles in chem. jls., Chapter XI in treatise on Fluorine Chem., edited by J.H. Simons, Academic Press, 1950. Mem.: A.A.A.S. (fellow), A.C.S. (secy.-treas., R.I. sec., 1923-25; v.-chmn., 1925-26; chmn., 1926-29; chmn., N.C. sec., 1930-32), Sigma Xi (pres., Duke chap., 1933), N.C. Acdy. Sc., A.I.C. (fellow), A.A.U.P. Club: Mason.

BIGELOW, Maurice Hubbard, tech. dir., Plaskon Div., Libbey-Owens-Ford Glass Co., 2112 Sylvan Ave., Toledo 6, O.; res. Oak Knoll Farm, Temperance, Mich.
Chem. engr.; b. New Haven, Conn., Oct. 25, 1903; s. of Joseph O. and Bertha L. Bigelow; ed. Northeastern U., Boston, B.S. 1924; U. of Pitts. Ph.D. 1933; mem.: Alpha Chi Sigma, Sigma Xi, Phi Lambda Upsilon; m. Mary Robbins, June 18, 1926; ch.: John Hubbard. Chem., Lever Bros. Soap Co., 1925; head dept. sc., Am. Coll., Salonica, Greece, 1925-28; instr., U. of Pitts. 1928-33; fellow, Mellon Inst. of Ind. Res., 1933-35; tech. dir., Plaskon div., Libbey-Owens-Ford Glass Co., 1935 to date; 1942-46, Lt. Col., U. S. A. Chem. Corps. X-ray study of color of selenium ruby glasses; chem. studies rel. to amino-thermosetting plastics. Physics Lab. Manual 1926; Co-Author: "Handbook of Plastics" 1949, "New Plastics" 1945, "Chem. of Acetylene & Carbon Monoxide" 1949, "Les Nouveaux Materiaux de Synthese Americains" 1947. Chem. Corps, U.S.A. (tech. conslt.) Mem.: A.S.T.M., I.E.S., A.I.Ch.E., A.C.S., F.P.R.S., A.O.A., T.A.P.P.I., I.A.S. Commendation Medal, U.S.A.; Lt. Col. U.S.A.R., mem. 5001 Res. & Dev. Group ORC. Clubs: Chem. Club (N. Y.), Engrg. Soc. (Detroit). Hobbies: farming, photography.

BIGGERS, Walter Frederick, Sr., owner. chem., Habow Chem. Co., Conover, N.C.; res. Conover.
Chem., textile spec.; b. Mansfield, Ga., May 28, 1908; s. of William G. and Mary Edith Biggers; ed. Social Circle H.S.; Cumberland Coll., Williamsburg, Ky.; Ga. Tech., Atlanta (chem. & text. Eng. Spec.); Sou. Bus. Coll., Atlanta; I.C.S. in Acctg.; m. Lucile James, Aug. 20, 1932; ch.: Walter Fred, Jr., Elizabeth Eugenia, Dorothy Lucile, William Stanaland, June Beatrice. Chem. & asst. secy. treas., Stodghill & Co., Atlanta, 9 yrs. from 1931; chem. Moreland Chem. Co., Spartanburg, S. C., 2 yrs.; chem. Abney Mills (5 in group), Anderson, S. C.; owner, chem., Habow Chem. Co., Jan. 1943 to date. Res. on sizing cmpd. mfg., standardizing size mfg. and appl., Dan River Mills, Danville, Va.; perf. of wax replacing Japan wax. Mem: Am. Soc. Text. Chem. & Colorists, A.C.S., Lions Club, Sponsor of local High Schl. Sc. Club: Southern Text. Assoc. Hobbies: fishing, gardening, home lab., cooking.

BIGGS, William Archibald, Jr., assoc. res. chem., Sonoco Prods. Co., Hartsville, S. C.; res. Woodland Dr., Hartsville.
Res. Chem.; b. Lincolnton, N.C., Sept. 9, 1907, s. of W. A. and Mattie (Gay) Biggs; ed. U. of N. C. B.S. chem. 1931; mem.: Alpha Chi Sigma, Phi Mu Alpha; m. Sarah Hough Fletcher, July 30, 1938; ch.: W. A. III, Robert Fletcher. Entire business career with Sonoco Prods. Co.; res. in specialty protective coatings; textile carriers; insecticidal paints and coatings; specialty paper prods. dev.; textile delivery tension res; Flock and Flock surfacing. Mem.: A.C.S., S.C. Acad. of Sci., A.A.A.S.

BIKERMAN, Jacob Joseph, res. chem., Merck & Co. Inc., Rahway, N.J.; res. 45-35 46th St., Woodside, L.I., N.Y.
Res. chem.; b. Odessa (Russia), Oct. 26, 1898; s. of Joseph and Sarah (Morgulies) Bikerman; ed.

U. of St. Petersburg (now Leningrad); m. Valentina Leivand, Aug. 31, 1933; ch.: Michael, Dina-Sara. U. of St. Petersburg, inst. 1921; kaiser Wilhelm Inst. Phys. Chem., Berlin-Dahlem, res. assoc. 1923-33: German Chem. Soc., editor 1924-35; U. of Manchester, hon. res. fellow, 1936-37; U. of Cambridge, res. assoc., 1937-39; Glass Fibres, Ltd., Glasgow, dir. of res. 1939-41; Metal Box Co. Ltd., London, sr. physicist 1941-44; Printing & Allied Trades Res. Assn., London, leader adhesives res. 1944-45; Merck & Co. Inc., res. chem. 1946 to date. Res. on physical chem. of surfaces and on colloids. Author: ‘Surface Chem. for Ind. Res.” 1947; Co-author: “Kapillarchemie,” two vols. 1930 & 1932. Mem.: A.C.S. Soc. of Rheology, British Rheologists' Club, N.Y. Academy of Sc.

BILGER, Earl Matthias, prof. of chem., U. of Hawaii, Honolulu, Hawaii; res. 2425 University Ave., Honolulu.
Tchg. and res., chem.; b. Meriden, Conn., June 10, 1898; s. of Martin G. and Mary (Haller) Bilger; ed. B.S. 1920, A.M. 1921, Wesleyan U.; Ph.D. 1925, Yale; grad. study and res. Cambridge U., England, 1935-36; mem.: Phi Beta Kappa, Sigma Xi, Phi Kappa Phi, Alpha Chi Sigma; m. Leonora Neuffer, May 27, 1928. Grad. fellow, Wesleyan U., 1920-21; grad, fellow. Yale U., 1921-24; prof. of chem. and dept. chmn., Berea Coll., 1924-25; asst. prof., assoc. prof., U. of Hawaii, 1925 to date. Co-author of numerous arts. pub. in sc. jls., reports and spec. pubs. relating particularly to iodine content of Hawaiian foods; also, res. in progress on: “Quantit. Studies on Bound Water Content of Hawaiian Soils by Dilatometric Measurements” and “Dev. of Instrumental Meths., Spectrophotometric, for determ. Bromides in Human Blood.” Responsible with L. N. Bilger for interior planning from stdpt. of utiliz. as univ. chem. lab. of a new chem. bld. Now under construction on U. of Hawaii campus. Mem.: A.C.S. (chm. of Hawaii Sect. 1940); Hawaiian Ac. of Sci. Club: Pacific (Honolulu). Hobbies: chess, bowling-on-the-green.

BILGER, Leonora Neuffer, prof. of chem. and chmn. of dept., U. of Hawaii, Honolulu, Hawaii; res. 2425 University Ave., Honolulu.
Univ. tchg. and res., chem.; b. Boston Mass.; d. of George and Elizabeth (Totten) Neuffer; ed. U. of Cincinnati, B.A., M.A., Ph.D., 1913-16; grad. study and res., Cambridge U., England, 1924-25, 1935-36; hon. degree, Doctor of Laws, U. of Cincinnati, June, 1950; mem.: Phi Beta Kappa, Sigma Xi, Phi Kappa Phi, Iota Sigma Pi (hon. mem. radium chapt.), Delta Kappa Gamma, A.A.U.W. Sarah Berliner Fellow, foreign study, 1924-25; Theta Phi Alpha; m. Earl Matthias Bilger, May 27, 1928. Grad. fellow, U. of Cincinnati, 1914-16; prof. of chem. and chmn. dept. at Sweet Briar Coll., Va., 1916-18; instr., asst. prof., dir. of chem. res. in the Basic Sci. Res. Lab., U. of Cincinnati, 1918-29; prof. of chem., U. of Hawaii, 1925-26, 1927-28, 1937-50, and chmn. of the dept., 1943 to date; dean of women, U. of Hawaii, 1929-37. Author and co-author of numerous arts. in sc. jls., univ. bulletins and reports, relating particularly to: ethyl secondarybutyl hydroxylamines, hydroxamic acids related to alphahydroxy acids and to acrylic acid, prep. of alkyl urea chlorides and their relation to esters of carbon dioxide oxime, new alkyl derivatives of hydroxyurethan and hydroxylamine, toxicities of certain grps. of chem. substances used in cancer treatment, composition and props. of certain red and yellow plant pigments, as related to the chemotherapy of cancer, and chem. investigations and contents of avocados, chem, reactions at var. stages of Poi ferment., cellulose from Bagasse, papaya carotene and sterols of trop. oils; also res. in food and waters of Hawaii, fluorine content of carious and non-carious teeth; has lectured extens. on var. subj. includ.: Some New Asymmetric Nitrogen Compds. (before the Cincinnati Sect., A.C.S.); the Hawaiin Islands, the Orient and Europe; Women in the Scs.; The Privilege of Libraries; Synthetic Rubber, Valence and Atomic Structure, Asymmetric Molecular Structures, The Nobel Prizes, A Series on the Lewis-Langmuir and Bohr-Rutherford Atoms, sci. the Ally of Enlightenment, Science Must be Free, The Chemotherapy of Leprosy, Electronic Structure in Org. Chem., The New Physical Meths. of Investigation of Structure, Electronic Struc. and Phys. and Physiolog. Properties, Atomic Energy and the Atomic Bomb; spec. courses and lectures on Chem. Warfare topics, incl. detection and identif. of war gases. Tech. advisor to architect, 1946 to date, and respons. with E. M. Bilger for interior planning from stdpt. of utiliz. as univ. chem. lab. of a new chem, bld. now under constrc. at U. of Hawaii; respons. for advancing scholastic stds., dev. program for chem. majors, expanding grad. and res. activities, bringing together a superior faculty, increasing libr. and lab. facil., incld. equip. and supplies, so that the Dept. of Chem. at U. of Hawaii rec. natl. accred. by A.C.S., 1949; 1941-45 chmn. of Casualty Information Serv. of Med. Div. of the Off. of Civilian Def., Hawaiian Islands; mem.: of Educ. Comm. of the Chamber of Commerce of Hawaii; secy. of Governor's Commis. on Labor and Industrial Relations, T H. Mem.: A.C.S. (chmn.-elect Hawaii Sect., the first woman to be elected to this off.); A.A.A.S. (fellow); Hawaiian Acad. of Sci.; Chem. Clubs: U. of Hawaii; Natl. Sci, Tchrs. Assoc.; A.A.U.P.; Amer. Assoc. of Univ. Women, (pres. Honolulu Branch, 1944-46); Pan-Pacific Women's Assoc. (v.p., Hawaii Branch, since 1940); Amer. Educ. Fellowship; Natl. Educ. Assoc.; Natl. League of Amer. Penwomen; Chmn. of Finance Comm. of Internatl. Pacific Fellowship of Hawaii Branch of A.A.U.W. Hobbies: dogs: hands.

BILLIG, Rev. Maynard B., O.F.M., chmn. chem. dept., Quincy Coll., Quincy, Ill.; res. 1831 College Ave.
Instr., b. Buckman, Minn., Sept. 16, 1910; s. of Lawrence B. and Mary (Britz) Billig ed. Quincy Coll. 1940-42; Catholic U. of Am., Wash., D.C., 1942-44, M.S. Instr., Quincy Coll., 1944 to date. Preparation & study of properties of less known oxides of carbon. Mem.: A.C.S., A.A. A.S.

BILLING, Wyly McGhee, gen. mgr., syn. dept., Hercules Powder Co., Del. Trust Bldg., Wilmington, Del.; res. 1002 Overbrook Rd., Wilmington.
Chem.; b. Montgomery, Ala., Mar. 2, 1896; s. of Fay McCullough and Sarah Swope (Wyly) Billing; ed. Ala. Poly. Inst. B.S. 1916 Auburn, Ala.; Columbia U. M.A. 1920, N.Y.C.; U. of Cincinnati, Ph.D. 1926 Cincinnati, Ohio; mem.: Sigma Alpha Epsilon; m. LaVeryne Marland, June 29, 1922; ch.: Wyly McGhee, Jr., Sarah Jane (Billing) Noll. 1917-19, res. chem., Hercules Powder Co.; 1921-26, chf. chem., Wm. S. Merrell Co.; Hercules Powder Co.: res. chem. 1928-30; chf. chem., Hopewell Plant, 1930-33; asst. dir., exp. station 1934-36; mgr. syn. dept. 1936-43; gen. mgr. 1943 to date; dir. 1945 to date. Honig's Kunsthars Industrie, N.V. Holland (dir.). Mem.: Mfg. Chem. Assn. (dir.); A.C.S.; Chemists' Club (N.Y.C.); Syn. Org. Chem. Mfrs. Assn. (1st v.p., dir.). Clubs: Wilmington Country, Wilmington, Del., Wilmington Club, Wilmington. Hobby: boating.

BILLINGER, Robert Dominick, assoc. prof. of chem., Lehigh U., Bethlehem, Pa.; res. 1619 Main St., Bethlehem.
Chem. teacher; b. Reading, Pa., Oct. 17, 1899;

s. of Martin A. and Vinnie I. Billinger; ed. Lehigh U., Ch.E., 1921, M.S., 1925; graduate study: Yale 1926-27, U. of Cincinnati, 1927-29, Ph.D., 1929; m. Evelyn A. McCarthy Dec. 22, 1927; ch.: Robert D., Jr., 2nd Lt., U.S. Infantry, 1918; chem.-metallurgist, Bartlett-Hayward Co., Baltimore, Md., 1921-23; instr., Lehigh U., 1923-26; grad. asst., Yale U., 1926-27; grad. asst. U. Cincinnati, 1927-29; asst. prof., Lehigh U., 1929-38; assoc. prof. 1938 to present. Summer wk.: Weston-Dodson Coal Co., Westinghouse Lamp Co., Naval Expt. Station, Camp Councilor (5 yrs.), Eng. Defense Training (2 yrs.), Pa. State Coll., W.W.II; chief duties: lecturer & lab. instruction inorganic chem.; lectures in history of chem., demonstration lectures visiting colls. & high schls. Secy. Coll. of Engrg., 5 yrs., Lehigh U. Res. in physical chem., chem. education, ind. history, biographies. Editor: The Octagon (Lehigh Valley Sect. public. A.C.S.) 1941-49. Co-author, with J.S. Long, "Expts. in Inorganic Chemistry," 1932; "General Chemistry Experiments," with H. A. Smith, 1937-41. Mem: A.C.S., Newcomen Soc., Tau Beta Pi, Alpha Chi Sigma. Vestryman, Cathedral Church Nativity (Episcopal) Bethlehem 3 yrs.; sec.-trea. 1 yr., councilor 1 yr., bus. mgr., 8 yrs., Lehigh Valley. Sect. A.C.S. Clubs: Grachur (Baltimore, hon. mem.), Lehigh Valley Engineers Club (bd. of directors, 2yrs.). Hobbies: photography, hiking.

BILLINGS, Howard J., treas., Arthur D. Little, Inc., 30 Memorial Dr., Cambridge, Mass.; res. 485 Main St., Acton, Mass.
Chem. engr., exec.; b. Acton, Mass., 1895; s. of Fred W. and Mary A. Billings; ed. Lowell Textile Inst., 1918; m. Emily L., 1920; ch.: Nancy. U.S. Cartridge Co., chem., 1918-19; Oxweld Acetylene Co., chem., 1919-20; Arthur D. Little, Inc., treas., 1920 to date. Mem.: A.I.Ch.E., A.C.S., T.A.P.P.I. Club: Engrs. (Boston).

BINDER, Marvin Norman, prod. supt., Dow Chem. Co., Midland, Mich., res. 606 Rodd St.
Chem. engr.; b. Sebewaing, Mich., Nov. 20, 1909; s. of Auguste E. Binder; ed. Mich. St. Coll., B.S. Chem. Engr. 1933; M.S. (1935) org., phys. chem.; mem.: Alpha Chi Sigma, Sigma Xi. July 1935-Feb. 1942 Dow Chem. Co., proc. res., dev., semiplant prod. organ. chems.; Feb. 1942-Mar. 1946 Chem. Warfare Serv. (U.S.A.) tech. liaison off. concerning res., proc. dev. & prod. chem. warfare agts.; Mar. 1946 to date Dow Chem. Co. proc. engr., prod. plant supt. Mem.: A.I.Ch.E., A.C.S. Hobbies: philately, photography, sports.

BINFORD, William Wilson, plant mgr., Reynolds Mtls. Co., Bauxite, Ark.; res. 305 Crystal St., Little Rock, Ark.
Engr.; b. Portland, Colo., Apr. 23, 1903; s. of O.J. and Louise W. Binford; ed. Coll. of Mines, U. of Texas, B.S. 1924; Mass. Inst. of Tech., M.S. 1925; m. Catharine Akard, May 4, 1927; ch.: William Wilson, Jr. Metallurg. engr., Am. Smelt. & Refin. Co., Garfield, Utah, 1925-27; asst. supt. & plant engr., West Penn Cement Co., Butler, Pa. 1927-30; sales mgr., Allis Chalmers Mfg. Co., West Allis, Wis., 1930-34; supt., Mathieson Alkali Wks. Inc., Lake Charles, La., 1934-40; plant mgr., alumina prod., Reynolds Mtls. Co., Sheffield, Ala. & Bauxite, Ark., 1940 to date. (asst. v.p.) Mem.: A.I.Ch.E. Hobbies: gardening & woodworking.

BINGHAM, Christopher Frank, mgr. of pigment sales, Columbia Chem. Div., Pittsburgh Plate Glass Co., 5th & Bellefield Aves., Pitts. 13, Pa.; res. 293 Old Farm Rd., Mt. Lebanon, Pa.
Chem. engr.; b. Ft. Adams, R.I., June 19, 1909; s. of Benjamin L. and Ava L. (Gery) Bingham; ed. grad. with honors, Va. Polytech. Inst. 1930, Phi Kappa Phi; m. Ida B. Barham, Oct. 12, 1934; ch.: Kathryn R., Judy B. Asst. engr., Va. State Health Dept., 1930-31; plant mgr., Dept. of Public Utilities, City of Richmond, Va., 1931-35; chem. engr., tech. serv. dept., Columbia Chem. Div., P.P.G.Co., 1935-38; district sales mgr., Columbia Chem. Div., Phila., Pa., 1938-45; mgr. of ind. sales, Va. Smelt. Co., West Norfolk, Va., 1945-47; wks. mgr., Durite Prod. Co. Inc., Reading, Pa., 1947-48; asst. to pres., Chem. Mfg. & Dist. Co., Easton, Pa. 1948-49; mgr. of pigment sales, Columbia Chem. Div., P.P.G. Co., Pitts., Pa., 1949 to date. Mem.: A.C.S., Am. Pulp & Paper Mill Supts. Assn., Armed Forces Chem. Assn., Am. Ordnance Assn., Akron Rubber Group, registered prof. engr. Ohio. Clubs: Pitts. Athletic Assn. Hobby: tinkering around the house.

BINKERD, Evan Francis, adm. asst., chem. res. & dev. dept., Armour & Co., U.S. Yards, Chicago 9, Ill.; res. 6213 S. Woodlawn Ave., Chicago 37, Ill.
Chem.; b. Nebr., Mar. 30, 1919; s. of A.A. anl Verna Binkard; ed. Iowa State Coll., Ames, Iowa, B.S. 1942; mem.: Sigma Alpha Epsilon; m. Jerene Hallen, Oct. 10, 1942. 1942, Natl. Aniline Div., Allied Chem. & Dye Corp., chem.; 1942-43, Armour & Co., res. chem.; 1943-46, U.S. N., Aviation Ordnance Officer; 1946-48 res. chem., 1948-50, sec. hd., fatty acid derivatives sec., 1950 to date adm. asst., Armour & Co. Res. on fatty-acid derivatives, catalytic hydrogenation, sodium reduction, infrared spectroscopy. Mem.: A.C.S., A.O.C.S., U.S. Naval Volunteer Ordnance Unit 9-2. Hobbies: photography, electronics, fishing, golf.

BINKLEY, Stephen B., assoc. prof. of biochem., U. of Ill., School of Medicine, 1953 W. Polk St., Chicago, Ill.; res. 223 Park, Wheaton, Ill.
Teaching; b. Scotland, Ill., Jan. 24, 1910; s. of George and Minta Binkley; ed. B.S. Eureka Coll. 1934, M.S., Nebraska, 1936, Ph.D. Nebraska, 1938; m. Lois Grosse, Sept. 14, 1935; ch.: Stephen Lee. Parke Davis & Co., 1938-39, res, chem.; St. Louis U. School of Medicine, 1939-41, Sr. Inst.; Parke Davis & Co., 1941-45, sr. res.; Bristol Laboratories, Inc., 1945-48, asst. dir. res.; U. of Ill., School of Medicine, 1949 to present, assoc. prof. Res. in Vitamin K, folic acid, penicillin, hormones, analgesics, barbiturates, antihistaminics. Mem.: A.C.S., A.S.Biol.C., A.A.A.S. Hobby: fishing.

BIONDI, Frank Joseph, mem. of Tech. Staff, Res. Dept., Bell Tel. Labs., Murray Hill, N.J.; res. 5 Yorktown Terrace, Livingston, N.J.
Chem. engr.; b. Bethlehem, Pa., Sept. 22, 1914; s. of August and Matilde Salvetti Biondi; ed. Lehigh U., B.S. in Ch. Eng., 1936; Columbia U., M.S., in Ch. Eng., 1940; Lehigh U., Ch.E., 1941; m. Virginia M. Willis, Oct. 23,1943; ch.: Frank J., Jr., Robert W. Member of Bell Telephone Labs. Tech. Staff 1936 to date; res. in wood preservation, plastics, finishes, powder metallurgy, metals heat treatment, electron tube mtls. and processing; Manhattan District Project and Conslt. to Kellex Corp. and S.A.M. Labs. at Columbia U. 1942-45. Author num. prof. arts. Mem.: Sigma Xi, A.C.S., A.S.M., Comm. on Vacuum Tube Mtls. of A.S.T.M. Member of Planning Board, Township of Livingston, N.J. Club: Lehigh (N.Y.) (secretary-trea.). Hobby: photography.

BIRCHER, John Russell, Jr., chem. engr., U.S. Bu. of Mines, Louisiana, Mo.; res. Ordonia 3, R.R. 1, Louisiana, Mo.
Chem. engr.; b. St. Louis, Mo., Mar. 3, 1902; s. of John R. and Laura M. Bircher; ed. Wash. U., St. Louis, Mo.; Schl. of Mines & Metallurgy,

Rolla, Mo., B.S. chem. eng. 1938; grad. wk. at Ohio State U.; mem.: Kappa Sigma (Beta Chi Chapter); m. Mary Malcolm Redford, May 19, 1930; ch.: John Redford. Gold Dust Corp., 1925, chem.; Century Elec. Co., 1925-26, chem.; Columbia Chem. Div., Pitts. Plate Glass Co., 1926, chem.; U.S. Lacquers, Inc., chem., 1926-27; Southern Manganese Steel Corp., 1927-30, chf. chem.; Carnegie-Ill. Steel Corp., Clairton By-Prod. Coke Wks., 1930-40, res. chem.; C.W.S., Edgewood Arsenal, 1940-44, sr. chem. engr., chf., design branch, plants div.; Givaudan-Va. Inc., 1944-45, res. chem.; Battelle Memorial Inst., 1945-48, res. engr., asst. supvr.; U.S. Bur. of Mines, Coal to Oil Demonstration Branch, Office Syn. Liquid Fuels, 1948 to date, chf. syn. planning sec. Removal of resin from coke-oven gas; underground storage of coke-oven gas; dev. of rocket fuels; design of chem. plants; refining of light oil & coal tar; syn. liquid fuels. Mem.: A.C.S., A.I.Ch.E., Am. Coke & Coal Chem. Inst. Hobbies: mineralogy, flowers.

BIRCHER, Louis J(acob), prof. of physical chem., Vanderbilt U., Nashville, Tenn.; res. 2507 Kensington Pl., Nashville 5.
Prof. of chem.; b. St. Louis, Mo., Feb. 1, 1892; s. of Jacob and Anna Helen (Wehrli) Bircher; ed. B.S.Ed., S.E. Mo. St. Coll., 1912; A.B., B.S. U. of Mo., 1915; M.A. 1917; Ph.D. U. of Chicago, 1924; mem.: Alpha Chi Sigma. Phi Lambda Upsilon. Gamma Alpha; m. Mathilde Gertrude Mann. Dec. 29, 1925; ch.: Helen Ann, Marjorie Mathilde. U.S.A., Inspector Explosives, 1918-19; instr. in chem., Washington U., 1919-21; asst. prof. chem., Vanderbilt U., 1921-24; assoc. prof., Vanderbilt U., 1924-27; prof. of chem., Vanderbilt U., 1927 to present; visiting prof. of chem., M.I.T., summers 1928, 1930, 1931, 1932. Contrib. extensively to sc. and tech. journals. Author: "Physical Chemistry—A Brief Course." Prentice-Hall. Inc., 1940. Mem.: A.A.A.S. (fellow), A.C.S. (chmn. Nashville sect. 1925-26), Sigma Xi, (pres. Vanderbilt Chapter. 1944-45), Tenn. Acad. Science, (pres. 1937-38). Club: Freolac (Nashville, Tenn.).

BIRD, Elmer (Lt. Col., Chem. Warfare), owner, Napa Fertilizer Co., P.O. Box 568, Napa, Calif.; res. (rural) Napa.
Consltg. engr. (EM); b. Mansfield, Ill., Dec. 2, 1886; s. of J.E. and Anna (Bedford) Bird: ed. Coll. of Idaho. 1907, B.S. equiv.; m. Verda Steiner, May 26, 1913; ch.: Barbara (Bird) Kemp, Marjorie (Bird) Pipkin. 1907-10, U.S. R.S., engr.; 1910-14, city engr., Buhl, Idaho; 1914-17, irrigation & mining; 1917-19, U.S.A.; 1920-24, Bird & Kiel. Little Rock. Ark.; 1924-26. state chem., oil insp. dept., Ark.; 1926-30, E.M. Little Rock. Ark.; 1930-41, E.M. (consltg.), Los Angeles; 1941-47, U.S.A. Chem. Warfare, A.A.F.: 1947 to date, owner & operator. Napa Fert. Co. Oil chem.; cinnabar res.; diamond mining & exploration; sulphuric acid plant const. & operation; fertilizer plant design & const.; phosphate; air nitrates; res. design & const. Numerous reports & short articles. Quite a number oil & mining companies as dir., engr., officer. Mem.: Am. Inst. Mining Engrs. (1914-41). Clubs: Denver (till 1943), Sutter (Sacramento), State Officer & life member Disabled Am. Vets., Napa Valley Country, Reserve Officers Assn. of U.S.

BIRD, Emerson W(heat), prof. dairy indust. and chem., Dept. Dairy Indust., Ia. St. Coll., Ames, Ia., res. 2138 Hughes Ave.
Teach., res. in dairy chem., dairy mfrs., conslt.; b. Phila., Pa., Aug. 20, 1901, s. of Walter M. and Mathilda S. Soder Bird; ed. B.S., (Agri., biochem.), Pa. St. Coll. 1923; Ph.D. (Phytochem.) Ia. St. Coll., 1929; mem.: Alpha Chi Sigma, Alpha Zeta, Sigma Xi, Phi Kappa Phi, Gamma Sigma Delta, Phi Lambda Upsilon. Grad. asst. chem., Ia. St. Coll., 1923-25; instr. chem. 1925-28; asst. prof. dairy indust. & chem., 1928-39; assoc. prof., 1939-47; prof. 1947 to date. Res. conducter, publs., issued re: chem. mthds., anal. dairy prod.; churning losses; fatoridate in dairy prod; effect of fat-cont. feeds on flavor of milk, cream, chem. characteristics of milkfat; currently under way wk. re: blood lipidanal.; oxidation prods. of milkfat; rennet activity; mem.: A.C.S., A.O.C.S., A.A.A.S., I.F.T., Am. Dairy Sc. Assn. Hobbies: glass blowing, gardening, sports.

BIRD, Lloyd Campbell, pres., Phipps & Bird, Inc., 303 S. 6 St., Richmond, Va.; res. R.F.D. 9, Box 306, Richmond.
Exec.; b. Highland County, Va., Aug. 1, 1894; s. of George Anson and Mary (Campbell) Bird; ed. Randolph Macon Acad., grad. in pharmacy of Medical Coll. of Va., 1917; mem.: Theta Kappa Psi; m. Lucille Crutchfield Phinney, Apr. 8, 1933; ch.: George, Susan. Bacteriol., Lab. State Bd. of Health, 1919-24; asst. dir. of lab. 1923-24; assoc. in bacteriol., Medical Co. of Va., & secy. Alumni Assoc. 1924-25. Founded Phipps & Bird, Inc., 1925, became pres. 1926. Mem.: A.C.S., A.A.A.S., Va. Phar. Assn., Va. Acad. of Sc., Adj., Base Hospital 45 Vet Assn. Mem.: Va. State Senate rep. 34 district of Va., chmn. of Advisory Council on Va. Economy. Allied Scientific Corp., (pres.); bd. of dir., Va. State Chamber of Com., (former mem.); bd. of trustees, Southern Res. Inst., (former mem.) bd. of trustees, Alumni Assn., Medical Co. of Va.; Appar. Makers Assn. of Am., (mem.); Southern Assn. of Sc. & Ind., Inc., (mem. bd. of trustees & past pres.). Clubs: Commonwealth, Kiwanis, Ruritan.

BIRDSEYE, Clarence, pres. Mechanical Res., Inc., Gloucester, Mass.; res. Eastern Point Blvd., Gloucester.
Food tech., inventor, conslt.; b. Bklyn., N.Y., Dec. 9, 1886, s. of Clarence F. and Ada (Underwood) Birdseye; ed. Amherst Coll., 1910, hon. M.A. 1941; mem.: Chi Psi; m. Eleanor Gannett, Aug. 21, 1915; ch.: Kellogg G., Ruth, Eleanor, Henry S. Field naturalist, Biol. Survey, U.S.D.A., 1910-12; fur trader, Labrador, 1912-17; U.S. Purch. Agt., U.S. Housing Corp., 1917-19; asst. to pres. U.S. Fisheries Assoc., 1920-22; v.p. and pres. of cos. pioneering quick freezing of dressed seafoods, 1923-29; Birds Eye Frosted Foods. Inc., 1930-34; pres., Birdseye Elec. Co. 1935-38; dev. specialized food-freezing and dehydrating procs. and equip. 1939 to date; conslt. to Gen. Foods Corp. Holds 250 U.S. and for. pats. in quick freezing and dehydr. of foods, and in incandescent lighting. Pres. and dir. of following: Dehydration, Inc.; Mech. Res., Inc.; Processes, Inc. Dir.: Gravity Froster, Inc.; Cape Ann Natl. Bank. Author: 2 chaps. of A.S.R.E. 1946 Data Bk.; misc. arts. on food preservation for sci. socs. Mem.: A.C.S.; Amer. Fisheries Assoc.; Amer. Soc. of Mammalogists; A.S.M.E.; A.S.R.E.; Inst. of Food Techs.; Internatl. Assoc. of Milk Sanitarians. Dir.: Mass. Pub. Parks. Mem.: Camp Fire Club of Amer. Rec. Babcock Award, 1949 (I.F.T.). On adv. comm. Pat. Equity Assoc. Hobbies: hunting, fishing, wildflowers.

BIRMINGHAM, John Francis, Jr., dept. hd. org. lab., Imperial Paper & Color Corp., Glens Falls, N.Y.; res. 16 Chester St., Glens Falls.
Chem.; b. Mar. 10, 1910; s. of John F. and Louise (Westher) Birmingham; ed. Dartmouth Coll., B.A. 1930 honors in chem.; Columbia U., Ph.D. 1935; mem.: Acacia; m. Helen M. Lundstrom, July 1935; ch.: Eric Bruce, Lee Andrea.

Columbia U., asst. in chem., Sept. 1930-Sept. 1934; Imperial Paper & Color Corp., res. chem. Apr. 1935-Jan. 1942, dept. hd. Jan. 1942 to date. Ph.D. Thesis: "Acidity in Hydrocarbon Solvents," Yonkers Press 1935. Mem.: Phi Lambda Upsilon, Sigma Xi, A.C.S. (past councilor, Eastern N.Y. Sec.). Clubs: Adirondack Mt., Glens Falls Operetta. Hobbies: singing, acting, photography, mineralogy, gardening, tennis, swimming, hiking.

BISCHOFF, Fritz Emil, res. chem., Santa Barbara Cottage Hospital Res. Institute, Santa Barbara, Calif.; res. 112 Depot Rd., Santa Barbara.
Biochem.; b. Milwaukee, Wis., May 21, 1899; s. of Emil A. and Elsie (Meyer) Bischoff; ed. U. of Wis., B.S., 1920; M.S., 1922, du Pont Fellow, Ph.D., 1924; mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon. 1920-21, res. chem. and plant supvr., Newport Chemical Co.; 1924-25, res. on thio indigo dyes, E.I. du Pont de Nemours Co.; 1926-48, dir. chem. div. clinical lab., Santa Barbara Cottage Hospital; 1939-48, dir. of res., Santa Barbara Hospital Research Inst.; 1925 to present, res. on insulin and steroid hormones, Santa Barbara Cottage Hospital Research Inst. Contrib. extensively to professional journals. Mem.: A.C.S., Am. Inst. Nutrition, Am. Assn. Cancer Research, Am. Soc. Biol. Chems., Am. Assn. Clinical Chemists.

BISCHOFF, Melville Hugo, serv. mgr., The Flox Co. Inc., 1409 Willow St., Minneapolis, Minn.; res. 300 E. Diamond Lake Rd., Minneapolis, Minn.
Serv. mgr.; b. Oct. 19, 1911, St. Paul, Minn.; ed. Mounds Park Grade Schl., Johnson H.S., St. Paul; B. Chem. Engrg., U. of Minn., 1935; m. Florence Edna; ch.: Donna Louise, Barbara Diane. 1933-34, Armour & Co., S. St. Paul, Minn., formulating and analyzing; 1934-35, Boiler Water Service Co., Minneapolis; joined The Flox Co. Nov. 12, 1935; service mgr. to date.

BISHOP, Howard Berkey, owner, Kotal Co., 360 Springfield Ave., Summit, N.J.; res. 33 Prospect Hill Ave., Summit.
Chem. engr. and human engr.; b. Bloomington, Ill., Jan. 24, 1878, s. of Luther and Alice (Berkey) Bishop; ed. Chicago Manual Training Schl., Armour Inst. of Tech. and U. of Mich., B.Sc.; m. Bertha Thomas Shaffner, Sept. 22, 1909; ch.: Vernon, Howard Berkey, Jr., Ann Poultney (Bishop) Fitzgerald. Mem. of Laurel Hill Lab. staff of Gen. Chem. Co., 1902; res. chem., 1910-17; chem. for Natl. Aniline & Chem. Co., 1917-20; purch. and became pres. of John C. Wiarda Co., 1921; sold in 1929; pres. and owner of Sterling Prods. Co., Easton, Pa., until 1939. Recip. of Nichols M. 1907, A.C.S. (N.Y. Section). Mem.: A.I.Ch.E., AI.C., A.C.S. Trustee, Summit Home for Children, Summit, N.J., also treas. same institution. Clubs: Chemists' (N.Y.), life member; Amer. Vegetarian Union, treas. Owner, Kotal Co.; treas. and dir., Central Chem. Co. of Lebanon, Pa.; v.p. and dir., Instant Drying Corp.; pres., Humanic Brands, Inc.; pres. and treas., Human Engrg. Foundation.

BISHOP, William Bradford, tech. supt., A.E. Staley Mfg. Co., Decatur, Ill.; res. 750 S. Dennis, Decatur.
Chem. engr.; b. Red Oak, Iowa, May 11, 1904; s. of Joseph C. and Helen M. Bishop; ed. Iowa State, B.S., 1926; Columbia U., M.A., 1927; Iowa State, Ch.E., 1932; mem.: Phi Gamma Delta, Phi Lambda Upsilon, Tau Beta Pi; m. Kathryn Aldrich, Sept. 9, 1926; ch.: William B., Jr., Robin D. A.E. Staley Mfg. Co., chem. engr., 1927-35; chf. chem. engr., 1935-46; tech. supt., 1946 to date. Mem.: A.I.Ch.E., A.C.S. Club: Southside Country. Hobbies: golf, photography

BISSINGER, Frederick L., v.p. in chg. of res., Ind. Rayon Corp., 660 Union Com. Bldg., Cleveland, Ohio; res. 17229 Edgewater Dr., Lakewood, Ohio.
Exec.; b. N.Y.C., Jan. 11, 1911; s. of Jacob F. and Rosel (Ensslin) Bissinger; ed. M.E., 1933, Stevens Inst. of Tech., M.S. chem., 1936; LL.B. 1938, Fordham Law Schl.; Mem.: Delta Tau Delta, Pi Delta Epsilon; m. Julia E. Stork, Aug. 4, 1935; ch.: Frederick L. Jr., Elizabeth J. July 1, 1933-July 1, 1936, instr. in chem., Stevens Inst. of Tech.; July 1, 1936-Jan. 1, 1942, attorney, Pennie, Davis, Marvin & Edmonds, N.Y.; Jan. 1, 1942 to date, Ind. Rayon Corp., pat. counsel Jan. 1, 1942-Mar. 31, 1950, secy. Mar. 13, 1945-Aug. 10, 1949, v.p. Dec. 1, 1948 to date. Mem.: Cleveland Pat. Law Assn., Am. Pat. Law Assn., A.A.A.S., A.C.S., Chemists' (N.Y.), mem. of Ohio, N.Y. & Dist. of Columbia Bars, Ohio State Bar Assn. Club: Cleveland Yachting.

BISSINGER, H. Gerard, exec. v.p., E.F. Drew & Co. Inc., 15 E. 26 St., N.Y. 10, N.Y.; res. 94 Morris Ave., Denville, N.J.
Adm. exec.; b. Phila., Pa., Apr. 13, 1903; s. of Harry J. and Amy (Bamberger) Bissinger; ed Penn State Coll.; m. Hester H. Hatch, Mar. 26, 1932; ch.: H. Gerard 2nd. 1930-34, Carman & Co. Inc.; 1934-36, pres., Carman Mfg. Co. Inc.; 1937 to date, exec. v.p., E.F. Drew & Co. Inc.

BITTENBENDER, Dr. William Albert, adm. asst. to v.p. for res. & dev., res. & dev. div., Merck & Co. Inc., Rahway, N.J.; res. 659 Glen Ave., Westfield, N.J.
Chem.; b. Ames, Iowa, Sept. 7, 1914; s. of Harry A. and Bess (Chase) Bittenbender; ed. A.B., Wittenberg Coll., 1936; M.S., Purdue U., 1938, Ph.D. 1941; mem.: Phi Kappa Psi, Theta Chi Delta, Phi Lambda Upsilon, Sigma Xi; m. Mary McClelland, June 9, 1941; ch.: David Chase, Charles Abbott. Grad. asst., Purdue U., 1936-40; du Pont fellow, Purdue U., 1941; res. chem. 1941-47, tech. asst. to dir. of res. & dev. 1947-48, asst. dir., tech. dev. dept., res. & dev. div. 1948-49, dir., tech dev. dept., res. & dev. div. 1949-50, adm. asst. to v.p. for res. & dev., 1950 to date, Merck & Co. Inc. Publ. & pats. on antiseptic activity fluorinated hydrocarbons & antibiotic isolation. Mem.: A.C.S., Armed Forces Chem. Assn.

BITZER, Jack Arlie, pres., O-Cel-O, Inc., 1200 Niagara St., Buffalo 13, N.Y., res. 271 Lake Ave., Lancaster, N.Y.
Chem. engr.; b. Bellvue, Ky., Feb. 13, 1918; s. of Arlie J. and Loretta E. Reidinger Bitzer; ed. U. Cincinnati, Chem. Engr., 1940; mem.: Pi Kappa Alpha, Alpha Chi Sigma; m. Virginia Sherwood, Oct. 1940; ch.: Jack Roger, Ann Louise. Federal Color Labs., Norwood, Ohio, color chem., 1940-41; Procter & Gamble, Cincinnati, Ohio, chem. engr., 1941; E.I. du Pont Explosives Dept., Jeffersonville, Ind., chem. engr., 1941-44; E.I. du Pont Expl. Dept., Rosemount, Minn., chem. engr., 1944-45; E.I. du Pont-Rayon Dept., Buffalo, N.Y., chem. engr. 1945-46; O-Cel-O, Inc., pres., 1946 to date. Founder and organizer of new chem. prods. co., O-Cel-O, Inc., patent appls. on cont. purification of cellulose sponges. Various improvements, shortcuts in chem. engr. unit operations of viscose mfr., subsequent prods., predominently synth. cellulose sponge prods.; mem.: A.I.Ch.E., A.C.S., Alpha Chi Sigma, Engr. Soc. (Buffalo). Hobbies: boating, fishing, camping, swimming.

BIVINS, Franklin Hammond, asst. v.p., Bristol-Myers Co., 630 Fifth Ave., N.Y. 20, N.Y.; res. 32 Park Ave., Bronxville 8, N.Y.
Exec.; b. Brooklyn, N.Y., Jan. 30, 1905; s. of Chalfant Edwin and Ellen (Hammond) Bivins; ed. Cornell U., B. Chem., 1928; mem.: Zeta Psi; m. Ethel M. Saul, Nov. 13, 1931; ch.: Phyllis Jean.

V.p., Foster D. Snell, Inc., 1928; v.p., Old Collins Co. Inc.; Gen. Printing Ink Co.; v.p., Kaw Corp.; asst. v.p., Bristol-Myers Co. Mem.: A.C.S., A.I.C., Cornell Soc. of Engrs. Clubs: Chem. (N.Y.), Cornell (N.Y.) St. Andrews Golf (Hastings-on-Hudson, N.Y.). Hobbies: bridge, golf.

BJORK, Howard Frederick, plant mgr., Sharples Chem. Inc., 4700 Biddle Ave., Wyandotte, Mich.; res. 2536 Rutledge Rd., Trenton, Mich.
Chem. engr.; b. Norway, Mich., Sept. 4, 1909; s. of Warner and Bessie (deceased) Bjork; ed. U. of Mich., B.S. 1931, M.S. 1932; mem: Alpha Chi Sigma; m. Betty Reese, Jan. 7, 1934; ch.: Howard F. Jr., Phillip, Sally. Res. engr., Leslie Lab., Ann Arbor, Mich., 1932-34; res engr., Leader Ind., Inc., Decatur, Ill., 1934-37; chf. chem. engr., 1937-45, prod. mgr., 1945-50, plant mgr. 1950 to date. Sharples Chem. Inc., Wyandotte. Mem.: A.I.Ch.E. Club: Rotary. Hobbies: fishing, music, golf, woodwork, gardening.

BJORKSTEN, Johan, pres., Bjorksten Res. Labs., 323 W. Gorham St., Madison, Wis.
Chem.; b. Tammerfors, Finland, May 27, 1907, s. of Walter and Gerda E.A. (Ramsay) Bjorksten; ed. U. of Helingsfors, Finland, Ph.D. 1931; U. of Stockholm, Sweden, 1927-28; U. of Minn., postdoct. under auspices of Rockefeller Found. (Internat. Ed. Bd.) 1931-32; mem.: Sigma Xi, Gamma Alpha; m. Bettina Feitler, Sept. 1, 1937; ch.: Sybil Joan, Oliver James Walter. 1933-34 res. chem., 1934-35 chf. chem. Felton Chem Co., Bklyn., N.Y.; 1935-36 in chge. of dev., The Pepsodent Co.; 1936-37 trav. for study of raw material, prod. and supplies in Asia, Africa and S. Amer.; 1937-41 chf. chem. Ditto, Inc., Chicago; 1941-44 chem. dir. Quaker Chem. Corp., Conshohocken, Pa.; 1940-45 co-founder, lmtd. partner, A-B-C Pkging. Machine Corp., Quincy, Ill., 1945 to date v.p. same co.; 1945 co-founder Bee Chem. Co., 1948 to date chmn. of bd.; 1944 founder Bjorksten Res. Labs., pres. to date; holds abt. 40 pats. in field of polymers, graphic arts, pet. prods., and organic synth. Mem.: A.C.S., A.I.C. (chmn. Chicago chapt. 1948), E.S. (secy. Chicago chapt. 1946, v.chmn. 1947); A.A.A.S., A.A.C.C., A.A. Cos.C., A.A.T.C.C., A.G.S., A.S.M., A.S.T.M., S.C.E., Chem. Arts Forum, Franklin Inst., Natl. Farm Chemurgic Council, Finnish Chem. Soc., S. P.I., N.Y. Acad. Sc., Societas pro Fauna et Flora Fennica, T.A.P.P.I. Clubs: Chemists' (N.Y.), Chicago Chemists', Madison Technical, Rotary. Hobby: Yachting.

BLACET, Francis Edward, prof. of chem. and chmn. chem. dept., U. of Calif., Los Angeles 24; res. 849 Harvard St., Santa Monica, Calif.
Prof. of chem.; b. Greenville, Ill., Feb. 25, 1899, s. of Stephen and Rachel Blacet; ed. Pomona Coll. A.B., magna cum laude, 1922; M.A. 1925; Stanford U., Ph.D. 1931; du Pont Fellow, Stanford, 1930-31; m. Kate Merrell, Aug. 7, 1924; ch.: Ann Louise, Philip Merrell. 1922-27 instr. Pomona Coll.; 1931-32 instr. Stanford U.; 1932 to date on staff of U.C.L.A.; on leave 1942-45 dur. which time was Off. Investigator, N.D.R.C., Northwestern U.; res. in photochem., microanal. of gases, adsorption and gas reaction catalysis. Contrib. numerous arts. to sc. jls. Mem.: Phi Lambda Upsilon, Sigma Xi, Phi Beta Kappa; Presidental Certificate of Merit, 1948. Hobbies: gardening, fishing, camping.

BLACK, Charles S(purgeon), prof. and hd. of chem. dept., Wake Forest Coll., N.C.; res. Wake Forest, N.C.
Chem.; b. Charlotte, N.C., Nov. 3, 1895, s. of Charles J. and Annie E. Black; ed. B.A., Wake Forest Coll., 1918; M.A. 1920; M.A., U. of Va., 1923; Ph.D., U. of Wis., 1928; res. fellow, Wis., 1927-28; mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma, Gamma Sigma Epsilon, Delta Sigma Phi; m. Inez Keith, June 14, 1923; ch.: Betty Jean (Mrs. C.W. Byrd), Robert K. Grad. asst., Wake Forest, 1919-20; instr. U. of Va., 1920-23; assoc. prof. Miss. State, 1923-25; asst. prof. Wake Forest Coll., 1925-27, assoc. prof., 1928-29, prof., 1929 to date; hd. of dept., 1930 to date; res. in lake deposits (Wisc. Acad.). Mem.: A.C.S., N,C. Acad. of Sc., A.I.C., Armed Forces Chem. Assoc. Club: Local Civic. Hobbies: golf, woodworking, photography. Military: Major, C.W.S., W.W.I. II., Colonel USAF Reserve.

BLACK, Crayton K., asst. dir., tech. lab., E.I. du Pont de Nemours & Co. Inc., Box 386, Wilmington, Del.; res. 1215 Brandywine Blvd., Wilmington.
Res. chem.; b. Sault Ste. Marie, Mich., June 4, 1905; s. of Howard J. and Lucy (Knox) Black; ed. Ohio State U., B.A. 1926, M.Sc. 1927, Ph.D. 1929; mem.: Chi Phi; m. Edna Lloyd, June 15, 1929; ch.: Barbara, David. Positions held with du Pont: Jackson Lab., res. chem. 1929-35; tech. lab., res. chem., 1935-40; div. hd., tech. lab. 1941-43; tech. lab., major div. hd., 1943-46; tech. lab., asst. dir. 1946 to date. Dyes & dye appl. Mem.: A.C.S., Am. Assoc. Textile Chem. & Colorists. Pres. Bd. of Educ., Mt. Pleasant Spec. Schl. District, Wilmington. Hobbies: woodworking, boating.

BLACK, Howard C., asst. dir. of res., Swift & Co. Union Stock Yds., Chicago 9, Ill.; res. 7427 So. Shore Dr., Chicago 49.
Chem.; b. Warsaw, Ind., Sept. 26, 1912; s. of Charles H. and Estella H. Black; ed. A.B., DePauw U., 1934, M.S. U. of Ill., 1935, Ph.D. 1937; mem.: Gamma Alpha; m. Mary Ellen Fine, June 18, 1938. With Swift & Co. since 1937. Mem.: A.C.S., Am. Oil Chem. Soc., A.A.C.S. Club: Chicago Chem. Hobby: sailing.

BLACK, Rodney Elmer, prof. of chem., chmn. chem. dept., Morningside Coll., Sioux City 20, Iowa; res. 1706 Morningside Avenue, Sioux City.
Chem., educator; b. Pawhuska, Okla., Sept. 21, 1916; s. of Judge Elmer J. and Maude Q. (Newman) Black; ed. 1934-38, Okla. Agric. & Mechanical Coll., B.S. 1938; 1938-42, U. of Wisc., M.S. 1940, Ph.D. 1942; Summer session 1940 Cornell U. Okla. Exp. Station, Agric. Chem. Res. Dept., lab. asst., 1936-38; grad. asst., U. of Wisc., 1938-41; Weston Fellow, awarded by Electrochem. Soc. Inc., 1941-42; res. chem., Allied Chem. & Dye Corp., Barrett Div., Phila., 1942-43; sr. res. chem., Phillips Pet. Co., Bartlesville, Okla., 1943-47; prof. of chem. Morningside Coll., 1947 to date. Res. in fld. of electro-deposition of tungsten alloys; plasticizers; syn. of nicotinic acid; polymerization; alkylation; purification of hydrocarbons; academic fld. has dealt with most branches of chem., spec. emphasis in org. chem. Mem.: A.C.S., Electrochem. Soc., Am. Assoc. of U. Prof., A.A.A.S., Sigma Xi, Phi Lambda Upsilon, Phi Kappa Phi. Club: Exchange. Hobbies: photography, forensic sciences, chess.

BLACKBERG, Solon N., M.D., dir. of med. div., Dana Jones Co., 122 So. Michigan Ave., Chicago 3, Ill.; res. 1263 Pratt Blvd., Chicago, Ill.
Physician; b. Ellenville, N.Y., Apr. 2, 1897; s. of Max and Jeanette Blackberg; ed. Ellenville Acdy., grad. 1914 (N.Y. Regents Exam., won State scholarship to college); Cornell U., D.V.M., 1918; A.&M. Coll. of Tex., B.S., 1926; Tulane U. Schl. of Med., Ph.D., 1928; U. of Ark. Schl. of Med., M.D., 1939; m Lillian Cannel, June 10, 1934; ch.: Justine. Prof. of physiology and pharmacol., Coll. of Veterinary Med., A &M. Coll. of Tex., 1918-2; full-time mem. of Tchg. and Res.

Staff of Dept. of Pharmacol., Tulane U. Schl. of Med., 1926-29; full-time mem. of Tchg. and Res. Staff of Dept. of Pharmacol, Coll. of Physicians and Surgeons, Columbia U., 1929-37; Hospital for Ruptured and Crippled, known now as Hospital for Special Surgery, Arthritis Div., N.Y.C., 1929-40; Med. Dir. and Dir. of Clinical Res., Nutrition Res. Labs., Chicago, Ill., 1940-44; Michael Reese Hosp., Arthritis Div., Chicago, Ill., 1947-49; Chf of Arthritis Div., Mt. Sinai Hosp., Chicago, Ill., 1947-50; Dept. of Med., Chicago Med. Schl., Chicago, Ill., 1948 to date. More than 50 pubs. based on orig. res. in flds. of gastro-enterology, dietary deficiencies, barbiturates, dental caries, endocrine disturbances, melanin-melanuria, new meth. for dopa reaction, disturbances of calcium-phosphorus metab. and their effect on cataract, myopia, arteriosclerosis, rickets, etc., factors influencing the action of anesthetics, penicillin, arthritis or neuromuscular diseases. Mem.: A.A.A.S., A.A.U.P., Am. Congress of Physical Med., A.I.C., A.M.A., Am. Med. Editors' and Authors' Assoc., Chicago Soc. of Physical Med. and Rehabilitation, Am. Veterinary Med. Assoc., Chicago Med. Soc., Ill. State Med. Soc., Internatl. Assoc. for Dental Res., Sigma Xi. Honors: Four-year Univ. Scholarship granted by N.Y.S.; Jane Miller Prize in Physiology, Cornell U.; Gold M., Radiological Soc. of North America (with Leon J. Menville). Awards for sc. exhibits—Pathology of Arthritis; Amer. Soc. of Clinical Pathologists (for excellence of sc. exhibit); Med. Soc. of N.J.—First Award for Sc. Exhibit of Meritorious Excellence, Atlantic City, N.J., Apr., 1942; Med. Soc. of N.Y.—First Award for Clinical Res., Annual Meeting, May 3, 1943.

BLACKBURN, Walter Evans, prof. of chem., and hd. of Dept. of Phys. Scs., Murray State College, Murray, Ky.; res. same.
Chem., tchr.; b. Marion, Ky., Oct. 21, 1907; s. of Walter A. and Cora (Hurley) Blackburn; ed. A.B., Georgetown (Ky.) Coll., 1927; M.S., U. of Fla., 1930; Ph.D., U. of Ill., 1944; Louisiana State U., 1939; mem.: Kappa Alpha; Gamma Sigma Epsilon; Phi Lambda Upsilon; m. Virginia Adams, June 1, 1929; ch.: Walter Evans, Jr., 1927-29 instr. in sci., Somerset, Ky., H.S.; 1930-43 instr. and asst. prof. in chem., Murray State Coll.; 1943-44 spec. res. asst. U. of Ill.; 1944, tech. conslt., Rubber Res. Co.; 1944-45 res. chem., E.I. du Pont de Nemours, Rayon Dept.; 1945 to date, hd., Dept. of Phys. Scs., Murray State Coll.; res. in soap dev. for govt. synth. rubber. Author: "Report of the Soap Dev. Program for Govt. Synth. Rubber," Rubber Res. Co. Pub., 1944. Mem.: Sigma Xi, A.C.S., Natl. Educ. Assoc., A.A.A.S., Natl. Sc. Tchrs. Assoc., Ky. Acad. of Sc. (pres. 1949-50), Ky. Assoc. of Chem. Tchrs. (pres. 1948-49, 1949-50), Ky. Educ. Assoc. Hobbies: athletics, gardening, mechanics and woodworking.

BLACKMORE, Paul Owen, dir. Basic Dev. Labs., Finishes Div., Interchem. Corp., 57 State St., Newark, N.J., res. 293 Lupine Way, Short Hills, N.J.
Res. chem.; b. Toledo, Ohio, Nov. 23, 1903; s. of Owen and Charlotte Blackmore; ed. Cornell U., B.Chem. 1925; m. Charlotte Menken, Mar., 1929; ch.: Paul O., Jr. Grasselli Chem. Co., Cleveland, Ohio, chem., 1925-29; Mountain Varn. & Color Wks., Toledo, tech. supvr. 1929-34; Columbus Van. Co., Columbus, Ohio, chem., 1934-35; finishes div., Interchemical Corp., (Ault & Wiborg), Cincinnati, Ohio, chf. chem. 1935-43; dir. basic dev. 1943-48; Finishes Div., Interchemical Corp., Newark, N.J., dir. basic dev., 1948 to date. Res. and dev. in protective coatings, spec. coatings for automotive, household appliance, heat resistance, infra red reflectance, chem., corrosion resistance. Contrib. extens. to sc. and tech. jls.; mem.: A.C.S., A.S.T.M.; Fed. Paint & Varn. Prod. Clubs (pres. 1945-46), (chmn. res. comm. 1946 to date.) Hobbies: music, writing.

BLACKWELL, Ashby Carlyle, dean, v.p. & hd. chem. dept., Morris Harvey Coll., Charleston 4, W.Va.; res. 105 Bradford St., Charleston 1.
Coll. admin., tchg.; b. Lynchburg, Va., Aug. 4, 1896; s. of Samuel Ashby and Minnie Lee (Doyle) Blackwell; ed. A.B., Randolph-Macon Coll., 1918; A.M., 1919; grad. student, Princeton U., 1920-21, & U. of Chicago, summers, 1922, 1923, 1936, 1937, 1950; mem.: Phi Beta Kappa, Chi Beta Phi, Sigma Upsilon, Tau Kappa Alpha, Pi Gamma Mu; m. Harriett Cazenove Purdy, Apr. 9, 1925; ch.: Nancy Purdy. Part-time asst. in math., Randolph-Macon Coll., 1916-19; instr. in math. & sc., Randolph-Macon Acdy., Bedford, Va., 1919-20; part-time asst. in chem., Princeton U., 1920-21; prof. of chem. & hd. chem. dept., Morris Harvey Coll., since 1921; v.p., since 1933; chmn., natural sc. div., 1938-41; dean, since 1941; treas., 1942-48. Asst. editor of cooperative org. chem. tests for Comm. on Examinations and Tests of Div. of Chem. Education, A.C.S. Author: "Outline of Gen. Chem.," 1932; "Outline of Elementary Org. Chem.," 1935, in mimeographed editions. Mem.: A.C.S. (chmn. Kanawha Valley sec., 1941), A.A.A.S., W.Va. Acdy. of Sc., W.Va. Education Assoc., W.Va. Assoc. of Higher Education (pres. 1947-48), N.E.A. Natl. pres., Chi Beta Phi Sc. Frat., 1924-48; dir. Goodwill Industries of Kanawha Co. (Charleston, W.Va.), 1950. Clubs: Lions Internatl., Executives'. Hobbies: athletics (as spectator), movies.

BLAIR, Charles Melvin, Jr., dir of res., c/o Petrolite Corp., Ltd., St. Louis 19, Mo.; res. 453 Yorkshire Pl., Webster Groves 19, Mo.
Chem.; b. Vernon, Texas, Oct. 24, 1910, s. of C. M. and Sallie Gilliland Blair; ed. 1931, The Rich Institute, B.A.; 1932, The Rice Inst., M.A., 1935, Calif. Inst. of Tech., Ph.D.; m. Catherine E. Stone, in 1936; ch.: C. M. III, Sally. 1935-45, chem., Tretolite Co. Div. of Petrolite Corp. Ltd.; 1945 to date, dir. of res., Petrolite Corp. Ltd. Res. largely in the fld. of surface chem., with emphasis on demulsification of pet. by chem. and electrical means; about 80 pats. in this fld; about 10 Publications in fld. of thermodynamics, spectroscopy, demulsification and surface chem. Mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, A.C.S., Am. Pet. Inst., Natl. Assoc. of Corrosion Engineers.

BLAIR, Francis Wesley, dir. of chem. div., Procter & Gamble Co., Ivorydale, Cincinnati 17, O.; res. Hilltop Lane, Wyoming, Cincinnati 15.
Chem.; b. Ware, Mass., Aug. 23, 1892; s. of Lewis M. and Florence (Richardson) Blair; ed. Amherst Coll., B.S. 1915, Princeton U., M.A. 1917; mem.: Chi Phi; m. Ruth Clark, Sept. 5, 1916; ch.: Clark L., Howard R. Procter & Gamble Co., 1917 to date. Mem.: A.I.Ch.E., (N.Y.C.); A.C.S. (Wash, D.C.); Ind. Res. Inst., (N.Y.). Ohio State U. Res. Foundation, exec. comm. & bd. of dir.

BLAIR, James E., prod. mgr., Thompson Horticultural Chem. Corp. & Wm. T. Thompson Co.; res. 2017 Seventh St., San Fernando, Calif.
Chem.; b. Santa Monica, Calif., Oct. 25, 1917; s. of James and Neta (Randall) Blair; ed. June, 1939, B.S. chem., Brigham Young U., grad. with high hon.; m. Carol Pendleton, Aug. 1940; ch.: Kelly, Katherine, Michael, Patricia. 1941-45, res. chem., Phillips Pet. Co.; 1945-49, prod. mgr., Thompson Horticultural Chem. Co.; 1949 to date, prod. mgr., Thompson Horticultural Chem. Corp. & Wm. T. Thompson Co. Hobbies: photography, gardening.

BLAKE, Harold D., retired tech. dir., Lamp Devel. Lab., Gen. Elec. Co., Nela Pk., E. Cleveland, O.; res. 1937 Parkway Dr., Cleveland Hts., Ohio.
Engr. (retired); b. Naples, N.Y., March 3, 1884; s. of Alton M. and Cleora (Doolittle) Blake; ed. Genesee Wesleyan Seminary, Lima, N.Y., 1904; Ithaca H.S., 1905; Cornell U., M.A. 1909; mem.: Alpha Tau of Phi Kappa Tau; m. Ruth Weller Gibson, July 18, 1910; ch.: Elizabeth Weller, Esther Gibson, Ruth Ellen, Caroline Frances. Entered employ of Natl. Elec. Lamp Assoc., 1909 (this concern later became the Incandescent Lamp Dept. of the Gen. Elec. Co.); Lamp Devel. Lab., 1910; tech. dir. of Lamp Devel. Lab., 1925 to retirement. Holds sev. pats. in electrical fld. and coating for glass surfaces, as well as pats. on exhaust machine, disc-type base of cardboard or similar material with integral engagement wings, Lumiline "glove-fastener" base, etc. Mem.: A.I. Ch.E. Club: Shaker Heights Country (Cleveland).

BLAKE, John Twiss, dir. of res., Simplex Wire & Cable Co., 79 Sidney St., Cambridge 39, Mass.; res. Old Oak Lane, Winchester, Mass.
Dir. of res.; b. Boston, Mass., May 16, 1901, s. of Edward C. and Elizabeth M. (Twiss) Blake; ed. Tufts Coll., S.B. with honors, 1921; M.I.T., Ph.D. 1924; mem.: Phi Delta, Alpha Chi Sigma, Tau Beta Pi; m. Faith Summerbell, Sept. 4, 1926; ch.: John Thomas. 1924-35 res. chem., 1935-40 dir. of Chem. Dev.; 1940 to date Dir. of Res., all with Simplex Wire & Cable Co.; res. in the chem. and tech. of rubber. Author: "Chem. and Tech. of Rubber," Davis and Blake, 1937, Reinhold Pub. Corp. Has pub. numerous tech. papers on rubber. Mem.: A.I.C. (fellow); Inst. of the Rubber Indus. (England) (fellow); A.A.A.S. (fellow); N.Y. Acad. of Scs., Boston Rubber Grp. (chmn. 1936), Rubber Div. A.C.S. (chmn. 1943, dir.); Northeastern Sect. A.C.S. (chmn., dir.); Boston Res. Dirs. Club (chmn. 1946-48); A.C.S. (councillor); A.S.T.M. (chmn. Wire and Cable Sect.); Insulation Comm. Natl. Res. Council; Soc. of Chem. Indus. (England); A.I.Ch.E. (chmn. Boston Sect. 1944-45); A.I.E.E. Clubs: Highland, Orleans Yacht, Chemists' (N.Y.) Hobbies: sailing, cruising.

BLAKE, William V., II, v.p., Macklin Co., Jackson, Mich., res. 721 Bloomfield.
Ceramic Engr.; b. Oct. 19, 1906, Columbus, Ohio; s. of George T. and D.M. Blake; ed. B. Cer. E., Ohio St. U.; mem.: Pi Kappa Alpha; m. Frances L. Paree, 1934; ch.: William V., III, Thomas P., Mary P., Christine A. 1929-30 Norton Co., Worcester, Mass., ceramic engr.; 1930-40 Macklin Co., ceramic engr.; 1940-49 dir. res.; 1949 to date v.p.; mem.: Am. Ceramic Soc., Detr. Engr. Soc.

BLANCHARD, Arthur A(lphonzo), prof. emer., Mass. Inst. Tech.; res. 25 Evans Rd., Brookline 46, Mass.
Ret.; b. Boston, May 4, 1876; s. of Adolphus J. and Louise B. (Rand) Blanchard; ed. S.B. 1898 M.I.T. Ph.D. 1902 Leipsic; m. Eugenia Lord, Aug. 8, 1905; ch.: Shirley L. (Hammond), Helen L. (Cowles), Malcolm A., Joseph. Asst. phy. chem., M.I.T. 1898-1900; student Leipzig 1900-02, instr. physics & chem., New Hampshire 1902-03; instr. inorg. chem., M.I.T. 1903-08, asst. prof. 1908-13, assoc. prof., 1913-31, prof. 1931-41, emer. 1941. Mtl. carbonyls, many papers & lectures on this fld. For war effort, prep. of transparent crystalline mtls. for optical instruments, esp. calcium fluoride. Author: "Ellectrolytic Dissociation Theory" 1907, 2 edit.; "Syn. Inorg. Chem." 1910, 5 edit.; Co-author: "Foundations of Chem." 1914, Lab. Manual for same 1917, 'Lab. Methods of Inorg. Chem. Translation" 1909, 2 edit. Mem.: A.C.S., N.E. Assoc. Chem. Teachers, A.A.A.S., Am. Acad. Arts & Sc., A.A.U.P.

BLANCHARD, Charles Louis, lab. dir., Pro-phy-lac-tic Brush Co.; res. Florence, Mass.
Dir. of lab. and quality control; b. Oct. 27, 1916; s. of Albert L. and Louise C. Blanchard; ed. U. of Maine, 1939, B.S. chem.; m. Marguerite T., 1939; ch.: David, Mary, Robert. 1939-41, Haartz Mason Grower Co., Watertown, Mass., chem.; 1941-44, U.S. Rubber Co., Chicopee Falls, Mass., qual. control supvr.; foreman, lab. supvr.; 1944 to date, Pro-phy-lac-tic Brush Co., control grp. ldr., lab. dir. Mem.: A.C.S.

BLANCK, Frederick Conrad, Admin. Fellow, Mellon Inst. of Ind. Res., Pittsburgh 13, Pa., res. 203 Hoodridge Dr., Pittsburgh 16.
Food res. chem.; b. Balt., Md., Oct. 14, 1881; s. of Conrad H. and Bertha Lipps Blanck; ed. A.B., Johns Hopkins U. 1903, Ph.D. 1907; mem.: Phi Gamma Delta, Gamma Alpha; m. Katherine Butler, Jan. 16, 1916; ch.: Virginia B. Bates, Margaret B. Stevens. Res. asst., Harvard Med. Sch., 1907-08; soil sc., U.S.D.A. 1908-11; chf. dy. and Food div., Baltimore City Health Dept. 1911-15; org. chem., Bur. of Chem., U.S.D.A. 1915-17; Food & Drug Comm. of Md. 1918-19; hd., Md.-Del., Va. Cannery Inspection Serv. 1919-21; chf., food contr. lab., Bur. of Chem., U.S.D.A. 1921-27; chf., food res. div. 1927-39; chf. res. chem., H. J. Heinz Co., Pittsburgh, 1939-46; admin. fellow, Mellon Inst. 1947 to date. Contrib. extens. to sc. and tech. jls. Co-author: Nutritional Data, 1949; mem.: A.C.S., A.P.H.A. (fellow), A.A.A.S. (fellow), I.F.T. (founder, mem., past pres.), Babcock Award, (I.F.T.), 1948. Clubs: Univ., Faculty (U. of Pittsburgh). Hobby: contract bridge.

BLANK, Eugene William, hd. anal. res. div., Colgate-Palmolive-Peet Co., Jersey City, N.J.; res. 9 Woodwild Ter., Metuchen, N.J.
Chem.; b. Brooklyn, N.Y., Nov. 6, 1907; s. of E. B. and M. (Lapidge) Blank; ed. B.S., Pennsylvania State Coll., 1933; m. Doris G. Settle, June 17, 1939. Res. chem., Colgate-Palmolive-Peet Co., 1933-49; hd. anal. res. div., same co., 1949 to date. Anal. of soap, glycerol, fats, oils & syn. detergents; hist. of chem.; chromatic thermo-sensitivity; meth. of org. & inorg. microanalysis; studies on accuracy & precision of anal. results obtained in soap anal. Mem.: A.C.S., A.O.C.S., Rocks & Minerals Assoc., N.Y. Mineral Club, N.J. Mineralog. Soc. Hobbies: mineral. of the rare elements, photog.

BLAU, Henry Hess, v.p., Federal Glass Co., Columbus, O.; prof. of glass tech. (part-time), Ohio State U.; res. 241 Ashbourne Rd., Columbus 9, O.
Physical chem., glass tech.; b. Dayton, O., May 16, 1897; s. of Samuel and Lena (Bowman) Blau; ed. B.S. 1919, Carnegie Inst. of Tech.; Ch.E. 1928, S.M. Mass. Inst. Tech., 1920 (du Pont Fellowship); Ph.D. U. of Pittsburgh, 1934; mem.: Sigma Xi, Tau Beta Pi; m. Edith Elizabeth Piersol, Sept. 9, 1924; ch.: Elizabeth (Mrs. Thomas Hislop), Henry H., Jr., Carolyn B. 1918, U.S.A., Engr. Res. Corps; 1920-36, Macbeth-Evans Glass Co., Charleroi, Pa., res. chem.; 1924, dir. of res.; 1930, asst. genl. mgr. (Macbeth-Evans Glass Wks., was merged with Corning Glass Wks., 1936); 1936-41, Corning Glass Wks., exec. and res. activities, incl. dir. of works Laboratories 1937-39; 1941-43, Federal Glass Co., genl. mgr., vice-pres.; 1945, Ohio State U., prof. glass tech. (part-time); to date, vice-pres. Federal Glass Co. Notable work in refractories, illuminating and colored glasses, tech. glasses, infra-red transmitting glasses, glass table ware and cooking ware,

chem. and high pressure gauge glasses, heat treatment of glasses, infra-red transmitting and absorbing glasses, radioactive tracers in glasses, etc.; published in 1946, Tech. Glass Developments in Germany and Austria. Fellow of Am. Ceramic Soc., Fellow of British Soc. of Glass Tech., Fellow of A.A.A.S. Mem.: A.I.Ch.E., A.I. Ceramic Engr., A.C.S., Registered Professional Engr. N.Y. and O. Mem.: Columbus University, Columbus Rotary, O. State U. Faculty Club. Hobbies: tennis, photog., farming.

BLISH, Morris Joslin, res. supvr., Amino Prod. Div., International Minerals & Chem. Corp., Box G, Rossford, Ohio; res. 2535 W. Bancroft, Toledo 6, O.
Chem.; b. Lincoln, Nebr., Apr. 21, 1889; s. of Frank M. and Louise (Joslin) Blish; ed. B.Sc. U. of Nebr. 1912; M.A. U. of Nebr. 1913; Ph.D., U. of Minn., 1915; mem.: Sigma Xi, Phi Kappa Phi, Phi Gamma Delta; m. Vera Buell, Apr. 21, 1921; ch.: Mrs. R.S. Black. Asst. chem., Montana Agric. Exp. Station, 1916-22; chem., Nebr. Agric. Exp. Station, prof. of agric. chem. 1922-39; principal chem., Protein Div., Western Regional Res. Lab., U.S.D.A., 1939-43; res. supvr. Amino Prod. Div., Internatl. Minerals & Chem. Corp., 1943 to date. Food tech., esp. wheat & flour, proteins, amino acids, enzymes, poultry nutrition. Mem.: A.C.S., A.A.A.S. (fellow), A.I.C. (fellow, A.S.Biol.C., A.A.C.C., I.F.T., N.Y. Acad. Sc. Award: Thomas Burr Osborne, 1936. Club: Sylvania Country. Hobbies: music. fishing, golf.

BLISS, Robert Harding, prof. chem. engr., Yale U., New Haven, Conn.; res. Todd St., Mt. Carmel, Conn.
Prof.; b. St. Louis, Mo., July 14, 1911, s. of Carl Crider and Elizabeth (Harding) Bliss; ed. U. of Ill., B.S. 1932 (highest honors); Yale, Ph.D. 1935; mem.: Alpha Chi Sigma; m. Gretchen Evans, 1941. With Rohm & Haas, dir. semi-wks., 1935-37; U. of Pa., asst. prof., 1937-39; Yale U., asst. prof., 1939-42; assoc. prof., 1942-48; prof., 1948 to date; res. in thermodynamics, ion exchange, heat transfer, extraction. Author of one chapt. in Tyler's "Chem. Engrg. Economics," 1949; one section of Perry's "Chem. Engrs. Handbook," 1950. Mem.: A.C.S., A.I.Ch.E., Sigma Xi. Club: Yale Faculty. Hobby: music.

BLITZ, Baxter Skinner, chf. plant engr., Am. Cyanamid Co., Willow Island, W.Va.
Chem. engr.; b. Minneapolis, Minn., July 19, 1912; s. of Ralph S. and Frances Blitz; ed. U. Colo., B.S.Ch.E., 1936 (spec. hons.); mem.: Delta Tau Delta, Tau Beta Pi, Sigma Tau, Alpha Chi Sigma; m. Harriet A., Dec. 24, 1941; ch.: Pamela Rae, Ralph H., Robert G. 1936-41 Calco Chem. Div., Am. Cyanamid Co., engr.; 1941-45 Vanadium Corp. of Am., Mill supt.; 1945 to date Calco Chem. Div., Am. Cyanamid Co., chf. plant engr., Willow Island plant. Concentration of vanadium ores, 1944; mem.: A.I.Ch.E., A.S.T.M., W.Va. Soc. Prof. Engrs. Clubs: St. Marys (W.Va.), C.C.

BLOCH, Henry Simon, res. assoc., dept. of surgery, U. of Minn., Minneapolis 14, Minn.; res. 2357 Carter Ave., St. Paul 8, Minn.
Chem.; b. Munich, Germany, Jan. 27, 1916; s. of Alfred and Martha Bloch; ed. Diploma, Technikum Kanton Zurich, Switzerland, 1939; Ph.D. org. chem., U. of Cincinnati, 1946; m. Maxene Rae Hubbard, Nov. 10, 1946. Asst., dept. of biochem., Columbia U., 1939-41; res. asst., U. of Cincinnati, dept. of medicine, 1941-46; chem., Heyden Chem. Corp., N.Y., 1946-47; sr. chem., Pyridium Corp., Yonkers, N.Y., 1947-48; res. assoc., dept. surgery, U. of Minn., 1948 to date. Publ. on org. syn., radioactive org. cmpds., sulfonamides, gastric physiology. Mem.: A.C.S., A.A.A.S., Sigma Xi, Phi Lambda Upsilon. Hobbies: travel, swimming, hiking, bridge, chess.

BLOCK, Seymour Stanton, assoc. prof. chem. engr., U. Fla., Gainesville, Fla., res. 629 S.W. 9 St.
Chem.; b. N.Y.C., May 16, 1918; s. of Mark and Frances Block; ed. Pa. St. Coll.; m. Gertrude Hecht, Sept. 29, 1942; ch.: Sara Ellen, Judith Claire. 1939-40 fellowship, Am. Potash Inst.; 1940-42 fellowship, Am. Tobacco Co.; 1942— res. chem. Jos. E. Seagram & Sons, Inc.; 1942 to date engr., ind. exp. sta. U. Fla. Res. in fermentation, prevention of tropical deterioration, insect contr. Contrib. to sc. and tech. jls.; mem.: A.C.S. (editor, secy.-treas., chmn.-elect, Fla. sect.); Soc. Ind. Microbiol., Sigma Xi, Am. Wood Preservers Assn.

BLODGETT, Robert Bell, chf. chem., Robbins Mills, Inc., Clarksville, Va.; res. Clarksville.
Chem.; b. Milwaukee, Wisc., Feb. 2, 1916; s. of Walter E. and Jessie (Bell) Blodgett; ed. Northwestern U., B.S. highest distinction 1937; U. of Wisc. Ph.D.; mem.: Sigma Nu, Alpha Chi Sigma; m. Marilyn Frank, July 1, 1939; ch.: Carol Anne, Robert Bell, Jr. Res. chem., du Pont Rayon Dept., 1940-46; res. supvr., du Pont Rayon Dept., 1946-48; chf. chem. Robbins Mills, 1948 to date. Mem.: Phi Beta Kappa, A.C.S., A.A.&C.C., Sigma Xi. Vice-chmn., Mecklenburg District, Boy Scouts of Am. Hobbies: scouting, golf, gardening, chess, photography.

BLONDHEIM, William Somerville, plant mgr., U.S. Indust. Chems., Inc., 1701-1901 Patapsco Ave., Balto. 30, Md., res. 427 Drury Lane, Balto. 29.
Chem. engr.; b. Tuscaloosa, Ala., Aug. 6, 1905; s. of Philip Walloch and Florence Strickland Blondheim; ed. U. Ala., B.S. Chem. Engr. 1927; mem.: Tau Beta Pi; m. Henrietta Watts, 1932. 1927-29 res. chem.; 1930-31 asst. res. engr.; 1931-33 res. engr.; 1934-37 supvr., Cellulose Acetate Operations; 1937-41 tech. supvr., Fairfield plant; 1941-43 mgr., Pensacola, Fla. plant; 1944-45 mgr. Fairfield plant; 1945 to date mgr.; mem.: A.C.S., A.I.Ch.E., Reg. Chem. Engr.

BLOOD, Frank Raymond, assoc. prof. of biochem., Vanderbilt U. Medical School.
Prof., b. Denver, Colo., Sept. 13, 1910; s. of Raymond F. and Rose (Banick) Blood; ed. B.S. Ch.E., U. of Denver 1934; Ph.D. (Biol. chem.) U. of Mich. 1940; mem.: Gamma Alpha; m. Ethel S. Peterson, Dec. 28, 1935; ch.: Sally Sue. Jr. biochem., E. I. du Pont de Nemours & Co. Inc., Wilmington, Del., 1935-36; grad. asst., N. of Mich., Ann Arbor, Mich., 1936-40; sr. biochem., Haskell Lab., E. I. du Pont, Wilmington, 1940-42; prof. of chem., U. of Denver, dept. chem. 1942-50; assoc. prof. biochem. Vanderbilt U. dept. biochem., 1950 Res. in metabolism, ind. toxicol. & high altitude physiol. Co-author: "A Manual for Lab. Wk. in Mammalian Physiol." U. of Chicago Press, 1948. Mem.: A.C.S., S.E.B.M., Am. Physiolog. Soc., A.A.A.S., Sigma Xi, Phi Lambda Upsilon. Club: Teknik. Hobbies: glass blowing, woodworking, photography.

BLOOM, Edgar Bennett, prof. of chem., Howard Coll., Birmingham 6, Ala.; res. 7621 Second Ave. S., Birmingham.
Prof.; b. Bluffton, Ohio, Jan. 21, 1900; s. of William F. and Mary (Fox) Bloom; ed. Hiram Coll. A.B. 1923; Ohio State U., M.Sc. 1926, Ph.D. 1928; m. Constance Vivian Lepard, June 3, 1928; ch.: Mary Constance, Ruth Leota. Instr. of chem. & Columbian Carbon Fellow, Lehigh U. 1928-30; res. chem., Roessler & Hasslacher

Chem. Co., Niagara Falls, N.Y., 1930-31; supt. of schls., Nelson & Randolph Townships, Portage County, Ohio, 1932-41; ordnance inspector of powder and explosives, Ravenna Ord. Plant, Apco, Ohio, 1941-43; instr. of physics, Hiram Coll. & Toledo U., (Army Air Corps) 1944; asst. prof. & acting hd. of dept. of chem., U. of Vermont 1944-46; assoc. prof. Youngstown Coll., 1946-49; prof. of chem., Howard Coll., 1949 to date. Co-author: "Thermal Treat. of Natural Gas," Ind. & Engrg. Chem., Vol. 21, page 945, Oct., 1929. "Preparation of a Pure Carbon" by the late Dr. Jesse E. Day and students. Ind. & Engrg. Chem, Feb., 1936. Mem.: A.C.S., Phi Lambda Upsilon, Gamma Alpha, Sigma Xi, Ala. Acad. of Sc. Hobbies: gardening, farming, horseshoe.

BLOOM, Jack, chf. chem., Continental Coffee Co., Inc., 371 W. Ontario St., Chicago, Ill., res. 1349 Touhy Ave., Chicago 26.
Chem.; b. Centerville, Ia., May 4, 1919; s. of Esrael and Anna Bloom; ed. U. Chicago, B.S. 1940; Ph.D. 1945; mem.: Sigma Xi; m. Minette Krainer, Mar. 26, 1944; ch.: Donald, Stewart. Chem., Continental Foods Inc., 1940; chem., Continental Coffee Co, 1941-45; chf. chem., 1946 to date. Res. in kinetics of reactions during coffee roasting; prevention of rancidity of edible oil-in-water emulsions; mem.: A.C.S., I.F.T., A.A.A.S., Sigma Xi. Hobbies: golf, cooking.

BLOOM, Mortimer C., conslt., metall. div., Naval Research Lab., Wash. 25, D.C.; res. 4028 Nichols Ave., S.W., Wash. 20.
Res.; b. Boston, Mass., Dec. 13, 1899; s. of Jacob and Augusta (Lewjinska) Bloom; ed. Harvard; Northeastern (law), 1917-18; M.I.T., 1918-24; B.S., 1930-33; Ph.D., 1938; mem.: Alpha Xi Epsilon; unmarried. 1922-24, first resident chem. engr., Hollingsworth & Vose Paper Co., Croton plant; 1924-25, chf. res. chem.; 1925-28, dir. res., Tide Water Oil Co.; 1929-34, grad. study & asst. inorg. chem. & physical chem., M.I.T.; 1934-35, lecturer, quali. analysis, Franklin Union Tech. Inst., Boston; 1935-37, res. assoc. in mineralogy, M.I.T.; 1939-41, res. chem.; 1941-45, res. assoc., M.I.T.; 1945-49, res. conslt., Genl. Communication Co., Fed. Tel. & Radio Corp., & others; 1949 to date, conslt., metall. div., Naval Res. Lab., Wash., D.C. Contrib. to sc. literature on genesis polymorphous forms. 6 British, 5 Australian, 2 Canadian, 2 U.S. & 1 Belgian pats. relating to antimony & selenium. Mem.: Alpha Chi Sigma, Sigma Xi, A.C.S., Am. Electroplaters' Soc., Am. Crystallographic Assoc., Electrochem. Soc., A.S.M. Hobbies: tennis, birds, hiking.

BLOOR, Walter Ray, prof. of biochem., emer., 260 Crittenden Blvd, Rochester 7, N.Y.; res. 881 Ballantyne Rd., Scottsville, N.Y.
Prof.; b. Ingersoll, Ontario, Can., July 2, 1877; s. of George and Elizabeth (Bell) Bloor; ed. public & high schls. in Ingersoll; M.A. Queens U., Kingston, Ont., Can., 1902, LL.D. 1945; A.M. Harvard 1908, Ph.D. 1911. Professional teachers training Ontario Normal Coll. 1903; m. Cleo Holt, 1904; ch.: John Holt (deceased), Norma, Robert John. Teacher at district No. 3, Dereham Tp., Oxford Co., Ontario, 3 yrs.; instr. & asst. prof. of chem., Wash. State Coll., Pullman, Wash., 4 yrs.; grad. stud. & asst., Harvard Med. Schl., 1907-10; assoc. biochem., Wash. U. Med., St. Louis, Mo., 1910-14; asst. prof. biochem., Harvard Med. Schl., 1914-18; prof. of biochem, U. of Calif., 1918-22; prof. of biochem., U. of Rochester, 1922-47 then emer. Res. on fat metabolism. Biochem. of the Fatty Acids A.C.S. Monograph series No. 93. Mem.: A.C.S., Sigma Xi, A.S.Biol.C., Am. Physiol. Soc., S.E.B.M., A.A-Cl.C. (honorary), Am. Assoc. Biol. Chem. (pres. 2 yrs.), dir. Symposium on Lipids in Life, Gould Foundation (hon.). Hobbies: building trades, machines.

BLOUT, Elkan Rogers, assoc. dir. of res., Polaroid Corp., 730 Main St., Cambridge 39, Mass.; res. 5 Sedgwick Rd., Cambridge 38.
Chem.; b. N.Y.C., July 2, 1919; s. of Eugene and Lillian Blout; ed. Princeton, A.B., 1939; Columbia, Ph.D. 1942; Harvard (Natl. Res. Council Fellow) 1942-43; m. Joan Dreyfus, 1939; ch.: James E., Susan L., William L. Polaroid Corp., hd. of chem. res., 1943-48, assoc. dir. of res. 1948 to date; Children's Medical Center, conslt. in biophysical chem., 1949 to date. Author or co-author of about 30 papers, mainly on ultraviolet & infrared spectroscopy. "Monomers," E.R. Blout, W.H. Hohenstein, & H. Mark, co-editor (Intersc. Publ. Inc., N.Y.), 1949. Mem.: A.A.A.S., A.C.S., Opt.S.A., Sigma Xi.

BLUE, E. Morse, sr. res. engr., Calif. Res. Corp., Richmond, Calif, res. 1069 Harvard Rd., Piedmont, Calif.
Chem. engr.; b. Spokane, Wash., June 27, 1912; s. of Louis and Amelia Dias Blue; ed. B.S. 1935 U. Calif.; S.M. 1937 M.I.T.; m. Harriet Tieburg, Sept. 2, 1938; ch.: William Alan, Bonnie Anne, Thomas Charles. 1938-41 res. & dev. dept., Stand. Oil Co. of Calif., chem. engr.; 1941-45 U.S.N., Commander, U.S.N.R.; 1945 to date Calif. Res. Corp.; mem.: A.C.S., A.I.Ch.E., Reg. Prof. Engr., State of Calif.

BLUM, George Walter, asst. prof. of chem. engrg., Case Inst. of Tech., Cleveland, Ohio; res. 12617 Phillips Ave., E. Cleveland, Ohio.
Chem. engr.; b. Pittsburgh, Pa., 1912; s. of Louis P. and Clara M. Blum; ed. U. of Pittsburgh, B.S. in Ch.E. 1934; Pa. State Coll., M.S. (Ch.E.); mem.: Alpha Chi Sigma, Phi Lambda Upsilon; m. Ruth Pennington, June 22, 1940; ch.: Margaret P., Phyllis H. Asst. chem. engr., Gulf Oil Corp., Phila., Pa., 1934-38; res. asst., Pa. State Coll., 1938-40; chem. engr., Houdry Process Corp., 1940-44; lab. dir., Hawley Prod. Co., St. Charles, Ill., 1944-46; process engr., Stand. Oil (Ind.) Whiting, Ill., 1946-48. Mem.: A.C.S. (rubber, polymers & pet. div.), A I.Ch.E., S.P.E., A.A.U.P. Hobby: music.

BLUM, Paul, owner, Paul Blum Co., 315-319 Larkin St., Buffalo 10, N.Y.; res. 235 Doncaster Rd., Kenmore 17, N.Y.
Exec.; b. Aug. 5, 1904; work in industrial chemicals; recovery and utilization of chemical by-products and residues; also thermoplastics.

BLUM, William, chf. electrodeposition sect., asst. chf. chem. div., Natl. Bu. of Stand., Wash., D.C.; res. 215 Elm St., Chevy Chase 15, Md.
Chem.; b. Phila., Pa., Dec. 28, 1881; s. of Jacob and Katherine (Hoffman) Blum; ed. U. of Pa., B.S. in chem., 1903; Ph.D. 1908; m. Willetta Carr Baylis, Sept. 20, 1910; ch.: William, Jr. Instr. & asst. prof. of chem., U. of Utah, 1903-09; chem., Natl. Bu. Stand., 1909 to date. Res. in anal. chem.; res. in electrochem., incl. electroplating, electrotyping, & corrosion. Co-author: "Principles of Electroplating & Electroforming," 1st edit., 1924; 2nd edit., 1930; 3rd edit., 1949. Mem.: A.C.S., E.S., A.S.T.M., A.E.S. (Hon.), Faraday Soc., Electrodepositors Tech. Soc. Awards: M. of A.I.C. (1926); Acheson M. of Electrochem. Soc. 1944. Clubs: Cosmos, (Wash., D.C.); Chemists' (N.Y.). Hobby: fishing.

BLUMBERG, Harold (Dr.) hd., biolog. labs., Endo Prods., Inc., Richmond Hill 18, N.Y.; res. 147-19 69th Rd., Flushing, N.Y.
Biologist, toxicologist; b. Fairmont, W.Va., June

19, 1909; s. of Michael M. and Anna Blumberg; ed. 1926-30, W.Va. U., Morgantown, W.Va. & Johns Hopkins U., Baltimore, Md.; 1930-33, Johns Hopkins Schl. of Hygiene & Public Health, Doctor of Sc. 1933; mem.: Pi Lambda Phi; m. Dorothy Drasnin, Sept. 1, 1934; ch.: Mark Allan. 1933-35, asst. in pediatrics, Johns Hopkins Medical Schl.; 1934-35, N.R.C. fellow, dept. of biochem., Johns Hopkins Schl. of Hygiene; 1935-36, res. instr. in pediatrics, Johns Hopkins Medical Schl.; 1936-38, assoc. biochem., U.S. Public Health Service, Wash., D.C.; 1938-42, res. biochem., dept. biochem., Johns Hopkins Schl. of Hygiene; 1942-44, assoc. toxicologist, Army Ind. Hygiene Lab., Baltimore, Md.; 1944-47, sr. biochem., Sterling-Winthrop Res. Inst., Rensselaer, N.Y.; 1947 to date, hd., biolog. labs., Endo Prods. Inc., Richmond Hill, N.Y. Spectrographic estimation of blood lead in diagnosis of lead poisoning; argyria & argyremia; choline in prevention & treat. of experimental & clinical cirrhosis of liver, biolog. availability of different forms of iron, toxicology of new mercurial diuretics. Mem.: A.A.S., A.C.S., A.P.H.A., Am. Inst. of Nutrition, N.Y. Acad. of Sc., S.E.B.M., Sigma Xi, Metropolitan L.I. Group (A.C.S.).

BLUME, Paul Wilson, secy., dir. market res. & dev., Mich. Chem. Corp., St. Louis, Mich., res. R. No. 2, St. Louis.
Chem. engr.; b. Wellston, Ohio, s. of William T. and Mary Edith Toumine Blume; ed. Ohio St. U., 1932 B.Ch.E.; 1933 M.S. Chem. Engr.; mem.: Sigma Phi Epsilon; m. Lodema Katherine Townsend, June 16, 1946. Lowe Bros. Co. 1933 chem.; Sharples Solvents Corp. 1934-37 dev. chem.; 1937-40 chf. plant chem.; Niagara Alkali Co. 1940-44 res. chem.; Leonard Refineries 1944-45 chf. res. chem.; Mich. Chem. Co. 1945-49 market dev. engr.; 1949 to date corp. secy., dir. market res. & dev.; mem.: A.C.S., A.I.C., A.I.Ch.E. Hobbies: fishing, golf, photography.

BLUMENTHAL, Warren Barnett, chf. Chem. Div. (Research), Titanium Alloy Mfg. Div. of the Natl. Lead Co.; res. 544 82nd St., Niagara Falls, N.Y.
Chem.; b. New Orleans, La., Nov. 9, 1912; s. of Julian H. and Xariffa L. (Barnett) Blumenthal; ed. Cornell U., B.A. (with honors in chem.) 1933; mem.: Phi Delta Mu; m. Helen Sayetta, Mar. 26, 1939. 1933-34 anal. chem. The Metropolitan Refin. Co.; 1934-45 res. chem. The Ansbacher-Siegle Corp.; 1945 to date res. chem. The Titanium Alloy Mfg. Co.; name changed in Oct., 1948 to The Titanium Alloy Mfg. Div. of the Natl. Lead Co.; since Apr., 1948 chf. of Chem. Div.; notable wk.: inventor of zirconium pigment toners; author of orig. studies on zirconium water-repellents, the chem. and tech. of zirconium and its compds., and the preparation of pure oxides and tetraiodide of titanium. Contrib. arts. to sc. and trade jls. Mem.: A.C.S., A.I.C. (fellow); Electrons Soc. (Niagara Falls, N.Y.). Hobby: boating.

BLUMER, Donald Robert, dev. chem., Chem. Lab., Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave., S., Minneapolis 8, Minn.; res. 69 N. Griggs St., Apt. 4, St. Paul 5, Minn.
Res. & dev. chem.; b. Mantorville, Minn., June 17, 1906; s. of Balthasar and Phillipphena (Figy) Blumer; ed. 1923-27, U. of S.D., Vermillion, A.B., summa cum laude, honors Warden of Nelson Shield, Clark M. Young Prize; 1927-31, U. of Minn., Minneapolis, Ph.D.; mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon. Asst. in math., U. of S.D., Vemillion, 1926-27; teaching asst. in chem., U. of Minn., Minneapolis, 1927-30; anal. chem., Gen. Elec. Co., Pittsfield, Mass., 1931-33; res. fellow, res. assoc., Schl. of Mineral Industries, Pa. State Coll., State College, 1933-37; sr. res. chem., res. dept., Phillips Pet. Co., Bartlesville, Okla., 1937-47; res. assoc., Naval Ordnance Res. Lab., U. of Minn., Minneapolis, 1947-48; dev. chem., Minneapolis-Honeywell Regulator Co., Minneapolis, 1949 to date. Res. on thermodynamics of aqueous solutions, chem. utilization of gaseous hydrocarbons, syn. rubber & aviation gasoline constituents, fuel additives, spectrographic measurement of flame temps. & chem. type humidity elements; translation of U.S. Tech. Oil Mission captured German documents. Mem.: A.C.S. Club: U. of Minn. Campus (former mem. 1947-48). Hobby: reading technical literature.

BLUTHARDT, Oscar D., v.p. in chge. of sales, R.B.H. Dispersions Div., Interchem. Corp., Bound Brook, N.J.; res. 40 Mali Drive, North Plainfield, N.J.
Exec.; b. Chicago, Ill., Oct. 12, 1899; s. of Gustave and Marie M. (Jobst) Bluthardt; ed. U. of Ill., B.S. in chem. 1922; mem.: Delta Upsilon; m. Dixie L. Churchill, Nov. 24, 1938; ch.: David Churchill. 1922-24 lab., Robert W. Hunt Co., Chicago; 1924-30 tech. sales, Innis, Speiden & Co., Chicago; 1930 to date with R.B.H. Dispersions Div. of Interchemical Corp.; tech. sales 1930-38; sales mgr. 1938-40; v.p. 1940 to date. Mem.: A.C.S. Club: Chemists'. Hobbies: music, gardening, athletics.

BLYLER, Lee Landis, v.p., chem. dir., Compo Chem. Co., Inc., Compo Shoe Mach. Corp., 150 Causeway St., Boston, Mass.; res. 45 Chestnut St., Sharon, Mass.
Chem. engr.; b. Reading, Pa., Mch. 9, 1910; s. of Homer C. and Anna (Landis) Blyler; ed. Princeton U., B.S. in Eng. (high hons.), Ch.E.; mem.: Sigma Xi; m. Betty G. Bernheiser, June 22, 1935; ch.: Lee L., Jr., Nancy Louise. 1934-38, du Pont Co., nitrocellulose prod. supvr., 1938-41, res. hd., 1941-45 adhesives res.; 1945-48, Compo Shoe Mach. Corp., chf. chem.; 1948-50, Compo Chem. Co., Inc., v.p.; 1950 to date, Compo Shoe Mach. Corp., chem. dir., Compo Chem. Co., Inc., v.p. Res. in mfr. of cellulose nitrate, polyvinyl resin adhesive composition, adhesive joining materials; holds several pats. Mem.: Sigma Xi, A.S.T.M. (comm. D-14 on adhesives), New Eng. Paint, Varnish & Lacquer Assn., Boston Rubber Group. Club: Rotary. Hobbies: baseball, basketball, gardening.

BOARTS, Robert Marsh, Jr., hd. dept. chem. engr., U. of Tenn., Knoxville 16, Tenn.; res. R. 1, Concord, Tenn.
Chem. engr.; b. Kittanning, Pa., Feb. 2, 1904; s. of R.M.., Sr. and Annie C. (Fleming) Boarts; ed. B.S. in Ch.E., Lafayette Coll. 1926; M.S.E. & Ph.D., U. of Mich. 1932 & 1937; U. Fellow in chem. engr., U. of Mich. 1933-34; mem.: Kappa Delta Rho, Alpha Chi Sigma; m. Margaret A. Kapp, June 14, 1933. Sr. insp. const., Detroit Water Bd., 1927-29; chem. engr. & chf. draftsman, Comstock & Westcott, Niagara Falls, 1929-31; asst. prof., assoc. prof., prof., U. of Tenn., 1934 to date; also asst., assoc. & chem. engr., T.V.A., 1934-48 and conslt., T.V.A. 1948 to date; principal physicist, Clinton Lab. (Monsanto Chem. Co.) Oak Ridge, Tenn., 1946-47, conslt. 1948; conslt., Bu. of Mines 1939-41; conslt., Oak Ridge Nat. Lab., (Carbide & Carbon Chem. Corp.) 1948 to date. Reports & arts. on engrg. education. Mem.: Sigma Xi, Tau Beta Pi, Phi Kappa Phi, A.I.Ch.E., A.C.S., Knoxville Tech. Soc., A.S.E.E. Clubs: U. Faculty, Knoxville Sc. Hobby: mem. Knoxville Symphony orchestra.

BOBALEK, Edward G., asst. prof of chem., Case Inst. of Tech., Cleveland 6, Ohio; res. 2309 Lamberton Rd., Cleveland Heights 18, Ohio.
Chem.; b. Chicago, Ill., Oct. 13, 1915; s. of Ste-

phen J. and Amelia (Peterka) Bobalek; ed. St. Mary's Coll., Minn., B.S. 1938, Creighton U. M.S. 1940, Chicago U. 1939, Indiana U. Ph.D. 1942; mem.: Phi Lambda Upsilon, Delta Epsilon Sigma, Sigma Xi; m. Marie Roemer, Aug. 22, 1942; ch.: Stephen Joseph, Margaret Mary. Res. chem., Dow Chem. Co., 1942-45; mgr. of resin res., ARCO Cleveland, Ohio, 1945-49; asst. prof. of chem., Case Inst. of Tech., 1950 to date. Acid base theory in non-aqueous solutions; electrochem. of non-acqueous solutions; kinetics of org. reactions; anal. methods for trace. impurities in light mtl. alloys; solub. of gases in mtl. alloys; adsorption properties of carbon black; physical chem. of polymerization; paint & varn. tech.; org. syn. of resins. Mem.: A.C.S., Natl. Fed. of Paint & Varn. Prod. Clubs. Hobbies: hunting, angling, photography, music.

BOCK, Edward John, Jr., plant mgr., Monsanto Chem. Co., Monsanto, Tenn., (Columbia, Tenn.); res. Mt. Pleasant Pike, Columbia.
Mech. engr.; b. Ft. Dodge, Iowa, Sept. 1, 1916; s. of Edward John and Maude (Juday) Bock; ed. Iowa State Coll. of Mech. Arts, Ames, Iowa, B.S. in mech. engr. 1938; M.S. in mech. engr. 1940; Cardinal Key Guard of St. Patrick; All American 1938; Capt. of football team; mem.: Sigma Chi (pres.); m. Ruth Kunerth, Aug. 9, 1941; ch.: Barbara, Edward III, Nancy, Roger. Positions held with Monsanto Chem. Co.: mech. engr., phosphate div. engr., Anniston, Ala., 1941; asst. plant engr., Trenton, Mich. plant, 1941-45; asst. supvr. in mech. engr. group (chg. of design wk.) phosphate div. engr., Anniston, Ala., 1945-46; maintenance supt., Tenn. plant 1946-48; plant mgr., Monsanto, Tenn. plant 1948 to date. Mem.: A.S.M.E. Bd. mem., Hospital Building Comm., Columbia, Tenn.; bd. of dir., Community Chest; mem. Chamber of Comm. Clubs: Rotary, Graymere Country. Hobbies: sports, hunting, fishing, photography, reading.

BOCKELMANN, Dr. John Burggraf, tech. dir., F. & M. Schaefer Brewing Co., 430 Kent Ave., Brooklyn 11, N.Y.; res. 40 Sussex Rd., Tenafly, N.J.
Chem. engr.; b. Union City, N.J., July 24, 1915; s. of John Frederick and Melita (Haas) Bockelmann; ed. Columbia U.: Columbia Coll. A.B. 1937; Schl. of Engrg. B.S. 1938, Ch.E. 1939; grad. faculties Ph.D. 1941; mem.: Phi Lambda Upsilon, Tau Beta Pi, Sigma Xi; m. Joan Elizabeth Bader, June 27, 1942; ch.: John Louis, Barbara Elizabeth, George Fredrick. June, 1941-Sept. 1945, Colgate-Palmolive-Peet Co.: sr. project leader, Soaps Div. of Res. & Dev. Dept., Sept., 1945 to date; F. & M. Schaefer Brewing Co.; Sept., 1945 to Aug., 1947 process engr; Aug., 1947-July, 1949 asst. tech. dir.; July, 1949 to date tech. dir. Thesis "Solub. studies employing solvents near their critical temp." This is some of the early wk. (1939-41) which forms basis of Solexol Process of the M.W. Kellogg Co. - refining vegetable oils, etc. Author: "Transactions of the Am. Inst. of Chem. Engrs." Vol. 38 pp. 891-930 (1942). "Liquid - Liquid Extraction Employing Solvents in the Region of their Critical Temp." Mem.: A.A.A.S., A.C.S., A.S.Brew.C., S.A.B., I.FT Hobbies: color photography, swimming

BOCKSTAHLER, Earl Reber, res. chem., Pitman-Moore Co., Div. of Allied Labs., Inc., Box 1656, Indianapolis 6, Ind.; res. 847 N. Tacoma Ave., Indianapolis 1.
Org. res. chem.; b. Boonville, Ind., Feb. 2, 1910; s. of William J.G. and Julia Ann (Reber) Bockstahler; ed. Yale U. B.S. 1930, Ph.D. 1934; duPont Fellow 1932-33; mem.: Sigma Xi, Alpha Chi Sigma; m. Gertrude B. Ebner, Aug. 1, 1937; ch.: Ann Louise, William Charles. Res. chem. (org. syn.) with Pittman-Moore Co., Div. of Allied Labs., Inc., 1934 to date. Mem.: A.C.S., Yale Chem. Assn., A.A.A.S. Hobbies: color photography, flower gardening (mem. of American Iris Soc.), correspondence chess.

BODDICKER, Floyd Leonard, plant mgr., Cell. Prods. Dept., Hercules Powder Co., Hopewell, Va.; res. 1653 Monticello Ave., Petersburg, Va.
Chem., mgr.; b. Newhall, Iowa, Feb. 24, 1906; s. of Joe G. and Frances M. (Brecht) Boddicker; ed. Newhall H.S., 1923, class valedictorian; S.U.I., Iowa City, 1927, B.A. in chem.; mem.: Alpha Chi Sigma; m. Johanna Buckley, June 27, 1931; ch.: Mary Frances, Robert Joseph. Chem., acid supvr., smokeless pdr. supvr., dynamite supvr., Hercules Powder Co., Kenvil, N.J., 1927-36; asst. supt. of plant at Ishpeming, Mich., 1936-37; Explosive Dept. (Home Office), Wilmington, Del., 1937-39; asst. supt. of plant at Kenvil, N.J., 1939-41; smokeless powdr. supt., asst. mgr., Radford Ordn. Wks., Radford, Va., 1941-42; operating mgr., Badger Ordn. Wks., Baraboo, Wis., 1942-45; mgr., Sunflower Ordn. Wks., Lawrence, Kan., Sept. and Oct., 1945; present position, plant mgr. Cellulose Prods. Dept., Hercules Powder Co., Hopewell, Va., since Nov. 1, 1945; notable wk.: aided in dev. of solventless smokeless powdr. for trench mortars and rockets beginning 1935 thru 1945; holds two smokeless pats. Club: Petersburg (Va.) Country. Hobbies: golf, hunting, photography, bowling.

BODMAN, Fenimore Lewis, pres. F.L. Bodman, Inc., 328 Chestnut St., Phila., Pa.; res. Eagle Rd. & Woodland Ct., Wayne, Pa.
Mfrs. rep.; b. Bement, Ill., Sept. 30, 1875; s. of Frank H. and Clara Ellen Bodman; ed. Peoria, Ill. H.S.; Princeton U. class of 1897; m. Maud Hayden Rogers, Feb. 16, 1904; ch.: Lewis H., Warren H., Jean. 1897-1900 Milford Shoe Co., Milford, Mass.; 1900-04, Parke Davis & Co., Detroit, Mich.; 1904-27 Powers-Weightman-Rosengarten Co., Phila.; 1927-33, Merck & Co. Inc., Rahway, N.J.; 1933 to date, F.L. Bodman, Inc., Phila. Clubs: Princeton, (Phla.); Racquet, (Phila.); St. Davids Golf (Wayne, Pa.)

BODMAN, John Morgan, edible oil proc. supt., Lever Bros. Co., Indianapolis Blvd., Hammond, Ind.; res. 6635 Monroe Ave.
Supt. Mfg. operations; b. Kans. City, Kans., May 30, 1908; s. of George Pratt and Luella Clara McCracken Bodman; ed. Wash. St. Coll., Pullman, Wash., B.S. Hydroelectr. Engr. 1930; scholastic hons.; mem.: Sigma Tau, Tau Beta Pi; m. Helen Shepard Bradley, May 19, 1934; ch.: Marjorie Helen, Timothy Pratt, John Morgan, Jr., Priscilla Diane. 1925-30 Timberland & Railroad Location surveyor, Saginaw Logging Co., Aberdeen, Wash.; 1930-31 Electrical Engr., G.E. Co., Schenectady, N.Y.; 1931 to date successive supvr. positions in soap, shortening, margarine, salad dressing mfg. operations Lever Bros. Co.; mem.: A.O.C.S., A.I.Ch.E.; mem. Bd. Dirs., Hammond Community Chest; pres. local P.T.A.; Sr. warden St. Paul's Episcop. Ch., (Hammond, Ind.). Hobbies: travel, reading.

BODMAN, John Whittlesey, technical advisor to the management and board of directors, Lever Bros. Co., 505 Park Ave., New York 22, N.Y.; res. 18 Wedgemere Ave., Winchester, Mass.
Chem. engr.; b. 1888; s. of Joseph D. and Alice M. (Pratt) Bodman; ed. B.S., M.E. 1910, U. of Mo.; Ch.E., 1916, same U.; mem.: Tau Beta Pi; m. Emily Hayward, June 12, 1928; ch.: Priscilla, Winston, Mary Emily, Joan, John, George, Jean. Chem., Peet Bros. Mfg. Co., 1910-12; tech. res. and mgr. of mfg., N.K. Fairbank Co., 1912-18;

contracting chem. engr., 1918-25; dir. of res., Lever Bros. Co., 1925-49; chf. dev. conslt., Lever Bros. Co. 1949 to Sept., 1950; Tech. Advisor to the Management and Board of Directors, Sept., 1950 to date. Res. in soap, glycerine, edible shortenings, hydrogenation of oils, synthetic detergents. Mem.: Glycerine Res. Comm., Assoc. of Amer. Soap & Glycerine Producers, Inc.; A.C.S.; A.I. Ch.E.; A.O.C.S.; A.I.C.; Indus. Res. Inst.; A.A.A.S. Clubs: Corinthian Yacht, (Marblehead, Mass.); Winchester Country. Hobbies: sailing, gardening.

BOECKELER, B. Clark, pres., The Hydrojet Corp., 300 W. Jefferson Ave., Trenton, Mich.; res. 25440 E. River Rd., Grosse Ile, Mich.
Chem. engr.; b. St. Louis, Mo., Sept. 11, 1905; s. of Henry Adolph and Elizabeth (Clark) Boeckeler; ed. A.B., Harvard, 1927; M.S., M.I.T., 1929; m. Barbara Smyth, June 11, 1936; ch.: William Clark, John Clark. 1929-31, Commercial Solvents Corp., res. engr.; 1931-42, The Lummus Co., mgr. Chem. Div.; 1942-47, Boeckeler Associates, pres.; 1947 to date, The Hydrojet Corp., pres. Mem.: A.I.Ch.E. Club: Chemists'.

BOEHM, Robert M., dir. of res., Masonite Corp., Laurel, Miss.; res. 1134 Seventh Ave., Laurel.
Res. dir; b. Wausau, Wis., Oct. 6, 1903; s. of Max E. and Emma B. (Ziebell) Boehm; ed. Ripon Coll., Ripon, Wis. A.B.; m. Cora Jane Graves, 1931; ch.: Geraldine J., Patricia A., Robert M. Jr. Pt. Huron Sulphite Pulp & Paper Co., 1923-24; Ontonagon Fiber Co., 1924-25; Wolf River Paper & Fiber Co., 1924-25; Am. Pulp Corp., 1925-27; Cornell Wood Prods. Co., 1927-28; Celotex Co., 1928-29; Masonite Corp., 1929 to date. U.S. Pats. issued with R.M. Boehm as patentee or co-patentee, 13 U.S. Pats., 26 foreign pats. Mem.: A.C.S., S.C.I., T.A.P.P.I., A.I.Ch.E., Miss. Acad of Sc., A.A.A.S., Forest Prod. Res. Soc., (corresp. mem.); Northeastern Wood Utilization; chmn. troop comm. council, Boy Scouts of Am. Clubs: Laurel Country, Lake Shore. Hobbies: golf, fishing, hunting.

BOGART, Marcel J.P., process spec., The Lummus Co., 385 Madison Ave., New York 17, N.Y.; res. 1210 Sunnyside Ave., Mamaroneck, N.Y.
Chem. engr.; b. Paris, France, April 14, 1913; s. of Robert L. and Raymonde L. Bogart; ed. 1933, B.S. Ch.E., Cooper Union Inst. of Tech.; U. of Mich., M.S.E., 1934; mem.: Lambda Sigma Kappa; m. Pauline A. Lockwood, Feb. 23, 1947; ch.: Deborah Louise. 1935-49, process engr., The Lummus Co.; 1949-to date, process spec. The Lummus Co.; 1947-to date, Special guest lecturer, Dept. of chem. engr., Columbia U. Res. on distillation and extraction. Improvements in the manufacture of synthetic phenol.; high pressure selective absorption of hydrocarbons. Publications in technical magazines and transactions. Mem.: A.I.Ch.E., Assoc. member of Soc. of Sigma Xi. Hobbies: color photog., woodworking.

BOGERT, Marston Taylor, emer. prof. Columbia U.; sr. sci. conslt., and advisor, Evans Res. & Dev. Corp., 250 E. 43 St., N.Y. 17.; res. 1158 Fifth Ave., New York 29.
Chem.; b. Flushing, N.Y., Apr. 18, 1868; s. of Henry Augustine and Mary Bowne (Lawrence) Bogert; ed. Ph.B., 1894; Sc.D., 1929, Columbia; LL.D., 1909, Clark U.; R.N.D., 1928, Charles Univ., Prague; mem.: Delta Phi, Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma; m. Charlotte E. Hoogland, Sept. 12, 1893; ch.: Annette Hoogland (Mrs. Frank B. Taillman); Charlotte Elise Bowden (Mrs. Frederic K. Huber). Asst. in org. chem., Columbia U., 1894-97; tutor, July 1, 1897; instr., 1897-1901; adjunct prof., July 1, 1901; prof. July 1, 1904; emer. prof. in residence, 1939-42; emer. prof. 1942 to date; notable wk.: rebuilding the Internatl. Union of Chem., 1946-48; res. in the thiazoles, quinazolines, perfumes; over 400 tech. and sci. pubs. Sr. sci. adv. and conslt., Evans Res. & Dev. Corp.; Dir. 1158 Fifth Ave. Corp.; Mem.: Natl. Acad. of Scs.; A.Phil.S.; A.A.A.S., A.I.C.; Royal Soc. of Edinburgh; Royal Soc. of Sci. & Letters of Bohemia; A.C.S.; British Chem. Soc.; S.C.I.; Societe chimie industrielle de France; Societe chimique de France; Natl. Res. Council; Natl. Inst. of Social Scs.; Internatl. Union of Pure & Applied Chem.; Internatl. Congress of Pure & Applied Chem.; recip. of Nichols Gold M., 1905, N.Y. Sect., A.C.S.; Charles Univ., Prague, 1928, M. of Honor; Comensky Univ., Bratislava, 1928, M. of Honor; A.I.C., 1936, Gold M.; Priestley Gold M., 1938, A.C.S.; Egleston Gold M., 1939, Columbia U..; Soc. of Cosmetic Chems., 1948, Bronze Medallion; Chandller Gold M., 1949, Columbia U.; Medallion of Honor of the 26th Annual Women's Internatl. Exposition 1949; Order of the White Lion of Czechoslovakia, 1928; Large Scroll of the Alumni Assoc. of the Grad. Schl. of Columbia U., 1936; Scroll of the Chemists' Club of N.Y., 1948. Mem.: Bd. of Dirs., Amer. Year Book Corp.; also of Sci. Comm. of the Bd. of Mgrs., N.Y. Botanical Garden. Clubs: Chemists' (N.Y.); The Century (N.Y.) Holland Society of New York, St. Nicholas Society (N.Y.). Hobbies: natural history, org. chem., athletics, botany.

BOGORAD, George J., sales mgr., secy., treas. Seaboard Industries, 195 Keen St., Paterson, N.J.; res. 580 E. 28th St., Paterson.
Sales mgr.; b. Passaic, N.J., Dec. 12, 1913; s. of Samuel and Pauline (Gordon) Bogorad; ed. Natl. Farm Schl., Doylestown, Pa.; m. Lillian R. Blumberg, June 20, 1936; ch.: Isabel Susan, Samuel Gordon. Farm mgr., Pleasantville Farms, Guilford, Conn.; salesman, Natl. Oil and Supply Co., Newark, N.J.; sales mgr., secy., treas. Seaboard Industries, Paterson, N.J. Mem.: A.A.T.C.C., S.A. A.C.I. Hobbies: farming, softball.

BOGROW, Alexander, sr. chem. engr., Arthur D. Little, Inc., 30 Memorial Dr., Cambridge 42, Mass.; res. 157 Elgin St., Newton Centre 59, Mass.
Chem. engr.; b. Russia, Mar. 15, 1911; s. of Bernard and Bertha Bogrow; ed. primary & second. schls. in Russia & Germany; B.S. (hon.) Drexel Inst. of Tech. 1931; M.S. U. of Pa., both in chem. engrg.; m. Rose Berger, Jan. 31, 1945; ch.: Paul Alexander. Chem. engr., Casmite Co., Casmalia, Calif., 1933-34; chem., United Gas Improvement Co., Phila., 1934-36; sr. engr., Central Inst. Aviation Fuels & Oils, Moscow, USSR, 1936-38; chem. engr. Winkler-Koch Engrg. Co., Wichita, Kans., 1938-40; chem. engr., Arthur D. Little, Inc., 1941 to date. Dev. of several pet. refin. & chem. processes. Mem.: A.C.S., A.I.Ch.E. Hobbies: literature, languages, music.

BOGUE, Robert Herman, dir., Portland Cement Assn. Fellowship, Natl. Bu. of Stand., Wash. 25, D.C.
Chem.; b. Southborough, Mass., Sept. 27, 1889; s. of Herbert Edward and Mabel (Bisbee) Bogue; ed. Tufts Coll., B.S. 1912; Mass. State Coll., M.S. 1915; U. of Pitts., Ph.D. 1920; mem.: Phi Beta Kappa, Sigma Xi, Alpha Chi Sigma; m. Bernice Newhall, Dec. 25, 1912; ch.: Robert Edward, Vernora, Stephen Virgil. Instr. in chem., Mass. State Coll., 1912-15; asst. prof. of chem., Montana State Coll., 1915-17; fellow, Mellon Inst. of Ind. Res., 1917-22; assoc. prof. of chem., Lafayette Coll., 1922-24 dir., Portland Cement Assn. Fellowship, Natl. Bu. of Stand. 1924 to date. Hydrolysis & hydration of proteins, chem. of gelatin, nature of colloidal activity, phase equilibria in systems of Portland cement, hydration &

hydrolysis of cement cmpds., volume stability of cement pastes, salt action on cements, etc. Author: "Chem. & Tech. of Gelatin & Glue," 1922; "Colloidal Behavior" 1924; "Chem. of Portland Cement" 1947. Mem.: A.C.S., Am. Concrete Inst., Am. rep. at symposium on chem. of cements, Stockholm, 1938. Mem. of official bd., Lay Leader, mem. of Annual Conference of Methodist Church of Wash., D.C. Club: Cosmos. Hobbies: history, philosophy of religion.

BOLLEY, Don Sheldon, hd., protective coatings dept., Natl. Lead Co., 105 York St., Brooklyn 1, N.Y.; res. Lake Tamarack, Stockholm, N.J.
Chem.; b. Fargo, N.D., June 15, 1908; s. of Prof. Henry Luke and Frances (Sheldon) Bolley; ed. N.D. Agric. Coll. 1925-29 B.S., Polytechnic Inst. of Bklyn. 1930-34 M.S., N.Y.U. 1934-44; mem.: Alpha Kappa Phi; m. Irma Saila, Sept. 18, 1943; ch.: Henry S. Positions held with Natl. Lead Co.: 1929-34, res. chem; 1935-49 hd. org. res. dept; 1950 to date, hd. protective coatings dept. Res. on air oxidation of drying linseed oil film & fundamental invest. on chem. of heat polymerization of linseed oil & other drying oils. Prep. & study of various syn. & modified drying oils as improved vehicles for protective coatings. Mem.: A.C.S., A.O.C.S., A.S.T.M., Torrey Botanical Club, Botany Soc. of Am., Am. Soc. of Plant Physicol., Am. Soybean Assoc. Hobbies: hiking, botany.

BOLLINGER, C. H., chf. chem., Furst-McNess Co., 120 E. Clark St., Freeport, Ill.; res. 1648 S. Locust, Freeport.
Chem.; b. Verona, Ohio, 1883; ed. Miami U. Mem.: A.C.S. Club: Men's Garden (Freeport). Hobby: gardening.

BOLTON, Ellmer Keiser, dir., chem. dept., E.I. du Pont de Nemours & Co., Nemours Bldg., Wilmington, Del.; res. 2310 W. 11th St., Wilmington.
Chem.; b. Phila., Pa., June 23, 1886; s. of George G. and Jane E. (Holt) Bolton; ed. A.B. Bucknell U., 1908, hon. D.Sc. 1932; A.M. Harvard 1910, Ph.D. 1913; student Kaiser Wilhelm Inst. fur Chemie, Berlin 1913-15; mem.: Phi Kappa Psi, Alpha Chi Sigma, Sigma XI; m. Marguerite L. Duncan, Dec. 6, 1916; ch.: Marjorie Louise, Duncan G., Elmer K. Jr. With E.I. du Pont de Nemours & Co. since 1915, successively asst. mgr. Lodi Wks., mgr. org. div. of chem. dept.; dir. chem. sec. of dyestuffs depts., asst. chem. dir. of chem. dept. 1929-30; chem. dir. chem. dept. 1930 to date. Mem.: A.C.S., A.I.Ch.E., A.A.A.S., N.A.S. Awards: Chem. Ind. M. 1941, Perkin M. 1944. Trustee Bucknell U.; mem.: adv. bd. of Rutgers U. Res. Council; visiting comm. Harvard U.; bd. of mgrs. of Wilmington Free Library. Clubs: Wilmington, Wilmington Country, du Pont Country. Hobby: golf.

BOLTON, Harry L., asst. chem. dept. mgr., Phila. Quartz Co., Public Ledger Bldg., Phila. 6, Pa.; res. 336 S. Manoa Rd., Havertown, Pa.
Chem. engr.; b. Macedonia, Ia., Nov. 24, 1907; s. of Harvey and Minnie C. Bolton; ed. Macedonia H.S., State U. of Iowa, Bach. of Sc. in chem. engineering; m. Lucretia Reynolds, July 3, 1934; ch.: Richard Lee. Philadelphia Quartz Co., May 1, 1935 to present. Author: sc. arts in prof. jls. Mem.: A.C.S., A.I.Ch.E., Am. Ceramic Soc., Soc. of Glass Technology. Club: Rolling Green Golf. Hobbies: handicrafts, sports, books.

BOLTON, Philip S., res. & tech. dir., Robert Gair Co. Inc., Uncasville, Conn.; res. 284 Mt. Vernon St., W. Newton, Mass.
Chem. engr.; b. Gorham, Me., Mar. 1, 1893; s. of Sumner C. and Lottie S. Bolton; ed. U. of Me. B.S. chem. engrg. 1913; mem.: Sigma Alpha Epsilon, Alpha Chi Sigma; m. Lillian H. Hunt, May 23, 1918; ch.: Phyllis L. Partington Pulp & Paper Co., St. John, N.B.; Penobscot Chem. Fibre Co, Old Town, Me.; Byron Weston Co., Dalton, Mass.; Huron Milling Co., Harbor Beach, Mich.; Chem. Warfare Serv.; Mansfield, Bolton & Kent, N.Y.C.; Clinton Co., Clinton, Iowa; Robert Gair Co., N.Y.C. Mem.: T.A.P.P.I., A.C.S. Club: Norwich Golf. Hobbies: golf, fishing.

BONARDI, Jack P., sales and chem. engr., 1775 Broadway, N.Y.C.; res. 44 Howell Ave., Larchmont, N.Y.
Sales and chem. engr.; b. Lebanon, N.H., Feb. 3, 1893; s. of John and Matilda (Tanzi) Bonardi; ed. N.H. U., B.S. in Ch. E.; Colo. Schl. of Mines, Metallurg. and Mining Engr.; mem.: Alpha Chi Sigma; m. Mattie Jane Brown, 1922. Asst. chem., N.H. Expt. Sta.; asst. chem. W.Va. Expt. Sta.; asst. chem. U.S. Bur. of Mines at Denver, Seattle, Golden, Ithaca, Reno; mgr. Assay and Chem. Depts., Mine & Smelter Supply Co.; N.Y. mgr. Mine & Smelter Supply Co.; N.Y. rep. of A.R. Wilfley & Sons, Min. and Smelter Supply Co.; Va. Smelting Co.; Great Western Div. of Dow Chem. Co.; Great Western Electro-Chem. Co., E.J. Longyear Co.; res. wk. in radio-activity, rare metals, flotation and ore dressing. Author: Arts. for tech. jls. Mem.: A.I.M.E., A.C.S.; elected to Am. Men of Sci. (1921). Clubs: Rotary (N.Y.); Mining (N.Y.); Teknik (Denver). Hobbies: all outdoor sports.

BOND, Bernard Batson, sr. matls. engr., supvr. chem., physical, metal. labs., Overhaul, Repair Dept., U.S. Naval Air Sta., Pensacola, Fla., res. 308 E. Sunset Ave., Warrington, Fla.
Matls. engr.; b. Wiggins, Miss., Mar. 28, 1906; s. of Willard F. and Susie M. Graham Bond; ed. B.A. (chem. major), Miss. Coll., 1926; m. Laura Lee Traylor, Dec. 24, 1931; ch.: Myrna Rose. Tchr. math, sc., Silver Creek Consol. Sch., Silver Creek, Miss. 1926-27; tchr. math., sc., Raymond Consol. Sch., Raymond, Miss., 1927-28; architectural draftsman, St. Dept. Ed., Jackson, Miss., 1928-30; clerk-bookkeeper, St. Auditor's Off., 1931-32; clerk-bookkeeper, St. Dept. Publ. Welfare, 1932; clerk-typist, Miss. St. Highway Dept., 1933-36; chem., 1936-42; matls. engr., U.S. Naval Air Sta., Pensacola, Fla. 1942 to date. Planned, dev., overhaul, repair dept. labs. at U.S. Naval Air Sta.; The activities of these labs. are not publ. inf.; mem.: A.C.S., (Charter mem., secy. 1948-50, chrmn.-elect 1950-51 Mobile-Pensacola Sect.). Hobbies: botany (dendrology), chess.

BOND, Robert W., sr. chem., Merck & Co. Inc., Rahway, N.J.; res. 801 Bradford Ave., Westfield, N.J.
Chem.; b. Weehawken, N.J., July 9, 1902; s. of George W., Jr., and Anna F. (Wheelan) Bond; ed. Princeton U., A.B., 1923, M.A., 1929, Ph.D., 1933; Columbia U., A.M., 1925; m. Marie Bissig, 1944. Armstrong Cork Co., control chem., 1923; Princeton U., asst. instr., 1925-27 (Princeton, N.J.); Emory U., instr., 1928-32 (Atlanta, Ga.); Morris Co. Junior Coll., instr. and dean, 1933-36 (Morristown, N.J.); Andrew Wilson, Inc., tech. dir. (Springfield, N.J.), 1935-38; Fries & Fries, Inc., res. and devel. (N.Y.C. and Cincinnati, O.), 1938-39; Merck & Co. Inc., res. and devel. (Rahway, N.J.), 1940 to date. Mem.: A.C.S. Clubs: Roselle Golf (Roselle, N.J.), Union Bridge (Westfield, N.J.). Hobbies: golf, bridge, philately.

BOND, Rolston Lyman, asst. chmn. of dept. of chem. & chem. engrg., Armour Res. Foundation, Chicago 16, Ill.
Res. chem.; b. Sioux Falls, S.D., July 27, 1913; s. of Cleveland R. and Emily (Lyman) Bond; ed. 1931-34, Sioux Falls Coll., A.B., cum laude; 1935 M.S., 1940 Ph.D., Pa. State Coll.; m. Esther K.

Fuoss, Aug. 29, 1937; ch.: Barbara J., Kathleen D., Gary R. 1935-38, Pa. State Coll., grad. asst.; 1938-41, Tide Water Associated Oil Co., res. chem.; 1941-43, Natl. Oil Prods. Co., res. chem.; 1943-50, Cities Service Refining Corp., tech. dir. (butadiene div.); 1950 to date, Armour Res. Foundation, asst. chmn. Org. res., lubricants, pet., butadiene. Mem.: A.C.S., A.I.C., Phi Lambda Upsilon, Sigma Pi Sigma.

BONDURANT, Robert Andrew, exec. v.p., gen. mgr., Mich. Chem. Corp., St. Louis, Mich., res. Orchard Hills.
Chem. engr.; b. Roanoke, Va., Dec. 1, 1910; s. of Robert A. and Mary Ella Bondurant; ed. Va. Polytech. Inst., B.S. Chem. Engr. 1932; m. Virginia Hamilton Bowers, Apr. 3, 1937; ch.: Robert A., III, Betty Hamilton, John Bowers. Roanoke Y.M.C.A., phys. dir., 1932-34; West Va. Co. chlorine proc., 1935-43; Mich. Chem. Corp. 1943 to date. Pres. Mich. Chem. Internatl. Corp. Mem.: A.I.Ch.E., A.C.S.; Boy Scouts, C.C. Clubs: Lions, Pine River Country. Hobbies: hunting, fishing, golf, bowling.

BONER, Charles John, chf. res. chem., Battenfeld Grease & Oil Corp., 3148 Roanoke Rd., Kansas City, Mo.; res. 218 W. 68th Ter., Kansas City 5.
Res. chem.; b. Florence, Kans., Feb. 5, 1888; s. of John Q. and Victoria Boner; ed. U. of Mo., B.S. in chem. engr., 1910; m. Edna Perrin Johnson, Oct. 20, 1913; ch.: Perrin (dau.) 1910-16 chem., supvr., du Pont, 1916-23 asst. plt. mgr. same co.; 1924-26 mgr. of operations, Union Explosives Co.; 1927-34 chf. chem., 1934 to date chf. res. chem. Battenfeld Grease & Oil Corp.; work on soap-mineral oil systems; contrib. arts. in sev. sc. jls. Mem.: A.C.S., Am. Soc. Lubr. Engrs., Tau Beta Pi, Alpha Chi Sigma. Hobby: gardening.

BONEWITZ, Paul Warren, pres., Bonewitz Chemicals, Inc., 101 North Third St., Burlington, Iowa; res. 2407 Madison Ave., Burlington.
Exec.; b. Rosendale, Mo., Sept. 22, 1903; ed. Savannah, Mo., H.S.; m. Bonnie M. Davison, Nov. 16, 1924; ch.: Betty J. (Bonewitz) Rosenkoetter, Paul Warren, Jr. (killed-in-action, Mar. 24, 1945). Ret. drug clerk, 1921-24; Rex Co., salesman, agr. insecticide dept., 1924-26; Churchill Drug Co., salesman, 1926-28; McKesson & Robbins, merger consol. ind. chem. dept. Churchill Drug Co., transfer, Burlington, Ia., asst. mgr. dept., 1928-30; McKesson Churchill Drug Co., mgr. Midwest. ind. chem. dept., 1930-36; Bonewitz Chem. Co. Inc., organ., pres., 1936 to date; owner, P.W. Bonewitz Chem. Co., Burlington, Ia.; pres., Rulon Labs. Inc., Burlington; dir. Brayton Chemicals, Inc., Burlington; pres., Burlington Shippers' Assn. Mem.: Am. Dairy Science Assn., Chicago Dairy Tech. Soc., Chamber of Comm. (Burlington). Clubs: University (St. Louis, Mo.). Burlington Golf & Country, Flint Hills, Crystal Lake Hunting, Elks. Hobby: sports.

BONILLA, Charles Francis, prof. of chem. engrg., Columbia U., New York 27, N.Y.; res. 7 Coppell Dr., Tenafly, N.J.
Chem. engr.; b. Albany, N.Y., July 11, 1909; s. of Rodrigo and Lucy E. (Smith) Bonilla; ed. A.B. Cuenca Inst., Spain 1925; A.B. 1928, B.S. in elec. engrg. 1930, Ch.E. 1932, Ph.D. in Ch.E. 1933, Columbia U. Mem.: Phi Sigma Kappa (social); Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, Tau Beta Pi, Epsilon Chi (hon.); m. Sigrid Isabel Johnson, Oct. 29, 1938; ch.: Laurence Huguet. Tutor in chem. engrg., C.C.N.Y., 1932-37; asst. prof. of chem. engrg., Johns Hopkins U. 1937-40, assoc. prof 1940-46, prof. 1946-49, chmn. of dept. 1943-49; prof., Columbia 1948 to date. Hedwin Corp., Baltimore, Md. (dir. 1948 to date). Conslt: Bd. of Econ. Warfare and Foreign Econ. Adm. 1942-46; Phillips Pet. Co., 1945-49; Brookhaven Natl. Lab. 1948 to date; U.S. Naval Engrg. Expt. Station 1946 to date; J.M. Lehmann Co. Inc., 1950 to date; mem.: U.S. Ind. Mission to Brazill 1942; U.S. Tech. Mission to Cuba 1943. Supvr. of rubber reserve res. projects 1943-49; Air Materiel Command res. projects 1947-50; Phillips Pet. Co., res. project 1945-48. Mem.: A.I.Ch E., A.C.S., Am. Soc. for Engrg. Edn. Clubs: Men's Faculty of Columbia U., Johns Hopkins. Hobby: tennis.

BONINO, Hugh J., pres. Atlantic Chem. Co. Inc., Centredale 11, R.I.; res. 87 Upton Ave., Providence, R.I.
Chem. mfg.; b. Philipsburg, N.J., Oct. 23, 1913; s. of John and Theresa (Russo) Bonino; ed. Wash. and Lee U., B.S. 1936; mem.: Lambda Chi Alpha, Omicron Delta Kappa; m. Dorothy M. Croucher, 1936. 1936-39 salesman, Geo. E. Sherman Co., Bklyn., N.Y.; 1939 to date pres. Atlantic Chem. Co., Inc.; 1948 to date secy., Metro Dyestuff Corp., Quidnick, R.I. Pres Puritan Chem. Co. Inc.; v.p. Roxbury Chem. Wks. Inc.; secy. Esmond Enterprises Inc.; treas. Centredale Enterprises, Inc.; dir N.E. Container, Inc. Mem.: A.A.T.C.C., A.C.S., Southern N.E. Textile Soc., Drysalters of America. Clubs: To Kalon; Point Judith Country; Pawtucket Country; Metacomet Golf; North Jersey Country. Hobbies: golf, reading, music.

BONNAR, J. Robert, tech. dir., Gen. Dyestuff Corp., 435 Hudson St., N.Y. 14, N.Y.; res. White Plains, N.Y.
Exec.; b. Fall River, Mass., June 24, 1906; ed. grad. Grammar Schl., 1919; B.M.C. Durfee H.S., Fall River, 1923; M.I.T., B.S. in Chem. Engrg., 1927; spec. courses at M.I.T. and Brown U., 1927-31; while at coll., mem. of Chemists' Club, Choral Soc and Track Team; m. Frances M. Palmer, 1931; ch.: Jay, Ardith. Carried papers betw. 1915 and 1921; asst. circulation mgr. of Fall River Herald News, 1921-23; earned money while at coll. by wkg. at soda fountain, making beds at Y.M.C.A., running elevator and bowling alley at Y.M.C.A., spec. tutoring; summers, lab. asst. at Amer. Printing Co., Fall River; after grad. M.I.T. became asst. chem., Amer. Printing Co., later, chem., chf. chem., asst. supt., supt. and tech. dir. same co., until its liquidation, 1935; joined Gen. Dyestuff Corp, N.Y.C., 1935; became tech. dir. of corp., Jan. 1, 1939. 2nd Lieut., Off. Res. Corps., C.W.S.; active during W.W. II on spec. Govt. Task Comms. in Wash., of W.P.B. Mem.: A.A.T.C.C. (mem. res. comms. and past councilor, secy. of Exec. Comm. on Res., now chmn. of Exec. Comm. on Res. and chmn. of Gen. Res. Comm.); Inter-Soc. Color Council, T.R.I. and A.S.T.M. (past chmn. of Bleaching, Dyeing and Finishing Sect.); mem. of L-14 Comm. of Amer. Stds. Assoc and Consumer Goods Comm.; S.C.I. While at M.I.T. lived at Y.M.C.A. dorm., being councilor, religious commis. and mayor of the village (Y.M.C.A. residence organization); active for many yrs. in Cubs and B.S.A.; on Bd. of boys wk. comm. at Y.M.C.A. in Fall River and White Plains, and was instr. in first aid of Red Cross. Mem.: bd. of trustees (chmn. one yr.) and chmn. of council of the Ch. in the Highlands, White Plains; interested in Mamaroneck Ave. P.T.A.; pres. Bd. of Educ., White Plains; past master of King Philip Lodge, Masons, Fall River; past pres. Gedney Assoc. of White Plains. Clubs: White Plains University; M.I.T. (N.Y.); Wykagyl Country; Westchester Hills Country (mem. of bd. of dirs.).

BONNER, Walter D., prof. emer., U. of Utah; res. 1278 E. 13th South St., Salt Lake City 5.
Chem.; b. Osceola, Neb., Oct. 27, 1878; s. of

James Toy and Ida May Davidson Bonner; ed. B.S., Nebraska Wesleyan U., 1906, M.A. Princeton 1908, Ph.D. Toronto, 1911; mem.: Alpha Chi Sigma; m. Grace Gaylord, Sept. 9, 1909; ch.: James F., Lyman G., Priscilla (Mrs. W.J. Horton), David, Robert N., Walter D. Jr., Francis T. Lect. in chem., Queens U. 1909-11; asst. prof. Queens U. 1911-15; prof. of chem. & hd. of dept., U. of Utah 1915-46; prof. emer. 1946 to date. Res.: Composition, boiling pt. and use as stand. of hydrochloric acid of constant boiling pt. See Hulett and Bonner. Jour. Am. Chem. Soc. 1909; also Bonner & Titus, Jour. Am. Chem. Soc. 1930. Mem.: Phi Beta Kappa, Phi Kappa Phi, Sigma Xi.

BONNET, Frederic, Jr., retired, conslt., adv. to pres., Am. Viscose Corp., Marcus Hook, Pa., res. 9 du Pont St., Ridley Park, Pa.
Chem.; b. St. Louis, Mo., Feb. 28, 1878; s. of Frederic and Philipine Dirlam Bonnet; ed. Wash. U. (St. Louis) B.S., Harvard M.S. 1902; Ph.D. 1903; m. Annie Howard Binns, June 24, 1908; ch.: Charles F., Philip D., Elsie F., David D., Robert H., Richard W. Instr. chem., St. U. Iowa, Med. Sch. 1903-04; instr., asst. prof., prof. chem., Worcester Polytech. Inst., Worcester, Mass. 1904-18; 1918 chf. chem. U.S. Am. Nitrate Plant, Perryville, Md.; 1918-25 dir. Exp. Lab. Atlas Powder Co.; 1925-46 dir. Stands. Dept., Am. Viscose Corp.,; 1946-retired, conslt., adv. to pres., Am. Viscose Corp. Contrib. extens. to sc. and tech. jls.; mem.: A.A.A.S. (fellow), T.R.I. (fellow), A.A.T.T. (hon. mem.); A.A.T.C.C.; A.S.T.M.; A.C.S. (certif. of appreciation Jan., 1950); Hobby: gardening. Dir. Text. Res. Inst., sevl. yrs.

BONNIE, Robert Palen, secy., treas., Kentucky Color & Chem. Co., 600 N. 34th St., Louisville, Ky.; res. Box 465, Upper River Rd., Louisville.
Exec.; b. Nashville, Tenn., Dec. 2, 1889; s. of Robert Palen and Maude (Williams) Bonnie; ed. Shefield Scientific Schl., Yale U., 1911, Ph.B. Gold mining, 1911-13; Southern Railway 1912; Whole Groceries 1913-17; W.W.I., 1917-19; Kentucky Color & Chem. Co., 1919 to date. Dir., Louisville Ind. Foundation; trustee, Norton Infirmary; trustee, Children's Hosp.; overseer, U. of Louisville; past president, Louisville Board of Trade, dir., Chamber of Com.; dir., Associated Ind. of Kentucky; dir., Natl. Assn. of Mfrs. Clubs: Pendennis Club, Country Club, River Valley Club. Officer: Inland Waterways Co. (pres.); Am. Barge Lines Co. (dir.); Jeffersonville Boat & Machine Co. (dir.).

BONOW, S. Crawford, plant mgr., 12-10 Jackson Ave., Long Island City 1, N.Y. (Stein-Davies Co.); res. 325 Sussex Rd., Wood-Ridge, N.J.
Chem. engr.; b. Phila., Pa., Feb. 29, 1916; s. of Samuel and Harriet (Crawford) Bonow; ed. Drexel Inst. of Tech., Phila., B.S. in Ch.E. 1938; (J.P. Rydreson Award for outstanding extra-curricular wk.); mem.: Tau Beta Pi, Blue Key; m. Sara Ogden, Sept. 13, 1941; ch.: Thomas C., Robert O. 1935-37 control chem. Alan Wood Steel Co., Conshohocken, Pa.; 1938-40 operating chem. engr. Calvert Distilling Co., Relay, Md.; 1940-46 C.W.S., U.S. War Dept., Edgewood Arsenal, Md.; chem. engr., asst. chf., mfg. and filling dept., Prod. Div.; 1946-50 plant mgr., Stein-Davies Co., Long Island City. Mem.: A.C.S., A.I.Ch.E. (jr. mem.) Hobbies: table tennis, chess.

BOOGE, James Eliot, chem. dir., pigments dept., du Pont Co., 1007 Market St., Wilmington, Del.; res. 1007 N. Broom St., Wilmington.
Dir. of chem. div.; b. Sioux City, Iowa, Apr. 27, 1890; s. of James Francis and Jessie G. Booge; ed. U. of Iowa, instructor 1911-14; B.A. 1914; Columbia U., Ph.D. 1916; m. Margaret Rowe; ch.: James E. III, Jacqueline J. 1916-17, instr., Columbia U., N.Y.C.; 1917-18, chem. 1918-26 Division Head, E.I. du Pont de Nemours & Co., Exp. Station, 1926-28, du Pont tech. dir. Lithopone, Newark, N.J. 1928-31, tech. dir. Lithopone, Grasselli Chem. Co., Newark, N.J.; 1931-35, tech. Lithopone, Krebs Pigm. & Color Corp., Newark, N.J., 1935-36, res. dir., white pigments, Newport, Del.; 1936-43, res. dir. white pigments, E.I. du Pont de Nemours & Co., Krebs Pigments Dept., Newport, Del.; 1943-46, res. dir., white pigments, du Pont, pigments dept., Newport, Del.; 1946 to date, chem. dir., du Pont, pigments dept., Wilmington, Del. Contributions to improvements in titanium dioxide pigments & new & improved titanium prods. Mem.: A.C.S., A.S.T.M., A. Phys.S., Soc. Chem. Ind., Am. Inst. of Physics, A.A.A.S.

BOOHER, Lela E., chf. nutritionist & dir. of nutrition labs., General Mills, Inc., 1081 21st Ave. S.E., Minneapolis, Minn.; res. Hotel Leamington, Minneapolis.
Conslt. & direction of nutrition res.; b. Dayton, Ohio, Mar. 9, 1898; d. of Henry W. and Eliza A. Booher; ed. B.S. 1920, Ohio State U.; M.S. 1922, State U. of Iowa; Ph.D. 1928, Columbia U. Instr. biochem., N.Y. Post-Grad. Med. Schl. 1922-24; res. asst. Columbia 1924-28; biochem., St. Luke's Hosp., Cleveland 1928-29; res. fellow, Carnegie Inst. Tech., Columbia 1929-30; instr. chem. Columbia 1930-36; chf., fds. & nutrition div., Bu. Home Econ., U.S. Dept. Agric. 1936-41; dir. inst. nutrition, Milwaukee Children's Hosp. 1941-43; chf. nutritionists, General Mills, Inc., 1943 to date; dir. nutrition labs., General Mills, Inc., 1947 to date. Edit. bd., Journal of Nutrition, 1939-43; U.S. rep. Tech. Comm. on Nutrition, Health Organ., League of Nations, Geneva, 1938; mem.: Panel of Appraisers, comm., Handbook on Biolog. Data, Natl. Res. Council, Wash., D.C. Contributed chapters to Colloid Chem., Vol. V, edited by Dr. J. Alexander; Dietotherapy, edited by Dr. Michael G. Wohl; The Vitamins (a symposium) 1939, Am. Med. Assn.; Proteins & Amino Acids in Nutrition, edited by Dr. Melville Sahyun; Mem.: Sigma Xi, Inst. of Chem. (fellow); A.S.Biol.C., Am. Inst. of Nutrition, S.E. B.M., AC.S., A.A.A.S. Hobbies: ornithology, botany, amateur photography.

BOOS, Richard Newton, hd. of microanalytical lab., Merck & Co. Inc., Rahway, N.J.; res. 48 Ross St., Rahway, N.J.
Chem.; b. Lancaster, Pa., Sept. 5, 1916; s. of Christian W. and Catherine A. Boos (both dec.); ed. Franklin & Marshall Coll., B.S. (cum laude), 1938; N.Y.U., M.S. 1904; m. Alta Mae Slaugh, Sept. 8, 1939; ch.: Richard William, Robert Alan. With Merck & Co. Inc., 1940 to date, in chg. of the Microanal. Lab in res. and devel. div. Has written on quantitative colorimetric microdetermination of methanol with chromotropic acid reagent, phosphate determ., and the construction of a microanal. lab. Mem.: Blue Key Natl. Honor Soc., Phi Beta Kappa, A.C.S. Hobbies: photography, gardening.

BOOTH, Charles Fitzpatrick, pres., Covington Fertilizer Co., Andalusia, Ala.; res. 511 Rankin St., Andalusia.
Chem. engr.; b. Prattville, Ala., Nov. 29, 1902; s. of Charles and Sarah Lou (Fitzpatrick) Booth; ed. U. of Ala., B.S. in chem. engrg. 1921, M.S. 1922, prof. deg. of Ch.E. 1924; mem.: Theta Tau, Tau Beta Pi; m. Weenona Hanson Peck, May 24, 1927; ch.: Emily Fitzpatrick (Booth) Mauldin; Sarah Elmore, Margaret Caffey. During grad. wk. associated with U.S. Bu. of Mines Station, Tusca-

loosa, Ala., investigating uses for Ala. graphite; from grad. until Feb. 1950 with Monsanto Chem. Co. or companies which became part of Monsanto, prior to 1930 res. chem., 1930-45 res. group leader, 1945-47 principal chem. at Monsanto Clinton Lab., Oak Ridge, Tenn., doing wk. on problems connected with radiochem. & atomic energy, 1947-49 sr. technologist at Monsanto's Central Res. Dept. doing fundamental res. on chem. of phosphorus. Patentee or co-patentee for 26 U.S. pats., mostly pertaining to phosphorus cmpds., biphenyl or its derivatives or to arsenic trichloride; served as Ala. State Gas Conslt. for Ala. State Defense Council during W.W.II. Author: sections on aroclors, terphenyls & hydrogenated derivatives of biphenyl, "Encyclopedia of Chem. Tech.," 1949, 1950. Mem.: A.C.S., A.I.Ch.E., Southern Assn. of Sc. & Ind. Mem. of Advisory Comm., Coll. of Engrg., U. of Ala., 1947-49. Hobby: gardening.

BOOTH, Helen Louise, secy., Drug, Chem. and Allied Trades Sect., N.Y. Bd. of Trade, Inc., 291 Broadway, N.Y. 7, N.Y.; res. 58 Main St., Orange, N.J.
Trade assoc. exec.; b. Dec. 22, 1910, Orange, N.J., d. of George Patrick and Nellie Louise (Jacobus) Booth; ed. Orange H.S., Northwestern U., (Evanston, Ill.), N.Y.U.; grad. cert. (1946) Natl. Inst. for Commercial & Trade Assoc. Execs. Entire business career with N.Y. Bd. of Trade since 1928; 1943 appointed acting secy. D.C.A.T. Sect., 1946 appointed secy. D.C.A.T. Sect. Mem.: Amer. Trade Assoc. Execs., Wash., D.C.; Trade Assoc. Execs. in N.Y.C. Hobbies: music, golf, tennis, skating.

BORDEN, Edmund Gilbert, pat. counsel, Koppers Company, Inc., Koppers Bldg., Pittsburgh 19, Pa.; res. 315 Orchard Dr., Mt. Lebanon, Pittsburgh 28.
Pat. atty., chem. engr.; b. Boulder, Colo., June, 14, 1885; s. of Edmund Janes and Irene (Gilbert) Borden: ed. U. of Colo., Ch. Engr., 1909; Natl. U., Washington, D.C., LL.B. 1914; mem.: Alpha Chi Sigma, Tau Beta Pi; m. Lucile Persons, Sept., 1910; ch.: Edmund Thomas, Neil Scott, George Gilbert. 1909-10 with Independent Coal and Coke Co., Kenilworth, Utah; 1910-11 with Bur. of Mines, Washington, D.C.; 1911-14 with U.S. Patent Off.; 1914-18 with Phillips, Van Everen & Fish, Boston, Mass.; 1918-44 chg. Pat. Dept., Cities Serv. Co.; 1944 to date with Koppers Co., Inc. V.p., gen. mgr., dir. of Doherty Res. Co.; v.p. and dir. Power Patents Co.; pres., dir. Forward Process Co.; dir. Improved Equipment Co. and Combustion Utilities Corp.

BORDEN, George Centennial, Jr., tech. dir., Riegel Paper Corp., Milford, N.J., res. 220 Bushkill St., Easton, Pa.
Chem. engr.; b. Ocean Grove., N.J., Aug. 26, 1900; s. of George Centennial and Ethel Earl Green Borden; ed. Lehigh U., 1923, Ch.E.; m. Rachel Guerin, Oct. 31, 1925; ch.: Helen Marie, Jane Guerin. Am. Cyanamid Co. 1925 res. chem.; supt. of Graphite plant; Riegel Paper Corp., 1931 res. chem., coating dept.; supt.; 1945 to date tech. dir. Res., dev. paper solv. coatings, dev. specialty papers; holder patents in field; co-author: "Resins for the Paper Converter," Tappi Monograph Series, 5, N.Y., Tech. Assn., Pulp & Paper Indust. 1947; mem.: T.A.P.P.I.; Tech. Comm. Glassine & Greaseproof Mfrs. Assn., A.C.S.; Clubs: Harkers Hollow Golf, F&AM. Hobbies: golf, bridge.

BORGHETTY, Hector C., tech. mgr., Org. Chems. Div., Gen. Dyestuff Corp., 435 Hudson St., N.Y.C.; res. 2 Brooklands, Bronxville, N.Y.
Text. chem.; b. Wellington, N.Z., Nov. 28, 1906; M.Sc.; m. Doris Myott, May 3, 1938. With I.G. Farbenindustrie, demon. dyeing div., 1926-28; Slater Co., res. chem., 1928-33; Aspinook Co., chem. dir., 1933; to date, tech. mgr., Org. Chems. Div., Gen. Dyestuff Corp., N.Y.C.; holds sev. U.S. pats.; contrib. numerous tech. arts. to sc. jls. Mem.: A.C.S., A.A.A.S., A.A.T.C.C. Club: A.F. & A.M. Hobbies: photography. geography, mountain climbing, music, languages.

BORGLIN, Joseph Nathaniel, tech. serv. and dev., Hercules Powder Co., Wilmington, Del.; res. 215 W. 37th St.
Chem. engr.; b. Ortonville, Minn., s. of Carl C. and Fannie Marie Borglin; ed. U. of Wash., B.S. in Ch.Engrg., 1924; m. Bessie Mae Moore, Dec. 26, 1927; ch.: Joseph Carl. From June, 1924 to Jan., 1926, Republic Creosoting Co., res. and dev. (Seattle, Wash.); Feb. 1, 1926 to date with Hercules Powder Co. in following capacities: 1927-28, chf. chem., Hattiesburg, Miss.; 1928-33, res. on terpenes and resin acids; 1933-38, asst. grp. ldr., Naval Stores Dept., Exper. Sta.; 1938-44, grp. ldr., same dept. and station; 1944-46, Operations; 1946 to date, tech. serv. and dev.; extensive res. on terpenes and resin acids which resulted in pub. of numerous arts. in sc. jls. and trade magazines; over 120 pats. as result of wk. in terpene, resin acids and other flds., the latter incl. foundry core binder, chewing gum compo., pine oil disinfectants, sandpaper compositions, depilatory, phonograph record compositions, asphalt emulsions, brewers pitch, insulating tape, insecticides, elec. insulation. Author of sev. books dealing with chem. of terpenes and resin acids for company use only. Mem.: A.C.S., Econ. Entomologists, A.O.C.S., A.S.T.M., Forest Prods. Res., Amer. Wood Preservers Assoc. Hobbies: philately, floriculture.

BORGMANN, Carl Williams, dean of faculties, U. of Nebr.; res. 3520 South St., Lincoln, Nebr.
U. administration; b. Mt. Washington, Mo., June 3, 1905; s. of Herman Henry and Elizabeth Pauline; ed. U. of Colo., B.S. (Ch.E.) 1927, Ch.E. 1931; Cambridge U. Ph.D. 1934; mem.: Lambda Chi Alpha; m. Mable Dorothy Gaiser, Sept. 28, 1930; ch.: Dorothea, Elizabeth, Christine, Martha, Richard Henry. Mem: tech. staff, Bell Telephone Labs., 1927-31; asst. prof. chem. engrg., U. of N.C., 1934-36; res. engr., Natil. Tube Co., 1936-38; prof. & hd. chem. engrg., U. of Colo., 1938-47; Dean of faculties, U. of Nebr. 1947 to date. Several papers in the fld. of metallic corrosion. Mem.: A.I.Ch.E., A.C.S., A.S.E.E., A.A.U.P. Hobby: gardening.

BORLEW, Peter Boris, tech. supt., Container Corp. of Am., Fernandina, Fla.; res. Beach, P.O. Box 671, Fernandina.
Chem. engr.; b. Berlin, Germany, Apr. 22, 1900; Hessian Inst. of Tech., Damstadt, Germany, deg. equiv. M.Ch.E. 1925; 1925-38, France & Germany, various ind. res.; 1938-39, U.S.A., various ind. res.; 1940-46, asst. res. dir., tech. dept., Nekoosa-Edwards Paper Co., Pt. Edwards, Wis.; 1946-47, Fld. Info. Agency, Technical, Dept. of Com., Germany; tech. adviser, Pulp & Paper Subsec., Office Military Govt. for Germany (U.S.); U.S. Rep. on Interallied Commis. for the Level of Prod. of Pulp, Paper & Board Ind. in Germany; 1947 to date, tech. supt., Container Corp. of Am. Publ. on anal. meths. pertaining to Kraft pulp ind. Mem. Alkaline Pulping Comm., T.A.P.P.I. Mem.: A.C.S., T.A.P.P.I.

BORNEMANN, Alfred, prof. of metallurgy, Stevens Inst. of Tech., Hoboken, N.J.; res. 60 Gates Ave., Montclair, N.J.
Teacher, conslt.; b. Montclair, N.J., Apr. 6, 1906; s. of Emile L. and Marie (Kidde) Bornemann; ed. Stevens Inst. of Tech., M.E. 1927; Salchsische

Technische Hochschole, Dresden, Germany, Dr.-Ing. 1930; mem.: Beta Theta Pi; m. Lieselotte Just, Aug. 2, 1930; ch.: Peter, Barbara J., Toni Marie. Asst. prof. of engrg. chem., 1930-41, dir., Peirce mtls. Lab., 1939 to date, assoc. prof. of engrg. chem., 1941-48, prof. of metallurgy, chmn. of dept., 1948 to date, Stevens Inst. of Tech. Mem.: A.C.S., Am. Soc. for Metals, A.I.M.M.E., Am. Foundrymen's Soc. Trustee, treas., Stevens-Hoboken Acad.; dir., N.J. chapter, Am. Soc. for Metals. Hobbies: walking, photography, tennis, small boats.

BORROR, Whitney A., v.p., Belle Alkali Co., Belle, W.Va.; res. 206 Stubb Dr., Belle.
Chem. engr.; b. Shadeville, Ohio, Nov. 30, 1899; s. of Albert B. and Leona Mary Borror; ed. Ohio State U. (3 yrs.); m. Alma Smith, Apr. 16, 1921; ch.: Jack, Jill. Chem., Whitaker Glessner Co., abt. 1 yr. to 1917; chem., British Govt., 1917-19; supt. salt plant, Pure Oil Co, 1919-26, v.p., Belle Alkali Co., Belle, W.Va., 1926 to date. Mem.: A.C.S. Clubs: Rotary, K.ofP., U.C.T., etc. Hobbies: hunting, skeet, poker, woodworking.

BORST, Lyle Benjamin, chmn., dept. Reactor Sc., Engr., Brookhaven Natl. Lab., Upton, L.I., N.Y.; res. Lake Ave., Center Moriches.
Chrmn.; b. Chicago, Ill., Nov. 24, 1912; s. of George William and Jean Carothers (Beveridge) Borst; ed. A.B., U. Ill. 1936; A.M. 1937; Ph.D., U. Chicago, 1941; mem.: Sigma Xi, Gamma Alpha; m. Barbara Mayer, Aug. 19, 1939; ch.: John Benjamin, Stephen Lyle, Frances Elizabeth. Instr., U. Chicago 1940-41; res. assoc., Metal. Lab. 1941-43; sr. physicist, Clinton Labs., Oak Ridge, Tenn. 1943-46 (both labs. wking on atomic bomb proj.); asst. prof., dept. chem., M.I.T., Cambridge, Mass. 1946 to date; chrmn., Dept. Reactor Sc. & Engr., Brookhaven Natl. Lab. 1946 to date. Res. in infrared spect. organ. molecu.; nuclear studies; mem.: A.Phys.S., A.A.A.S.; Club: Men's Faculty (Columbia U.).

BORUFF, C.S., tech. dir., Hiram Walker & Sons, Inc., Peoria 1, Ill.; res. 1208 W. Glen Ave., Peoria.
Tech. dir.; b. Joy, Ill., Sept. 21, 1901; s. of S. A. and Mary Frances (Stead) Boruff; ed. 1923 Monmouth Coll., B.S. cum laude; 1925 U. of Ill. M.S.; 1931 U. of Ill. Ph.D. (chem. & bacteriol.); Mem.: (social) Tau Kappa Epsilon, Alpha Chi Sigma; (hon.) Phi Lambda Upsilon, Sigma Psi, Tau Kappa Alpha; m. Alice Waterhouse, Dec. 25, 1926. Assoc. prof. of chem., Monmouth Coll., Monmouth, Ill., 1924-28; res. chem., State Water Survey, Urbana, Ill., 1928-34; res. dir., then tech. dir., Hiram Walker & Sons, Inc. & Affiliates, Peoria, Ill., 1934 to date. Mayaguez Distilling Co., Mayaguez, Puerto Rico (dir.). 5 pats. & 61 pub. in accredited tech. journals. Mem.: A.C.S. (1924); A.I.Ch.E. (1936); S.A.B. (1934); A.S.Brew.C. (1947). Dir., Peoria Assn. of Comm. 1948-to date; dir., Distillers Feed Res. Council, 1945 to date. Club: Creve Coeur of Peoria. Hobbies: color photography, music.

BOSTON, Alvin Dale, hd. chem., dean of arts & sc., State Coll., New Mexico; res. 730 N. Miranda, Las Cruces, N. Mex.
Educator; b. nr. Pawnee, Ill., May 13, 1902; s. of Burley Andrew and Hallie Blanche Boston; ed. A.B., Ill. Coll.; M.S., Tulane U.; Ph.D., Ohio State U.; mem.: Kappa Phi Sigma, Alpha Chi Sigma; m. Lora Oletha Glass, Sept. 19, 1927; ch.: Joan Ellen. Instr., Tulane U., 1927-29; hd. sc., bus. mgr., Rio Grande Coll., 1929-35; grad. asst., Ohio State U., 1935-36; asst. prof. chem., Otterbein Coll., 1936-37; assoc. personnel dir., Antioch Coll., 1937-38; hd. chem., Ill. Coll., 1938-43; dir. of chem. res., Olin Corp., 1943-44; assoc. prof. of chem., Wabash Coll., 1944-47; hd. chem., dean arts & sc., New Mexico Coll., 1947 to date. Mem.: A.C.S., Sigma Xi. Club: Rotary. Hobby: stamp collecting.

BOTT, Phyllis Adele, prof. physiolog. chem., chmn. dept., Woman's Med. Coll. of Pa., Phila., Pa.; res. 6445 Greene St., Phila. 19.
Teach., res., physiolog. chem.; b. Milwaukee, Wisc., Aug. 21, 1899; d. of Henry Bott and Hedwin H. (Bott) Becker, M.D.; ed. U. Wisc., B.A. 1923; M.S. 1924; U. Pa., Ph.D. 1930; mem.: Alpha Phi, Sigma Xi. Instr. chem., biol., Hampton Inst. 1925-27; res. asst. physiolog. chem., U. Pa. 1929-30; res. assoc., dept. biol., Princeton U., 1930-33; res. assoc. dept. biol., Phamacol, Un. Pa. 1933-41; assoc. prof., conslt. clin. chem. 1941-47 Woman's Med. Coll.; chrmn. dept. Physiol. chem. (assoc. prof.) 1947-49; prof., chmn. dept. 1949 to date. Res. in amphibian kidney, ultramicro anal.; mem.: A.C.S., A.S.Biol.C., Physiol. Soc. of Phila.; N.Y. Acdy. Sc.; Club: Biochem. (Phila.).

BOTTO, Melvin Robert, asst. to chf. chem., Cataract Chem. Co., Inc., 90 Rapin Pl., Buffalo 11, N.Y.; res. 364 Ontario St., Buffalo 7.
Chem.; b. Buffalo, N.Y., June 21, 1918; s. of Robert J. and Irene Botto; ed. Cornell U., Millard Fillmore Coll., U. of Buffalo; m. Marjorie E. Becker, May 25, 1946; ch.: Robert I. Chem., Cataract Chem. Co., Jan., 1941 to date. Mem.: Am. Leather Chem. Assn., A.C.S. Hobbies: photography, fishing, golf.

BOUGHTON, Willis A.; res. 426 S.W. Second St., Fort Lauderdale, Fla.
B. Ann Arbor, Mich., May 30, 1885; ed. Harvard, A.B. 1907, A.M. 1909, Ph.D. (Temple Bar Coll.) 1938. Harvard U. asst. to dir. chem. labs, 1907-19; asst. dir. Harvard chem. labs. 1919-40; retired, 1940. Aud. dining halls, 1915-19; J.A.C.S., edit. asst. 1915-30; conslt. and invent. 1912 to date. Inventions and pats. on applic. wood pulp to shoe mfg.; vulcan. of rubber latex; inorgan. lubs.; inorganic viscous adhesives; mica binders; high temp. mica plate; treatment shellac; mfg. mica prods. Books: nine non-technical, poetry, drama, genealogy. Mem.: A.C.S., A.A.A.S., Assoc. Harvard Chem., Alpha Chi Sigma. Hobbies: photography, writing.

BOULGER, Francis W., supervising metallurgist, Battelle Memorial Inst, 505 King Ave., Columbus 1, Ohio; res. 1489 Ashland Ave., Columbus.
Metallurgical engr.; b. Minneapolis, Minn., June 19, 1913; s. of Francis J. and Mary E. Boulger; ed. U. of Minn. Met. Eng.; Ohio State U., M.S. in metallurgy; m. Pauline Chinn, Sept. 17, 1940. Minn. State Highway Dept., draftsman, 1934; Associated Press, wirephoto oper. 1935-36; Ohio State U., grad. fellow, 1936-37; Republic Steel Corp., metallurgist, 1937; Battelle Memorial Inst.: res. metallurgist 1938-43, asst. supervising metallurgist 1943-47, supervising metallurgist 1947 to date. Studies on gases in mtls., effects of composition on low temp. properties of steel, effect of composition and structure on machining properties of steel, deoxidation powers of various elements when added to steel. Mem.: A.S.M., Am. Foundrymen's Soc., A.I.M.M.E., Sigma Xi. Hobbies: golf, bowling, chess.

BOUNDY, Ray Harold, mgr. plastics div., The Dow Chem. Co., Midland, Mich.; res. Sugnet Rd., Midland, Mich.
Chem. engr.; b. Brave, Pa., Jan. 10, 1903; s. of G.W. and Annetta C. Boundy; ed. Grove City Coll., B.S.; Case Inst. of Tech., B.S. Ch.E., M.S.; Grove City Coll., D Sc. (hon.); mem.: Beta Sigma, Alpha Chi Sigma; m. Geraldine McCurdy,

Nov. 27, 1926; ch.: Richard Ray, Lois Cather. 1926-27 with Main Anal. Lab.; 1927-41 Phys. Res. Lab.; 1930-41 asst. dir. Phys. Lab.; 1941-45 asst. to pres.; 1945 to date mgr. Plastics Div., all with The Dow Chem. Co. Dir. Dow Chem. of Canada, Ltd. Holds pats. in flds. of bromine, hydrocarbs., plastics, etc. Mem.: A.C.S., A.I.Ch.E., E.S., Engrg. Soc. (Detroit). Club: Kiwanis. Hobbies: hunting, fishing, outdoor activities.

BOURLAND, James Fagan, chf. chem., Willow Is. Plant, Am. Cyanamid Co., Willow Is., W. Va.; res. 528 Fourth St., Marietta, Ohio.
Chem.; b. Ft. Smith, Ark., June 3, 1915; s. of James B. and Queen (Barnwell) Bourland; ed. U. of Ark., B.S.Ch.E., honors, 1936; Purdue M.S. 1938, Ph.D. 1941; mem.: Sigma Alpha Epsilon; m. Kathryn Richman, Jan. 9, 1950. Joined Calco Chem. Div. of Am. Cyanamid Co. 1941, res. chem.; hd. pharm. dev. lab. 1942; asst. mgr. pharm. dept. 1944; asst. to mgr. process control & dev. 1945; chf. pharm. chem., Willow Is. plant 1947; chf. plant chem. 1948. Mem.: A.C.S., Sigma Xi, Tau Beta Pi. Club: Chemists' (N.Y.).

BOURNE, Dr. Benjamin Arthur, v.p., res., U.S. Sugar Corp., Clewiston, Fla., res. 705 Poinsetta St.
Res. dir., phytopathologist; b. Bridgetown Barbador, B.W.I., (naturalized Am.); s. of John Edward and Emma Caroline Barrow Bourne; ed. McDonald Agri. Coll., 1915-17 (Dipl. of Agri); Syracuse U., 1917-19, B.S. 1919; M.S. 1924; Cornell U. 1924-33 Ph.D., 1933; mem.: Phi Beta Kappa, Phi Kappa Phi; m. Marjorie Agnes Stocking, Jan. 15, 1921; ch.: Hervey Arthur, Parmelia Agnes, Edward Alvin. Asst. dir. agri., Barbados, B.W.I. 1919-23; prof. plant pathology, U. Puerto Rico, 1923-25; asst. pathologist in chg., sugar cane breeding, U.S. dept. Agri., Canal Point, Fla., 1926-29; chf. agri. res., Southern Sugar Co., Clewiston, Fla., 1929-30; plant physiologist, U. Fla., Agr. Exp. Sta., chf. agri. res., U.S. Sugar Corp., 1930-34; dir. res., U.S. Sugar Corp. 1934-42; v.p., res. 1942 to date. First disc. phsiolog. response of sugar cane to traces of copper salts on low mineral organ. soils in Fla. Disc. the effects of traces of zinc in the early ripening of sugar cane; mem.: I.S.S.C.T., A.Phytop.S., B.S.A., A.S.P.P., Fla. Soil Sc. Soc., Fla. Hort. Soc., Gov. Gen. of Canada Med. for Prof. in Agri. Clubs: Clewiston Fishing, C.C. (Clewiston). Hobbies: photography, fishing.

BOUTWELL, Paul Winslow, prof. chem., hd., Chem. Dept., Beloit Coll., Beloit, Wisc., res. 1875 Riverside Dr.
Tchr. chem.; b. Lyndeborough, N.H., Feb. 6, 1888; s. of Benjamin Jones and Elizabeth Knight Boutwell; ed. B.S. Beloit Coll. 1910; M.A., U. Wisc. 1912, Ph.D. 1916; mem.: Sigma Xi, Gamma Alpha, Phi Beta Kappa, Sigma Chi; m. Clara G. Brinkhoff, June 12, 1915; ch.: Roswell Knight, Clara Barnes, Paul Winslow, Jr. Instr. chem. U. Del., 1916-17; instr. 1917-18; asst. prof. 1918-20; biochem. U. Wisc.; assoc. prof. 1920-21; prof., hd. chem. dept., Beloit Coll. 1921 to date. Res. in vitamins, amino acids; mem.: A.C.S.; (fellow), A.A.A.S., Wisc. Acdy., Sc., Arts and Letters (pres. 1939-42). Hobbies: gardening, fishing, camping.

BOWDEN, William Clifford, Jr., tech. dir., Ledoux & Co. Inc., 155 Ave. of the Americas, N.Y. 13, N.Y.; res. 2104 Albemarle Ter., Brooklyn 26, N.Y.
Metallurg. chem. & engr.; b. Brooklyn, N.Y., Aug. 17, 1894; s. of William Clifford and Violet Alice (Small) Bowden; ed. Pratt Inst., Bklyn. 1917 (no degree) M. in chem.; Bklyn. Polytechnic Inst. 1928, B.S. in chem., lic. prof. engr. N.Y. State 1929; m. Lucy Brower, June 28, 1930; ch.: Louise (Bowden) Spaulding. Positions held with Ledoux & Co. Inc.: asst. chem. 1912-15; metallurg. chem. 1915-26; lab. dir. 1926-40; chf. chem. 1940-45; tech. dir. 1945 to date. Ledoux & Co. Inc. (dir.); Dev. of metallurg. anal. methods, consultation on metallurg. problems, particularly regarding sampling, weighing & anal. problems. All wk. as an assoc. of Ledoux & Co. & under their name. Mem.: Am. Council of Comm. Labs., A.C.C.C.E., A.S.T.M., A.I.M.M.E., British Inst. of Chem., A.C.S., N.Y. Acad. of Sc. Official Bd. of St. Mark's Methodist Church, Brooklyn. Hobby: golf.

BOWDITCH, Lawrence J., v.p., Carbide & Carbon Chem. Div. of Union Carbide & Carbon Corp., 30 E. 42nd St., N.Y.C.; res. 49 Sunset Dr., Manhasset, N.Y.
Engr.; b. Urbana, Ill., Aug. 18, 1902; s. of Frederick D. (deceased) and Helen L. Bowditch; ed. M.S. in mech. engr. U. of Ill.; mem.: Tau Beta Pi, Pi Tau Sigma, Sigma Chi; m. Romola J., June 21, 1930; ch.: Anne E., James A., Adrienne J. Linde Air Prods. Co., 1925-29; Carbide & Carbon Chem. Div. of Union Carbide & Carbon Corp., 1929 to date.

BOWER, Henry, pres., Henry Bower Chem. Mfg. Co., 2815 Gray's Ferry Rd., Phila. 46, Pa.; res. River Bank, Torresdale, Phila. 14, Pa.
Exec.; b. Rosemont, Pa.; s. of George Rosengarten and Agnes Lee (Fuller) Bower; ed. Episcopal Acad., Phila.; U. of Pa., Phila; mem.: Phi Kappa Sigma; m. Corinne Rennert, Aug. 1, 1921. Henry Bower Chem. Mfg. Co., clerk 1917, returned after W.W.I, 1919, asst. treas. 1923, v.p. 1928, pres. 1940 to date. Henry Bower Chem. Mfg. Co., (dir.); Mutual Chem. Co. of Am. (dir.). Clubs: Chemists' (N.Y.), Union League of Phila., Torresdale Country, Torresdale. Hobbies: golf, fishing.

BOWERS, Alston G., v.p., Gerson Stewart Corp., Lisbon Rd., 4, Cleveland, Ohio; res. 4209 Bushnell Rd., Univ. Heights.
Chem.; b. Upper Tract, W. Va.; s. of Lucien E. and F.W. Bowers; Miami U., Oxford, Ohio, A.B., Ohio St. U., Columbus, Ohio, M.Sc.; mem.: Alpha Chi Sigma; m. Nellie L. Clark, Sept. 2, 1931; ch.: Jean E., Anne L. New Meth. Varn. Co., Elmira, N.Y., chem. 1935-36; chf. chem. 1936-40; Gerson Stewart Corp., Cleveland, Ohio, chf. chem. 1940-41; v.p. 1941 to date; Hunt Mfg. Co., chf. chem. 1940 to date; Lecturer Fenn Coll., 1942-46; Case Tech. 1948-49. Author: "Cold Disinfection of Rubber Airways," Bul. Am. Assn. Nurse Anesth. Vol. XII, No. 2, May, 1944; "Carn. Wax Adult.," "Soap" July, 1949; Chlor. Pheno. in Soap, "Soap Mag." 1950; mem.: A.C.S., A.A.A.S., (fellow); Alpha Chi Sigma; elder Un. Presby. Ch.

BOWERS, George W(infield), pres., prof. of chem., Walla Walla Coll., Coll. Pl., Wash.; res. same.
Educator; b. Worcester, Mass., Apr. 3, 1895; s. of George Whitmore and Nellie Frances (Perry) Bowers; ed. So. Lancaster Acad. (Jr. Coll.) 1913-15; Union Coll., Lincoln, Nebr., B.A. 1917; U. of Nebr., M.A. 1924, Ph.D. 1935; m. Clara Belle Keith, June 5, 1918. Sc. & math., Oswego Acad., Oswego, Kans., 1917-18; Coast Artillery U.S. 1918; Dartmouth High 1919; Oak Park Acad. 1919-20; instr. in sc., Union Coll., 1920-23, asst. instr., U. of Nebr. 1923-25, 1932-33; prof. of chem., Walla Walla Coll. 1925 to date, pres. 1938 to date. Mem.: A.C.S., Sigma Xi. Trustee Walla Walla Coll. since 1933; trustee, Walla Walla Gen. Hosp. Hobbies: woodwork, gardening.

BOWKER, Horace, chmn. bd., Am. Agric. Chem. Co., 50 Church St., N.Y.C.; res. Cedarhurst, L.I.
Exec.; b. Boston, Mass., May 13, 1877; ed. Harvard, A.B., 1898, law, 1 yr., grad. 1 yr.; m. Adelaide Kent Greene, Oct. 16, 1901; ch.: 1 son, 2 daus. Bowker Fert. Co., day laborer, 1899, foreman 1900, trans. to Cincinnati plant, asst. supt., supt. 1901, trans. to sales dept.; Am. Agr. Chem. Co., secy. 1908, v.p. 1920, pres. 1929, chmn. of bd. since June, 1934; Bowker Chem. Co., pres. and dir.; Baltimore Steam Packet Co.; Chemical Alliance, Inc., dir. Author of num. studies covering var. aspects of agri. problems. Mem.: Chem. Comm. Advisory Commis., Council of Natl. Defense (chmn. Fert. Sub-Com., early stages W.W.I), later com. became Chem. Alliance, Inc. (v.p. and pres.); Natl. Fert. Assoc. pres. during W.W.I. Clubs: Harvard (N.Y.); Lawrence Beach. Hobby: boating.

BOWMAN, John Ridgway, hd., dept. of res. in phys. chem., Mellon Inst., Pittsburgh 13, Pa.; res. Webster Hall Hotel, Pittsburgh 13.
Chem.; b. N.Y.C., Jan. 27, 1910; s. of John Gabbert and Florence (Berry) Bowman; ed. B.S., U. of Pittsburgh, 1929 (with highest honor); Calif. Inst. of Tech., 1929-31; U. of Pittsburgh, Ph.D., 1934; m. Melita Fils, Dec. 27, 1934. Instr., elementary courses in mech. engrg. and grad. courses in math., U. of Pittsburgh, 1931-35; dir. of sev. grad. thesis res. in chem. engr., 1940 to date; var. titles up to sr. fellow, Multiple Fellowship on Petroleum, Mellon Inst., 1935-47; hd., Dept. of Res. in Phys. Chem., 1948 to date; theoretical res. in phys. scs., espec. phys. chem. and chem. engrg.; studies completed in distill. theory, particularly under high vacuum, chem. constitution of petroleum, phys. properties of waxes, fractional crystallization, lubrication, oxidation of lubricating oils, mass spectrometry, gaseous diffusion and combustion; now active in fld. of digital computing machinery; secondary int. in electronics; contrib. numerous arts. to sc. jls. holds sev. pats. in above flds. Mem.: A.A.A.S. (v. chmn., Petroleum Session, Gordon Res. Confs., 1938; chmn., Petroleum Session, Gordon Res. Confs., 1949; acad. mem. Adv. Bd., Gordon Res. Confs., 1949 to date); A.C.S. (councilor, 1947 to date; chmn., 13th Chem. Engrg. Symposium, 1946; v. chmn., The Cambridge High Vacuum Symposium, 1947); A.I.Ch.E. (mem.: Distillation Subcomm., Comm. on Testing and Stds., 1947 to date; A.I.C. (fellow); Amer. Mathematical Soc.; A.Phys.S., Assoc. for Computing Machinery; N.Y. Acad. of Scs. (fellow); S.C.I. (England); Washington Acad. of Scs.; Sigma Xi, Sigma Pi Sigma, Phi Lambda Upsilon. Clubs: Cosmos; Chemists' (N.Y.-non-res. mem.); Pittsburgh Chemists' (pres. 1948); University (Pittsburgh); Robert Kennedy Duncan Club (mem. in numerous comms., esp. the Adv. Council-pres., 1945); Marshall Chess Club (N.Y.), N.Y. Go Club, Amer. Go Assoc. (v.p. 1947 to date); Soc. for Systematic Zoology; Sigma Chi. Hobbies: taxonomy of the coleoptera (classif. of beetles), chess.

BOWMAN, Ray O., supt. coke plant, Weirton Steel Co., Weirton, W. Va.; res. 540 Gilbert Ave., Fallansbee, W. Va.
Chem. engr.; b. Edinburg, Va., Sept. 13, 1900; s. of Bird. A. and Sara E. Bowman; ed. U. of Mich. B.S. Ch.E. 1925, U. of Mich. chem. engr. 1945; m. Wanda A. Seehafer, June 15, 1925; ch.: Wanda C., Neill B., Bruce A. Koppers Co., res. engr., Chicago & Pitts., 1925-29; conslt. engr., Providence, 1929-37; tech. dir., Fallansbee, W. Va., 1937-45; Weirton Steel Co., chem. engr., 1945-47; supvr. of chem. & res., 1947-48; supt. coke plant 1948 to date.

BOWMAN, W(illia)m H(enry), mgr. sales dept., Jefferson Chem. Co., Inc., 711 Fifth Ave., N.Y. 22, N.Y.; res. 619 Cortlandt Ave., Mamaroneck, N.Y.
Chem. engr., chem. sales; b. Ingersoll, Ontario, Canada, Feb. 19, 1910; s. of Harry S. and Louise M. (Ross) Bowman; ed. U. Toronto, B.A. Sc. (hons.) 1932; M.A.Sc., 1936; N.Y.U., Sc.M., 1935; U. Toronto, Ph.D., 1940; m. Helen I. Butler, Dec. 24, 1932; ch.: Peter William, Rodger Lee, Sheila Ann. Tchg. fellow in chem., N.Y.U., 1932-34; demonstrat. in chem. engrg., U. Toronto, 1934-37; plant res. chem., Shawinigan Chems., Ltd., 1937-38; instr. chem. engrg., Case Inst. of Tech., 1937-40; hd., cement preparing sec., central tech. lab., Armstrong Cork Co., 1940-41; mgr., tech. service & market devel. div., Westvaco Chlorine Prods. Corp., 1941-45; market devel. mgr., Jefferson Chem. Co., Inc., 1945-47; mgr., sales dept., 1947 to date. Mem.: Alpha Chi Sigma, Sigma Xi, Chem. Market Res. Assn., A.C.S., A.I. Ch.E., Commercial Chem. Devel. Assn., A.I.Ch. Clubs: Chemists', Canadian, Mamaroneck University. Hobby: music.

BOWNE, Martin Starr, gen. mgr., Lee Clay Prods. Co., Inc., Clearfield, Ky.; res. Clearfield.
Exec.; b. Elmira, N.Y., Feb. 15, 1889; s. of Frank and Philipena Bowne; ed. Alfred U. 1908-09 and 1909-10; Ohio State U., 1910-11 and 1911-12; m. Bernice Bennett, Aug. 18, 1915; ch.: Andre Bennett, Jeanne Frances, Anellen Starr. Am. Sewer Pipe Co., Akron, O., 1912-17, laborer to fact. supt.; U.S.A. 1917-18; Mfr. Equip. Co., Dayton, O., 1919-20, sales engr.; Robinson Clay Prod. Co., Clearfield, Pa., 1920-25, fact. mgr.; Lee Clay Prod. Co., 1925 to date, built & operated this plant as gen. mgr. Natl. Clay Pipe Res. Corp., (secy. & treas.). Mem.: Am. Ceramic Soc. (mem.), Inst. of Ceramic Engrs. (mem.). Hobbies: reading (historical), and bridge.

BOYD, G(eorge) E(dward), assoc. dir., chem. div., Oak Ridge Natl. Lab., Oak Ridge, Tenn.; res. 105 E. Dalton Rd., Oak Ridge.
Physical chem.; b. Evansville, Ind., Sept. 1, 1912; s. of Herbert H. and Minna (Deusner) Boyd; ed. B.S. U. of Chicago 1933, Ph.D. U. of Chicago 1937; mem.: Phi Beta Kappa, Sigma Xi, Gamma Alpha; m. Valborg R., 1942; ch.: Monica. Rockefeller Foundation Fellow, Chicago, 1937-38, res. instr. 1938-39, instr. 1939-42, asst. prof. 1942-45, assoc. prof. 1945-48; sec. chf., Mtl. Lab. Chicago, 1942-43; Clinton Lab. Manhattan Project 1943-46; princ. chem. 1946-48. Assoc. Editor-Journal Physical & Colloid Chemistry, 1950—. Research Associate, Oak Ridge Institute for Nuclear Studies, 1948—. Surface chem., inorg. anal., nuclear chem. ion exchange. Mem.: A.C.S., Physical Soc., A.A.A.S.

BOYD, J. Hallam, exec. v.p. Commercial Chem. Co., P.O. Box 86, Memphis 1, Tenn.; res. 532 S. Belvedere Blvd., Memphis 4.
Chem. mfr.; b. Wesson, Miss., July 31, 1892; s. of James A. and Lillian (Hallam) Boyd; ed. Yale U. B.A. 1914; mem.: Delta Kappa Epsilon; m. Elizabeth Watkins, Nov. 30, 1926; ch.: J. Hallam, Jr., Irene Elder, Elizabeth Soffarrans. Asst. to dir. of sales, B.F. Goodrich Co., Akron, 1914-17; Capt. 13th Fld. Artillery A.E.F. 1917-19; gen. mgr., Newton Annis Inc., Detroit 1919-25; 1925 to date Commercial Chem. Co., Memphis. Partner, Frazier, Jelke & Co., mem. of N.Y. Stock Exch., 40 Wall St., N.Y. 1930 to date. Clubs: Racquet & Tennis (N.Y.), Broad St. (N.Y.C.), Memphis Country, (Memphis).

BOYD, James Harrington, consltg. chem. engr., 250 Park Ave., N.Y. 17, N.Y.; res. 10 Bacon Ct., Bronxville 8, N.Y.

Chem. engr.; b. Portland, Me., Nov. 29, 1902; s. of J. Harrington and Susan (Adams) Boyd; ed. Kenyon Coll. B.S. summa cum laude 1924; Mass. Inst. of Tech. S.M. 1926, S.C.D. in chem. engrg. 1930; mem.: Delta Kappa Epsilon, Phi Beta Kappa; m. Henrietta Hammond Candler, Jan. 25, 1936. Res. asst., M.I.T. 1926-29; chem. engr., Atlantic Refining Co., 1929-35, asst. mgr. res. & dev., 1935-37; process dev. supvr., E.I. du Pont de Nemours & Co.; in chg. chem. prod. dev., Phillips Pet. Co., 1939-46, asst. to pres., Hycar Chem. Co., 1940-46, eastern tech. rep., 1946-47, conslt., 1947 to date. Dasher Rubber & Chem. Co. (dir.). Pet. chem. & hydrocarbons, syn. rubber, ethylene oxide, chem. process economics, prod. dev. Mem.: A.C.S., A.I.Ch.E., Chem. Market Res. Assoc., Com. Chem. Dev. Assoc. Clubs: Chemists' (N.Y.), D.K.E. (N.Y.). Hobbies: gardening, bridge.

BOYD, John E., v.p., United Feldspar & Minerals Corp., Spruce Pine, N.C.; res. Spruce Pine, N.C.
Exec.; b. Amsterdam, Ga., s. of J.E. and Sarah B. Boyd; ed. N.C. State Coll., Raleigh, B.S. Ceramic Engrg.; mem.: Keramos; m. Ruth Parker, July 15, 1931; ch.: Jack, Florence, Stephen. 1928-29 asst. chem., 1930-40 chf. chem., 1940-43 dir. of res. and dev.; 1943-44 mgr. Minpro plant, 1945 to date v.p. all, United Feldspar & Minerals Corp.; 1946 to date v.p. Carolina Pyrophyllite Co. Mem.: A.I.M.M.E., A.Ceramic Soc., Carolina Soc. of Engrs. Clubs: Rotary (1930 to date). Hobbies: hunting, fishing.

BOYD, Oscar F., prof chem., Wilmington Coll., Wilmington, O.; res. 588 Douglass St., Wilmington.
Tchr. chem.; b. Martinsville, O., Mar. 2, 1889; s. of John T. and Mary F. Boyd; ed. Wilmington Coll., B.S.; Ohio State U., M.S., Ph.D.; mem.: Sigma Xi; m. Opal White; ch.: Dr. Paul F., Mary Ruth Custis. 1914-19 instr. chem. Wilmington Coll., 1919 to date prof. chem. same coll.; wk. on doctor's dissertation done on relation of fatty acids to assimilation of calcium.

BOYD, Richard Noble, dir. res., Trojan Powder Co., Allentown, Pa., res. 1843 Hamilton St.
Chem. engr.; b. Bethlehem, Pa., Apr. 7, 1893; s. of James W. and Emily E. Boyd; ed. Lehigh U., Ch.E. 1915; mem.: Sigma Chi; m. Marguerite Rudolph, June 26, 1918; ch.: Mrs. Walter Whitmyre. genl. supt., Trojan Powder Co., 1925-28; asst. dir. res., dir. res., 1928 to date; mem.: A.C.S., (past local sect., secy., treas., chmn.); Sigma Xi. Club: Lehigh Country. Hobby: golf.

BOYD, T(homas A(lvin), res. conslt., Gen. Motors Corp., Res. Lab. Div., Detroit 2, Mich.; res. 1016 Harvard Rd., Grosse Pointe 30, Mich.
Res. conslt.; b. Fairview, Ohio, Oct. 10, 1888; s. of William C. and Amanda (Bell) Boyd; ed. Ohio State U., B.Ch E., 1918, Ch.E. 1938; m. Grace Jean Bethel, June 25, 1919; ch.: Elinor Jean. Res. chem., Res. Div., Dayton Mtl. Prods. Co., 1918-20; res. chem. & asst. hd. Fuel Dept., same, but now amalgamated with G.M.Corp., as Res. Div., 1920-23; hd. Fuel Dept., Res. Div., G.M.Corp., 1923-47; res. conslt., same co., 1947 to date. Out of group res. mostly chem. on automobile & aircraft fuels & the mechanism of their combustion have come important contributions to high-output fuels, incl. discovery of chem. antiknock agents (tetraethyl lead), & pioneer understanding of relationship bet. molecular constitution in hydrocarbons & freedom from knock in engines. Author: "Gas., What Everyone Should Know About It," Frederick A. Stokes Co., 1925; "Res., The Pathfinder of Sc. & Ind.," D. Appleton-Century Co., 1935. Mem.: A.A.A.S. (fellow), S.A.E., A.C.S., A.S.T.M. (pres. 1947-48), A.I.Ch.E., A.P.I., Phi Lambda Upsilon, Tau Beta Pi, Sigma Xi, Engrg. Soc. of Detroit (pres. 1943-44). Awards: Horning Memorial S.A.E. 1948, Lamme M., Ohio State U. 1939. Clubs: Detroit Boat, Torch Club of Detroit, Chemists' (N.Y.). Hobbies: photography, writing.

BOYER, Jerome L., dir. tech. sales, Newport Industries Inc., 230 Park Ave., N.Y. 17, N.Y., res. 2 Burnham Pl., Fair Lawn, N.J.
Chem. engr.; b. Reading, Pa., June 4, 1899; s. of William M. and Emily E. Boyer; ed. M.I.T., B.S. Ch.E.; mem.: Alpha Chi Sigma; m. Mary Elizabeth Snyder, Sept. 7, 1929; ch.: Sheila Emily, Jonathan David. Mem.: A.C.S., A.S.T.M.

BOYER, John Williams, sr. partner, Boyer & Sebastian, Consltg. Engrs., 1740 K St., N.W., Washington 6, D.C.; res. R. 3, Charlottesville, Va.
Consltg. chem. engr.; b. Catasauqua, Pa., Feb. 13, 1886; s. of Edw. D. and Annie (Williams) Boyer; ed. Lehigh U., M.E., 1907 (special); mem.: Psi Upsilon; m. (1st) Mary Howland Ball, 1914; m. (2nd) Margaret Venable Thayer, Feb. 28, 1929; ch.: John W., Jr., Margaret Venable Thayer. 1908-15, beaker boy to chem. & plant supt., Portland Cement plants; 1916-20, chg. dev. by-prods., Solvay Proc. Co., Detroit Wks.; 1917-18, 1st Lt., C.W.S., U.S.A.; 1920, asst. sales mgr., Mathieson Alk. Wks.; 1922-28, sales mgr.; 1928, v.p., sales mgr., Monsanto Chem. Wks.; 1929-34, Calco Chem. Co.; 1934-35, v.p., Filtration Equip. Corp.; 1935, v.p. & 1936, treas., Ivy Packing Corp.; to date, sr. ptnr. Boyer & Sebastian, Engrs. Chf., Alcohol Solvents Div., W.P.B., 1942-44. Mem.: A.I.Ch.E., Salesmen's Assn. (pres., 1923). Clubs: Lotos (N.Y.), Detroit, Duquesne (Pittsburgh), Army & Navy (Wash., D.C.) Hobbies: grouse hunting, trout fishing, farming.

BOYER, William Preston, asst. dir., res. dept., Virginia Carolina Chem. Corp., Richmond, Va.; res. Cherokee Rd., Richmond.
Res. chem.; b. Orange, Va., Jan. 8, 1918; s. of Julian F. and Anne (Saunders) Boyer; ed. Va. Military Inst., B.S. 1938; U. of Va., Ph.D. 1942; mem.: Alpha Chi Sigma; m. Norma L. Secrest, May 5, 1945; ch.: William P. Jr., Nancy S., Ashley E. Major U.S.A. 1942-46; instr. chem. V.M.I. 1946-47; res. chem. Virginia-Carolina Chem. Corp., 1947 to date. Mem.: A.C.S., Sigma Xi, Raven Soc.

BOYLE, A(lexander) R(obert) M(ills), secy., treas., Lehn & Fink Prods. Corp., 445 Park Ave., New York, N.Y.
Exec.; b. Glasgow, Scot., Apr. 30, 1888; ed. Glasgow H.S., C.A. Manitoba; m. Bernadette Giguere, July 29, 1933; ch.: 1 dau., 1 son. Webb, Read & Hegan, 1916-19; Touche-Niven Co., 1919-25; Lehn & Fink Prods., 1925 to date. Served with Can. Engrs., 1917-18. Clubs: Pilgrims, St. Andrews, Wee Burn Country, Canadian.

BOYLE, Gerald Thomas, dir. of traffic, Julius Hyman & Co., P.O. Box 2171, Denver, Colo.; res. 1420 Logan St., Denver, Colo.
Dir. traffic (chem. & explosives); b. Lowell, Mass., Apr. 3, 1911; s. of Michael J. and Eva R. (Landry) Boyle; ed. Fordham U. Schl. of Business Admin.; N.Y.U., B.S. 1935; M.A., 1936; mem.: Kappa Delta Pi (honor soc.). With Witco Chem. Co. as gen. traffic mgr.; to date with Julius Hyman & Co., dir. of traffic. Chmn., Traffic Comm., Natl. Gas Prods. Assoc., 1947-48; chmn. Chems. and Explosives Comm., Midwest Shippers' Adv. Bd.; chmn., Chems. and Explosives Comm., Central Western Shippers' Adv. Bd. Recip. of Army Commendation M.; mem. Natl. Industrial Traffic

League. Clubs: Traffic (Chicago), Traffic (Denver), Associated Traffic Clubs of America, Mt. Vernon Country. Hobbies: research, study, traffic assoc. comm. wk., sports.

BOYLE, Stewart, plant mgr., P.O. Box 1130, Brownsville, Texas; res. 6 Poinsettia Pl., Brownsville.
Mech. engr.; b. Glasgow, Scotland, Sept. 23, 1908; s. of Alexander and Margaret (Surgeoner) Boyle; ed. U.S. Naval Acad. B.S.; m. Euphemia Woods, Nov. 7, 1931; ch.: Marian Lois; U.S. Marine Corps, 2nd Lt., 1930-32; Continental Oil Co., terminal supt. 1933-44; U.S. Ind. Chem., sr. foreman 1944-49.

BOZORTH, Richard Milton, res. physicist, Bell Labs., Murray Hill, N.J.; res. 20 Park Rd., Short Hills, N.J.
Physicist; b. Salem, Ore., Apr. 10, 1896; s. of Scott B. and Elizabeth Flint (Dearborn) Bozorth; ed. A.B., Reed Coll., 1917; Ph.D., Calif. Tech., 1922; m. Louise Huntley, Aug. 3, 1921; ch.: Katherine (Bozorth) Beyer (Mrs. E.B.B., Jr.), Alison B. Calif. Tech., tchg. fellow, 1919-21; du Pont fellow, 1922, res. fellow, 1923; West Elec. Co., res. labs. 1923-25; Bell Tel. Labs., 1925 to date. U.S.A., Sgt., Engrs. (gas and flame); Chem. Sect. gas res. Paris and Princeton. Res. on crystal structure with X-rays. Author: "Ferromagnetism" (Van Nostrand), 1951 (in press); also contrib. num. tech. arts. to sc. jls. Nav. tech. mission Japan, 1945-46. Mem.: A.Phys.S., A.I.E.E., A.I.M.M.E., A.Crys.A., A.A.A.S. Clubs: Racquets (Short Hills, N.J.), Appal. Mt. Club. Hobbies: photography, rock climbing.

BRABENDER, George J., asst. to v.p. for res., Marathon Corp., Rothschild, Wis.; res. 2017 Lillie St., Wausau, Wis.
Chem. engr.; b. Aug. 21, 1901; s. of John and Mary Brabender; ed. U. of Wis. B.S. 1925, M.S. 1928; mem.: Phi Lambda Upsilon, Sigma Xi; m. Alice Melbye, Dec. 31, 1929; ch.: Julianne, Mary Alice. 1925-26, Northwest Paper Co., Cloquet, Minn., res. engr., also 1928-29; 1929 Wis. River Valley Vocational Schls., itinerant instr. in pulp & paper tech; 1930 to date, Marathon Corp., Rothschild, res. engr., dir. of pulp & paper res., asst. to v.p. for res. Fund. investigations of methods to measure the permeability of sheet mtls. used as water vapor barriers, acid & Alkaline pulping studies, pulpwood mensuration, sulfate pulp bleaching studies. Mem.: A.C.S., A.S.T.M., T.A.P.P.I., Tech. Sec. of Canadian Pulp & Paper Assoc., Wis. Soc. for Ornithology. Mem. Wausau City Council, Marathon Co. Bd. of supvrs. Clubs: Wausau, B. P.O. Elks, Wausau Curling. Hobbies: photography, bird study, gardening, culture of tuberous begonias, curling.

BRACKETT, William Savage, v.p., Carbide & Carbon Div., Union Carbide & Carbon Corp., South Charleston, W. Va.; res. 1226 Upper Ridgeway Rd., Charleston.
Chem. engr.; b. Cunnyngham, Pa., Oct. 27, 1898; s. of William Walker and Esther (Savage) Brackett; ed. New Britain, Conn. Public Schls.; B.S. Middlebury Coll., Middlebury, Vt.; M.S. Chem. Engrg. Practice, M.I.T., Cambridge, Mass.; mem.: Delta Kapppa Epsilon; m. Emily Millard, June 27, 1925; ch.: Millard (dec.), William S. Jr., Eleanor M. Carbide & Carbon Chem. Corp., chem. engr., 1923-38, chf. chem. engr. 1938-43, v.p. 1943 to date. Mem.: A.I.Ch.E. Dir., Mason Coll. of Music & Fine Arts. Club: Chemists' (N.Y.), Edgewood Country (Charleston).

BRADFORD, Purdy, group leader, soap & glycerine res. div., Swift & Co., Chicago, Ill.; res. 12040 93 Ave., Palos Pk., Ill.
Chem., chem. engr.; b. Wesington Springs, S. Dak., July 3, 1908; s. of John Gage and Helen H. Bradford; ed. U.S. Dak., 1926-29; Ia. St. Coll., 1929--30, B.S. Chem. Eng.; mem.: Phi Delta Theta; m. Ione A. Anderson, Dec. 26, 1936; ch.: Owen A., Helen M. Koppers Const. Co., 1930-31; Midwest Oil Co. 1931-32; Anderson Prichard Oil Co., 1934; Wagoner Const. Co., 1935-36; Swift & Co., 1937 to date. Res. in glycerine anal., soap & glyc. proc.; mem.: A.I.Ch.E., A.C.S., A.O.C.S., A.S.T.M. Club: Lions. Hobbies: youth activities, outdoor sports.

BRADLEY, Donald D., pres. Commercial Chems., Inc., 614 Ellicott Sq. Bldg., Buffalo 3, N.Y.; res. 97 Reist Rd., Williamsville 21.
Exec.; b. Dayton, O., Mar. 22, 1908; s. of F. De Vere and Elsie M. Bradley; ed. Hamilton Coll., B.S. 1928; mem.: Delta Upsilon; m. Helen Sutton, Nov. 24, 1932; ch.: William S., Donald D., Jr., Susan E. 1928-29 chem. successively with Bethlehem Steel, Dunlop Tire & Rubber, and Carborundum Co.; 1929 to date sales, Rolls Chem. Co. (corpor. name chgd. in 1942 to Commercial Chems. Inc.); became pres. in 1938 upon death of Mr. Harold J. Rolls. Dir. O-Cel-O, Inc. Mem.: A.C.S., A.A.A.S., Natl. Fed. of Sales Execs. Clubs: Country (Buffalo), Rotary (Buffalo), Buffalo Athletic, Mid Day. Hobbies: photography, woodworking, flying, gardening.

BRADLEY, Theodore Franklin, hd. org. & applications dept., Shell Dev. Co., 4560 Horton St., Emeryville, Calif.; res. 50 La Cuesta, Orinda, Calif.
Chem.; b. Bayonne, N.J., Jan. 30, 1901; s. of Franklin N. and Mary (Hamilton) Bradley; ed. Rensselaer Polytech. Inst., 1919-21; Rutgers U., 1933-34; m. Beatrice Huffman, Oct. 21, 1922; ch.: Donald F. Mica Insulator Co., Schenectady, N.Y., 1922-24, chem.; Ellis-Foster Co., Montclair, N.J., 1924-28, chem.; Am. Cyanamid Co., Linden, N.J. & Stamford, Conn., 1928-43, res. group leader; Major, U.S.A., Chem. Corps, Tech. Div., 1943-45; Shell Dev. Co., Emeryville, Calif., 1945 to date, res. dept. hd. Dev. of syn. resins, drying oils, coating compositions, chem. intermediates; author of many publ. in these flds. in tech. journals & pats. Author: Chapters 4, vol. 3; 2, vol 5, "Protective & Decorative Coatings" Mattiello, John Wiley & Sons, N.Y., 1943, 1946; chapter 21, "Soybeans & Soybean Prods." Markley, Intersc. Publ., N.Y., in press 1950. Mem.: A.C.S., Armed Forces Chem. Assn. (pres. San Francisco Chapter). Lecturer 1946 "Frontiers of Chem. Series," Western Reserve U., "Drying Oils"; lecturer 1950 "Mattiello Memorial Lecture," Natl. Paint, Varn. & Lacq. Mfrs. Assn.; selected 1948 by Chicago sec. A.C.S. as "one of 10 ablest chem. in U.S. working in fld. of paints, varn. & lacq. Hobbies: gardening, photography.

BRADLEY, Walter M.; res. 520 Whitney Ave., New Haven, Conn.
Teacher (retired); b. New Haven, Conn., Apr. 14, 1873; s. of George T. and Emma J. Bradley; ed. 1899 Yale Ph.B., Ph.D.; mem.: Sigma Xi. Instr. Yale, mineral., anal. chem. Short time with Am. Agric. Chem. Co. Former mem.: A.C.S., Am. Electrochem. Soc., A.A.A.S. Hobby: photography.

BRADLEY, William Besteder, sc. dir., Am. Inst. of Baking, 400 E. Ontario St., Chicago 11, Ill; res. 1046 Elmwood Ave., Wilmette, Ill.
Biochem ; b. Clinton, Iowa, May 15, 1911; s. of William H. and Mary E. Bradley; ed. Northwestern U., Evanston, Ill., B.S., 1933; M.S., 1935; Ph.D., 1938; mem.: Alpha Chi Sigma, Sigma Phi, Sigma Xi; m. Alice W. Bradley, Nov. 30, 1935; ch.: Jean, Anne, William R. Asst. pharmacol.,

Expt. Station, Wyo., 1933-41; physiol., Council on Food & Nutrition, Am. Med. Assn., 1941-42; Capt., Air Corps, 1942-45; dir. of labs., Am. Inst. of Baking, 1945-49; sc. dir., 1949 to date. Mem.: Am. Physiol. Soc., A.A.A.S., A.C.S., A.A.C.C.

BRADNER, Donald B(yal), conslt., dev. dept., E.I. du Pont de Nemours & Co., Wilmington, Del.
Chem. engr.; b. Marion, Ind., Nov. 26, 1891; s. of John J. and Ida H. Bradner; ed. U. of Nev. 1910-13; m. Agnes Claire Mead, 1913; ch.: Mead, Hugh. Dir. res., Tonopah Extension Mining Co., 1915; mill supt., White Caps Mining Co., 1916-17; mill supt., Tonopah Extension Mining Co., 1917-18; chem. engr., U.S. Bu. of Mines, 1918; Capt., C.W.S. 1918-22; chf. chem. C.W.S. 1922-24; chem. engr., E.I. du Pont de Nemours & Co., 1924-26; dir. res. & dev., Hamilton Div., Champion Paper & Fibre Co., 1926-42; v.p., gen. mgr., Hamilton Labs., 1933-42; conslt., Champion Paper & Fibre Co., 1942-45; spec. advisor to chf., C.W.S. 1942-44; conslt., E.I. du Pont de Nemours & Co., 1945 to date. Many successful dev. in chem. & paper ind. Over 50 U.S. pats. Mem.: A.I.Ch.E., A.C.S., T.A.P.P.I., A.AA.S.

BRADSTREET, Raymond Bradford, dir., The Bradstreet Labs., Inc., 1300 Allen St., Linden, N.J.; res. 603 Westminster Ave., Elizabeth, N.J.
Anal. chem.; b. Salem, Mass., Aug. 21, 1901; s. of Harry Hammond and Mary Patton (Tedford) Bradstreet; ed. 1918-22 Northeastern U., Boston, Mass., Chem. Engrg.; 1928-29, Pratt Inst., Bklyn., N.Y., Indust. Chem. Engrg.; 1930-42, Polytech. Inst. of Bklyn., Evening Div. B.S. and M.S. in chem.; mem.: Beta Gamma Epsilon, Northeastern U.; m. Dorothy Frances LuBrew, Aug. 1, 1930. 1923-25, Fuel Testing Labs., fuel engr., Boston, Mass.; 1925-28, A.C. Lawrence Leather Co., Peabody, Mass., anal. and devel. chem.; 1929-36, U.S. Rubber Co., Devel. Labs., Passaic, N.J.; control, res. and devel. of anal. meths.; 1936-42, Esso Labs., Std. Oil Co., Bayway, N.J., anal. res. and dev. of meths.; 1942-45 commis. Lieut.; Lieut. Comdr. when released from duty; U.S. Navy, Petroleum Inspection Serv., in chg. Tulsa, Okla. office; Petroleum Lab. and liaison off., Trinidad and Admiralty Isles; later, Area Petroleum Off., 7th Fleet Serv. Force, Manila, P.I.; Jan.-June, 1946 in chg. anal. res. sect., Esso Labs.; 1946-48, Creole Petroleum Corp., Caracas, Venezuela; tech. supvr., Refinery, Caripito; 1949 to date, operating own labs.; devel. and mfr. of fine org. chems. Author of var. papers on Kjeldahl meth., and determ. of unsaturation in hydrocarb. mixtures; also author of "The Standardization of Volumetric Solutions," 1st ed. 1939, 2nd, 1944. Mem.: A.C.S., A.A.A.S., fellow, A.I.C., fellow, The Chem. Soc. (London), mem. of Naval Reserve. Hobbies: photography, stamps, music.

BRAGDON, Charles R(idgaway), consultant. Res. Labs., Interchemical Corp., 432 W. 45th St., New York 19; res. 4 Rock Ridge Rd., Larchmont, N.Y.
Chem. engr.; b. Evanston, Ill., Sept. 12, 1884; s. of Merritt C. and Elizabeth W. (Byerly) Bragdon; ed. A.B., Northwestern, 1905; S.B., M.I.T., 1907; mem.: Beta Theta Pi, Phi Beta Kappa; m. Helen Field Cobb, June 16, 1909; ch.: Florence E. (Bragdon) Abbott, Helen C., Nancy W. (Bragdon) Hughes. Chem., Swift & Co., Chicago, 1908-09; Robt. A. Worstall Lab., 1909-10, 1912-15; chf. chem., Glidden Varnish Co., 1910-12; chem. dir. varnish wks., Ault & Wiborg Corp., Cincinnati, O., 1915-28, secy., 1928-34; res. chem., Internatl. Printing Ink Corp., 1934-37; Interchemical Corp., 1937 to date; mgr. Spec. Serv. Dept., Res. Labs., 1947-49; consultant, 1949 to date; with Atomic Energy Commis., U.S.A. Mem.: A.C.S. (chmn. P.V. & P.Div., 1949-50), A.S.-T.M., N.Y. Paint and Varnish Prod. Club: (secy. and treas., 1940; v.p. 1941; pres. 1942); A.O.C.S.

BRAIDECH, Mathew Michael, res. dir., Natl. Bd. of Fire Underwriters, 85 John St., N.Y. 7, N.Y.; res. 172 High St., Hastings-on-Hudson, N.Y.
Chem. engr.; b. Cleveland, Ohio, May 4, 1902; s. of Matthias and Frances (Stimac) Braidech; ed. Ohio St. U., B.Ch.E., 1925; Chem. Engr. 1931; mem.: Phi Kappa, Alpha Chi Sigma; m. Stella Agnes Posch, June 19, 1927; ch.: Mathew Thomas, Lawrence Ludwig. 1925-26 asst. ceramic engr., G.E. Co., Pittsfield, Mass., chem. N.Y.C.R.R., Cleveland, Ohio; 1926-36 chf. chem., sr. bacteriol., dept. publ. utilities, City of Cleveland, Ohio; 1936-39 asst. prof. chem. engr., Case Inst. of Tech. 1939-42, assoc. prof. chem. engr. 1942-45, prof. ind., sanitary chem.; 1945 to date dir., res. divs., dept. engr., Stand. of Fire Protection, Natl. Bd. of Fire Underwriters N.Y.C. War record: Off. investigator, panel chf., NDRC, OSRD, Military Water Suppl., prh. chem. engr. conslt. Copdymer. Dn., Rubber Dir. Off., War Prod. Bd.; Tech. conslt. Cleveland Mayor's bd. of inq.; Cleveland Clinic Disaster (1927), East Ohio Gas Disaster (1944); Radiolog., fire safety advisor to Off. of Civil. Def. Plann. Sc. of Defn. 1948-49. Author of 75 publ., on water purification trade waste, treatment, atmospheric pollution, abatement, indust. fire hazards, expls., lethal fire gases, radiolog. hazards in fire emergencies; mem.: Sigma Xi, A.I.C. (fellow), A.I.Ch.E., A.C.S., A.W.W.A., A.S.T.M., A.S. Engr. Ed., A.A.U.P., Res. Dirs. Assn. of N.Y.C.; Natl. Fire Prot. Assn., Intnl. Assn. Fire chfs. John Goodell Prize, A.W.W.A. 1935; NRDC Merit Citation, 1945; Reg. Engr. Ohio. Sp. investigator Texas City Disaster 1947; Holland Tunnel Chem. Fire, 1949; So. Amboy Port Expl. 1950; mem.: res. comm., Pres. Conf. on Ind. Safety 1949-50; fire prevention; Consltnt. Natl. Comm. Safety Ed. of N.E.A. Mem.: sev. tech. comms. Clubs: O.S.U. Alumni Assn. Hobbies: travel, crime detection, swimming, gardening, home construction.

BRAINARD, Seymour W., mgr. of tech. service, E.I. du Pont de Nemours & Co., Inc., Wilmington 98, Del.; res. 311 Irving Dr., Wilmington.
Chem.; b. Sangerfield, N.Y., Apr. 30, 1902; s. of Clark M. and Albertina C. Brainard; ed. Colgate U. B.S. 1923 Phi Beta Kappa; Cornell U. Ph.D. 1928, Sigma Xi; mem.: Alpha Chi Sigma; m. Virginia S. Heilman, June 29, 1933; ch.: Donald C., Ellen J., Susan L. 1923-24, asst. physicist, Corning Glass Wks.; 1924-28 grad. student, Cornell U.; du Pont Fellowship 1928, Cornell U.; 1928-36 res. chem., du Pont (rayon); 1936-38 res. supvr., du Pont (rayon); 1938-47 tech. supt., Old Hickory Plant, du Pont (rayon); 1947 to date, mgr. of tech. service du Pont (rayon). Detergent action of soaps, rayon res. & dev. Mem.: A.C.S., Alpha Chi Sigma, Phi Beta Kappa, Sigma Xi. Club: du Pont Country. Hobbies: collecting artifacts of Am. Indians.

BRAINERD, Arthur Travena, mgr. Chicago office, Ciba Co., Inc., 325 W. Huron St., Chicago 10, Ill.; res. 7516 Prairie Ave., Chicago 19.
Dyestuff sales.; b. Pemaquid, Me., Nov. 10, 1888; s. of Walter and Elizabeth Brainerd; ed. Malden, Mass. H.S. 1906; Lowell Textile Inst. 1909; mem.: Phi Psi; m. Rena Thomas, Aug. 17, 1911; ch.: Martha, Thomas, Angel. 1909-25 lab. sales., mgr., H.A. Metz & Co.; 1926-27, sales., Gen Dyestuff Corp.; to date, mgr. Ciba Co., Inc. Mem.: A.A.T.C.C. Club: Calumet Country. Hobbies: golf, bridge.

BRALEY, S(ilas) A(lonzo), sr. fellow, Mellon Inst., Pitts. 13, Pa.; res. 7 Highland Ct., Pitts.
Res. chem.; b. Cherokee, Ia., Dec. 10, 1889; s. of

Grant and Grace P. Braley; ed. A.B. Morningside Coll. 1913; M.S. U. of Ill. 1915; Ph.D. U. of Ill. 1917; mem.: Phi Kappa Tau, Alpha Chi Sigma, Gamma Alpha, Phi Lambda Upsilon, Sigma Xi; m. Sara Rachel Whitehouse, Sept. 1, 1915; ch.: Silas A., Jr., Virginia Grace, William Grant, James Edwin. U. of Ill.: 1917-19 instr., 1919-20 assoc., 1920-27 asst. prof.; Mellon Inst. 1927 to date, 1927-46 Steel Fellowship, 1946 Acid Mine Drainage. Mem.: A.C.S., A.S.T.M. Club: University (Pitts.).

BRAMANN, George M(osher), asst. to dir. of res., Mathieson Chem. Corp., Niagara Falls, N.Y.; res. 1216 Norwood Ave., Niagara Falls. Chem.; b. Bridgeport, Conn., July 15, 1904; s. of George A. and Winifred Clyde (Mosher) Bramann; ed. Wesleyan U., B.S. cum laude 1925, M.A. 1926; Harvard U., M.A. 1928; mem.: Alpha Chi Rho, Alpha Chi Sigma; m. Sara Bowman, Sept. 28, 1929; ch.: Susan. Asst. in chem., Wesleyan U., Middletown, Conn., 1924-26; Austin teaching fellow, Harvard U., Cambridge, Mass., 1926-28; res. chem., rubber tech., B.F. Goodrich Co., Akron, O., 1928-34; mgr. sales dev., asst. to sales mgr., adv. mgr., Niacet Chem. Corp., Niagara Falls, 1934-42; plant investment engr., Mathieson Magnesium Plant, Lake Charles, La., 1942-44; asst. to dir. of res. Mathieson Chem. Corp., Niagara Falls, 1944 to date. Puncture sealing rubbers, adhesives, acetylation of sugars, lab. management. Mem.: A.C.S. (Western N.Y. Sec., v.chmn. 1949-51), Mason (Adoniram Lodge No. 517, F.A.M. Akron, O.), Arctic Inst. of No. Am., Midwest Coll. Placement Assoc. Advisor, N.Y. State Inst. of Applied Arts & Sc. at Buffalo, N.Y. Clubs: Torch Club of Niagara (pres. 1947-48), Electrons (pres. 1945), Photographic Soc. of Am., Chicago Color Camera. Hobbies: color photography, philaletic research.

BRAMS, Stewart L., gen. mgr., Dayton Chem. Prod. Labs. Inc., W. Alexandria, Ohio. Chem., chem. engr.; b. Greenville, Mich., July 10, 1914; s. of Samuel S. and Fredericka (Fixel) Brams; ed. U. of Mich., B.S. 1935, M.S. 1936; mem.: Phi Lambda Upsilon; m. Florence Ann Gustafson, May 29, 1940; ch.: Karen Mae, John Stewart. Minn. Mining & Mfg. Co., chem. 1937-38; Inland Mfg. Div., Gen. Motors Corp., chem. section head, sr. compounder, 1939-46; Dayton Chem. Prod. Labs. Inc., founder, gen. mgr., 1946 to date. Rubber tech., bonding of rubber to mtl, rubber adhesives, bonding & splicing of butyl rubber to mtl. and to other elastomers. Mem.: A.C.S.; Dayton Soc. of Professional Engrs.; rubber div., A.C.S., Southern Ohio Rubber Group. Clubs: Engineers of Dayton, Kiwanis of W. Alexandria. Hobby: music.

BRANCH, Charles Benson, mgr. tech. serv. & dev., The Dow Chem. Co., Midland, Mich.; res. 4613 Eastman Rd., Midland. Exec.; b. Omaha, Nebr., May 23, 1915; s. of Karl S. and Olava C. Branch; ed. B.B., Western Reserve U., 1937, magna cum laude; mem.: Lambda Chi Alpha, Phi Beta Kappa; m. Shirley Marie Dasher, Aug. 25, 1939; ch.: Jaquith Lee, Pamela Jill, Kristi Marie, Gretchen Kit, Andrea Denise. The Dow Chem. Co.: 1937-38, student training; 1938-41, dev. cellulose prods.; 1941-42, dev. saran prods.; 1942-46, prod. supt. Texas div.; 1946-49, coatings sales; 1949 to date, mgr. tech. serv. & dev.

BRANDES, George Henry, hd., chem. dept., Muhlenberg Coll., Allentown, Pa.; res. 331 N. Broad St., Allentown. Prof.; b. Apr. 10, 1895; s. of George C. and Anna P. Brandes; ed. Cornell U. B.Chem. 1918, Ph.D. 1925; mem.: Alpha Chi Sigma; m. Rhea May Stamm, June 17, 1928; ch.: G. Stanley, Janet E. Instr., Cornell U., 1919-26; asst. prof., Muhlenberg Coll. 1926-27; prof. & hd. of dept., Muhlenberg Coll., 1927 to date. Mem.: A.C.S., Sigma Xi, Phi Kappa Phi, Sigma Gamma Epsilon.

BRANDNER, John David, asst. dir., Central Res. Lab., Atlas Powder Co., Wilmington, Del.; res. 502 W. 19th St., Wilmington. Chem.; b. Bethlehem, Pa., Mar. 23, 1910; s. of John F. and Sadie (Gangawer) Brandner; ed. Lehigh U., B.S., 1932, M.S. 1934; Columbia U., Ph.D. 1943; m. Ida May Hall, Sept. 21, 1943; ch.: Susan, Julia. Chem., Expt. Lab., Atlas Powder Co., 1934-37; asst. dir., Lab., Ravenna Ord. Plant 1941-42; res. dept. 1942-43; dir., Atlas Res. Lab. 1943-47; asst. dir., Central Res., Lab. 1948 to date. Investigator of German chem. ind., particularly surface active agents, 1947. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S., A.I.Ch.E., Soc. of Plastics Engrs., Ind. Res. Inst. Hobbies: records, books.

BRANDON, Joel Kell, pres., The Ensign Bickford Co., Simsbury, Conn.; res. Simsbury, Conn. Mfr.; b. Celina, Ohio, Mar. 28, 1880; s. of Dr. John Riley and Hanna F. (Dickman) Brandon; ed. Albion, Mich. H.S., Kenyon Coll., Ph.B. degree, 1902 (Gambier, Ohio); mem.: Delta Tau Delta; m. Dorothea Helt, 1944. 1907-10 mgr. Natl. Fuse & Powder Co., Denver, Colo.; 1910 fld. serv. and sales, Ensign Bickford Co., dir. of sales, domestic and export, asst. secy., secy., v.p., exec. v.p., and in 1944 pres. For many yrs. dir. and exec. comm., Ensign Bickford Co.; for may yrs. exec. comm. and dir., Simsbury Bank & Trust Co.; dir. and pres., The Bickford Res. Labs. Inc., Avon, Conn.; dir. The Canadian Safety Fuse Co., Montreal, Canada. Clubs: Mt. Lake (Mt. Lake, Fla.); Oyster Harbors; Wampanoag Country (West Hartford, Conn.), Farmington Valley Polo. Hobbies: fishing, hunting, golf.

BRANIN, M(anlif) Lelyn, prof. in chem., chmn. of dept., Newark Coll. of Engrg., Newark, N.J.; res. The Mermont, Bryn Mawr, Pa. Coll. prof., writer, edit.; b. Camden, N.J., Jan. 27, 1901; s. of Manlif Lewis and Sara (Patterson) Branin; ed. Purdue U., B.S., 1923; Yale U., 1926-27; Columbia U., A.M. 1930; U. of Mich. Ph.D. 1934; University Fellow 1933-34, Sigma Xi; mem.: Phi Delta Theta, Sigma Delta Chi; m. Edith Dowling, Oct. 22, 1927; ch.: Edith Marion. U. of Del., instr., 1940-41; Pa. State Coll., instr., I.E.S. program, summer 1941; Pa. Military Coll., assoc. prof. 1941-43, prof., hd. of dept. 1943-46; U.S. Bituminous Coal Consumers' Counsel, tech. adviser, asst. chf., economics & statistics div., 1942-43; Bituminous Coal Inst., tech. conslt., 1943-46; Newark Coll. of Engrg., prof. in chem., chmn. of chem. dept., 1946 to date; Mechanization, Inc., edit. bd. of Mechannual, 1944 to date, edit. bd. of Utilization, 1948 to date. Var. mag. arts. on coal chem., carbonization of coal, ind. utilization of coal, water-borne coal. Mem.: Sigma Xi, A.A.A.S., A.C.S., Am. Soc. for Engrg. Ed. Hobby: Vermont Americana.

BRANN, Bertrand French, prof. of chem., U. of Me., Orono, Me.; res. 370 College Rd., Orono. Prof.; b. Bangor, Me., Jan. 23, 1887; s. of Edward L. and Mary (French) Brann; ed. B.S., U. of Me. 1909, M.S. 1911; M.S., M.I.T., 1912; m. Evelyn Simon, 1916. Instr., U. of Me., 1909-11; asst., M.I.T., 1912-13; instr., Lowell Textile Schl., 1913-17; asst. prof. 1917-19, assoc. prof. 1919-37, prof. 1937 to date, U. of Me. Mem.: A.C.S., A.A.U.P.

BRANT, Joseph H(enry), dir. of res., The Toni Company, Merchandise Mart, Chicago 54, Illinois. Res. chem.; b. Lucasville, Ohio; s. of Clyde and Nell I. Brant; ed. Ohio Wesleyan U. A.B. 1930, Cornell U. Ph.D. 1935; mem.: Phi Mu Delta, Sigma Xi; m. Mary E. Ames, Sept. 10, 1932; ch.: David A., C. Jane, Nancy E., Susan L. Grad. asst., dept. of chem., Cornell, 1930-35; Tenn. Eastman Corp.: res. assoc. 1935-42, asst. supt. res. & dev. div. 1942-44, acting supt. res. & dev. div.

1944; dir. of res., Inst. of Textile Tech. 1944-47; dir. of res., Bates Mfg. Co. 1948 to June 30, 1950. Syn. in alephatic series, raw mtl. dev. in alephatic series, textile processes and equipt., new prods. in textile fld. Textile Res. Inst., Princeton, N.J., (bd. of dir.). Mem.: A.C.S., British Chem. Soc., Soc. Chem. & Ind., A.A.A.S., A.A.T.C.C., Fiber Soc., Va. Acad. of Sc. Boy Scout Committeeman, dir. of Lewiston, Auburn Community Chest. Vice Chairman & Chairman Gordon Research Conferences, Textile Div., Colby College, New London, N.H. Clubs: Rotary International, Chamber of Com., Lewiston, Me. Hobbies: farming, gardening, photography, hunting, fishing.

BRANTING, Briant F(erdinand), sr. res. chem., Solvay Process Div., Allied Chem. & Dye Corp., Hopewell, Va.; res. 402 Danville Ave. C.H., Petersburg, Va.
Res. chem., chem. enconomist; b. Salt Lake City, Utah, July 15, 1902; s. of L. Frank and Essie Maud (Stoddard) Branting; ed. B.S., 1925, M.S. 1926, U. of Utah; M.S. chem., Carnegie Inst. Tech., 1927; mem.: Sigma Xi, Alpha Chi Sigma; m. Vivia Barnard de Milt, 1929; ch.: Hjalmar Briant, Henri Pierre de Milt. Jr. chem., U.S. Bu. of Mines, Pitts., 1927-28; res. chem., chem. economist, Solvay Process Div., Allied Chem. & Dye Corp., 1928 to date.

BRANTLEY, Lee Reed, prof. of chem., chmn. of chem. dept., Occidental Coll., Los Angeles 41, Calif.; res. 4865 Hartwick St., Los Angeles 41.
Prof. of chem.; b. Herrin, Ill., Sept. 23, 1906; s. of Homer Lee and Blanche (Reed) Brantley; ed. U. of Calif., Los Angeles, A.B. 1927; Calif. Inst. of Tech., M.S. 1929, Ph.D. 1930; mem.: Alpha Chi Sigma; m. Audrey Ryan, June 25, 1930. Instr. in physics & chem., Occidental Coll., 1930-36, asst. prof. of chem. 1936-40, assoc. prof. 1940-42, prof. 1942 to date, hd. dept. of chem. 1940 to date; res. fellow in physics, Calif. Inst. of Tech. 1936-42, res. asst., conslt. in chem., Natl. Defense Res. Council Contract, 1942-44; dir., Office of Naval Res. Contract, Occidental Coll., 1949 to date; served as sr. gas officer, Glendale Citizen's Defense Corps, Calif., 1943-45; registered chem. engr., State of Calif. High-temp. equilibrium of titanium dioxide & carbon with titanium carbide & carbon monoxide; high-temp. equilibrium between silicon nitride, silicon & nitrogen; size of the unit cell of titanium carbide; effect of ultrashort radio waves on plant growth; detection of acetate ion by the reaction with arsenious oxide to form cacodyl oxide. Mem.: A.C.S. (past pres., So. Calif. Sec., Councilor), A.A.A.S., Electrochem. Soc., Sigma Xi, Alpha Chi Sigma (past pres., Los Angeles Prof. Chap., Dist. Counselor), Pac. Southwest Assn. Chem. Teachers, (chmn. So. Calif. Sec. 1949-50). Clubs: Rotary, Los Angeles Paint Varn. Prod. Hobby: gardening.

BRATTON, George Spence, tech. adviser to pres., Anheuser-Busch, Inc., St. Louis, Mo.; res. 107 Cornelia Ave., Kirkwood, Mo.
Exec.; b. Little Lot, Tenn., July 31, 1891; s. of Thomas M. and Alice F. Bratton; ed. A.B., U. of Tenn., 1916; M.S., U. of Pitts., 1922; mem.: Alpha Chi Sigma; m. Helen Stott, 1923; ch.: Joyce (Bratton) Derlacki, Mary Elizabeth, Carol Ann. Chem., Sloss-Sheffield Steel & Iron, 1916-17; U.S.A., 1917-19; res. chem., Mellon Inst., 1919-22; res. chem., Liberty Yeast Corp., 1922-25; Anheuser-Busch, Inc., res. chem. 1926-33, dir. of labs. 1933-47, tech. adviser to pres. 1947 to date. Dev. of com. processes for yeast prod. Mem.: A.C.S., A.A.C.C., A.S.Brew.C., A.I.C., I.F.T. Club: Chemists' (N.Y.). Hobbies: golf, gardening.

BRAUER, Oscar Leo, prof. of chem. & physics, San Jose State Coll., San Jose 14, Calif.; res. 364 S. 16th St., San Jose 12.
Teacher; b. Burney, Calif., June 9, 1884; s. of Oscar G. and Martha Susan (Crews) Brauer; ed. U. of Calif. B.S. 1910, M.S. 1911, Ph.D. U.C. 1915; mem.: Alpha Kappa Lambda, Alpha Chi Sigma; m. Anita Vera Graves, May 30, 1914; ch.: Raymond Oliver, Dorothy Irene. Sc. teacher, Selma U. H.S. 1914-18; v. principal & principal, Orosi Un. H.S. 1918-26; prof. of chem. & physics, San Jose State Coll. 1926 to date. Author: "Chem. & Its Wonders." Mem.: A.C.S., A.A.A.S., A.A. Phys. Tr., Am.A.Sc.Tr. Hobbies: photography, fishing.

BRAUN, Anthony H., controller, Commercial Solvents Corp., 17 E. 42 St., N.Y. 17, N.Y.; res. 86 Grand Blvd., Scarsdale, N.Y.
C.P.A.; b. Bklyn., N.Y., Sept. 28, 1902; s. of Henry and Elizabeth Braun; ed. Newtown High Sch., Elmhurst, N.Y., Pace Inst. (now Pace Coll.), N.Y.C.; m. Evelyn Murnighan, Sept. 23, 1929; ch.: Nancy, Patricia, Mary, Rita, Evelyn, Susan, Barbara. May, 1918-Apr., 1920 Sperry Gyroscope Co., accounting clerk; Apr. 1920-Dec. 1925 Gen. Motors Exp. Co., auditor; Jan., 1926-June, 1928, Arthur Young & Co., auditor; June, 1928 to date. Commerical Solvents Corp., accountant, asst. controller; v.p., controller, dir., Thermatonic Carbon Co. Hobby: sports.

BRAUN, Charles Ernest, prof. of chem & chmn., dept. of chem., U. of Vt. & State Agr. Coll., Burlington, Vt.; res. 173 De Forest Rd., Burlington.
Chem.; b. Bklyn., N.Y., Mar. 10, 1900; s. of Charles and Anna (Keilbach) Braun; ed. Polytech. Inst. of Bklyn., B.S. (in chem.), cum laude, 1922; Columbia U., A.M., 1923; Ph.D., 1925; mem.: Alpha Chi Rho, Lambda Iota; m. Isola E. Oakes, Oct. 3, 1927; ch.: Carl Everton. Res. chem., E.I. du Pont & Co., 1925-26; res. chem., Bklyn. Edison Co., 1926-27; res. chem., Barrett Co., 1927-28; U. of Vt., asst. prof. org. chem., 1928-31; assoc. prof. org. chem., 1931-42; prof. chem., 1942 to date; chmn., dept. chem., 1942 to date. Contrib. papers on org. chem. res. to sc. jls.; res. in fld. of syn. guanidines & their possible applications in medicine; contrib. preparations to "Org. Syntheses." Mem.: A.C.S., Sigma Xi, Phi Lambda Upsilon. Dir., Community Concert Assoc., Burlington, Vt.; Fire Commis., chmn. of commis., Burlington. W.W. I, Student Army Training Corps; W.W. II, Capt., C.W.S., A.U.S., 1943-45, Major, 1945; chf., Chem. Dev. Div., C.W.S. Lab., M.I.T., 1944-45; separated from serv., 1945. Hobbies: hunting, fishing, mycology.

BRAUTLECHT, Charles A., prof. emeritus, U. of Maine, chem. and indust. conslt., 63 Bennoch Rd., Orono, Me.
Chem. and chem. engrg.; b. New Haven, Conn., Sept. 21, 1881; s. of Frank Wm. and Louise Dorothy (Meyer) Brautlecht; ed. Yale U., Ph.B. 1906; Ph.D. 1912. 1906-09, chem., Protein Res. and Anal. Labs., Conn. Agr. Expt. Sta.; 1909-12, grad. student, Yale U., org., indust. and physiolog. chem. and asst. in chem.; 1912-13, instr. in chem., Cal. Inst. of Tech.; 1913-19, prof. of chem. and dept. hd., Fla. State U. (lve. for war serv. in 1918); 1919-35, prof. of chem. and chem. engrg. and dept. hd., U. of Maine; 1935-47, chem. engrg. and potato starch and potato prods. spec. and conslt.; 1947 to date prof. emeritus, chem. and chem. engrg., U. of Maine; chem. and indust. conslt.; res. in org. iodine compds., proteins, aminoacids, hydantoins, pulp and paper chem. and tech., starch chem. and tech., chem. education. Pub. of gen. and org. chem. lab. manuals. Mem.: A.C.S., Gm. Chem. Soc., Yale Engrg. Assoc., Maine Assoc. of Engrs., Tau Beta Pi, Phi Kappa Phi, Alpha Chi Sigma.

BRAY, Roger Hammond, prof. of soil fertility, U. of Ill., 316 Davenport Hall, Urbana, Ill.; res. 512 W. Washington St., Urbana.
Res. chem. in soil fertility; b. Vineland, N.J., Oct.

13, 1898; s. of John F. and Mary (Hammond) Bray; ed. B.S. (Agr.Chem.) Pa. State Coll. 1923; M.S. (Org.chem.) U. of Ill. 1926; Ph.D. (agronomy) U. of Ill. 1940; mem.: Sigma Xi, Phi Lambda Upsilon, Gamma Sigma Delta; m. Doris Emma Neuhaus, June 28, 1927; ch.: John Roger, James Neuhaus. Asst. in soil survey anal. 1923-35; asst. chf. soil survey anal. 1935-41; assoc. chf. soil survey anal. 1941-44; prof. of soil fertility 1944 to date. Chem. of soil dev. and soil fertility, tests for available nutrients in soils, concept of elastic soil fertility, anion & cation exchange. Mem.: A.C.S., A.A.A.S. (fellow), Am. Soc. Agron., Soil Sc. Soc. Am., Ill. Acad.Sc., Am. Assn. of U. Prof., Soil Conservation Soc., Assoc. Edit. of "Soil Sc."

BRAYMAN, Harold, dir., public relations dept., E.I. du Pont de Nemours & Co., rm. 8104, du Pont Bldg., Wilmington, Del.; res. 912 Nottingham Rd.
Dir., publ. relations dept.; b. Middleburgh, N.Y., Mar. 10, 1900; s. of Channing and Minnie Feeck Brayman; ed. Cornell U., 1920, A.B.; m. Martha Witherspoon Wood, Jan. 25, 1930; ch.: Harold Halliday, Walter Witherspoon. Teach., English, hist., Ft. Lee High Sch., N.J. 1920-22; reporter, Evening Journal, Albany, N.Y., 1922-24; asst. legislative correspond., N.Y. Eve. Post, 1924-26; legislative correspond., 1926-28; Wash., D.C. corresp., 1928-33; Wash., D.C. corresp., Phila. Even. Ledger 1934-40; Wash., D.C. corresp., Houston Chronicle and other newspapers, 1940-42; Writer. of syndicated columns, "Daily Mirror" of Wash., 1937-40, "Wash. Preview," 1940-42; covered all natl. conventions, natl. political campaigns 1928-40; pres. Natl. Press Club, 1938; pres. Grid-iron Club, 1941; asst. dir. publ. relations dept. E.I. du Pont de Nemours & Co. 1942-44; dir. publ. relations dept. 1944 to date; chmn., Fifth Natl. Conf. Bus. Publ. Relations Execs. 1948; Dir. Wilmington Gen. Hosp.; Club: Natl. Press, Gridiron, Overseas Writers (Wash., D.C.), Wilmington, Wilmington Country, du Pont Country; Dir. Natl. Press Bldg. Corp.

BRAZDA, Fred George, prof. of biochem., Louisiana State U. Schl. of Med.; res. 422 Hector Ave., New Orleans 20, La.
Teacher; b. Chicago, Ill., Feb. 22, 1909; s. of Fred John and Marie Anna Brazda; ed. B.S. 1931 U. of Chicago; M.S. 1933 Northwestern U., Chic.; Ph.D. 1937 Northwestern U.; mem.: Phi Beta Pi Medical (hon.); m. Helen Josephine Wicks, Aug. 7, 1940; ch.: Frederick Wicks. Instr. in biochem., Creighton U. Med. Schl., Omaha, Nebr. 1937-38; instr. in biochem., La. State U. Schl. of Med., New Orleans, La., 1938-42, asst. prof. of biochem., 1942-45; visiting scientist (biochem.), dept. of Pathol., Charity Hospital of La., New Orleans, La., 1942 to date; La. State U. Schl. of Med., New Orleans, assoc. prof. of biochem. 1945-49, hd. of dept. of biochem. 1946 to date; prof. of biochem. 1949 to date; conslt. in biochem., V.A. Hosp., New Orleans, La. 1949-50. Amino acid metalbolism, hepatotoxic effect of alkaloidal substances, comparative biochem. Mem.: A.C.S., Sigma Xi, A.A.A.S., S.E.B.M. (chmn., southern sec. 1949-50), La. Assoc. of Pathologists (assoc. mem.), Am. Assn. of U. Prof. Hobby: gardening.

BRAZEAU, Willoughby F., pres. dir., Intsel Metals Corp. and International Selling Corp., 70 Pine St., New York 5, N.Y.; res. 7 Transverse Rd., Garden City, N.Y.
Exec.; b. New York, Oct., 1904; s. of Alexander John and M. Elizabeth Willey; ed. Hamilton College, A.B., 1926; m. Ann Katherine Whitmore, May 16, 1942; ch.: Anne Richardson, Elizabeth Wiley, Thomas Willoughby. International Selling Corp., 1932 to present; Intsel Metals Corp., 1948 to present. Mem.: A.I.M.M.E., Armed Forces Chem. Asso., Am. Ordnance Assoc. Foreign Activities Corp., and French American Chamber of Commerce, French Legion of Honor, Chinese Cloud Banner, Norwegian Haakon VII, French Medialle of Reconnaissance, Polish Polonia Restituta, Dutch Orange Order of Nassau, Order of Military Merit Czechoslovakia. Clubs: Wall St. (N.Y.C.), Army Navy Club (Washington (D.C.), U. Glee Club (N.Y.C.). Hobbies: golf, hunting, music.

BRECHT, E(dward) A(rmond) Jr., prof. of pharmacy, Schl. of Pharmacy, U. of N.C.; res. Chapel Hill, N.C.
Teacher of pharmacy; b. Minnesota Lake, Minn., June 30, 1911; s. of Edward Armond and Randina (Halgrimson) Brecht; ed. U. of Minn. B.S. in Pharmacy 1933, M.S. 1934, Ph.D. 1939; Award: Lehn & Fink M. 1933; mem.: Phi Lambda Upsilon, Rho Chi, Sigma Xi, Phi Delta Chi: m. Mary Louise Ramsay, Aug. 10, 1942. City Drug Store, Minn. Lake, Minn., part-time clerk 1918-29, pharmacist 1929-36; student asst. U. of Minn. 1929-33; River Rd. Pharmacy, Minn., pharmacist 1936-39; U. of N.C., instr. 1939-41, asst. prof. 1941-43, assoc. prof. 1943-46, prof. of pharmacy 1946 to date. The oxidation of salicylates & other phenolic cmpds. isotonic soluts., culture of drug plants, measurement of astringent action. Invention: device for automatically measuring & mixing parenteral soluts. Author: chapters on Metrology, Syrups & Juices in Am. Pharmacy, Vol. I, J.B. Lippincott Co., Phila., 1945, sec. edit. 1948; Coauthor: "Scoville's Art of Compounding," Blakiston Co., Phila., 8th edit. 1950. Mem.: Minn. State Pharm. Assn., N.C.Pharm. Assn., A.Phar.A., A.A.A.S., Elisha Mitchell Sc. Soc., A.A.U.P. Secy., N.C. Pharm. Res. Foundation, Inc., mem. of com. on Natl. Formulary, chmn. of subcom. on Solid Preparations for Internal Use. Club: Friday Night.

BREDIG, Max Albert, chf., physics of solids sec., physics div., Oak Ridge Natl. Lab., Oak Ridge, Tenn.; res. 105 E. Pasadena Rd., Oak Ridge.
Chem.; b. Heidelberg, Germany, June 20, 1902; s. of George and Rosa (Fraenkel) Bredig; ed. 1920-25, Inst. of Tech. of Karlsruhe, Germany, diploma engr., magna cum laude; 1925-26, Inst. of Tech. of Berlin-Charlottenburg, Germany, & Kaiser Wilhelm Inst. of Physical Chem., Berlin, Dr. of Engrg., summa cum laude; m. Lydia R. Levy, July 11, 1944. 1927-28, res. fellow, physics dept., U. of Goettingen & chem. dept., U. of Munich, Germany; 1928-29, res. assoc., Kaiser Wilhelm Inst. F. Physikal. Chem., Berlin; 1929-37 chem., Central Res. Lab., Bavarian Nitrogen Wks. Inc., Berlin; 1937-38, res. fellow, dept. chem. & met. engr., U. of Mich., Ann Arbor, Mich.; 1938-46 mgr., applied chem. div., Vanadium Corp. of Am., New York, N.Y.; 1946-49 group leader, chem. div., Oak Ridge Natl. Lab. (formerly Clinton Lab.); 1949 to date chf., physics of solids sec., physics div., Oak Ridge Natl. Lab., Oak Ridge, Tenn. Doctoral thesis 1926 "Masspectroscopic Determination of Ionization Prods. in Hydrogen & Nitrogen," res. in crystal chem., esp. of calcium phosphates & related cmpds., polymorphism of calcium carbide, polymorphism of dicalcium orthosilicate; Mem.: A.C.S., Electrochem. Soc., Am. Soc. of Mtls., A.A.A.S., A.Crys.A. Clubs: Chemists' (N.Y.C.). Hobby: piano.

BREITHUT, Frederick E(rnest), retired prof. chem., hd. chem. dept., Brooklyn Coll.; res. 3550 Dove Court, San Diego 3, Calif.
Prof. chem. (retired); b. Aug. 15, 1880, N.Y.C.; s. of Frederick and Mary (Neuser) Breithut; ed. B.S., C.C.N.Y., 1900; Sc.D., N.Y.U., 1909; m. Florence Lyons, Apr. 3, 1947; ch.: Richard. Major, U.S.A., C.W.S.; Chem. Trade Commis., U.S. Dept. of Commerce; chmn. Brooklyn Coll. Building Comm. Author: "The Engr. in Public Service," "The Chemist in Public Service," "Survey of N.Y.C. Municipal Service," "Prices of Chemicals," "Dye Industries of Europe," "New Method of

Measuring the Partial Vapor Pressures of Binary Mixtures." Mem.: A.C.S., A.I.C. (natl. pres. 1928-32), F.A.I.C., F.A.A.S.

BRENNAN, Joseph Harrison, chf. metallurg., Electro Metallurg. Div., Union Carbide & Carbon Corp., 137—47th St., Niagara Falls, N.Y.; res. 1318 Thorndale Ave., Niagara Falls.
Metallurg.; b. Minneapolis, Minn., May 5, 1902; s. of William and Albina (Harrison) Brennan; ed. Dunwoody Inst., and U. of Minn; m. Anne P. Gallagher, 1946; ch.: Cal, Alan, William. 1919-20, anal., U.S. Bur. of Mines; 1920-21 chem., Electro Metallurg. Co., Niagara Falls, N.Y.; 1921-22, res. lab., Union Carbide & Carbon Corp., L.I.; 1922-24. chem. Haynes Stellite Co., Kokomo, Ind.; 1925-27 metallurg., 1937-44 mgr. dev. div. Union Carbide & Carbon Res. Labs., Niagara Falls, N.Y.; 1944 to date chf. metallurg., Electro Metallurg. Div., Union Carbide & Carbon Corp.; 1946 to date consltg. chf. metallurg., U.S. Vanadium Corp., Niagara Falls; 1943 to date conslt., Manhattan Project; 1948 to date conslt., Atomic Energy Commis.; res. metallurgy of ferro-alloys; hydrometallurgy of tungsten, vanadium and uranium; high temp. smelting processes for chromium, silicon, manganese and other ferro-alloys; design of cobalt plants. Mem.: A.I.M.M.E., A.C.S., E.S., A.S.M., A.A.A.S.; Schoellkopf Medallist, A.C.S. 1950. Hobby: book collector.

BRENT, Bernard J., dir., endocrine div., Wm. R. Warren & Co., Inc., N.Y.; hon. prof., Rutgers U., Coll. of Pharmacy, Newark, N.J.; res. 127 Essex Ave., Montclair, N.J.
Pharm. chem.; b. Hamburg, Sept. 25, 1902; s. of Otto and Catherine Brent; ed. 1920-25 Tech. U., Breslau, diploma chem. engrg.; 1925-28, U. Berlin & Kaiser Wilhelm Inst. for Physical Chem., Dahlem. Ph.D.; mem.: Sigma Xi; m. Carla Bouvain, Oct. 23, 1931; ch.: Hester Monica, Kaj Michael. Sc. dir. in chg. of prod. & res., Organon, Inc.; same, Roche-Organon, Inc., Nutley, N.J.; chem. dev. prod. & res., N.V. Organon. Oss, Holland; hd. of pat. dept., same; res. fellow U. of Utrecht; res. fellow U. of Hamburg. Est. structure of testosterone, discovered law of energy accumulation by resonance in collisions of the second kind, maintained spermatogenesis in adult hypophysectomized rats with 5-pregnenol-3-one-20, determined heat of formation of calcium carbide. Roche-Organon, Inc., Nutley, N.J. (dir.), Roche-Organon Ltd., Montreal, Can. (dir.), Organon, Inc., Orange, N.J. (v.p.), Organon Ltd., Montreal, Can. (dir.). Mem.: Sigma Xi, Sc. Res. Soc. of Am., N.Y. Acad. of Sc., A.C.S., A.A.A.S., Study Internal Secretions, Am. Pharm. Assoc., Advisory Com. on Hormones of U.S. Pharmacopoeia, Laurentian Hormone Conference. Hobbies: photography, art.

BRERETON, John Grobe, gen. mgr., Chemurgic Div., Sheffield Farms Co., Inc., Norwich, N.Y.; res. Chenango Lake Rd., Norwich.
Management, chem. prod. & sales; b. May 14, 1916; s. of John J. and Bertha F. Brereton; ed. B.S. Cornell U., M.S. U. of Minn., Ph.D. Cornell U.; mem.: Alpha Zeta; m. Elizabeth F., Aug. 15, 1942; ch.: Nancy L., John R., Elizabeth L., Thomas G. Asst. tech. dir., Sheffield Farms Co., Inc., 1942-47, tech. dir. 1947-48, gen. mgr.. Chemurgic div., 1949 to date. Milk chem., dairy chem., proteins, protein hydrolysates, bacteriol. peptones. Mem.: A.C.S., I.F.T., Am. Dairy Sc. Assoc., A.P.M.A., N.Y. Acad. Sc., Sigma Xi, Milk Sugar Inst. Clubs: Chemists' (N.Y.C.), Norwich, Rotary of Norwich, Oneonta Country. Hobby: golf.

BRESTON, Joseph Norbert, lab. dir., Secondary Recovery Res. Labs., Penn. Grade Crude Oil Assoc., 114 Boylston St., Bradford, Pa.; res. R.D. No. 2, Bradford, Pa.
Res. engr. and dir.; b. Passaic, N.J., June 6, 1912; s. of Stephen and Veronica Breston; ed. Cooper Union Inst., 1929-30; Penn. State Coll., B.S. 1935 (chem. engrg.); M.S. (chem. engrg.), 1942; Ph.D. in Fuel Tech., 1944; B.S. (cum laude); m. Helen Louise Walters, 1941; ch.: Joseph Walter. Tech. clerk, Botany Woolen Mills, Passaic, N.J., 1929-31; asst. in chem., Penn. State Coll., 1935-36; res. asst. in Petroleum Refin., Pa. State Coll., 1937-42; res. asst. in Fuel Tech., Pa. State Coll., 1942-45; res. assoc. in Oil Prod. Res., Pa. Grade Crude Oil Assoc., Bradford, Pa., 1945-48; lab. dir., Secondary Recovery Res. Lab., Pa. Grade Crude Oil Assoc., 1948 to date; res. in identification of crude oils and prods., separation of coal tar light oil, secondary recovery of petroleum, flood water treatment, petroleum prod. res. Mem.: A.C.S., (chmn. Penn.-N.J. Western Border Sec. of A.C.S.), A.A.A.S., Phi Lambda Upsilon. Dir. of West Branch Community Club (also treas.); pres., Bradford Tnshp. Taxpayers Assoc.

BRETSCHNEIDER, Edward H., sales mgr., Kauffman-Lattimer Co., Columbus, Ohio; res. 1260 Cambridge Blvd., Columbus.
Sc. equipt.; b. Alliance, Ohio, July 22, 1892; s. of Earnest B. and Katherine (Andrist) Bretschneider; ed. Ohio State U., B.Sc. Ph.C. 1914-15; mem.: Alpha Zeta; m. Helen Delano Shepard, June 10, 1924; ch.: Carol Jeanne Miller. Kauffman-Lattimer 1914 to date. Mem.: A.C.S., Opt.-S.A. (Ohio Valley Sec.), Sales Exec. Club of Columbus. Clubs: Scioto Country, River Ridge Riding & Polo, Crichton. Hobbies: horseback riding, gardening.

BREUER, Frederick W., hd., syn. sec., res. lab., Armstrong Cork Co., Lancaster, Pa.; res. Lititz R.D. 4, Pa.
Chem.; b. Vienna, Austria, July 25, 1903; s. of Emil and Margarethe Breuer; ed. U. of Munich, U. of Vienna, Ph.D. 1930; m. Lucy R. Wohl, Oct. 9, 1935; ch.: Emil, Evelyn, Veronica. Austro-Am. Exchange Fellow 1930-33; asst. to F.C. Whitmore 1933-36; Ohio State U., Rockefeller grant, 1936-37; res. chem., United Gas Improvement Co. 1937-42; special asst., Office of Rubber Dir., W.P.B., 1942-43; sec. hd., Armstrong Cork Co., 1944 to date, with leave of absence to serve as chf. Am. delegate on Interallied Commis. in Germany 1946-47. Mem.: A.C.S., A.I.C. (fellow). Hobby: horseback riding.

BREW, William Barnard, mgr., org. res. labs., Ralston Purina Co., 835 S. 8th St., St. Louis 2, Mo.; res. 5600 Bancroft Ave., St. Louis 9.
Res. chem.; b. Sibley, Ill., Apr. 23, 1913; s. of Thomas and Nellie Brew; ed. B.S. in chem. engr. (final honors) 1935 Washington U., St. Louis, M.S. in chem. 1936. Mem.: Tau Beta Pi, Sigma Xi, Pi Mu Epsilon; m. Helen S. Schulte, Apr. 25, 1941; ch.: Jere Robert, Nancy Jean, John Douglas. Positions held with Ralston-Purina Co.: 1936-39 res. chem., 1939-41 chf. anal. chem., 1941 to date, mgr. org. res. lab. Vitamin A measurement. Mem.: A.C.S., A.O.C.S., Assoc. of Vitamin Chem. Hobbies: photography, golf.

BREWER, George E(ugene) F(rancis), hd. dept. chem., Marygrove Coll., Detroit 21, Mich.; res. 5775 Kensington Rd., Detroit 24.
Prof. anal., phys. chem.; b. Vienna, Austria, Jan. 23, 1909; s. of Ernst and Sophie (Segalla) Brewer; ed. Vienna U., Ph.D. 1932; mem. Catholic Austrian Confraternity; m. Frances Joan Werner, June 29, 1933. 1931-37 res. asst., Inst. of Chem. Technol., U. of Vienna; 1936-39 tech. mgr. S. Wolf & Co., Textile Refs., Erlach, Austria; 1939 lectr. Inst. de l'Industrie Testileide Brabant, Bruxelles, Belg.; 1940-43 prof. chem. Rosary Coll., River Forest, Ill.; 1944 res. chem. Biochem. Lab., Elgin State Hosp., Elgin, Ill.; 1944 to date prof. chem. Marygrove Coll., Detroit, Mich. Contrib. various arts. in sc. jls. Mem.: A.C.S., Chem. Soc. (London); A.A.U.P., A.A.A.S., Natl. Sc. Tchrs. Assoc., Central Assoc. Sci. and Math. Tchrs., Mich. Coll. Chem. Tchrs. Assoc., Met. Detroit

Sci. Club; Engrg. Soc., Detroit; Opt. Soc. of Am. Chmn. Ed. Com., Detroit Sect., A.C.S.; dir. Met. Detroit Sci. Club; chmn. Publ. Com. M.D. S.C.; Abstractor for Chem. Abstr. Hobbies: swimming, tennis, bridge.

BREWER, Herbert C., v.p., dir., Chilean Nitrate Educational Bur. Inc., 120 Broadway, N.Y. 5, N.Y.; res. 1 Lexington Ave., N.Y. 10.
Research; b. Jackson, Mich., Mar. 7, 1889; s. of William J. and Minnie B. Brewer; ed. U. of Mass., B.Sc., D.Sc.; mem.: Alpha Sigma Phi; m. Roxana Van Sant, Dec. 28, 1916; ch.: Herbert V.S. 1913-16, Hawaiian Sugar Planters Expt. Station, res. agronomist; 1916-20, Barrett Co., agriculturist; 1920-24, Natl. Fertilizer Assn., agronomist; 1924 to date, Chilean Nitrate Educational Bur. Inc., dir. of res. & v.p. Chilean Nitrate Sales Corp., dir. of res. & advt.; Iodine Educational Bur., dir. Comendador, Order of Merit from Pres. of Chile. Res. in nitrogen, minor elements & sodium in plant foods. Author: "Bibliography of References to Literature of Minor Elements in Plant & Animal Nutrition," now in 4th edit.; "If They Could Speak"; "Indus. & Economic Progress in Chile"; misc. other publs. Mem.: A.A.A.S. (fellow), A.C.S., A.S.A.

BREWER, John Hanna, dir. of Biolog. Res., Hynson, Westcott & Dunning, Inc., 1030 North Charles St., Baltimore, Md.; res. 505 Dogwood Lane, Towson 4, Maryland.
Med. bacteriol.; b. Gorman, Tex., Nov. 10, 1909; s. of James E. and Alma (Hanna) Brewer; ed. Hardin-Simmons, A.B., A.M.; Johns Hopkins, Ph.D.; m. Evelyn R. Harvey, Dec. 30, 1931; ch.: Mary Elizabeth. Bacteriologist, State Dept. Health, Texas, 1931-35; dir. of biolog. res., Hynson, Westcott & Dunning, Inc., 1938 to date. Specializ. in antiseptic testing, sterile ampule prod., bacteriolog. technique. Holds num. U.S. pats. in his fld. Author many tech. arts. pub. in sc. jls. incl. "Casein in the Local Treatment of Burns and Wounds" (with Raymond M. Curtis), Archives of Surgery, Vol. 48, Feb., 1944. Mem.: Soc. of Amer. Bacteriologists, A.Phar.A., A.A.A.S., Amer. Assoc. of Immunologists, Amer. Pub. Health Assoc. (fellow).

BREWER, Ralph Emmet, chem. engr., U.S. Bur. of Mines, 4800 Forbes St., Pitts. 13, Pa.; res. 109 Forest Hill Rd., Pitts. 21.
Res. engr.; b. Chariton, Iowa, Jan. 16, 1893; s. of William Eli and Edith Jane (Huntley) Brewer; ed. Indianola, Iowa, H.S. 1913; Simpson Coll., A.B. 1917; Purdue U., M.S. 1920; U. of Minn. Ph.D. 1928; mem.: Alpha Chi Sigma; m. Marguerite Brown, Dec. 19, 1931; ch.: Lee Roy, Donald Richard, James Russell. Asst., Simpson Coll., 1915-17; instr. inorg. & anal. chem., Iowa State Coll., 1917-19; instr., Purdue U., 1919-21; instr., U. of Minn., 1921-29, 1930-31, asst. prof. 1931-32, res. assoc. 1932-35; chf. managing engr., plant supt., Lehigh Briquetting Co., Dickinson, N.D., 1929-30; assoc. chem. engr., U.S. Bur. of Mines, Pitts., Pa., 1935-43, chem. engr., 1943 to date. Testing meths. for coal, oil & water; hydrogen ion measurements in com. plating baths; res. investigations relat. to problems in carboniz. of coal; contrib. to handbooks; more than 60 individ. or joint publ. Author: "Plastic & Swelling Properties of Bituminous Coking Coals," U.S. Bur. of Mines Bull. 445, 1942; chapter 6, "Plastic, Agglutinating, Agglomerating, & Swelling Properties of Coals," Chem. of Coal Utilization, Natl. Res. Council Comm., H.H. Lowry, edit., Vol. 1, John Wiley & Sons, Inc., N.Y.C., 1945. Mem.: Sigma Epsilon, Phi Lambda Upsilon, Sigma Xi, Gamma Alpha, A.C.S., A.A.A.S., Soc. for Promotion of Engrg. Ed. Clubs: Pitts. Chemists', Bryn Mawr Mens. Hobbies: coin collecting, wood collecting.

BREWER, Willard O., sales mgr., Pharm. Dept., Calco Chem. Div., Am. Cyanamid Co., Bound Brook, N.J.; res. Plainfield, N.J.
Chem.; b. Concord, Vt., Aug. 10, 1888; s. of Fred A. and Susie H. Brewer; ed. U. Vt., B.S. Chem. 1911; mem.: Sigma Nu; m. Katherine Beebe, Jan. 1, 1914; ch.: Mrs. Joyce Ricketts. Chem. Meriden Gas Light Co., Meriden, Conn. 1911-16; chem., plant mgr., sales mgr., Calco Chem. Div., Am. Cyanamid Co., 1916 to date; mem.: A.I.C., Clubs: Chem., Drug & Chem., Raritan Valley C.C. Hobby: golf.

BREWSTER, Carl Milton, prof. emer. org. chem., State Coll. of Wash., Pullman, Wash.; res. 1721 Maple Ave., Pullman.
Teacher; b. Chagrin Falls, Ohio, May 19, 1881; s. of Milton F. and Mary (Lambert) Brewster; ed. B.A. Oberlin 1903; A.M. Harvard 1906; Parkman Fellow Harvard 1908-09; Heidelberg 1909-10; sessions at Columbia, Sorbonne, U. of Berlin; m. Alfhild Nordby, June 18, 1912; ch.: Carl Norbdy, Josephine Mary, Milton Foster. Instr. in sc., Two Harbors, Minn. H.S., 1903-05; prof. of chem., Mount Union Coll., 1910-12; asst. prof. of chem., State Coll. of Wash., 1912-15, assoc. prof. of org. chem., 1915-18, prof. of org. chem. 1918-49, prof. emer. 1949 to date. Consulting wk. in Europe, China, Philippines. Res. org. condensations, essential oils. Hobbies: boys clubs, stamps, old books.

BREWSTER, Ray Quincy, prof. chem., U. of Kansas, Lawrence, Kans.; res. Lawrence, Kans.
Prof. chem.; b. Guthrie, Okla., Nov. 27, 1892; ed. Ottawa U., A.B. 1914; U. of Kans., A.M. 1915; U. of Chicago, Ph.D. 1919; mem.: Alpha Chi Sigma, Gamma Alpha, Sigma Xi, m. Fay Stewart, Jan. 29, 1919; ch.: 3 daus. 1919-23 asst. prof. U. of Kansas, 1923-28 assoc. prof., 1928 to date prof. same U.; chem. to State Bd. Agric.; res. in gen. org. chem., org. halides, thioureas, thiazoles, diphenyl ether. Author: "Lab. Manual Org. Chem.," (with R.J. Williams). Mem.: A.C.S., Kans. Acad. Sci. Hobby: golf.

BRICE, Brooks A., hd. anal. & physical chem. div., Eastern Regional Res. Lab., U.S. Dept. of Agric., Phila. 18, Pa.; res. 807 N. Fairway Rd., North Hills, Pa.
Physicist; b. Colo. Springs, Colo., Mar. 11, 1904; s. of William B. and Anna (Miller) Brice; ed. A.B. Colo. Coll. 1925; Dartmouth Coll. A.M. 1927, N.Y.U. Ph.D. 1930; m. Mignon Nye, 1931; ch.: Martha C., Marian N. Teaching fellowship, Dartmouth Coll. 1925-27; teaching fellowship, N.Y.U. 1927-30; physics res. asst., Naval Res. Lab. 1930; assoc. physicist, Food & Drug. Adm., U.S. Dept. Agric. 1930-39; physicist, Eastern Regional Res. Lab., U.S. Dept. Agric. 1939 to date. Adsorption spectroscopy, dev. of spectrophotometric meth. for anal. fats & oils and for determination of alkaloids, dev. of permanent official glass color stands. for rosin, maple syrup and honey, dev. of photoelectric photometer for determination of high molecular weights by light scattering. Mem.: Phi Beta Kappa, Sigma Xi, A.Phys.S., Opt.S.A., A.O.C.S., Intersoc. Color Council, Franklin Inst.

BRIDGEFORD, Frank Robert, staff engr., Ind. Rayon Corp., Union Com. Bldg., Cleveland, Ohio; res. 23396 Clifford Rd., Fairview Park 26, Ohio.
Chem. engr.; b. Jan. 20, 1899; s. of Frank D. and Edith E. Bridgeford; ed. B.S. Chem. Engr. Calif., Inst. of Tech., Pasadena, Calif. 1922. m. Mildred M. LaVigne, Mar. 2, 1940. 1923-44 prod. mgr., Am. Potash & Chem. Corp., Trona, Calif.; 1944-46 dir. of chem. control, Virginia-Carolina Chem. Corp., Richmond, Va.; 1946 to date staff engr., Ind. Rayon Corp., Cleveland. Mem.; A.C.S., A.I.Ch.E., registered chem. engr.

BRIDGEMAN, Walter Adams, new prods. coordinator., S.C. Johnson & Son, Inc., Racine, Wis.; res. 1524 Main St., Racine.

In chg. of new prods.; b. Aug. 10, 1889; s. of Alfred T. and Jennie (Adams) Bridgeman; ed. Cornell U. 1913 B. Chem.; mem.: Phi Gamma Delta; m. Mabel Lainhart Parmelee, Sept. 29, 1914; ch.: Mary Parmelee (Bridgeman) Williams, Patricia (deceased). Telling-Belle Vernon Co., Cleveland, Ohio, 1913 chf. chem., 1915 purch. agent; Teagle Co., Cleveland, 1916-17; Wilbur White Chem. Co., pres. 1919-35; S.C. Johnson & Sons, Inc., tech. serv. mgr. 1939 to date. Mem.: A.C.S., A.I.C. Clubs: Chemists,' Cornell (N.Y.), U. Club of Milwaukee.

BRIDGER, Grover Leon, hd. dept. of chem. & mining engrg., Iowa State Coll., Ames, Iowa; res. 2116 Friley Rd., Ames.
Chem. engr.; b. Memphis, Tenn., July 11, 1911; s. of Grover Cleveland and May (Beckham) Bridger; ed. B.S. in Ch.E. (with distinction) Rice Inst. 1933, M.A. 1935; Ph.D. Iowa State Coll., 1938; m. Elizabeth Lou Everett, Aug. 2, 1941; ch.: Carolyn Ann, Susan Elizabeth. Shell Pet. Corp., Houston, Tex., jr. chem. 1933-35; Iowa State Coll., Ames, Iowa, grad. asst. & instr. 1935-38; Rice Inst., Houston, Tex., instr. 1938-39; Tenn. Valley Authority, Wilson Dam, Ala., project leader, process dev. div. 1939-44, chf. process dev. div 1944-47; Iowa State Coll., hd. dept. chem. & mining engrg. 1947 to date. Utilization agric. wastes, chem. fertilizers, phosphate & nitrate prod., ammonia syn. & catalysts. Dev. of processes for prod. of concentrated superphosphate, T.V.A. Chem. Engrg. Report No. 5, 172 pp. Govt. Printing Office 1949. Mem.: A.I.Ch.E. (active), A.C.S., Tau Beta Pi, Sigma Xi, Phi Kappa Phi, Phi Lambda Upsilon, A.S.E.E., Iowa Engrg. Soc., Iowa Acad. Sc., Registered Prof. Engr. (Iowa). Club: Rotary. Hobbies: music, photography, gardening.

BRIDGERS, Thomas Fleming, pres., Farmers Cotton Oil Co., 510 E. Barnes St., Wilson, N.C.; res. 909 Anderson St., Wilson.
Exec.; b. Wilson, N.C., Jan. 14, 1907; s. of F.N. and Sue (Fleming) Bridgers; ed. Duke U. A.B. 1927; mem.: Kappa Sigma, Beta Omega Sigma; m. Louise Anderson, Apr. 18, 1928; ch.: Anne Anderson, Mary Louise, Thomas F. Jr. Pres., Farmers Cotton Oil Co., 1942 to date. Mason, Shriner, Pres. Wilson, Kiwanis Club, 1934; Pres. Plant Food Institute N.C. & Virginia, 1949; Pres. N.C. Cottonseed Crushers Assn., 1949; Dir. Tobacco Associates, 1950; Commissioner, Town of Wilson, 1949.

BRIDGEWATER, Ernest R., dir. of sales, Rubber Chem. Div., E.I. du Pont de Nemours & Co., Wilmington, Del.; res. 2301 Saymoure Rd., Wilmington.
Exec.; b. Akron, Ohio, Sept. 30, 1896; s. of Harry H. and Bertha E. Bridgwater; ed. U. of Akron 1914-16, M.I.T. 1917-18 B.S.; mem.: Lambda Chi Alpha; m. Nancy Williams, May 1, 1920; ch.: Jane B. Hewes, Ann B. Earnhardt. Chem., B.F. Goodrich Co., Akron, Ohio, 1919-22; chem., Firestone Tire & Rubber Co., Akron, 1922-23; chem., E.I. du Pont de Nemours & Co., 1924; sales mgr., rubber chem. du Pont Co., 1929; dir. of sales, du Pont Co., 1931 to date. Club: Wilmington Country.

BRIGGS, Charles Harold, cereal tech., 6100 Buell St., Bell Gardens, Calif.
Chem.; b. Avon, N.Y., June 29, 1878; s. of Dr. Charles A. and Alice A. (De Vinny) Briggs; ed. Cornell U., Ithaca, N.Y., B.S. 1900; U. of Minn. 1901-02; m. Jeannette Gamble, Mar. 19, 1907; ch.: Charles A.H., Alice C., Allen De Vinny. Chem., Howard's Lab., Minneapolis, 1900-07; proprietor, mgr. and conslt. chem., Howard Wheat & Flour Testing Lab., 1907-43; anat. chem., Philip R. Park, Inc., Calif., 1944-47; Calif. Milling Corp., Los Angeles, 1948 to retirement. Wk. in tech. of cereals and cereal prods.; bibliography of cerealiana; cereals of world; science in milling and baking; rapid informative tests of cereals and prods.; introduced protein test for wheat. Author num. papers in which meths. of testing etc. were prepared. Mem.: A.A.A.S., A.C.S., A.A.Cl.C., hon. mem. Universala Esperanto Asocio. Hobbies: genealogies for Briggs and one or two other subjects.

BRIGGS, David Reuben, prof. of agric. biochem., U. of Minn., St. Paul Campus, St. Paul 1, Minn.; res. 2120 Dudley Ave., St. Paul 8.
Teacher, res. in biochem.; b. Fayette, Mo., Oct. 24, 1899; s. of David J. and Sally (Howard) Briggs; ed. Central Coll. B.A. 1921; U. of Mo. M.S. 1923; U. of Minn. Ph.D. 1927; mem.: Alpha Chi Sigma; m. Genevieve Griffith, Sept. 12, 1928; ch.: David Griffith. 1927-28 Natl. Res. Council fellow, U. of Minn.; 1928-29 Natl. Res. Council fellow, U. of Utrecht (Holland), Kaiser Willhelm Inst. of Physik. Chem. Berllin-Dahlem (Germany); 1929-36 assoc. mem. O.S.A. Sprague Inst., U. of Chicago, Chicago, Ill.; 1936-42 assoc. prof. 1942, prof. of agric. biochem., U. of Minn. Contr. to physical & colloid chem. of biochem. substances, electrokinetics, colloid electrolytes, proteins, gums, starch. 2 chapters in "Biophysical Res. Meth." edit. by F.M. Uber, (Intersc. Press, 1950); Rev. of 5 chapters in "Outlines of Biochem." 3rd edit. Gortner & Gortner, (Wiley & Sons, 1949). Mem.: A.C.S., A.S.Biol.C., S.E.B.M., Sigma Xi, Phi Lambda Upsilon. Hobby: photography.

BRIGGS, Robert H., asst. gen. sales mgr., Chas. Pfizer & Co., 630 Flushing Ave., Bklyn. 6, N.Y.; res. 1 Bronxville Rd., Bronxville, N.Y.
Asst. gen. sales mgr.; b. Cleveland, Ohio, July 6, 1897; s. of George and Mary Briggs; ed. St. Ignatius Coll., Cleveland, 1917; m. Alice Schnepp, June 4, 1935. Allied Chem. & Dye, Gen. Chem. Co., 1923-43; sales off. mgr., Cleveland, Phila., Chicago; asst. gen. mgr. sales, N.Y., Chas. Pfizer & Co., Inc. 1943 to date.

BRIGHT, Arthur W., instrument engr., cellulose esters div., Tenn. Eastman Corp., Kingsport, Tenn.; res. 522 Riverside Ave., Kingsport.
Chem. engr.; b. Abingdon, Va., Jan. 5, 1899; s. of George M. and Willie Y. Bright; ed. Roanoke Coll., 1919-20 (Salem, Va.); U. of Va., 1921-22; m. Beulah Wagner, Aug., 1936; ch.: Margaret. 1917-18, Aetna Explosives Co., Emporium, Pa., chem. operator; 1920-21, E.I. du Pont de Nemours & Co., Penns Grove, N.J., operator; 1922-25, Tenn. Eastman Corp., Kingsport, Tenn., chem. operator; 1925-29, misc. jobs not connected with chem. indust.; 1930-46, supt., Acid Conc. Dept., Tenn. Eastman Corp., Kingsport, Tenn.; 1946-50, instrument engr., Cellulose Esters Div., Tenn. Eastman Corp.; specialist, Fractional and Azeotropic Distillation, pressure and vacuum, acetic, propionic and butyric acids. Co-holder of pats. on Azeotropic Distillation. Mem.: Instrument Soc. of Amer., A.C.S., A.I.Ch.E. Club: B.P.O.E. Hobby: politics.

BRIGHT, J(ohn) Russell, prof. of chem. & dept. chmn., Wayne U., Detroit, Mich.; res. 418 Waverly, Royal Oak, Mich.
Chem.; b. Nov. 3, 1908, Trotwood, Ohio; s. of Isaac Venter and Alice Catherine Bright; ed. Manchester Coll. A.B. 1930; Ohio State U. M.A. 1938, Ph.D. 1940; m. Fern Adams, Apr. 4, 1931; ch.: Joan, Karen Sue. H.S. teacher, Jefferson Twp. H.S., R.R.6, Dayton, Ohio, 1930-37; asst. in chem., O.S.U. 1937-40; instr., Wayne U., 1940-41; Gelatin Prods. Corp., lab. supvr. 1941-42, process control supvr. 1942-45, assoc. dir. of control 1945-46; Wayne U. assoc. prof. 1946-48, acting chmn. 1948-49, prof. & dept. chmn. 1949 to date. Summer 1940, res. chem. at Gelatin Prods.

Corp.; summer 1950, visiting prof. at American U. Res. & tech. papers (8) in physical inorg. fld., addition cmpds. of tertiary amines, sulfur dioxide chem., and molecular surface energy of sulfur dioxide addition cmpds. Mem.: A.C.S., A.A.A.S., Engrg. Soc. of Detroit, Sigma Xi, Phi Lambda Upsilon, Metropolitan Detroit Sc. Club, Am. Fed. of Teachers. Club: Torch. Hobbies: gardening, reading.

BRIGHT, Willard M(ead), lab. dir., Kendall Co. Central Lab., 765 Commonwealth Ave., Boston, Mass.; res. 30 Lake Ave., Auburndale 66, Mass. Chem.; b. N.Y.C., Mar. 26, 1914; s. of William V.H. and Bernice H. (Reynolds) Bright; ed. Ph.D., A.M., Harvard U., 1942, 1941; U. of Pitts., 1937-38; M.S., B.S., U. of Toledo, 1937, 1936; mem.: Alpha Chi Sigma, Chi Beta Chi; m. Martha Norris Land, May 15, 1944; ch.: Willard Mead Jr. 1942-44, res. chem., 1944-48 Bauer & Black Div., res. group leader, 1948 to date, dir. of Central Lab., Kendall Co. Res. in fld of adhesives, dev. of a theory of adhesion, studies in high viscosity liquids; textiles; res. on temp. effects in absorption spectroscopy. Mem.: A.C.S., A.A.A.S. Club: Harvard of Chicago. Hobbies: classical music, golf.

BRILL, H(arvey) C(layton), prof. chem., hd. dept., Miami U., Oxford, O.; res. Oxford, O. Prof. chem.; b. Camden, O., Dec. 29, 1881; ed. Miami U., A.B. 1908; U. of Mich., Ph.D. 1911; m. Gertrude Davidson, Princeton, Ind., June 20, 1913; ch.: 1 dau. 1911-13 asst. prof. chem. Miami U.; 1913-17 org. chem., 1914-17 chf. div. org. chem. foods and drugs, Bur. Sci., Manila, P.I.; 1914-17 Food and Drug Bd., P.I.; Guest Harvard, 1928-29; 1917 to date hd dept. chem., prof. chem., Miami U. Registered engineer, State of Ohio; Author: "Introduc. to Org. Chem." 1932; "Exper. in Org. Phys. & Food Chem." 1930; "Introduc. to Physiol. & Food Chem." 1930. About 40 arts. to chem. lit. to var. jls. Mem.: A.C.S., German Chem. Soc., A.A.A.S., A.I.C., Ohio Acad. Sc., Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon. Phi Sigma Kappa. Hobbies: bowling on green, fishing.

BRINKER, William Earle, Jr., asst. chf. engr., Corn Prods. Refining Co., 201 N. Wells St., Chicago 6, Ill.; res. 2244 Asbury Ave., Evanston, Ill.
Chem. engr.; b. Wilkinsburg, Pa., Mar. 14, 1906; s. of William Earle and Clara Margueritte (Kendall) Brinker; ed. U. of Pitts. B.S. in Ch.E. 1928, Ph.D. 1940; mem.: Phi Gamma Delta; m. Dorothea Anderson, Sept. 2, 1931; ch.: Nathalia Dorothea, William Scott, John Anderson. 1928-29 thermal engr., Am. Dressler Tunnel Kilns, Inc.; 1929-36 instr., asst. prof. of chem. engrg., U. of Pitts.; 1936-37 ind. fellow, Mellon Inst. of Ind. Res., Pitts.; 1937-42 assoc. prof. of chem. engrg., U. of Pitts.; 1942-44 assoc. prof., chmn. of chem. engrg. dept., Northwestern U., Evanston, Ill.; 1944-48 dir. of engrg., chem. div., Corn Prods. Refining Co., Argo, Ill.; 1948 to date asst. chf. engr., Corn Prods. Refining Co., Chicago. Mem.: A.I.Ch.E. (active mem.), A.C.S., Am. Soc. for Engrg. Ed., Alpha Chi Sigma, Sigma Xi, Tau Beta Pi, Sigma Tau, Omicron Delta Kappa, Phi Lambda Upsilon.

BRINKLEY, Stuart Robert, assoc. prof. of chem., fellow, Jonathan Edwards Coll., Yale U., New Haven, Conn.; res. 472 Whitney Ave., New Haven.
Tchg.; b. Augusta, Ga., Mar. 18, 1889; s. of Sterlling Gardner and Roberta (Smith) Brinkley; ed. Emory Coll., 1905-09, A.B.; Columbia U. 1913-14, A.M.; Yale U. 1918-20, Ph.D.; mem.: Alpha Chi Sigma; m. Margaret Leach, Dec. 26, 1912; ch.: Stuart Robert, Jr., Sterling Brownlee. 1909-11 instr. in chem., Presbyterial Inst., Blackshear, Ga.; 1911-13 instr. in chem. Morris Harvey Coll., Barbourville, W. Va.; 1914-18 instr. in chem. Mich. Coll. of Mines, Houghton, Mich.; 1918-21 instr. in chem. Yale U.; 1921-28 asst. prof. chem., Yale; 1928 to date assoc. prof. of chem., Yale. Author: "Principles of Gen. Chem." 1926, rev. 1933, 1941; "Introductory Gen. Chem." 1932, rev. 1938, 1945. Mem.: Sigma Xi, Phi Beta Kappa, A.C.S., A.I.C., A.A.A.S., N.E. Assoc. of Chem. Tchrs., N.Y. Acad. of Scs. Club: Faculty (Yale). Hobby: hiking.

BRINTON, Clement Starr, ret., formerly chf., Phila. Sta., U.S. Food and Drug Admin.; res. 213 Euclid Ave., Haddonfield, N.J.
Admin. (ret.); b. West Chester, Pa., Feb. 3, 1875; s. of Samuel L. and Elizabeth (Smith) Brinton; ed. West Chester State Nor. Schl. 1890-95; U. of Pa. 1899; m. Retta Williams Hoopes, West Chester, June 17, 1903; ch.: Mrs. Ruth Brinton Perera, Samuel T., Mrs. Alice Brinton Copley. 1893-95 West Chester Nor., stud. asst. to prof. sci.; 1895-1904 asst. chem. same schl.; 1904-06, jr. chem. U.S. Dept. Agri.; 1906-22 chg. Phila. Lab., 1922-27 chf. Phila. Sta., U.S. Bur. Chem.; 1927-44 chf. Phila. Sta., U.S. Food & Drug Adminis., (now retired); Notable work: almost 50 years of continuous serv. in Food and Drug Inspec., of which 40 yrs. were in the Federal service, starting in 1904 in Washington, D.C. under the late Dr. Harvey W. Wiley. Mem.: A.C.S. (secy. Phila. Sec. 5 yrs., pres. 1 yr.); Agri. Food Div. (secy. 5 yrs.); A.Phar.A., Franklin Inst. Hobbies: ultra violet phenomena, growing wild ferns in a city garden, and recently (since retirement) visiting and photographing the sites of the Early Iron industry in N.J. and Eastern Pa.

BRISBANE, Donald A., treas., Hoffmann-La Roche Inc., Roche Park, Nutley, N.J.; res. Holmehill, Eagle Rock Ave., Roseland, N.J.
Chartered accountant; b. Edinburgh, Scotland, June 15, 1904; s. of Thomas Forsythe and Mary (Farquharson) Brisbane; ed. George Watson's Coll., Edinburgh, Scotland, grad., 1922; Edinburgh U.; Soc. of Accountants in Edinburgh (Chartered Accountants of Scotland), 1922-27; m. Stella Margaret Sparks, Mar. 22, 1923; ch.: Sheila Jean, Gillian Parfitt, Andrew Donald. Scot's chartered accountant, C. E. W. MacPherson & Morrison, Edinburgh; partner, White, Page & Co., chartered accountants, Manila, Philippine Islands; Brit. Purch. Supply Mission, N.Y., 1941-43; Hoffmann-La Roche Inc., Nutley, N.J., treas., 1943 to date. Mem.: Chartered Accountants of Scotland. Clubs: Canadian, Essex Fells Golf & Country.

BRISCOE, Herman T(hompson), prof. chem., v.p., dean faculties, Indiana U., Bloomington, Ind.; res. 1401 Maxwell Lane.
Univ. adm.; b. Shoals, Ind., Nov. 6, 1893; s. of John S. and Alice (Thompson) Briscoe; ed. Ind. U., A.B. 1917; A.M. 1923; Ph.D. 1924; Harvard, grad. stud. 1919-20; mem.: Lambda Chi Alpha; m. Orah E. Cole, Sept. 15, 1928; ch.: Catharin, Robert, William, James, (decd.). 1918 chem., Hercules Powder Co.; 1920-22 instr. chem., Colby Coll.; Ind. U., 1922 to date; instr., asst. prof., assoc. prof., prof. (chmn. of dept. 1938-40), v.p., dean of faculties, 1941 to date. Conslt., div. training, War Manpower Comm., during W.W. II, on sc., tech. personnel. Author: "Qual. Chem. Anal." 1931; "Structure and Prop. of Matter," 1935; "Gen. Chem. for Coll." 1935; new ed. 1940, 1949; Coll. Chem. 1937; new ed. 1945, 1951; mem.: Phi Beta Kappa, Sigma Xi, A.C.S. Hobby: stamps.

BRISSE, Andre H., asst. mgr., gen. chem. div., res. lab., Carnegie-Illinois Steel Corp., Pittsburgh 13, Pa.; res. R.D. 2, Library, Pa.
Supvr. of chem. engrg. & electroplating; b. England, Dec. 10, 1913; s. of Oliver and Amy Sarah (Brown) Brisse; ed. 1936 B.S. M.I.T.; 1950 M.S. U. of Pitts.; mem.: Alpha Chi Sigma, Phi Lambda Upsilon; m. Gloria Lynne Hyde, Feb. 5, 1944; ch.: Andrea Hope. 1936-39, res. chem. engr., Carnegie-Illinois Steel Corp.; 1939-42, asst. div. supt. tin mill, same co.; 1942-47 dev. coordinator, same co.; 1947 to date, asst. mgr. gen. chem. div., res. lab., same co. Dev. an acid process for prod. of electrolytic tinplate, dev. several stream & atmosphere pollution abatement processes. Mem.: Electrochem. Soc., A.I.Ch.E.

BRISTOL, Henry Platt, chmn. of bd., Bristol-Myers Co., 630 Fifth Ave., N.Y. 20, N.Y.; res. One Beekman Pl., N.Y. 22.
Drug. bus.; b. Clinton, N.Y., Apr. 5, 1889; s. of William McLaren and Mary (Lee) Bristol; ed. Hamilton Coll., 1910; hon. degree, 1930; mem.: Sigma Phi; m. Gertrude Flesh, June 14, 1928. Bristol-Myers Co., treas., 1910-28; pres., 1928-49; chmn. of bd., 1949 to date. Chmn. of bd. also: Bristol Labs. Inc.; Bristol Labs. of Canada, Ltd.; Bristol-Myers Co. of Canada, Ltd.; Charles Ammen Co.; Rubberset Co.; Rubberset Co. Ltd.; Sun Tube Corp.; Sun Tube Corp. of Canada, Ltd. Trustee, Hamilton Coll., East River Savings Bank; dir., Atlas Underwear Co., Irving Trust Co. Clubs: University, Bankers, Bay Head Yacht, Manasquan River Golf, Huntingdon Valley Hunt, Ft. Schuyler.

BRITTON, John Alexander, Jr., pres., Enjay Co. Inc., 15 W. 51 St., New York 19, N.Y.; res. 18 Tudor Ct., Apt. 70, Elizabeth 3, N.J.
Exec.; b Oakland, Calif., Dec. 9, 1888; s. of John Alexander and Florence (Mitchell) Britton; ed. U. of Calif., Berkeley, Calif. 1906-10; mem.: Chi Psi; m. Gladys Courtian, Oct. 27, 1910; ch.: John Alexander III. 1910-12, cadet engr., Pacific Gas & Elec. Co., Oakland, Calif.; 1912-14, asst. supt., Pacific Gas & Elec.; 1914-18, engr. in chg. of gas station "B," Pacific Gas & Elec ; 1918-20, sales mgr., John Rothschild Co., Manila, Philippine Is.; 1920-33, exp. engr., Stand. Oil Dev. Co., Bayway, N.J.; 1933-44 sales mgr., chem. prod., Stanco Dist. Inc., N.Y.C.; 1944, v.p., dir., Stand. Alcohol Co., N.Y.C.; 1947 v.p., dir., Enjay Co. Inc., N.Y.C. in chg. of sales of syn. rubbers & lubricating additives; 1948 to date, pres., dir., Enjay Co. Mem.: A.C.S., S.A.E., A.O.A., A.P.I. Clubs: Calif. (Los Angeles), Echo Lake Country (Westfield, N.J.), Rockefeller Center Luncheon, Sales Exec. of N.Y., 25 Yr. Club of Pet. Ind. Hobbies: golf, philately.

BRITTON, John William, mgr. of tech. serv., Surface Chem. Inc., 1101 Thompson Ave., McKees Rocks, Pa.; res. 106 Arla Dr., Pittsburgh 20, Pa.
Chem. engr.; b. Brownsville, Pa., Dec 17, 1913; s. of William D. and Daisy (Mowel) Britton; ed. U. of Pitts., B.S. in chem. engrg. 1936; mem.: Pi Kappa Alpha, Theta Alpha Phi; m. Violet Louise Hager, July 15, 1939. 1936-41, chem. engr., Imperial Oil & Gas Prod. Co.; 1941-49, tech. serv. rep., Stoner-Mudge, Inc.; 1949 to date, mgr. of tech. serv., Surface Chem. Inc. Joint dev. of high octane gas. resistant fuel tank coating for armed services aircraft during W.W. II and system for applying same, performed exp. & supervisory wk. on the dev. of resistant linings for underground concrete fuel storage tanks. Mem : Pitts. Chemists' Club. Club: F.&A.M., A.A.S.R., A.A.O.N.M.S. Hobbies: golf, gardening, swimming, hunting, fishing, chess, reading.

BROADBENT, Hyrum Smith, assoc. prof. chem. dept., Brigham Young U.; res. 1147 Aspen Ave., Provo, Utah.
Univ. prof.; b. Snowflake, Ariz., July 21, 1920; s. of Hyrum and Lorana (Smith) Broadbent; ed. grammar schl., Snowflake, Ariz. (valedictorian); H.S., Snowflake, Ariz. (valedictorian); Brigham Young U., Provo, Utah, B.S. 1942 (high honors); Ph.D. 1946; Iowa State Coll., Ames, Iowa; Milton Fund Fellow, Harvard U., 1947; mem.: Phi Lambda Upsilon; m. Katherine M. Miller, Sept. 9, 1942; ch.: Karen Mary, David Smith, Justin Miller, Camille Anne. Sr. fellow, Iowa State Coll.; postdoctoral fellow, Harvard U.; asst. prof., Brigham Young U.; assoc. prof. Brigham Young U.; res. on organo-metallic cmpds.; organic sulfides; thiouracils; quinoalines; and reaction kinetics. Mem.: A.C.S., Sigma Xi.

BROCKWAY, Lawrence Olin, prof., dept. of chem., U. of Mich., Ann Arbor, Mich.; res. 1212 Henry St., Ann Arbor.
Prof. of chem.; b. Topeka, Kans., Sept. 23, 1907; s. of Paul Lemon and Kate W. Brockway; ed. U. of Nebraska, B.Sc. 1929; M.Sc. 1930; Calif. Inst. of Tech., Ph.D. 1933; mem.: Alpha Chi Sigma; m. Hazel Klein, Sept. 30, 1932; ch.: Doris Marie. 1933-37, Calif. Inst. of Tech., sr. res. fellow; 1937-38, Oxford U. & Royal Inst., Guggenheim Res. Fellow; 1938 to date, U. of Mich., asst. prof., (1938-40), assoc. prof. (1940-44), prof. (1945 to date); electron diffraction studies of structures of gas molecules and of surface reactions. Mem.: A.Crys.A., Electron Microscope Soc., A.C.S., A.A.A.S., A.A.U.P., Sigma Xi; rec. A.C.S. prize, 1940. Trustee, Graceland Coll., Lamoni, Iowa; pastor Ann Arbor Congregation of the Reorganized Ch. of Jesus Christ of Latter-day Saints.

BRODE, Dr. Wallace R., assoc. dir., Natl. Bur. of Stands., Wash. 25, D.C.; res. 3900 Conn. Ave. N.W., Apt. 501-G, Wash. 8, D.C.
Chem., adm.; b. Walla Walla, Wash., June 12, 1900; s. of Prof. Howard S. and Martha Catherine (Bigham) Brode; ed. B.S., Whitman Coll., 1921; M.S., Ill., 1922, Ph.D. org. chem. 1925; mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, Gamma Alpha, Alpha Epsilon Delta; m. Ione Sundstrom, Mar 19, 1941. Asst. chem., U. of Ill., 1921-24; asst. chem., Natl. Bur. Stands. 1924-26; assoc. chem. Bur. Efficiency 1926; Guggenheim Mem. Foundation fellow, Leipzig, Zurich & Liverpool, 1926-28; asst. prof. chem., Ohio State, 1928-32, assoc. prof. 1932-39, prof. 1939-48; hd. Paris office, Office Scientific Res. & Dev. 1944-45; hd. sc. dept., Naval Ordnance Test Station, Calif., 1945-47; assoc. dir., Bur. of Stands., 1947 to date. Org. chem., dyes, stereochem., absorption spectra, emission spectroscopy. Author: "Chem. Spectroscopy" 1939, 2nd edit.; co-author & edit.: "Lab. Outlines for Org. Chem." with Boord & Bossert, 1940, 2nd edit. 1949; "Org. Chem." with Gilman, 1938; "Scott's Stand. Meth. of Anal." with Furman, 1939; "Advances in Enzymol." with Nord & Werkman, 1944; "Applications of Instruments in Chem." with Burk & Grummit, 1945; "Physical Meths. in Chem. Anal." with Berl, 1950. Mem.: Opt.S.A., Am. Inst. of Physics, Scientific Res. Soc. of Am., A.C.S., A.A.A.S., Wash. Acad. of Sc., Inter-Soc. Color Council, N.R.C. Div. of Physics & Math. Dir., bd. of dir., Opt.S.A.; bd. of governors, Am. Inst. of Physics; governing bd., Scientific Res. Soc. of Am.; editor, Journal of Opt.S.A., 1950 to date. Club: Cosmos. Hobbies: photography, music.

BRODIE, Renton Kirkwood, v.p., Procter & Gamble Co., 6th & Main Sts., Cincinnati, Ohio; res. 3753 Vineyard Pl., Cincinnati.
Mfr.; b. Portland, Ore., Sept. 12, 1887; s. of

George A. and Georgiana (Carpenter) Brodie; ed. Ore. State Coll., B.S. 1908; U. of Chicago, M.S. 1911; Ore. State Coll., D.Sc., 1936; mem.: Gamma Alpha, Alpha Chi Sigma; m. Caroline Buchanan, Sept. 13, 1911; ch.: Ruth (Brodie) Hackney, Renton Kirkwood Jr. Asst. prof., Ore. State Coll., 1915-18; fellow, Mellon Inst., U. of Pitts., 1918-19; chem., Procter & Gamble Co., Cincinnati, 1919-23, chem. supt. 1923-26, dir. of mfr. & tech. res. 1927-31, v.p. in chg. of mfr. 1931-42, v.p. 1942 to date. Procter & Gamble Co. (dir.); Cincinnati, New Orleans & Texas Pacific Ry. (dir.). Mem.: A.C.S., A.O.C.S., A.I.Ch.E., A.A.A.S., Newcomen Soc. of England. Dir., U. of Cincinnati; trustee, Ore. State Coll. Foundation. Clubs: Chemists' (N.Y.), Cincinnati Country, Queen City, Commercial, Optimists.

BRODY, Frederick, asst. chf. chem., Calco Chem. Div., Am. Cyanamid, Bound Brook, N.J.; res. 505 W. 162 St., N.Y., N.Y.
Org. chem.; b. N.Y.C., Sept. 30, 1915; s. of Reuben and Esther Savitsky Brody; ed. C.C.N.Y., B.S. 1935; Columbia U., Ph.D. 1943. Res. chem., Div. War Res., Columbia U. (O.S.R.D. antimalarial proj.) 1943-46; Calco chem. div., Am. Cyanamid, res. chem. 1946-48; asst. chf. chem. 1948 to date. Res. in antimalarials, dyestuffs. Mem.: A.C.S., Phi Lambda Upsilon, Sigma Xi, Phi Beta Kappa.

BROEMAN, Frank Ibold, owner, F.C. Broeman & Co., 1926 Race St., Cincinnati 10, Ohio; res. Ayres & Asbury Rds., Cincinnati 30.
Chem.; b. Cincinnati, Mar. 28, 1914; s. of Frank C. and Marguerite (Ibold) Broeman; ed. U. of Notre Dame 1931-33, U. of Cincinnati 1933-35 A.B. 1935; mem.: Sigma Alpha Epsilon; m. Elaine Wuebbold, Oct. 28, 1943; ch.: Peter I., Gretchen W. With F.C. Broeman & Co., conslt. chem. since 1935, owner since 1948. Mem.: A.C.S., Engrg. Soc. of Cincinnati, A.O.C.S., Am. Bur. of Shipping (certificated chem.). Trustee, Mercy Hospital, Mariemont (Cincinnati) Ohio. Clubs: Cincinnati, Queen City Yacht.

BROGGINI, Adrian J., v.p., E.B. Badger & Sons Co., 75 Pitts St., Boston, Mass.; res. 126 Woodlawn Ave., Wellesley Hills, Mass.
Chem. engr.; b. Lakewood, Ohio, Oct. 16, 1912; s. of Andrew and Letitia; ed. U. of Mich., B.S. in Ch.E.; mem.: Tau Beta Pi, Trigon; m. Virginia Reutter, 1934; ch.: Carol, Judith, Adrienne. Sun Oil Co. 1935 chem.; Ind. Rayon Co., 1935 chem.; Edeleanu Co. Ltd., engr., 1936-37; E.B. Badger & Sons Co., v.p., 1937 to date. Mem.: A.I.Ch.E.

BROOKE, Clinton L., bakery prods. mgr., Merck & Co. Inc., Rahway, N.J.; res. 633 Westfield Ave., Westfield, N.J.
Salesman; b. Minneapolis, Minn., Nov. 28, 1898; s. of Clinton and Julia E. (Battelle) Brooke; ed. U. of Minn.; mem.: Sigma Rho; m. Ethel L. Willcox, June 9, 1931; ch.: Tyrrell W., Margaret B. Chem., State Testing Mill (Minn.), 1921-23; chem., Upsala Angqvarns Aktiebolag, Upsala, Sweden, 1924-26; chem., Pillsbury Mills, Inc., Minneapolis, Minn., 1929-36; chem., Natl. Yeast Corp., Belleville, N.J., 1937-43; Bakery Prods. Mgr., Merck & Co. Inc., Rahway, N.J., 1944 to date. Asst. editor, 'Cereal Chemistry," 1929-31, assoc. editor, 1932-40. Mem.: A.A.C.C., Am. Soc. of Bakery Engrs., I.F.T. Club: Chicago Bakers. Hobbies: books, music.

BROOKER, Leslie George Scott, supvr. sensitizer div., Eastman Kodak Co., Rochester, N.Y.; res. 915 Winona Blvd., Rochester 17.
Res. chem.; b. Gravesend, England, Mar. 12, 1902; s. of Henry Albert and Annie Elizabeth Brooker; ed. Gravesend County Schl.; Kings Coll. U. of London, B.Sc. 1923, Ph.D. 1926. Res. chem., Eastman Kodak Co. 1926-28, supvr. sensitizer div. 1928 to date. Fld. of sensitizing dyes, relation bet. color of org. cmpds. & chem. constitution. Mem.: Chem. Soc. London (fellow), A.C.S. (fellow), Royal Photog. Soc. (fellow). Award: Henderson, Royal Photog. Soc. of Gt. Britain (1946). Hobbies: music, gardening, mountain climbing, photography.

BROOKES, Margaret Constance Hessler, asst. prof. nutrition, U. Chicago, Ill.
Tchr., res.; b. Chicago, Ill.; d. of John C. and Maud Hutchins Hessler; ed. A.B., James Millikin U., 1914; A.M., Columbia U. 1917; Ph.D. 1927; mem.: Pi Beta Phi; m. Edward Auriol Brookes, June 18, 1931. Instr. home econ., U. Wash., 1917-18; instr. home econ., U. Texas, 1918-22; instr. nutrition, Teachers Coll., Columbia U. 1922-26; asst. dept. chem. 1926-27; asst. prof. U. Mo., 1927-28; assoc. prof. 1928-31; prof., lecturer, U. Chicago, 1931-33; asst. prof. 1934 to date. Mem.: A.A.A.S. (fellow), Am. Inst. Nutrition, A.C.S., Am. Diet. Assn.

BROOKS, Arthur Edward, mgr., general labs., U.S. Rubber Co., Passaic, N.J.; res. 426 Prospect St., Nutley 10, N.J.
Res. management; b. Baltimore County, Md., Oct. 26, 1894; s. of Charles W. and Ella (Merryman) Brooks; ed. A.B. (with hon.), Johns Hopkins U., 1915; M.S., U. of Chicago, 1922; Ph.D., 1929; m. Isabelle Griffith, June 25, 1918; ch.: Marvin C., Leah C., Owen A., Shirley N. Instr. of math. and physics, McKendree Coll., 1915-17; Lieut., Ord. Dept., U.S.A., 1917-19; Firestone Tire & Rubber Co., 1919-20; hd. of sc. dept., Hinsdale (Ill.) H.S., 1922-26, 1927-29; with U.S. Rubber Co. since 1929 as res. chem., 1929-41, Gen. Labs.; tech. dir., munitions div., 1941-44; dept. hd., 1944-47, gen. labs.; asst. to dir. of res., 1947-50; mgr. gen. labs., 1950 to date. Participation in devel. of battery separators from microporous rubber, absorptive from lining for concrete, and application of qual. control meths. to small arms ammunition mfg. Mem.: A.C.S., A.A.A.S., Sigma Xi. Trustee, Vincent Methodist Ch., Nutley, N.J. Club: Upper Montclair Country. Hobbies: travel, bridge.

BROOKS, Arthur Minard, v.p., Raffold Process Corp., 16 Haverhill St., Andover, Mass.; res. 357 N. Main St., Andover.
Chem.; b. Boston, Mass., Nov. 7, 1897; ed. Yale B.A. 1920. Raffold Co. of Am., 1920-28 chem., 1928 to date v.p.; Raffold Process Corp., 1928 to date, v.p. Raffold International Corp. (v.p., dir.). Alkalis & alkaline earths, calcium carbonate, pigments, sizes, paper mfg., casein mfg. U.S. & foreign pats. Chapters in monographs publ. by Tech. Assoc. of Pulp & Paper Ind.: "Pigments for Paper Coating," "Mineral Fillers for Paper." Mem.: Sigma Xi (joined Yale Chapter, presently mem. Harvard Chapter), Delta Sigma Rho, A.C.S., Am. Forestry Assn., T.A.P.P.I. Registered Professional (Chem.) Engineer (Mass.).

BROOKS, Charles Harvey, proc. engr., Sun Oil Co., 1608 Walnut St., Phila. 3, Pa., res. 936 Cornell Ave., Drexel Hill, Pa.
Chem. engr.; b. Somerville, Mass., Sept. 25, 1909; s. of Louis C. and Sara Honnetta (Spore) Brooks; ed. B.S. (cum laude) Yale U., 1931; M.S. U. Mich., 1934; Sc.D. 1937; mem.: Phi Sigma Kappa, Alpha Chi Sigma; m. Madeleine Oliphant Rouse, June 25, 1938; ch.: Juliette Oliphant, Louis Joseph. Nov., 1930-June, 1931 Lab. asst. chem. engr. lab., Yale U.; July, 1931-Sept., 1933 Jr. chem. engr., res. & dev. dept., Socony-Vacuum Oil Co.; Sept., 1933-Feb., 1937 grad. stud., U. Mich.; Jan., 1934-Aug., 1936 res. asst.,

dept. engr., res., U. Mich.; Feb., 1935-June, 1936 teach. fellow dept. chem. & mtl. engr.; Oct., 1936-June, 1940 assoc. chem. eng., res. & dev. dept. Sun Oil Co.; Oct., 1937-June, 1939 instr., Pa. St. Extension Courses; June, 1940-Oct., 1941 proc. engr., engr. div. mfr. dept. Sun Oil Co.; Oct., 1941-Mar., 1946 sub.-sect. chf., asst. sub. sect. chf., powder, explosives & chems., sub-sect., ammun. sect., prod. div. bur. ordn., Navy Dept.; June, 1945-Nov., 1945 hd. expl. & propellants group, U.S. Naval Tech. Mission Europe; Nov.-Dec., 1945 Bur. Ord. Rep., tech. unit Off. Naval Advisor, O.M.G.U.S.; Mar., 1946 to date proc. engr., eng. div., mfr. dept., Sun Oil Co. First modern wk. long tube vertical natural circulation evaporators, important part in prod. dev., solid rocket, propellant (U.S.N. type); proc. des. of most flexible large wax ref. plant, currently operating; mem.: A.I.Ch.E., A.C.S., Tau Beta Pi, Sigma Xi, Phi Lambda Upsilon, Phi Kappa Phi; Letter of comm. from Secy. Navy, Reg. Engr. (Chem.) Penn. Clubs: Exchange (Phila.), Aronimink Swim. Hobbies: home workshop, leather craft, swimming, snapshot photography.

BROOKS, Edwin Bickford, gen. mgr., Binney & Smith Internatl. Inc.; res. Ballwood Rd., Old Greenwich, Conn.
Exec.; b. Akron, Ohio, Sept. 21, 1914; s. of Edwin H. and Mae E. Bickford; ed. Western Reserve Acad., Hudson, Ohio 1928-32; Dartmouth Coll. A.B. 1936; Amos Tuck Schl. of Adm. & Finance M.C.S. 1937; mem.: Sigma Chi; m. Ruth L. Daugherty, Jan. 28, 1939; ch.: Susan B., Sarah B., Stephanie H. Asst. export mgr., Binney & Smith Co. 1937-47; Lt. Supply Corps, U.S.N R. 1943-46; export mgr., Binney & Smith Co., 1947-49; gen. mgr. Binney & Smith Internatl. Inc., 1949 to date. Mem. bd. dirs. Clubs: Uptown, Export Managers of N.Y.

BROOKS, John Warren, res. assoc., res. & dev. div., Socony-Vacuum Oil Co., Paulsboro, N.J.; res. Wenonah, N.J.
Res. chem.; b. Ada, Okla., June 18, 1914; s. of Ralph J. and Opal R. Brooks; ed. B.E.D. 1935, Whitewater State Teachers Coll., Whitewater, Wis.; Ph.M. 1937 U. of Wis., Madison, Wis.; Ph.D. 1941 State U. of Iowa, Iowa City, Ia.; mem.: Alpha Chi Sigma, Chi Delta Rho; m. Mary L. Hermanson, Sept. 3, 1939; ch.: Robert, Guy, Grace. Chem., State U. of Iowa Hospital 1939-41; chem. Socony-Vacuum Oil Co., 1941 to date. Res. in flds. of fuels & lubricating oil additives. Mem.: Sigma Xi, A.C.S. Mem. Bd. of Ed. of Wenonah Schls. Hobbies: gardening, fishing, square dancing.

BROOKS, William West, v.p., The Flox Co. Inc., 1409 Willow St., Minneapolis, Minn.; res. 6 Mill Rd., Bellgrove, Minneapolis 16.
Exec.; b. Feb. 7, 1909, Minneapolis, Minn.; ed. Glendive, Montana, H.S.; E.M. (pet.) 1931, Minn. Schl. of Mines, Petroleum Engrg. course; m. Margaret J.; ch.: Nancy H., Betsy Ann. Joined The Flox Co., 450 Oak Grove, Minneapolis, Oct. 20, 1931; elected v.p. and dir., July, 1943.

BROOM, Harry P., sales exec., E.B. Badger & Sons Co, 500 Fifth Ave., N.Y.C.; res. "Dunvegan" Winfield Ave., Harrison, N.Y.
Chem. engr.; b. Camden, N.J., Aug. 24, 1911; s. of Harry and Cordelia Alice Broom; ed. Phillips Exeter Acad. 1929 English Diploma; U. of Pa. 1933 B.S. in Ch.E.; mem.: Psi Upsilon; m. Helen Larzelere; ch.: Anthony, Harry P. Jr. Sun Oil Co., 1933-34 jr. refinery engr.; Houdry Process Corp., 1934-40, dev. engr., tech. asst. to pres., mgr. of dev. lab.; E.B. Badger & Sons Co., 1940 to date, sales exec. Mem.: A.I.Ch.E. (active mem.), Tau Beta Pi (mem.), Alpha Chi Sigma (mem.). Clubs: Chemists' (N.Y.C.), University (N.Y.C.). Hobbies: golf, tennis, gardening.

BROSSMAN, Philip Dawson, chf. chem., E.I. du Pont de Nemours & Co., P.O. Box 1217, Parkersburg, W. Va.; res. 635 13th St., Parkersburg.
Chem. engr.; b. Sunbury, Pa., May 27, 1900; s. of Charles Edward and Katherine (Dawson) Brossman; ed. U. Pa., B.S. Chem. Engr. 1921; Ch.E., 1947; m. Florence G. Martin, Aug. 31, 1932; ch.: Martin Philip, Robert Edward, Mark Matthew. E.I. du Pont de Nemours & Co. 1922 to date. Res. in colors, pigments (patent on pearl pigment). Mem.: A.S.T.M., A.C.S.

BROTHER, George Howard, prin. chem., hd. protein div., Western Regional Res. Lab., U.S. Dept. Agric., Albany, Calif.; res. 1919 Hopkins St., Berkeley, Calif.
Res. chem., chem. engr.; b. Denver, Colo., Apr. 3, 1891; s. of Edgar L. and Mattie A. (McBurney) Brother; ed. U. of Nebr., B.Sc. 1913, M.A. 1914; U. of Toronto, Ph.D. 1922; mem.: Alpha Chi Sigma; m. Mary Camp, Sept. 18, 1916; ch.: Mary Helen (Brother) Wosser. Chem. & exp. supt, Atlantic Loading Co., 1918-19; chem. supvr., fatty acids dept., Procter & Gamble, 1919; sr. fellow casein plastics, Mellon Inst., dev. supt., S. Karpen & Bros., v.p., operating mgr., Karolith Corp., 1920-26; dir. res. & prod., Orthochrom Dept., Rohm & Haas, Inc., 1926-27; dev. supt., Griess-Pfleger Tanning Co., 1927-31; chem. engr., staff, Arthur D. Little, Inc., 1931-32; res. chem., Boston Blacking Co., dev. supt., Shoe Lace Co., United Shoe Machinery Corp., 1932-37; sr. chem., Regional Soybean Ind. Prods. Lab., & Western Regional Res. Lab., Bur. Agric. & Ind. Chem., U.S. Dept. Agric., 1937-45; prin. chem., hd. protein div., Western Regional Res. Lab., U.S. Dept. Agric., 1945 to date. Fundamental res. leading to ind. utilization of farm prods.; syn. resins & plastics; lacq. & cements & finishing leather. Author: chapter on "Casein Plastics" in A.C.S. Monograph, "Casein & Its Ind. Applications" 1927, 1939, 3rd edit. in prep. Mem.: Sigma Xi, Phi Lambda Upsilon, A.I.Ch.E., A.C.S., Soc. Plastics Ind. Hobby: philately.

BROUGHTON, Dr. Geoffrey, hd. of paper engrg. dept., Lowell Textile Inst., Lowell, Mass.; res. Westford, Mass.
Chem. engr.; b. Rochdale, England; s. of Walter and Elizabeth (Curtis) Broughton; ed. U. of London B.Sc., M.Sc.; M.I.T. M.S., Sc.D.; m. Catherine H. Rowan, 1937; ch.: Walter, Andrew, Catherine. Fellow M.I.T. 1935-36; instr. M.I.T. 1936-38; chem. engr., Eastman Kodak Co., 1938-43; Liaison Officer, Off. Sci. Res. & Dev., U.S. Embassy, London 1943-45; asst. supt. paper service dept., Eastman Kodak Co., 1945-49; hd. dept. of paper engrg., Lowell Textile Inst. 1949 to date. Heat transfer, rheology, drying, colloids. Co-Author: "Ind. Chem. of Colloidal & Amorphous Mtls." 1942; Author: chapter on drying "Techniques of Org. Chem." Vol. III, 1950. Mem.: A.C.S., T.A.P.P.I., A.I.Ch.E., Chem. Soc., S.C.I. Award: Cert. of Merit. Hobby: gardening.

BROUS, Samuel Lewis (Jr.), marketing mgr. chem. dept., Gen. Electric Co., 1 Plastics Ave., Pittsfield, Mass.; res. 60 Brunswick St., Pittsfield.
Marketing; b. Harrisonville, Mo., Oct. 7, 1906; s. of Samuel Lewis and Martha (Pendleton) Brous; ed. Kansas City, Mo., Jr. Coll., 1924-26; U. of Mo., 1926-28, B.S. chem. engrg., 1928-29 A.M. org. chem.; mem.: Triangle, Alpha Chi Sigma; m. Aura McWhorter, Sept. 28, 1935; ch.: Jane. Asst. chem., Stephens Coll., 1928-29; res. chem., B.F. Goodrich Co., 1929-34, res. unit dir.

1934-37, asst. mgr. plastic sales & dev. 1937-42, tech. serv. mgr. 1942-45; sales mgr., plastics, B.F. Goodrich Chem. Co., 1945-46, sales mgr. 1946-48, sales mgr. chem. 1948-49; marketing mgr., Gen. Electric Co., chem. dept., 1949 to date. High polymers, syn. elastics. Mem.: A.C.S., Com. Chem. Dev. Assn. Club: Chemists' (N.Y.). Hobby: woodworking.

BROWN, Alexander Chadbourne, chf. chem. engr., Emery Industries, 4300 Carew Tower, Cincinnati 2, Ohio; res. 6074 Belmont Ave., Cincinnati 24.
Chem. engr.; b. Boulder, Colo., Apr. 18, 1903; s. of Alden Hugh and Martha (Chadbourne) Brown; ed. M.I.T., S.B. 1925, M.S. 1926; Technische Hochschale Charlottenburg; mem.: Alpha Chi Sigma; m. Rachel Gilbert 1931; ch.: Theodore C., Janet K. Res. asst., M.I.T. 1926; dev. engr., Tide Water Oil Co., 1927-29; ind. fellow, Mellon Inst., 1930; Emery Industries, chem. engr. 1931-43, chf. chem. engr., 1944 to date. Mem.: A.C.S., A.I.Ch.E., Engrg. Soc. of Cincinnati. Hobby: chamber music.

BROWN, Alfred Seely, prof. of chem., Colgate U., Hamilton, N.Y.; res. 9 W. Pleasant St., Hamilton.
Chem., tchr.; b. Wash., D.C., Sept. 24, 1906; s. of Horace Seely and Nellie Constance (Raynal) Brown; ed. Ch.E., Rensselaer Polytech. Inst., 1926; Ph.D., Yale, 1929; mem.: Delta Phi; m. Mary Abigail Ring, June 14, 1934; ch.: Abigail Anne Seely, John Raynal Seely. Instr., Yale, 1929-31; N.R.C. fellow, Rockefeller Inst., 1931-33; Skenandoa Rayon Corp., res. conslt., 1933-42 & 1946 to date; res. dir., 1942-46; Colgate U., 1934-42 & 1946 to date. Misc. pats. & publs. Mem.: A.C.S. Club: Ft. Schuyler (Utica, N.Y.).

BROWN, Bruce K., pres., Pan-Am. Southern Corp., 944 St. Charles Ave., New Orleans 6, La.; res. 1608 Mirabeau Ave., New Orleans.
Pet. exec., b. Columbus, O., May 4, 1899; s. of B. Frank and Anna S.L. Brown; mem.: Phi Kappa Tau, Sigma Iowa Epsilon; m. June Antoinette Turner; ch.: Bruce K., Jr., Mrs. Alexander Edeleanu. Practiced pat. law N.Y.C., 1928-29; with Standard Oil Co. (Ind.) in Chic., 1929-41, gen. mgr., res. and dev. 1938-41; asst. deputy Pet. Adm., Washington, D.C., Nov., 1941 to Dec., 1944. Dir. and v.p. Standard Oil Co. (Ind.), 1945-49; Sept., 1949 to date, pres., Pan-Am. Southern Corp. Not. wk.: granted several pats. in chemical engineering field. Author: "A Survey of Nitrocellulose Lacquers," 1928; author of numerous tech. papers. Clubs: Chicago, University (Chicago), Cloud (N.Y.), Chemists' (N.Y.), Shreveport, Westmoreland Country, International House (New Orleans).

BROWN, Cecil Langford, asst. mgr. res. & dev., Stand. Oil Dev. Co., 15 W. 51 St., N.Y. 19, N.Y.; res. 10 Rockview Terrace, North Plainfield, N.J.
Chem.; b. Brookings, S.D., Apr. 21, 1899; s. of George Lincoln and Geraldine (Loucks) Brown; ed. B.S., S.D. State Coll., 1919; A.M., Mo., 1922; Ph.D. org. chem., Brown U., 1929; mem.: Alpha Chi Sigma, Gamma Alpha; m. Grace Harribine, Aug. 26, 1927; ch.: Robert L., Dorothy L., Patricia G., Richard D. Teacher, high schls., Minn., 1921-24; instr., chem., R.I. State Coll., 1924-26; prof., Western State Coll., Colo., 1927-28; asst. prof., La., 1928-29; res. chem., Stand. Oil Co. of La., 1929-39; dir. res., Esso Labs., La. Div., 1939-47; asst. mgr. res. & dev., Stand. Oil Dev. Co., 1947 to date. Metallic org. derivatives of germanium; hydrogenation, cracking & other catalysts used in pet. refining; dev. & res. on hydrogenation, catalytic cracking, polymerization, alkylation in pet. ind. & on butadiene syn. & extraction, perbunan & butyl polymers. Mem.: A.C.S. (chmn. of Baton Rouge Sec., chmn. of Div. of Pet. Chem., mem. of Comm. on Professional & Economic Status & Councilor at large); A.I.Ch.E., S.C.I., A.A.A.S. Hobbies: golf, fishing, music.

BROWN, Charles Owen, conslt. chem. engr., 331 Madison Ave., New York 17, N.Y.; res. 4 Warriston Lane, Rye, N.Y.
Chem. engr.; b. Lakeport, N.H., Nov. 21, 1888; s. of Burt Fred and Naomi (Ridley) Brown; ed. B.S., N.H. U., 1911; D.Eng., 1943; A.M., Cornell U., 1913; m. Helen Fraser Purinton, Feb. 10, 1915; ch.: Helen Charlotte (Mrs. George Gordon Reader), Charles Owen. Fellow Mellon Inst., 1913-17; dir. indust. lab. The Solvay Process Co., Syracuse, N.Y., 1919-21; assisted in design and construction of first synth. ammonia plant in U.S., 1919; spec. in this type of chem. engrg. since 1919; tech. dir. Nitrogen Corp., 1921-23; one of organizers Nitrogen Engrg. Corp., 1923, serv. as sec.-treas. until absolved by Am. Cyanamid Corp., 1929; v.p. Chem. Engrg. Corp., 1931-34; Am. Cyanamid Co., 1930-37; conslt. for sev. lge. chem. cos.; has done much engrg. wk. in Eng., Norway, Germany, France, Russia and China; est. as cons. chem. engr. since 1938; spl. lecturer Yale, Columbia, Bklyn. Polytech. Inst. Trustee, Village of Rye, 1934-41. Constructed lge. plants for U.S.A., 1917, making chems. for war; designed and built 1st synth. alcohol plant in U.S.; recently built sev. munitions plants for U.S.A.; specialist on catalysts for synth. chem. proc.; apptd. to W.P.B., 1942-46, advisor, chf. of engrs. Engrg. Corps, 1945-46; built 1st explosives ammonium nitrate plant, war program for ordn. dept., Wilson Dam, Ala., 1940; served as capt., advancing to lt. col. Army Ordn. Dept., 1917-19. Mem.: A.C.S., A.I.Ch.E., Theta Chi, Alpha Chi Sigma, Sigma Xi; asso. mem. Consltg. Chems. and Chem. Engrs. Clubs: Chemists'; Am. Yacht. Associate Editor Ind. & Eng. Chemistry, 1945 to date.

BROWN, Constance Lorraine, asst. prof. chem., U. Vt., Burlington, Vt.; res. 11 Univ. Heights.
Teacher; b. Newark, N.J., Apr. 25, 1902; d. of Horace A. Jr. and Martha Sexton Leefe Brown; ed. Wells Coll., A.B. 1923; Cornell U., M.S. Asst. chem., Goucher Coll., 1923-25; lab. chem., Henry Ford Hosp., Detr., 1927-28; instr. bacteriology, Cornell U., Feb.-June, 1928; instr. chem., U. Vt. 1928-48; asst. prof. 1948 to date. Mem.: A.C.S., Am. Assn. Univ. Women.

BROWN, Frank Emerson, prof. of chem., Dept. of Chem., Iowa State Coll., Ames, Iowa; res. 138 Hyland Ave., Ames.
Prof. of chem., teaching, res.; b. Near Cuba, Kan., Feb. 9, 1882; s. of Prairie Frank and Maria (Barhill) Brown; ed. Kan. State Teachers Coll. of Emporia, A.B. 1911; U. of Chicago, B.S. 1913, Ph.D. 1918; mem.: Sigma Xi, Phi Kappa Phi, Alpha Chi Sigma, Phi Kappa Tau, Phi Lambda Upsilon; m. May M. Holmes, Dec. 25, 1910; Louise Jaggard, July 20, 1920; ch.: 1st marriage, Frank Emerson Jr., Holmes M., 2nd marriage Louise Jaggard Jr. Teacher one room country schls., Republic Co., Kan., 1899-1902; principal, Portis, Kan. schls., 1905-07; supt. of schls., Hill City, Kan., 1907-09; asst., Kan. State Normal, 1910; supt., Collinsville, Okla., 1911-12; Fresno, Calif. chem. in high schl. & jr. coll., 1914; Central Y.M.C.A., Chicago, physics & chem., 1914-17; Iowa State Coll., asst. prof., assoc. prof., prof. 1917 to date. Surface tension; decompn. of pot. chlorate; vanadium oxytrichloride; detection & determination of arsenic & mercury by stannous chloride cuprous oxide as a catalyst. Contbg. editor, Jour. Chem. Educ., 1928-40; Cons. editor, Iowa State Jour. Sci., 1945—; Abstractor Chem. Abstracts 1921—. Author: "A Short Course in

Qualitative Anal.," 1932; "Qualitative Anal. Wk. Book," 1937; "A Short Course in Qualitative Anal. - Semimicro & Macro," 1942. Mem.: A.A.A.S., A.C.S., Ames section, treas. 1918, chmn. 1921, (councilor 1931, 1933, 1939, 1945 to date; chmn. local section, officers group, 1940, chmn. div. of chem. educ., 1942; mem. comm. on membership affairs 1948 to date; chmn. comm. on membership affairs 1950 to date), A.I.C., Iowa Acad. of Sc. (mem. of comm. on high schl. relations 1932-49; chmn. of comm. on high schl. relations 1943-49; dir. of Iowa sc. talent search, 1947 to date; chmn. of comm. on sc. talent search, 1950 to date; mem. of exec. comm., 1943 to date; v.p. 1950-51), A.A.U.P. Chmn. Ames Area Boy Scouts 1931-33; Silver Beaver, 1943.

BROWN, Fred Hubert, asst. secy. & asst. treas., The Dow Chem. Co., Midland, Mich.; res. 1327 St. Andrews, Midland.
Accounting; b. Fargrove, Mich., Jan. 8, 1899; s. of David W. and Lizzie Whipple Brown; ed. Midland H.S., LaSalle Ext. U. (higher accounting); m. Madeline Finn, July 25, 1928; ch.: Robert H., Richard W., Betty Ann. Started employment with The Dow Chem. Co., June, 1916; worked at various phases of accounting up to in charge of all accounting. Club: Midland Country. Hobby: home and cottage.

BROWN, George Earl, prof. chem., hd. chem. dept., Culver-Stockton Coll., Henderson Hall, Canton, Mo.; res. 712 College St.
Teach.; b. Weaubleau, Mo., Sept. 4, 1906; s. of James Ervin and Ida (Quillan) Brown; ed. A.B., Central Coll., 1931; Ph.D. Ia. St. Coll., 1941; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Theta Chi Delta; m. Ethelyn Cline, 1935; ch.: James William. Instr. chem., math., Central Coll. (Mo.) 1930-32; Indust. sc. res. scholar, Ia. St. Coll., 1933-35; instr. chem., physics, Culver-Stockton Coll. 1935; asst. prof. chem. 1936-40; prof. chem., hd. dept. 1940 to date. Author: "A Lab. Manual of Physical Sc.," 1949. Mem.: A.C.S., A.A.U.P. Clubs: Kiwanis, Quincy Chem. Hobbies: Boy Scout wk., hunting, fishing, photography.

BROWN, George Granger, chmn. dept. of chem. & metall. engrg., U. of Michigan, 2028 East Engrg. Bldg., Ann Arbor, Mich.; res. 1910 Hill St., Ann Arbor.
Chem. engrg. prof.; b. N.Y.C., Sept. 3, 1896; s. of George Gimns and Emma Lee (Tuttle) Brown; ed. B.S. Ch.E., N.Y.U., 1917; Ch.E., N.Y.U., 1924; M.S.E., U. of Mich., 1922; Ph.D., 1924; m. Dorothy Burrous Martin, Dec. 1, 1917; ch.: George Martin, Judson Granger, David Malcolm. 1917-18 Aluminum Co. of Am., engr. and dept. mgr.; 1918, C.W.S.; 1919-20, Union Special Machine Co., prod. mgr.; 1920, U. of Mich., instr.; 1925, asst. prof.; 1927, assoc. prof.; 1930 to date, prof.; 1942 to date, chmn. dept.; 1947 to date, E.D. Campbell U. (distinguished) prof.; exec. comm., Engrg. Coll., exec. bd., Grad. Schl.; Council, Engrg. Res. Inst.; 1925-32, Natural Gasoline Assn., dir. res.; 1945-49, Natl. Dairy Prods.; dir. engrg., U.S.A.E.C., 1950—; conslt. engr., Mich. Geolog. Survey, Natural Gasoline Assoc., Universal Oil Prods., Phillips Petrol. Co., Texas Co., Shell, Sun, Sinclair, Socony-Vacuum, A.P.I., Nash Motor Co., Gen. Motors, Chrysler, Petrol. & Natural Gas Conserv. Bd. of Calgary (Alberta, Canada), Eastman Kodak Co. Contrib. extensively since 1921 to numerous sc. & tech. jls., principally in fld. of petroleum, hydrocarbons, fractionation, thermodynam.; clays & shales, Mich. Geolog. Surveys series, 1926; moulding sands of Mich., Geolog. Survey, 1936; "Unit Operations," J. Wiley & Sons, N.Y., 1950. Mem.: A.I.Ch.E.; (dir., 1940-43; v.p., 1943), A.C.S. (chmn. gas & fuel div., 1927), A.S.T.M. (D-2 & D-3), Psi Upsilon, Phi Beta Kappa, Sigma Xi, Tau Beta Pi, Phi Kappa Phi, Iota Alpha, Phi Lambda Upsilon. Clubs: Chemists' (N.Y.), University (Wash., D.C.), Rotary (Ann Arbor).

BROWN, Glenn Vinton, conslt., 312 E. Main St., Mechanicsburg, Pa.; res. 312 E. Main St., Mechanicsburg.
Conslt. chem. engr.; b. Baltimore, Md., June 7, 1876; s. of J. Vinton and Mary M. (McCoy) Brown; ed. Dickinson Coll., Ph.B. 1898, A.M. 1899; Johns Hopkins U., chem. and geol. 1898-9; Ph.D. U. of Pa. 1910; mem.: Phi Kappa Sigma; m. Sara Wilde Kistler, June 29, 1903; ch.: Frederick L. 1907-10 instr. physics U. of Pa.; 1910-11 priv. res.; 1911-12 introd. gen. sc. course (HMS) tchrs. coll., Columbia; 1912-26 prof. chem. engr. Bucknell U.; 1926-35 sr. chem. engr. Sanitary Water Bd. of Pa.; 1935 to date conslt. Contrib. various papers composition rare minerals, stream sanitation, effect industrial effluents on aquatic life; in preparation an annotated bibliography of industrial wastes treatment and one on fish toxicology (with spec. ref. to indust. waste effluents). Mem.: A.C.S., fellow A.A.A.S., Federated S.W.A., A.I.C. (charter mem). Hobbies: bibliographies along chem. lines. Literature searches effect industrial effluents on ecology of streams, with spec. emph. on effect on aquatic life.

BROWN, Herbert C(harles), prof. of chem., Purdue U., Lafayette, Ind.; res. 1840 Garden St., W. Lafayette, Ind.
Prof., res. chem., conslt.; b. London, Eng., May 22, 1912; s. of Charles and Pearl (Stine) Brown; ed. Chicago Jr. Coll., 1935, Assoc. Sc.; U. of Chicago, B.S. 1936, Ph.D. 1938; m. Sarah Baylen, Feb. 6, 1937; ch.: Charles Allan. 1936-38, grad. asst., U. of Chicago; 1938-39, Eli Lilly Post-Doctorate Fellow, U. of Chicago; 1939-43, instr., U. of Chicago, during period 1940-43 largely on leave for war res.; 1943-47, asst. prof., assoc. prof., Wayne U.; 1947 to date, prof., Purdue U. Author of 60 papers, largely publ. in J.A.C.S. Mem.: A.C.S., Sigma Xi, A.A.A.S., Ind. Acad. of Sc., Phi Lambda Upsilon, A.A.U.P. Club: University. Hobbies; ancient history, gardening.

BROWN, J. Howard, asst. dir. of res., Oldbury Electro-Chem. Co., Niagara Falls, N.Y.; res. 758 Pasadena Ave., Niagara Falls.
Chem.; b. Attica, Ind., Dec. 16, 1910; s. of James J. and Alice J. Brown; ed. Wabash Coll., 1928-32, B.A.; Vanderbilt U., 1932-34, M.S.; U. of Ill., 1934-37, Ph.D.; m. Effie R. Caneer, Dec. 16, 1939; ch.: James M., Jeffrey L. Oldbury Electro-Chem. Co., Mar. 1, 1937, res. chem., 1948 to date asst. dir. res. Res. wk. on organophosphorus cmpds., phosphorus sulfides, lower acids of phosphorus. Mem.: A.C.S., Electrochem. Soc., Phi Beta Kappa. Hobbies: gardening, woodworking, photography, fishing.

BROWN, John Rowland, Jr., dir. of res., Lambert Pharmacal Co., St. Louis, Mo.; res. 9 Granada Way, Clayton (24), Mo.
Chem. engr.; b. Mansfield, O., March 4, 1912; s. of John Rowland and Mary Ethel (Sloane) Brown; ed. Oberlin Coll., A.B. 1933; M.A. 1935 (chem.); M.I.T., Sc.D. 1938 (chem. engr.); m. Elizabeth Watermulder, June 5, 1938; ch.: Joanne E., John E., Mary M.; 1938, M.I.T., instr. chem. engr.; 1938-41, Esso Labs., Chem. Div., chem. engr.; 1941-46, Standard Oil Dev. Co., Elizabeth, N.J., asst. dir.; 1946-48, Pro-Phy-Lac-Tic Brush Co., Florence, Mass., dir. chem. res.; 1948-49, tech. dir.; 1949 to date, dir. res., Lambert Pharmacal Co. Mem.: Phi Beta Kappa, A.C.S., Sigma Xi, Soc. of Plastics Engrs. Hobbies: sports, photog.

BROWN, John Russell, lab. supvr., res. dir., Tilo Roofing Co. Inc., Stratford, Conn.; res. 112 New Haven Ave., Woodmont, Conn.
Mech. engr.; b. Paterson, N.J., May 12, 1899;

s. of John Henry and Maggie Cecelia Brown; ed. Harvard U., 1918; Rutgers U,. 1919-22; B.S., 1922, M.E., 1925; mem.: Beta Theta Pi; m. Clara Gibson Woody, Sept. 19, 1923. Wright Aeronautical Corp., engr.; Chamberlain Aero. Corp., engr.; Chance Vought Aircraft Corp., engr.; Kelvinator Corp., engr.; Tilo Roofing Co., lab. supvr., res. dir.

BROWN, John Wesley, pres., treas., The Cleveland Electro Metals Co., 2391 W. 38 St., Cleveland 13, Ohio; res. 1070 Rosalie Ave., Lakewood.
Mfg.; b. Rye, N.H., July 23, 1877; s. of Moses and Henrietta Garland Brown; ed. M.I.T., S.B. 1900; U. Heidelberg (Germany) Ph.D. 1903; m. Julia T. Terry, 1904; ch.: John W., Jr., Juliette, Robert G., and Willis T. 1900-01 asst. instr. anal. chem., M.I.T.; 1903-06 instr. theoretical, electro chem.; 1906-12 dir. res. lab., Natl. Carbon Co.; 1912 to date pres., treas., Cleveland Electro Metals Co. Co-author: "A Bibliography of the Anal. of Manganese," 1902; "Le Blanc's Electro Chem.," 3rd ed., 1907. Cleveland Res. & Test. Lab., pres., dir.; Cleveland Electro Mtls. Co., pres., treas., dir.

BROWN, Kenneth Rent, dir. res. and development dept., Atlas Powder Co., Wilmington 99, Del.; res. 620 S. High St., West Chester, Pa. Chem.; b. Pendleton, Ind., July 30, 1896; s. of Calvin Fletcher and Mary Rent Brown; ed. 1918, Swarthmore Coll., A.B.; mem.: Phi Beta Kappa, Sigma Xi, Phi Kappa Psi; m. Rae A. Horrobin, Aug. 21, 1920; ch.: Kenneth I., Richard Calvin, Robert Winfield.; 1918-26, chemist, experimental lab. Atlas Powder Co.; 1926-28, asst. dir.; 1928-30, acting dir.; 1930-40, dir., Atlas Res. Lab.; 1940-49, dir. res. dept.; 1949 to date, dir. res. and devel. dept.; dir., 1947, Atlas Powder Co. Mem.: A.C.S. (Councilor 1935), A.I.Ch.E., F.A.I.C., Electrochemical Soc., S.C.I., A.S.T.M., Am. Assn. Econ. Entomologists. Clubs: Chemists' Club, Engr. Club of Phila.

BROWN, Morden G(rant), res. supvr., Am. Optical Co., res. lab., Stamford, Conn.; res. 44 Phillips Lane, Darien, Conn.
Biophysics, optical instr. res.; b. Palo Alto, Calif., Dec. 8, 1906; s. of Joseph G. and Grace Nims Brown; ed. A.B. 1929 Stanford U.; A.M. 1936; Ph.D. 1938; mem.: Alpha Kappa Lambda; m. Helen Glover, 1933; ch.: Marsha Diane, Beverly Joan. 1934-37 Stanford U., Schl. Biol., res. asst.; 1937-38 u. fellow; 1938-41 Wash. U. (St. Louis) dept. zoology, res. assoc.; 1941-45 Am. Optical Co. (Buffalo) res. physicist; 1945-49 chf. dev. physicist; 1946-49 mgr. dev. sect.; 1949 to date res. lab., res. supvr. Res. in ency. excystment reactions of protozoa, stud. field of exp. embry. of amph., dev. of Spencer Hb-meter, other optical instruments. Mem.: Sigma Xi, A.A.A.S., Am.Soc. Zool., A.O.C.S. (color-comm.), Optical Soc. Am. Club: Stanford Alumni (N.Y., N.J., Conn.). Hobbies: horticulture, photography.

BROWN, Owen J., Jr., v.p., gen. sales mgr., Godfrey L. Cabot, Inc., 77 Franklin St., Boston, Mass.; res. 90 Hundreds Rd., Wellesley Hills, Mass.
V.p., gen. sales mgr.; b. Pekin, Ill., Nov. 23, 1910; s. of Owen J. and Alice Holden Brown; ed. Tufts Coll., C.E. 1935; mem.: Theta Delta Chi; m. Elizabeth Lindabury, June, 1941; ch.: Owen J., III, Jeffrey, Linda, Stephen. Gen. sales mgr., Godfrey L. Cabot, Inc. 1945; v.p. 1947. Dir. Herron Bros. & Meyer, Inc. Mem.: A.C.S. Clubs: Chem. (N.Y.C.), Portage Country (Akron, Ohio), Algonquin (Boston). Hobbies: horticulture, photography, fishing.

BROWN, Ralph L., chf., coal branch, fuels & explosives div., U.S. Bur. of Mines, rm. 4423, New Interior Bldg., Washington, D.C.; res. 5308 Newport Ave., Chevy Chase 15, Md.
Chem., chem. engr.; b. Blair, Ill., July 23, 1890; s. of Edward E. and Emma I. Brown; ed. A.B. Mo. State Coll.; A.B. U. of Mo. 1913; Ph.D. U. of Chicago 1917 magna cum laude; Swift Fellow (Chicago) 1916-17, Sigma Xi 1916; Award: A.G. A. Beal M. 1924; mem.: Alpha Chi Sigma, Gamma Alpha; m. Lucy D. Kennedy, June 16, 1926; ch.: Ralph Lyman Jr., Dugald Campbell. Chem., Inland Steel Co., summer 1915; Koppers Co. summer 1916; 1st. Lt. U.S.A.A.E.F. 1917-19; chem. in chg. res. div. Koppers Co. 1919-21; org. chem., unit chf., U.S. Bur. of Mines, Pittsburgh, Pa. 1921-28; project leader res. div. Solvay Process Co., Syracuse, N.Y. 1928-37; dir. res. Penna. Salt Mfg. Co., Phila., Pa., 1937-44; chf. ind. chem. sec., Sun Oil Co., 1944-47; asst. chf. coal branch, U.S. Bur. of Mines, Pitts. 1947-48; chf. coal branch, U.S. Bur. of Mines, Wash., D.C. 1948 to date. Coal chem. & derivatives, resins, resinous deposits in gas meters, syn. methanol, acetic acid, high & atmospheric pressure catalysis, process dev. Numerous tech. papers & pats. Mem.: A.C.S., A.A.A.S. (fellow), Am. Gas Assn., Am. Coke & Coal Chem. Inst. Clubs: Cosmos, Wash., D.C., French Army & Navy, Paris, France. Hobby: cabinet making.

BROWN, Raymond Grout, asst. treas., Comstock & Wescott, Inc., Box 385, Niagara Falls, N.Y.; res. 840 College Ave., Niagara Falls.
Exec.; b. Allston, Mass., June 21, 1894; s. of Lincoln and Anna E. Brown; ed. M.I.T., B.S.; mem.: Kappa Sigma; m. Melva L. Cook, Oct. 5, 1918; ch.: Richard Lysle, Roger DeGrout, Peter Norton. 1916-17 res. engr. Carborundum Co., Niagara Falls; 1917-18 1st. Lt. C.W.S., U.S.A.; 1918 to date res. engr. Comstock & Wescott, Inc., Niagara Falls, N.Y.; dir. Comstock & Wescott, Inc.; res. in chlorine metallurgy. Mem.: A.C.S., E.S., A.I.C., A.Ceram.S. Clubs: Niagara Falls Country; Niagara; Engineers' (N.Y.C.).

BROWN, Robert F., chem. sales mgr., Emery Industries, Inc., Carew Tower, Cincinnati, Ohio; res. 3222 Lookout Dr., Cincinnati.
Exec.; b. Youngstown, Ohio, Sept. 15, 1913; s. of George W. and Inez (Riddle) Brown; ed. Ohio State U., B.A. cum laude, M.A. 1934; U. of Wis., Ph.D. 1937; mem.: Phi Delta Chi; m. Harriet Allman, June 3, 1939; ch.: R. Scott, James F. 1937-42, Procter & Gamble Co., res. & dev. prod. serv.; 1942-44, War Prod. Bd., War Food Adm., chf. allocations sec. fats & oils branch; 1944-48 sales serv. supvr., 1948 to date, chem. sales mgr., Emery Industries, Inc. Mem.: Phi Beta Kappa, Sigma Xi, A.C.S., A.O.C.S., A.A.T.C.C., Cincinnati Sales Exec. Council.

BROWN, Robert Harry, chf. chem. metallurgy div., Al. Res. Labs., Al. Co. of Am., New Kensington, Pa.; res. 1411 Pacific Ave., Brackenridge, Pa.
Chem. engr.; b. Kingston, Pa., Dec. 18, 1904; s. of W. Arthur and Edna (Miller) Brown; ed. Drexel Inst. of Tech. 1923-27, chem. engrg. B.S. 1927, M.I.T., chem. engrg. M.S. 1930; mem.: Tau Kappa Epsilon; m. Priscilla S. Leach, Mar. 28, 1931; ch.: Janet, Donald. Res. Assoc., M.I.T. 1929-31; joined staff Al. Res. Labs. in 1931, res. metallurgist 1931-43, res. electrochem. engr. 1943-44, asst. chf. chem. metallurgy div. 1944-45, chf. chem. metallurgy div. 1945 to date. Appl. of electrochem. meth. to study of metallurgy & corrosion of al. alloys. Dev. of alclad al. alloys. Mem.: Electrochem. Soc., Soc. of Naval Archt. & Marine Engrs., A.I.M.M.E., Natl. Assn. of Corrosion Engrs. Award: Whitney, N.A.C.E. 1950 for contr. to sc. of corrosion. Hobbies: interested in etchings and paintings, musical recordings, fishing.

BROWN, Sanford, v.p. Bakelite Corp., 30 E. 42 St., N.Y. 17; res. 79 N. Mountain Ave., Montclair, N.J.

Mfr.; b. Phila., Pa., Mar. 9, 1888; s. of Kirk and Jenny (Turner) Brown; ed. Cornell U.; mem.: Delta Kappa Epsilon. Chf. engr., Condensite Co. of Am.; v.p., Condensite Co. of Am.; v.p. Bakelite Corp., pres., Halowax Corp.; dir., Houdaille-Hershey Corp.; dir., Bakelite Corp., v.p. Bakelite Corp., Union Carbide & Carbon Corp.; gen. mgr., Halowax Prod. Div., Union Carbide & Carbon Corp.; dir. Autopoint Co.; dir. New England Tape Co. Inc. Mem.: Am. Soc. of Sales Exec., Soc. of Plastics Ind., S.A.E., Naval Engrs., Army Ord. Assn., Soc. of Plastic Engrs. Clubs: Union League, Essex County Country, Pine Valley Golf, Shawnee Country, Detroit Athletic, Chicago Athletic Assn.

BROWN, Thomas, sales mgr., Hoffmann-La Roche Inc., Roche Park, Nutley 10, N.J.; res. 125 Gates Ave., Apt. 10-D, Nutley.
Pharmaceuts.; b. Kirkcaldy, Scotland, Apr. 9, 1906; s. of Andrew Fisher and Ann (Henderson) Brown; ed. Ph.C., Brit. Columbia Schl. of Phar. & Sc.; m. Violette Isabel Wood, Apr. 24, 1929; ch.: Mary Ann, Eleanor Jean. Mgr., Federal Drug, Oakland, Calif, 1925-30; mgr., Medical Center Prescription Pharmacy, Oakland, Calif., 1930-32; rep., Parke Davis & Co., 1932-42; sales rep. Hoffmann-La Roche, 1942-43; Pacific Coast div. mgr., 1944-47; sales mgr., 1948 to date. Clubs: Sales Exec. (N.Y.C.), Valhalla Country (Montville, N.J.). Hobbies: photography, cooking, music, theater, N.Y. Yankees, public speaking.

BROWN, William B., gen. supt., Pitts. Coke & Chem. Co., Neville Isl., Pittsburgh 25, Pa.; res. 534 Landsdale Pl., Pitts. 28.
Chem.: b. N.Y.C., Aug. 24, 1905; s. of Frederick W. and Josephine (Rilke) Brown; ed. B.S. Chem. 1928 N.Y.U., Ph.D. org. chem. 1931; 1925-26 U. of Munich; mem.: Kappa Sigma; m. Catherine Passe, Oct. 4, 1932; ch.: Barbara Ann. 1931-36, Lucidol Corp., res. chem.; 1936-42, Barrett Co., res. chem., group leader; 1942 to date, Pitts. Coke & Chem. Co., 1942-46 res. chem., 1946-48 dir. of res., 1948-49 mgr. of chem. prod., 1949 to date gen. supt. Pitts. Agric. Chem. Co. (dir.). Dev. refinements of a syn. phenol process, a phthalic anhydride process, a napthyl thio urea process, a 2-4 dichlorophenoxy acetic acid process. Mem.: Sigma Xi, Scholarship from Am. Council on Ed. for study in Europe (U. of Munich, Germany 1925-26), A.C.S., Eastern States Blast Furnace & Coke Assoc., Am. Coke & Coal Chem. Inst. Clubs: Chemists' (Pitts.), Chemists' (N.Y.), Pitts. Figure Skating. Hobbies: golf, figure skating, swimming.

BROWNE, Frederick L(incoln), chem., U.S. Forest Prods. Labs., Madison 5, Wisc.; res. 3546 Lake Mendota Dr.
Chem.; b. N.Y.C. N.Y., Feb. 13, 1895; s. of Frederick C. and Florence A. (Patterson) Browne; ed. Cornell U., B. Chem.; U. Wisc., M.S., Ph.D.; Natl. Res. Fellow; m. Vera Payne, June 23, 1917; ch.: Cornelius P. 1917-18 prof. chem., Coll. Charleston, S.C.; 1918-19 chem., U.S. Forest Prods. Lab., Madison, Wisc.; 1921-22 Natl. Res. fellow, U. Wisc.; 1922 to date, chem. U.S. Forest Prods. Lab., Madison, Wisc.; 1929 to date asst. ed. Chem. Absts. A.C.S., theory casein glues, adhesion, classific. woods for paint., tech. wood paint., classific. house and barn paints. Author: "Casein and its indus. applic.," A.C.S., Monograph No. 30, 2d. ed. Co-author: 3rd ed. in progress. Mem.: A.C.S., A.S.T.M., A.A.A.S., Wisc. Acdy.

BROWNE, Owens Hand, prof. chem., St. Mary's Coll., Raleigh, N.C.; res. Box 5666, Raleigh.
Teacher; b. Urbana, Ill., Dec. 2, 1899; s. of William Hand, Jr. and Linda Mary (Whitaker) Browne; ed. Raleigh, N.C. Public Schls.; N.S. State, B.S. Chem. 1921; Johns Hopkins U., Ph.D. chem. 1926; mem.: Gamma Sigma Epsilon (hon. chem.), Alpha Psi Omega (hon. dramatics); m. Mary Martin Johnson, Aug. 8, 1929; ch.: Mary Anne, Susan Hand, William Hand IV. 1926 fellow Textile Chem. & Dyeing, N.C. State, Raleigh, N.C.; 1928 asst. prof. chem. V.M.I., Lexington, Va.; 1933 chem. Pennimman & Browne, Baltimore; 1936 fellow, Sanitary Chem., N.C. State, Raleigh; 1936 teacher, Raleigh H.S., Raleigh; 1937 prof. sc., Pembroke State Coll., Pembroke, N.C.; 1940 acting pres. Pembroke State Coll ; 1942 instr. sc., Lenoir Rhyne Coll., Hickory, N.C.; 1944 act. prof. phys. & chem., Lenoir Rhyne Coll.; 1950 prof. chem. St. Mary's Coll., Raleigh, N.C. "Some Reactions of Lead Tetraethyl," "The Problem of the Periodic System." Mem.: A.C.S., Am. Physical Soc., A.A.A.S., N.C. Acad. of Sc. Hobbies: photography, typography.

BROWNELL, Howard Fred, supt. McKesson and Robbins, Inc., Grasmere Ave., Fairfield, Conn.; res. 194 Ludlow Rd., Fairfield.
Chem.; b. Feb. 12, 1893; Smethport, Pa., s. of Fred W. and Harriet A. Brownell; ed. Allegheny Coll., 1915, B.Sc.; N.Y.U., 1916, M.Sc.; mem.: Phi Delta Theta; m. Helen S. Rogers, Sept. 6, 1916; ch.: Howard R., William A. Hd. of chem. mfg., E.R. Squibb & Sons, Bklyn., N.Y.; supt. plant, same co. but in New Brunswick, N.J.; prod. supt. McKesson & Robbins, Bklyn., N.Y. and Bridgeport, Conn.; gen. supt. same co., at Bridgeport. Mem.: Phi Beta Kappa, Alpha Chi Sigma. Officer in Fairfield Chapt. Red Cross, Fairfield Community Chest. Clubs: Stratfield Bridge; Masonic Frat.; Rotary. Hobbies: fishing, gardening.

BROWNING, Edgar S., pres., E.S. Browning Co., 1515 Third St., San Francisco, Calif.; res. Piedmont, Calif.
Exec.; b. Baltimore, Md., Oct. 6, 1891; s. of George R. and Cornelia (Skinner) Browning; ed. pub. schls. Baltimore; m. Genevieve Hewitt, 1913; ch.: Dorothy Browning Norris. 20 yrs. with Pittsburgh Plate Glass Co.; 20 yrs. E.S. Browning Co., pres. Clubs: Olympic, Islam Shrine. Hobby: music.

BROWNSCOMBE, Eugene R., assoc. dir., crude oil prod. res., res. and dev. dept., The Atlantic Refin. Co., P.O. Box. 2819, Dallas, Texas; res. 1420 El Campo Dr., Dallas 18, Tex.
Petroleum prod. res.; b. National City, Calif., July 9, 1906; s. of Thomas F. and Jessie Belle (Mills) Brownscombe; ed. Yale U., B.S. 1928, Ph.D. 1932, Sterling Fellow; m. Elizabeth Fairchild, Nov. 1, 1932; ch.: Thomas F. June, 1932-April, 1934, The Biological Lab., Cold Spring Harbor, L.I., N.Y.; Apr., 1934 to date, The Atlantic Refin. Co., refin. and prod. res. Author: "A Theoretical Study of the Design of Thermocouples for Experimental Cracking Units" in Temperature, Its Measurement and Control in Sc. and Industry (Rheinhold Pub. Co.), 1941. Co-author several papers presented at soc. meetings and has contrib. sev. arts. to sc. jls.; holds three U.S. pats. in his fld. Mem.: A.I.M.E., A.P.I., A.C.S., A.Phys.S., A.A.A.S., Texas Acdy. of Sciences, Am. Assoc. of Petroleum Geologists, Sigma Xi.

BRUBAKER, Carl H., res. dir., Standard Bleachery, Carlton Hill, N.J.; res. 31 Bellevue Ave., Upper Montclair, N.J.
Chem.; b. Nov. 14, 1898; s. of A.K. and Sara M. (Hess) Brubaker; ed. F. and M. Acad., Franklin & Marshall Coll., B.S.; m. Lillian A. Rochow, June 17, 1920; ch.: Carl H. Jr., Emma Louise. From coll. to Signal Corps, U.S.A., Cpl. to 1st. Lt.; 1920-21 chem., Passaic Print Wks.; 1921-23 asst. colorist, same co.; 1923-25 asst. supt. same co.; 1925-35 supt. same co.; 1935-39 with Cygnet Labs.; 1939 to date res. dir. Standard Bleachery; notable wk.: on sev. res. Comms. of A.A.T.C.C. (pub. in Dyestuff Reporter); pat. electrolytic dyeing. Mem.: A.A.T.C.C., T.R.I. Trustee, First Methodist Church, Passaic, N.J., dir. and secy. Passaic Y.M.C.A., adv. comm. Fairleigh Dickin-

son Coll. Clubs: Colorists, Pennington, Exec. Club of Bergen County (dir.). Hobbies: amateur movies, mineralogy.

BRUBAKER, Howard W., prof. of chem. (emeritus), Kansas State Coll., Manhattan, Kans.; res. 1929 Leavenworth St., Manhattan, Kansas
Prof. of chem. (retired); b. Ridgeville, O.; May 27, 1877; ed. B.S., Carleton Coll., 1899; Ph.D., Penn., 1904; prof. chem., Whitman Coll., 1904-11; instr. Carnegie Inst. Tech., 1912-13; asst. prof., Kans. State Coll., 1913-18; assoc. prof., 1918-22; prof., 1922-47; emeritus prof., 1947 to date. Hon. fellow, Cornell, 1911-12. Water analyst, Manhattan City Waterwks., Kans., 1922 to date. Contrib. tech. arts. to sc. jls. Mem.: A.C.S., Kans. Acdy. Notable wk.: quantitative anal.; vegetable oils; ether extracts of alfalfa; iodine in Kansas waters; composition of tusks of extinct elephants.

BRUCE, Everett Albert, tech. supvr., Natrona Wks., Penna. Salt Mfg. Co.; res. Paoli, Pa. (Box 161).
Chem. engr.; b. Northumberland, Pa., Dec. 3, 1915; s. of Wilber E. and Mary A. Bruce; ed. Bucknell U., 1933-34 and 1936-39; m. Catherine A. Gross, Aug. 31, 1940; ch.: Everett A. Jr., John Elliott. Koppers Phila. Coke Co., 1939-41, control chem.; Barrett Div., Allied Chem., 1941-43, plant dev. engr.; Blaw-Knox Co., 1943-44, operating engr.; Penna. Salt Mfg. Co., 1944 to date, proc. engr. Mem.: A.I.Ch.E., Phila. Org. Chemists' Club.

BRUCE, Robert Aldridge, v.p., treas., Amalgamated Chem. Corp., 1819 Spring Garden St., Greensboro, N.C.; res. 3310 Starmount Dr., Greensboro.
Textile chem.; b. Phila., Pa., Oct. 11, 1904; s. of Harry A. and Catherine T. Bruce; ed. Phila. Textile Schl.; m. Helen G., June 28, 1930; ch.: Sarah Jane. Natl. Aniline Chem. Corp., lab.; Horrocks & Bro., supt.; Globe Dye Wks. Co., supt.; W. H. & F. Jordan Jr. Mfg. Co., v.p.; Amalgamated Chem. Corp., v.p., treas. dir. Mem.: Am. Assn. of Textile Chem. & Colorists. Mem.: Masonic Order, Knight Templar, Shrine.

BRUCE, William Fausset, hd. Org. Chem., Wyeth Inst. of Applied Biochem., 900 N. Broad St., Phila., Pa.; res. 724 Hirst Ave., Havertown, Pa.
Org. chem.; b. York Springs, Pa., July 22, 1904; s. of Amos M. and Mary (Fausset) Bruce; ed. A.B. (summa cum laude) 1927 Wesleyan U.; A.M. 1929 Harvard U.; Ph.D. 1931; mem.: Phi Beta Kappa, Sigma Xi, Alpha Chi Sigma; m. Verna B. Updike, June 27, 1936; ch.: Agnes Helen, William Furman, Barbara Jean. Asst. in chem. Wesleyan, 1926-28; du Pont Fellow, Harvard, 1929-30; University Fellow, 1928-29; instr. 1930-31; Sheldon Traveling Fellow, 1931-32; asst. on the staff, Rockefeller Inst. (Princeton), 1932-35; instr. Cornell U., 1935-39; asst. prof. 1939-45; sr. chem., Wyeth Inst., 1945-46; hd. Org. Chem., 1946 to date. Author of 43 jl. publs. and 9 pats. in flds. of bacterial metalbolism, synth. chem., chem. of natural prods., carcinogenic hydrocarbons, and pharmacologically active compds. Mem.: A.C.S., Phila. Org Chem. Club. Hobbies: music, gardening.

BRUHN, Henry H., res. mgr., U.S. Potash Co. Inc., Carlsbad, N.M.; res. Rt. 1, Box 33½, Carlsbad, N.M.
Reg. engr.; b. Chicago, Ill., Apr. 29, 1902; s. of John D. and Clara Elizabeth Bruhn; ed. U. of Ariz., B.S. 1926; M.S. 1927; m. Mary Ruth Welch, June 6, 1929; ch.: Mary Ann, John David. After coll. grad., with Phelps-Dodge Corp., Douglas, Ariz., 1927-31; with C.C. Moore and Co., Engrs. Construction, Carlsbad, N.M.; 1932; U.S. Potash Co., 1932 to date in varying capacities. Mem.: A.I.M.M.E. Club: Riverside Country (Carlsbad, N.M.). Hobbies: foundry, machine, pattern and carpenter work; photography, both still and moving pictures.

BRUMBAUGH, Chester C., dir., Res. and Dev., Diamond Alkali Co., Painesville, Ohio; res. R.D. 1, Painesville.
Engr.; b. Barking, Pa., Apr. 8, 1900; s. of U. Boyd and Mary (Davis) Brumbaugh; ed. B.S. in Mech. Eng., Carnegie Inst. of Tech., 1924; mem.: Phi Kappa Psi; m. Anne Daugherty, July, 1932; ch.: Elsa, Mary. 1924-27 test engr., Duquesne Light Co.; 1927-37 engr., Foster-Wheeler Corp., N.Y.C.; 1937 to date engr. and exec., Diamond Alkali Co.; res. in dev. of magnesium chems. from dolomitic limestone; anhydrous hydrogen chloride. Mem.: A.I.Ch.E., A.S.M.E., A.C.S., E.S. Club: Chemists' (N.Y.).

BRUMLEY, Albert Corwin, v.p., Activated Alum Corp., 316 Wyndhurst Ave., Baltimore 10, Md. res. 212 Midhurst Rd., Baltimore 12.
Exec.; b. N.Y.C., Jan. 30, 1914; s. of Albert H. and Helen (Corwin) Brumley; ed. Yale, 1936, B.A.; m. Mary Eliz. Knox, Apr. 17, 1937; ch.: Charles Knox, Rosemary Helen. V.p., Activated Alum Corp., 1936 to date. Activated Alum Sales Corp., dir.; Am. Fluoride Corp., dir.; Alhydro, Inc., dir. Clubs: Chemists' (N.Y.), Annapolis Yacht. Hobby: sailing.

BRUNAUER, Stephen, chf. tech. admin., explosives res. and dev., Bur. of Ordn., Dept. of the Navy, Wash., D.C.; res. 3417 Quebec St., N.W., Washington 16, D.C.
Chem., res. admin.; b. Budapest, Hungary, Feb. 12, 1903; s. of Louis and Sarah Brunauer; ed. A.B. Columbia U., 1925; M.S., George Washington U. 1929; Ph.D. Johns Hopkins U., 1933; m. Esther Caukin, Nov. 19, 1931; ch.: Kathryn, Elizabeth. Dept. of Agric., jun. chem. 1928; asst. chem. 1936; assoc. chem. 1939; chem. 1942; Dept. of the Navy, Lieut. U.S.N.R. 1942; Lt. Comdr. 1943; Commdr. 1945; chf. tech. admin., Explosives Res. and Dev., since 1945; lecturer 1937-45 George Washington U.; professional lecturer since 1945; res. in catalysis, adsorption, heterogeneous kinetics and equilibria, phase rule studies, gaseous reactions; res. adminis. in fld. of high explosives. Author: "Adsorption of gases and Vapors," pub. by Princeton U. Press in 1943 and Oxford U. Press in 1944. Mem.: A.C.S., Philosophical Soc. of Wash., Wash. Acad. of Scs., Phi Beta Kappa, Sigma Xi; Natl. Res. Council, representing the Dept. of the Navy in Div. of Chem. and Chem. Tech.; rec. Hillebrand Prize from Chem. Soc. of Wash. for the year 1945 for wk. on adsorption; rec. Commendation Ribbon from Secy. of Navy and Order of British Empire, 1946 for work on explosives.

BRUNDAGE, Perry Salem, hd., Chem. Dept., (prof.) Mich. State Normal Coll., Ypsilanti, Mich.; res. 43 S. Summit St., Ypsilanti.
Tchg. and admin.; b. Wayne Co., Mich., July 15, 1887; s. of Salem and Marintha (Samson) Brundage; ed. Life Cert. and B. Pd. 1911 Mich. State Normal Coll.; B.S. 1915; M.S. 1925, Ph.D. 1932 from U. of Mich.; mem.: Phi Lambda Upsilon (hon. chem.); m. Flora M. McDonald, Aug. 24, 1911; ch.: Donald Keith, Robert Dale, Leon Carlton. 1908-15 tchr. of sci., Mich. H. Schls.; 1916-23 asst. prof. chem. Mich. State Coll.; 1923-27 asst. prof., 1927-32 assoc. prof., 1932-41 prof., 1941 to date hd., Chem. Dept., Mich. State Normal Coll.; several summers of collaborative res. or visiting prof. in summer session. Author: "Lab. Outlines in Inorg. and in Org. Chem." Mem.: A.C.S., Mich. Coll. Tchrs. Assoc., Mich. Educ. Assoc., Mich. Schoolmasters Club. Clubs: Forum, Rotary. Hobbies: gardening, flowers and vegetables.

BRUNJES, Dr. Austin S(chiffer) P.E., dir., tech. info. dept., Lummus Co., 385 Madison Ave., N.Y. 17, N.Y.; res. 2 Oakwood Lane, Plandome, N.Y.
Chem. engr.; b. N.Y.C., June 29, 1906; s. of Gustav Johnston and Emma Georgiene Brunjes; ed. Polytech. Inst. of Bklyn., Ch.E. 1929, M.S. 1931; Yale U., Ph.D. 1935; mem.: Alpha Sigma Phi, Tau Beta Pi, Phi Lambda Upsilon, Alpha Chi Sigma, Gamma Alpha, Sigma Xi; m. Beatrice Ray Gerrodette, June 29, 1935; ch.: Barbara Austin, Carolyn Austin. Instr. in chem., Polytech. Inst. Bklyn., 1929-32; Lummus Co., process engr. 1935-36, sr. process engr., chem. div., 1936-42, process design co-ordinator 1942-46, dir., tech. info. dept. 1946 to date; adjunct prof. of chem. engrg., Grad. Schl., Polytech. Inst. Bklyn., 1938 to date. Vapor-liquid equilibria studies on various binary & ternary systems of commercially important solvents, process dev. on syn. phenol, & Chlorinated aromatics, studies on pressure drop thru bubble caps in distillation towers. Numerous articles in Ind. & Engrg. Chem. & Chem. Engrg. Progress; pats. awarded & pending. Mem.: Natl. Soc. of Prof. Engrs., A.C.S., A.I.Ch.E., Soc. of Am. Military Engrs., U.S. Naval Inst., A.A.A.S. (fellow), N.Y. Museum of Nt. Hist. Dir., Alumni of Alpha Kappa Pi; v.p., dir., Polytech. Alumni Assn.; past v.c. & trustee, Pt. Jefferson Yacht Club; bd. of governors, U.S. Power Squadrons. Clubs: Pt. Washington Yacht, Pt. Jefferson Yacht. Hobbies: ship model building, stamp collecting, model railroading, yachting.

BRUNKOW, Orvin Richard, gen. sales mgr., Comm. Solv. Corp., 17 E. 42 St., N.Y. 17, N.Y.; res. 14 Witherbee Ave., Pelham Manor, N.Y.
Gen. sales mgr.; b. Monroe, Wisc., Aug. 9, 1898; s. of Christian F. and Mary Arnsmeier Brunkow; ed. 1914-23 (2 yrs. W.W.I.), U. Wisc., B.S., M.S., Ph.D.; mem.: Sigma Xi, Phi Sigma, Phi Lambda Upsilon, Alpha Chi Sigma, Theta Chi; m. Kathryne F. Kintz, Dec. 15, 1925; ch.: Mary Ellen, Jane Frances; empl. Comm. Solv. Corp., Feb. 1, 1923, to date, proc., res. wk. first 2 yrs., entered sales dept. 1925. Clubs: Chem., Chem. Salesmen's Assn., Wykagyl. Hobbies: fishing, golfing.

BRUNO, Michael H., res. mgr., Lithographic Tech. Foundation, 1800 S. Prairie Ave., Chicago, Ill.; res. 2030 E. 95 Pl., Chicago.
Res. engr.; b. New Haven, Conn., Feb. 9, 1911; s. of Peter A. and Louise (Leone) Bruno (dec.); ed. Yale U., B.S. chem. 1931, Stone Trust Corp. Prize 1929; m. Gilda V. Esposito, May 22, 1937; ch.: J. Michael, Donna V. Socony Vacuum Oil Co., New Haven, 1932-35, area mgr.; Winchester Repeating Arms Co., New Haven, 1935-38, explosives res.; City Printing Co., New Haven, Conn., 1938-39, lithographic res. & dev.; Meriden Gravure Co., Meriden, Conn., 1939-41, graphic arts res.; U.S.A. Map Service, Wash., D.C., 1941-45, res. officer; Lithographic Tech. Foundation, Chicago, 1945 to date, res. mgr. Surface treat. for lithographic plates; tone reproduction studies; improvements in plate making. Co-author: "Control of Tone Reproduction" 1948; "The Sensitivity Guide" 1949, "Plate Surface Treatments" 1950. Mem.: Opt.S.A., Photographic Soc. of Am., Sigma Xi, Tech. Assn. of Lithographic Ind. (first pres. 1948-50). Club: Chicago Lithographers. Hobbies: photography, music, building.

BRUNTON, Jack G., v.p. Kolker Chem. Wks., Inc., 80 Lister Ave., Newark 5, N.J.; res. Westfield, N.J.
Exec., sales mgt.; b. San Diego, Cal., Oct. 17, 1912; s. of George and Agnes; ed. U. Calif., Berkeley, Calif., B.S.; m. Vera M. Ukeneskey, June 14, 1936; ch.: Nancy Jean, Robert C. 1935-39 Agri. Insp., San Diego Co., Agr. Comm. Off.; 1939-43 Pa. Salt Mfg. Co. of Wash., sales; 1943-49, sales mgr.; 1949 to date v.p., Kolker Chem. Wks., Inc. During W.W. II, serv. on 2 W.P.B. Comm.; D.D.T. Insectic. Indus. Comm.; Arsenical Insectic. indus. adv. comm.; War Food Adm. Insectic. and fungic. adv. comm.; mem.: A.A.E.E.

BRUSON, Herman A., mgr. high polymer labs., Industrial Rayon Corp., Cleveland, O.; res. 18401 Shaker Blvd., Shaker Hts., O.
Res. org. chem.; b. Middletown, O., July 20, 1901; s. of Samuel J. and Rebecca Brunson; ed. M.I.T., 1923, B.Sc.; Fed. Polyteknikum, Zurich, Switzerland, 1925, D.Sc.; m. Virginia Haber, 1929; ch.: Rita, Dorothy, Barbara. 1925-28 org. chem. Goodyear Tire & Rubber Co.; 1928-48 org. chem. Rohm & Hass Co.; 1948 to date with Industrial Rayon Corp.

BRUUN, Johannes (Jack) Hadeln, dir. of res., Gen. Aniline & Film Corp., Central Res. Lab., Easton, Pa.; res. 856 Mixsell St., Easton.
Res. chem.; b. Ange, Sweden, Nov. 8, 1899; s. of Karl Knudsen and Thora (Wager) Bruun; ed. Ch. E., Norwegian Inst. Tech., Trondheim, Norway, 1923; Ph.D., Johns Hopkins U., 1929; mem.: Sigma Xi; m. Mildred M. Hicks, May 1, 1930. Res. chem., Kongsberg Arms Mfg. Co., Norway, 1923-24; Am. Aniline Prods. Inc., 1924-25 res. chem., 1925-27 hd. mfg. dept.; Natl. Bur. of Stand., 1927-28, res. fellow, 1929-32 res. assoc.; Sun Oil Co., 1932-34, res. engr., 1934-42 mgr. experimental div.; Gen. Aniline & Film Corp., 1942-43 acting plant mgr., 1943-47 dir. process dev., 1948 to date, dir. of res. Author of about 40 sc. articles & pats. on pet. & physical chem. Mem.: A.C.S., (Bd. mgrs. Wash., D.C. 1930-32, chmn. membership com. Phila. 1941, chmn. banquet com. Atlantic City Conv. 1941, Councillor N.Y. Sec. 1946-48); Johns Hopkins Chem. Alumni Assn. (chmn. 1944-46); Res. Dir. Assn. (v.p. N.Y. 1949-50, pres. 1950 to date): Assn. Textile Chem. & Colorists; Am. Pet. Inst.; Pa. Chem. Soc., Wash. Acad. Sc. Mem. bd. trustees Tome Schl., 1939-42, Tome Jr. Coll. 1940-42. Clubs: Chemists' (N.Y.), Northampton Country (Easton, Pa.), Pomfret (Easton, Pa.). Skytop (Cresco, Pa.). Hobbies: golf, gardening.

BRYAN, Charles Silas, chf. chem., Rumford Div., Heyden Chem. Corp., 9 Newman Ave., Rumford 16, R.I.; res. 85 Brown St., Providence 6.
Chem.; b. Onondaga Hill, N.Y., s. of Charles Silas and Lucy (Ceaplis) Bryan; ed. Syracuse U. class 1903; B.S. (summa cum laude); spec. courses at M.I.T.; mem. Phi Beta Kappa; m. Katherine Farr Smith, Oct. 21, 1908; ch.: Charles Silas, Katherine Louise, Raymond Carpenter, Lucy Rutledge. 1903-04 asst. to Dr. Arthur A. Noyes at M.I.T.; 1904-05 chem. for Std. Lime & Stone Co., Balto., Md.; 1906-18 chem., acid-maker, chf. chem. of Res. Lab. and plant supt. for Virginia-Carolina Chem. Co. in Richmond, Va.; Charleston, S.C.; Columbia, S.C.; and Baltimore, Md.; 1919-20 supt. for Charleston Chem. Co., Charleston, S.C.; 1920-21 chf. chem. for Provident Chem. Wks., St. Louis, Mo. (now part of Monsanto Chem. Co.); 1921-27 supt. and chem. for Continental Chem. Corp., Vincennes, Ind.; 1928 to date, control chem. and chf. chem. for Rumford Chem. Wks.; res. on phosphates, particularly phosphates of calcium and sodium. Granted sev. U.S., Canadian, British and Belgian pats. on sodium phosphates; and U.S. pat. on chem. processing equipment, all held by Rumford Chem. Wks. Mem.: A.C.S., A.I.Ch.E., Providence Engrg. Soc. Hobbies: botany, photography.

BRYAN, Collis Charles, res. group ldr., Monsanto Chem. Co., 911 Western, Seattle, Wash.; res. 3870 46th Ave., N.E., Seattle 5.
Chem.; b. Houston, Texas, Dec. 10, 1899; s. of C. A. and Ida B. Bryan; ed. U. of Wash., B.S. 1927, M.S. 1935, life teaching diploma 1935; m. H. Katherine Hart, 1925; ch.: Bertell Collis, Mary Kay. Instr., public schls. of Wash., 1929-42 res. chem., I. F. Laucks, Inc., 1941-44; res. group

ldr., Monsanto Chem. Co., 1944 to date. U.S. pat. 2,506,540; 2 other pat. applications on file on lignin utilization; flds. of res.: glues, proteins, bitumens, & lignin. Mem.: A.C.S. (sey. Puget Sound Sec. 1947, 1948, 1949; Chmn. Puget Sound Sec. 1950). Hobbies: fishing, golf.

BRYAN, Elmer Joseph, v.p., Raffold Co. of Am., 16 Haverhill St., Andover, Mass; res. 354 N. Main St
Chem., chem. engr.; b. Boston, Mass., Nov. 3, 1891; s. of Alexander H. and Bertha B. Burnham Bryan; ed. Harvard, A.B. (cum laude), 1912; mem. Alpha Chi Sigma. E.I. du Pont de Nemours & Co., res. chem. 1912-13, 1915-20; N.J. Zinc Co. res. chem. 1914; Sidney Blumenthal & Co., chf. chem. 1915; Raffold Co. of Am. 1921 to date, v p.; mem.: A.C.S.

BRYANT, Boyd LaVerl, Major, Ord. Corps, U.S.A.R., Springfield Armory, Springfield, Mass.; res. Springfield Armory No. 3.
Chem., metal. engr.; b. Lawrence, Kans., Jan. 8, 1910; s. of I. R. and Sally A. Bryant; ed. 1938 U. of Kans., B.Sc., chem. engr.; 1939 U. of Idaho, M.Sc. metal. engr.; m. Tegwith Anne Hise, Feb. 10, 1945; ch.: John Robert. Res. fellow, Idaho Schl. Mines, 1938-39; asst. Mill. Supt., Snyder Mines, Inc., Mercur, Utah, 1939; Metal., anal., Ohio Copper Co., Lark, Utah, 1939-40; instr. schl. engr., U. of Kans. 1940; 2nd Lt. to Lt. Col., Ord. Corps, U.S.A.R. in U.S., Brazil, Alaska, 1941 to date Mem.: Tau Beta Pi, Sigma Xi (assoc. mem.), A.F.&.A.M., A.&.A.S.R. 32 deg.; rec'd. Victory M., W.W. II, Am. Def. Serv. M.

BRYANT, Edwin Francis, res. chem, Calif. Fruit Growers Exchange, Box 215, Corona, Calif.; res. 1214 Vicentia Ave., Corona.
Res. chem.; b. Sacramento, Calif., Apr. 22, 1904; s. of Daniel E. and Pearl E. Bryant; ed. Stanford U., A.B., 1925; U. of Heidelberg, Ph D., cum laude, 1929; mem.: Alpha Chi Sigma; m. Gwendolyn S. MacGovern, Aug. 30, 1926; ch.: Elaine G., Charles E. Mason Bi-Prods. Co., chf. chem., 1926; Calif. Fruit Growers Exchange, res. dept., 1930 to date Res. & dev. of new prods. from citrus fruit with special emphasis on the chem. of pectin, essential oils & vitamins. Mem.: A.C.S., A.A.A.S. (fellow), Sigma Xi. Dir., Riverside Co. Council Boy Scouts of Am. Club: Corona Rotary (dir., past pres.). Hobbies: photography, gardening.

BRYCE, David Andrew, dir. Adver., Pub. Relations and Literature Sect., Exec. and Managerial Grp., Amer. Cyanamid Co., Calco and Lederle Divs., 30 Rockefeller Plaza, N.Y.C.; res. R.D. No. 2, Allendale, N.J.
Exec.; b. Pittsburgh, Pa., Mar. 17, 1898; s. of Marion G. and Julia (Waters) Bryce; ed. Browne & Nichols Prep. Schl., Cambridge, Mass., grad. with honors; Harvard Coll., 1916-18; U. of Penn., 1918-22, M.D. with honors; mem.: Alpha Mu Pi Omega. 1929 to date exec. American Cyanamid Co., Calco and Lederle Divs. Past pres. Assoc. of Med. Dirs.

BUCHANAN, Oliver Henry, exec. asst., Sterling-Winthrop Res. Inst., Rensselaer, N.Y.; res. E. Greenbush, N.Y.
Biochem.; b. Richmond, Mo., Apr. 17, 1915; s. of Henry Rives and Helen (Hamacher) Buchanan; ed. Park Coll., Parkville, Mo.; Central Mo. State Coll., Warrensburg, Mo.; Stanford U., A.B. 1937; U. of Mich., M.S. 1939, Ph.D. 1945; mem.: Sigma Xi, Phi Lambda Upsilon, Phi Sigma; m. Alicia Hening Johnson, Mar. 2, 1940; ch.: Alicia Carol. 1937-38, chem., Geo. A. Breon & Co., Kansas City, Mo.; 1938-39, student, U. of Mich.; 1939-42, biochem., Rackham Arthritis Res. Unit, U. of Mich. Hosp.; 1942-44, grad. asst., dept. biochem., U. of Mich. Medical Schl.; 1944-45, res. assoc., U. of Mich. Medical Schl., O.S.R.D. Antimalarial Prog., Ann Arbor, Mich.; 1945-46, res. biochem., Winthrop Chem. Co., Rensselaer, N.Y.; 1946 to date, exec. asst., mem. exec. comm., Sterling-Winthrop Res. Inst., Rensselaer, N.Y. Mem.: A.C.S., A.A.A.S., N.Y. Acad. of Sci., Sigma Xi. Hobbies: genealogy, fishing.

BUCK, Johannes S., assoc. dir. chem. res., Sterling-Winthrop Res. Inst., Rensselaer, N.Y.; res. Glenmont, N.Y.
Org. chem.; b. Liverpool, Eng., Oct. 1, 1895; s. of Johannes S. and Hannah Marie Buck; ed. Liverpool U., B.S. 1920, Ph.D. 1922, D.Sc. 1931; Liverpool & Oxford Sr. 1851 Exhibition student 1922-24; mem.: Phi Lambda Upsilon, Sigma Xi; m. 1st Phillis Gurney, 2nd Edna Livingston; ch.: Phillis, Alan D., Erik S. Yale, Chiris fellow, 1924; Bryn Mawr Coll. lecturer 1925; Duke U., assoc. prof. 1925-29; Burroughs, Wellcome & Co. U.S.A. Inc., sr. org. chem., 1929-42; Polytech. Inst. of Bklyn., adjunct prof., 1931-42; Sterling-Winthrop Res. Inst., assoc. dir. chem. res., 1942 to date. Author of papers in J.A.C.S., Journal Chem. Soc. Mem.: A.C S., Chem. Soc. (fellow), A.A.A.S., N.Y. Acad. of Sc.

BUCK, Miriam G(ertrude), prof. of chem., Franklin Coll., Franklin, Ind.; res. 798 N. Walnut, Franklin, Ind. & 708 N. Fifth St., Vincennes, Ind.
Prof. of chem.; b. Vincennes, Ind.; d. of Earle H. and Cora (Mathesie) Buck; ed. Vincennes U., 1915-17; Wooster Coll., 1917-18; U. of Ill., 1919-21, B.A. 1920, M.S. 1921; U. of Chicago 1932-34, summers 1935, 1930, 1929, Ph.D. 1935; U. of Wis., summers 1926, 1941; fellow, U. of Chicago, 1932-33. Chem., Alcoa Ore Co., E. St. Louis, Ill., 1918-19; grad. asst., U. of Ill., 1920-21; prof. of chem., Vincennes U., 1921-23; prof. of chem., Huntingdon Coll., Montgomery, Ala., 1923-27; asst. prof. of chem., Conn. Coll., New London, Conn., 1927-32; fellow 1932-33, asst. 1933-34, U. of Chicago; assoc. prof. of chem., Okla. Coll. for Women, Chickasha, Okla., 1934-46, on leave, 1943-44; bus. mgr., Central Lab., Div. 10, Natl. Defense Res. Comm., Northwestern U., 1943-44; assoc. prof. of chem., James Millikin U., Decatur, Ill., 1946-48; prof. of chem., Franklin Coll., 1948 to date. Ph D. dissertation, private edit., U. of Chicago, "The Heats of Dilution of Aqueous Solutions of Hydrochloric Acid." Mem.: Okla. Acad. of Sc. (fellow), Ind. Acad. of Sc., A.C.S., A.A.U.P., Iota Sigma Pi, Kappa Mu Sigma, Sigma Delta Epsilon, Sigma Xi, Franklin Coll. Alpha Soc. Clubs: Order of Eastern Star, Am. Assn. of U. Women (past pres. of 3 branches), Bus. & Prof. Women's Club of Franklin (and Natl. Federation). Hobby: travel.

BUCK, Robert E., hd., process & prod. res. lab., H. J. Heinz Co., P.O. Box 57, Pitts. 30, Pa.; res. 137 Forest Ave., Ben Avon, Pitts. 2.
Res. chem.; b. Altmar, N.Y., Oct. 16, 1912; s. of Ray E. and Florence G. Buck; ed. Cornell U., 1933, A.B.; U. of Mass., 1936, Ph.D.; mem.: Delta Sigma Phi; m. Nancy O'Connell, Apr. 26, 1944; ch.: Robert E. Jr., Brian R. Instr., U. of Mass., 1936-42; res. chem., Eastern Regional Res. Lab., U.S.D.A., 1942-47; technologist, QM Food & Container Inst., 1947-48; res. chem., H. J. Heinz Co., 1948 to date. Technology of fruit & veg. prods. & processed foods. Mem.: A.C.S., I.F.T., Sigma Xi.

BUCKLEY, John A., extended prods. sales dev., Gen. Elec. Co., 1 Plastics Ave., Pittsfield, Mass., res. 96 E. Acres Rd.
Sales; b. Cleveland, Ohio, June 1, 1909; s. of

Bion R. and Florence A.; ed. 1932 Ohio St. U., B.I.E.; mem.: Theta Tau; m. Margaret Prendergast, 1938; ch.: John P., James L. Field salesman, Lamp Dept., G. E. Co.; home office, sales admn.; home office sales, sales planning, chem. dept.; sales dev. extended prods. Mem.: Natl. Sales Exec. Club. Club: Stanley. Hobbies: gardening, fishing.

BUCKMAN, Stanley Joseph, pres., Buckman Labs. Inc., Memphis 8, Tenn.; res. Raleigh, Tenn.
Biochem., ind. microbiologist; b. Tyndall, S.D., Nov. 24, 1908; s. of John Joseph and Mabel (Dodge) Buckman; ed. U. of Minn., B.S. 1931, Ph.D. 1933, major-biochem. & forest prods., minor-microbiol. (plant pathol.); mem.: Tau Phi Delta, Gamma Sigma Delta, Xi Sigma Pi, Gamma Alpha, Alpha Zeta; m. Mertie Williger, Aug. 19, 1933; ch.: Robert Henry, John Dustin. U. of Minn., Am. Creosoting Co. res. fellow, 1931-34; Am. Creosoting Co., Louisville, Ky., res. lab. 1934-37, hd. of res. dept. 1937-41; Central Labs, Inc., pres., 1941-45; Buckman Labs. Inc., pres., 1945 to date, Chmn. Ind. Res. Comm., Memphis; Comm. for Economic Dev. Numerous publ. in tech. journals. Mem.: A.C.S., A.S.T.M., A.A.A.S., Am. Wood-Preservers' Assn., Soc. of Am. Foresters, T.A.P.P.I., Am. Pulp & Paper Mill Supts. Assn., Canadian Pulp and Paper Assn., Forest Prods. Research Soc., Sigma Xi, Clubs: Engineers, Memphis Camera. Hobby: photography.

BUCKNER, Everett Cromwell, prof. of chem., chmn. of div. of math. and natural scs., asst. dean of the Coll., Central Coll., Fayette, Mo.; res. 313 Corprew, Fayette, Mo.
Tchr. and admin.; b. Beardstown, Ill., Dec. 19, 1897; s. of Henry Warren and Bertha (Wagner) Buckner; ed. A.B., Central Coll., 1920; A.M., U. of Mo., 1929; Ph.D., Iowa State Coll., 1942; m. Beryl Sparks, May 30, 1924; ch.: Frances Bertha. Hd. of Sc. Dept., Central H.S., Cape Girardeau, Mo., 1920-22; asst. prof. of chem. Central Coll., 1922-29; assoc. prof. of chem., Central Coll., 1929-42; prof. of chem. same coll. 1942 to date; acting dean of Coll., 1947-50; asst. dean of coll., 1950 to date; res. in cyanamid as a solvent and reaction medium; chem. educ.; res. assoc., Natl. Defense Proj., 1942, Iowa State Coll. Mem.: A.C.S., Sigma Xi, Alpha Chi Sigma, Phi Lambda Upsilon, Phi Delta Kappa. Clubs: Rotary; Round Table (Fayette, Mo.). Hobbies: golf, fishing.

BUCKWALTER, Howard McWilliams, mgr. cellulose and org. chem. res. lab., U.S. Rubber Co., 6600 E. Jefferson Ave., Detroit 32, Mich.; res. 1466 Seminole Ave., Detroit 14.
Org. chem.; b. Lancaster, Pa., June 1, 1902; s. of John T. and Sarah Alice (McWilliams) Buckwalter; ed. Franklin and Marshall Coll., B.S., 1924; U. of Pa., Ph.D. 1929; mem.: Sigma Xi; m. Daisy May Clair, June, 1929; ch.: Janet L., Edith C. 1927-29 instr. in chem. U. of Pa.; 1929-32 res. chem., U.S. Rubber Co., Passaic, N.J.; to date mgr. cellulose and org. chem. res. lab., U.S. Rubber Co., Detroit; holds several pats. Mem.: Engrg. Soc. of Detroit; fellow, A.I.C.; A.C.S., A.A.A.S.; Am. Geograph. Soc.

BUDD, Ivon Harold, 1st v.p. Ungerer & Co., 161 Ave. of Americas, N.Y. 13, N.Y.; res. 80 Forest Ave., Caldwell, N.J.
Exec.; b. Caldwell, N.J., Apr. 5, 1896; s. of I. Halsey and Harriet B. (Gould) Budd; ed. Cornell U., 1917, B.S.; mem.: Sigma Nu; m. Dorothy Ahlborn, Apr. 24, 1920; ch.: Henry A., Dorothy. W.W. I, U.S.N.; with Julian W. Lyon & Co.; Wangler-Budd Co.; Budd Aromatic Chem. Co.; Ungerer & Co. Dir.: Citizen's Natl. Bank & Trust Co. (Caldwell, N.J.); dir. Ungerer & Co. Clubs: Chemists'; Cornell (N.Y.); Essex Fells Country. Hobby: golf.

BUEHLER, Calvin A., hd., dept. of chem., U. of Tenn., Knoxville, Tenn.; res. 23 Edgewater Apartment, Knoxville, Tenn.
Prof.; b. Stone Creek, Ohio, Nov. 29, 1896; s. of Philip and Mary Buehler; ed. B.S. chem. engr., M.S., Ph.D., Ohio State U.; mem.: Pi Kappa Alpha; m. Grace Stone, Oct. 27, 1937. Asst. prof., 1922-25, assoc. prof., 1925-28, prof., 1928 to date, U. of Tenn.; hd. dept. of chem. 1940 to date; on staff, The Ohio State U., summers, 1927, 1928; res. on identification of org. compds., phenol-formaldehyde condensation, org. synth., selenium dioxide oxidation, etc.; pubs. mostly in Jl. of A.C.S. Mem.: A.C.S., A.A.A.S., Tenn. Acad. Sci., Sigma Xi. Club: Irving (Knoxville). Hobby: golf.

BUELL, Harold Douglass, prof. of chem., Bowne Hall, Syracuse U., Syracuse 10, N.Y.; res. Earlville, Mad. Co., N.Y.
Tchr.; b. Earlville, N.Y., July 13, 1885; s. of Floyd Clark and Nellie Louise Buell; ed. Colgate Acad. 1906; Colgate U., B.S. 1910; Princeton U., grad. asst.; Syracuse U., M.S. 1920; widower; ch.: Dr. Elliott L. Grad. asst. Princeton U., 1910-11; sci. tchr. in Prep. Schl. at Ithaca, N.Y., 1911-12; instr. at Syracuse U., 1912-20 asst. prof. at Syracuse U. 1920-47; assoc. prof. 1947-50, prof. 1950-; res. on the rarer alkali bromates-rubidium-caesium; new qual. test for uranium. Mem.: A.C.S., Sigma Xi, A.A.U.P., Alpha Chi Sigma, A.A.A.S. Hobbies: church work, camping, travel.

BUHNER, Edward J., secy., treas., Buhner Fertilizer Co., Seymour Natl. Bank Bldg., Seymour, Ind.; res. 130 Council Rd., Louisville, Ky.
Gen. mgr.; b. Seymour, Ind., Feb. 13, 1901; s. of Ferdinand and Mary Buhner; ed. Seymour, grade & high; Purdue, Ch.E. 1923; mem.: Beta Sigma Psi; m. Norma Wahrenburg, Oct. 1928; ch.: Joan, Carolyn. Buhner Fertilizer Co.: salesman 1921-24, sales mgr. 1924-32, gen. mgr. 1932 to date, secy., treas. 1930 to date. Buhner & Co., Louisville, Ky., (treas., dir.); Silver Fleet Motor Express, Louisville, Ky. (chmn. bd. of dir.); Seymour Natl. Bank (dir.); F. F. Buhner Co., Seymour (dir.); Garland Real Estate, Louisville, Ky. (v.p.) Mem.: Am. Soc. of Traffic & Transportation (charter mem.), Am. Trucking Assn. (past pres. 1948). Clubs: Pendennis (Louisville), Audubon Country (Louisville), Traffic (Louisville), Seymour Country, Traffic (Chicago), Indiana Soc. of Chicago. Hobbies: hunting, fishing, photography.

BUHRER, Paul Merle, asst. gen. mgr., Natl. Carbon Div., Union Carbide & Carbon Corp., 30 E. 42nd St., N.Y.C.; res. Harrington Park, N.J.
Exec.; b. Tiffin, Ohio; s. of Jame D. and Mary E. (Leiner) Buhrer; ed. Johns Hopkins U., B.S. in chem. 1923; mem.: Kappa Sigma; m. Lois Petty, Nov. 5, 1924; ch.: Nancy M., Patsy A. 1923-28 lab. asst. Natl. Carbon Co., Cleveland, O.; 1928-33 hd. of dev. lab., Natl. Carbon, Fremont, O.; 1933-44 hd. of dev. lab. Natl. Carbon, Cleveland, O.; 1944-47 prod. mgr. Natl. Carbon, N.Y., 1948 to date asst. gen. mgr. same co.; 1948 to date v.p. and dir. Natl. Carbon Ltd., Toronto, Ont. Chmn.-Sub Panel on Dry Batteries Res. and Dev. Bd. Club: Chemists' (N.Y.)

BULLITT, James Bell, Jr., asst. dir., chem. div., fabrics & finishes dept., E. I. du Pont de Nemours & Co., Wilmington, Del.; res. Lincoln Ave., Swarthmore, Pa.
Chem.; b. Oxford, Miss., Apr. 8, 1906; s. of James B. and Evelyn (Bryan) Bullitt; ed. U. of N.C., A.B. 1926, A.M. 1927; mem.: Phi Beta Kappa, Phi Kappa Sigma, Alpha Chi Sigma; m. Laura L. Crudup, Oct. 4, 1930; ch.: James B. 3rd,; m. Virginia Gray Gibson, May 23, 1936; ch.:

Virginia G., Evelyn B., Margaret R., Julian G., Laura H. E. I. du Pont de Nemours & Co.; Phila. lab., chem., 1927; group leader 1935, res. supvr. 1941, asst. dir. 1943, lab. dir. 1945, asst. dir. chem. div., fabrics & finishes dept., 1949 to date. Mem.: A.C.S., Franklin Inst.

BULLWINKEL, J. Treadwell, retired exec., 118 Hampton Road, Garden City, N.Y.
Retired exec.; b. Bklyn., N.Y., May 9, 1886; s. of Martin A. and Mary Laura Bullwinkel; ed. pub. schls. in Bklyn. and personal studies; m. Marie E. Noonan, 1916; ch.: Doris M. (Bullwinkel) Langtry, Jeanne E. (Bullwinkel) Muller. Peters, White & Co., treas. and dir., 1904-22; Phosphate Mining Co., pres. and dir., 1906-45; Mutual Chemical Co. of Amer., sales, 1910-22; Seaboard Fisheries Co., treas. and dir., 1915-17; S.B. Penick & Co., v.p., 1945-48. Mem.: A.C.S., A.I.M.E. Club: Cherry Valley Golf. Hobbies: golf, music.

BUMSTED, Roy R., Jr., v.p. Verona Chem. Co., 26 Verona Ave., Newark 4, N.J.; res. 306 Lupine Way, Short Hills, N.J.
Mfg.; b. Jersey City, N.J., July 12, 1919; s. of Roy R. (dec.) and Amelia W. Bumsted; ed. Hill Schl., Pottstown, Pa., 1937; Princeton U., A.B. 1941; m. Anne Halbach, Sept. 28, 1946; ch.: Roy R. III, Amy Anne. 1941-45 1st Lt. U.S.A. Air Forces; 1945-46 merchng. trnr., Time Inc. (Life Magazine); 1946 to date, sales mgr., v.p. Verona Chem. Co. Clubs: Essex (Newark); Short Hills (Short Hills, N.J.).

BUNCE, Donald Atwood, plant supt., Hercules Powder Co., Burlington, N.J.; res. 626 E. Main St., Moorestown, N.J.
Plant supt.; b. Providence, R.I., Jan. 22, 1908; s. of Walter T. and Helen (Flanders) Bunce; ed. R.I. State Coll., 1929, B.S.; mem.: Sigma Alpha Epsilon; m. Viera Robbins, Jan. 3, 1933; ch.: Stephen Chandler. 1929-36 chem. Providence Dry Salters Co.; 1936-38 chem. Hercules Powder Co.; 1938 to date plant mgr., Hercules Powder Co., Burlington, N.J. plant. dir. Burlington City Loan & Trust Co. Clubs: Burlington County Country; Kiwanis; Masons. Hobby: Boy Scout work.

BUNCE, E(arl) H(amlin), gen. mgr., tech. dept., The N.J. Zinc Co. (of Pa.), Palmerton, Pa.; res. Residence Park, Palmerton.
Exec.; b. Wolcott, N.Y., Sept. 22, 1891; s. of Frank Wright and Lillian Inez (Lamb) Bunce; ed. Cornell U., B.S. in chem., 1913; mem.: Theta Chi Alembic; m. Elizabeth M. Hamilton, Sept. 1, 1922; ch.: Barbara Hamilton, Peter Hamilton, Margery (Bunce) Munro. The N.J. Zinc Co. (of Pa.), Palmerton, Pa.: June 23, 1913-Dec. 31, 1917, res. investigator & metallurgist; Jan. 1, 1918-Apr. 5, 1927, asst. chf. of res. div.; Apr. 6, 1927-Apr. 3, 1928, chf. of res. div.; Apr. 3, 1928 to date. gen. mgr., tech. dept. Inventions: zinc vapor condensers, reheating furnaces for zinc oxide, mech, furnaces for prod. oxide, use of zinc pigments, briquetting of charges for metallurg. furnaces, vertical retort process for prod. slab zinc. Misc. tech. publ. Mem.: Faraday Soc., A.S.T.M., Am. Ceramic Soc., A.C.S., Electrochem. Soc., A.I.M.M.E., Am. Zinc Inst., Inst. of Rubber Ind., Oil & Colour Chem. Assn., Soc. of Chem. Ind. Clubs: University (N.Y.), Cornell, (Pa.), Blue Ridge Country, Engrs. of Lehigh Valley. Hobbies: gardening, golf, collecting records, books, glass.

BUNN, Howard S., v.p., Bakelite Div., Carbide & Carbon Chems. Div., U. Carbide & Carbon Corp., 30 E. 42nd St., N.Y. 17, N.Y.; res. 22 Midwood Ter., Madison, N.J.
V.p. in chg. sales; b. Phila., Pa., Dec. 18, 1899; s. of John F. and Clara C. (Stolpp) Bunn; ed. Lehigh U., B.A. chem. engr. (B.A., 1920, Ch.E. 1922); mem.: Theta Delta Chi; m. Helen Freeman, Nov. 10, 1928; ch.: Carolyn, Franklin, Freeman. 1922 U.C.C.-Haynes Stellite Co., sales engr.; 1924 U.C.C.-Linde Air Prods., tech. publicity; 1927 U.C.C.-Carbide & Carbon Chem. Corp., mgr. Pyrofax Gas Div. & the Plastics Div.; 1944 U.C.C.-Bakelite Div. & Carbide & Carbon Chems. Div., v.p. Dir. Bakelite Ltd., London, Eng.; dir. Bakelite Co. (Canada), Ltd. Mem.: S.C.I., S. Plastics Ind., Econmics Club of N.Y. Clubs: Chemists' (N.Y.), Morris County Golf, Morristown, Lehigh. Hobbies: golf, bridge.

BUNNEY, William Edward, v.p., dir. of mfg. labs., E. R. Squibb & Sons, 745 Fifth Ave., N.Y.C.; res. Millstone, N.J.
Drug mfg.; b. Tacoma, Wash., May 24, 1902; s. of William Harry and Agnes L. (Stephenson) Bunney; ed. B.S., Mont. State Coll. 1924; M.S. 1925, Ph.D. 1927, U. of Ill.; Wayne U. Coll. of Medicine 1938-39; mem.: Sigma Chi; m. Nora O. Null, Sept. 17, 1927; ch.: William E. Jr., Benjamin Stephenson. 1927-30, sr. chem, Antitoxin Vaccine Lab., Mass. Dept. of Health; 1930-38, assoc. dir., Bur. of Labs., Mich. Dept. of Health; 1938 to date, E. R. Squibb & Sons: 1938-42, dir. of biolog. prods. production; 1942-43, dir. of biolog. labs.; 1943 to date, v p., dir. of mfg. labs. E. R. Squibb & Sons (bd. of dir.); Squibb Props. (bd. of dir.); E. R. Squibb & Sons, Argentina (bd. of dir.). Growth upon diets practically devoid of arginine, with some observations upon relations of glutamic & aspartic acids to nutrition; a study of the acid precipitation of diphtheria toxin; speed of flocculation of diphtheria toxin; action of formaldehyde on diphtheria toxin; new diluent for diphtheria toxin in Schick test; advantages & disadvantages of buffered diluent for diphtheria toxin; improved diluent for diphtheria toxin in Schick test; diphtheria studies: significance of Schick test in adult; pipettes for use in routine sterility tests; diphtheria studies; use of intradermal injections of toxin-toxoid mixtures in diphtheria immunization; wax-paraffin ampules for silver nitrate solution used in prevention of ophthalmia neonatorum; diphtheria immunization; diphtheria toxin-prod. on broths made from dried complete media; diluent for stabilizing tuberculin in "O.T." diluted for Mantoux test; standardization of diluted tuberculin; diphtheria immunization with fluid toxoid & alum precipitated toxoid; effect of age on spread of dye in skin of normal, antigenically stimulated, & tuberculous guinea pigs; diphtheria immunization with fluid toxoid & alum-precipitated toxoid; nonspecific flocculation of scarlet fever toxin & antitoxin; prep. of protein-free scarlatinal toxin; potency determination of antipertussis serum by mouse protective tests; reimmunization against diphtheria of previously immunized children; comparative speed of response of previously immunized & non-immunized children to fluid & alum-precipitated diphtheria toxoid; method for increasing combining power of tetanal toxin. Mem.: A.A.A.S., Am. Assn. of Immunologists, Am. Drug Mfrs. Assn., A.C.S., Am. Public Health Assn., S.E.B.M., Soc. of Am. Bacteriologists, Chemists' Club of N.Y., Sigma Xi, Phi Lambda Upsilon. Pres., New Brunswick Chamber of Com. 1950-51; dir., Bklyn. Chamber of Com. Club: University.

BUNTING, Elmer Newman, gen. phys. scientist, Natl. Bur. of Stds., Wash., D.C.; res. 3726 Windom Pl., N.W., Wash. 16, D.C.
Res. scientist; b. Chicago, Ill., Mar. 19, 1892; s. of John Thomas and Mary (Brown) Bunting; ed. U. of Chicago, B.S. 1915; Ph.D. 1918; m. Lillian Beatrice Olson, Dec. 10, 1921; ch.: Clyde Ellis, Gwenneth Ann, Edward Spencer. Lab. asst. in chem., U. of Chicago, 1912-15; glass chem., Bausch & Lomb Optical Co. 1918-19; res.

assoc., Eng. Exp. Sta., U. of Ill., 1920-24; res. chem., Bell Telephone Lab., Inc., 1924-25; res. chem., Bur. of Stds., Wash., D.C., 1926 to date; phase equilibria studies in ceramic oxide systems. Mem.: A.A.A.S., Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, Keramos. Hobbies: bowling, hiking.

BURBAGE, Joseph James, asst. dir. of res. in chge. of admin. and exec. dir. of Atomic Energy Commis. Projects, Monsanto Chem. Co., Nicholas Rd., Dayton, Ohio; res. 531 Daytona Pkway., Apt. 4, Dayton.

Chem.; b. Darke County, Ohio, June 11, 1914; s. of George H. and Mary Frances (Keeshan) Burbage; ed. Franklin Tshp. H.S. Darke Co., Ohio; Miami U., Oxford, Ohio, 1931-35, B.Sc.; Ohio State U., 1939-47, M.Sc., Ph.D.; mem.: Phi Beta Kappa, Phi Lambda Upsilon, Sigma Xi, Kappa Phi Kappa; m. Mary Rachel Hindsley, June 14, 1941; ch.: Mary Linn, Joseph James, Jr.; 1935-39 sc. tchr., West Side H.S., Union City, Ind.; 1939-40 grad. asst. in chem. Ohio State U., Columbus, O.; 1940-43 res. fellow., 1943 instr. in phys. same U.; 1943-45 grp. ldr., Monsanto Chem. Co., Dayton, O.; 1945-47 operations mgr.; 1947-50 asst. lab. dir.; 1950 to date asst. dir. chge. of admin., exec. dir. of A.E.C. Projects. Mem.: A.C.S., A.A.A.S. Hobbies: golf, bowling, chess.

BURDICK, Charles Lalor, secy., high-polymer comm., E. I. du Pont de Nemours & Co., 6545 Nemours Bldg., Wilmington, Del.; res. Lancaster Pike & Baltimore Rd., Wilmington.

Tech. exec.; b. Denver, Colo., Apr. 14, 1892; s. of Frank A. and Anna (Lalor) Burdick; ed. Drake, 1911, B.S.; M.I.T., 1913, M.S. 1914; Kaiser Wilhelm Inst., 1914-15; U. Basel, Switzerland, 1915 Ph.D.; U. of Berlin, U. College, London, 1915-16; mem.: Phi Beta Kappa; m. Alison Ward, Dec. 16, 1938; ch.: Lalor, Cynthia. Res. assoc., physical chem., M.I.T. & Calif. Inst. Tech., 1916-17; metal. engr., Chile Copper Co. & Guggenheim Bros., 1919-24; v.p., consltg. engr., Anglo Chilean Consolidated Nitrate Corp., 1924-28; asst. chem. dir., ammonia dept., E. I. du Pont de Nemours & Co., 1928-35, dev. dept. 1935-39, asst. to pres. 1939-45; chmn. bd. of dir., du Pont, S.A. & Cia Mexicana de Explosivos, Mexico, 1945-46; secy., high polymer comm., E. I. du Pont de Nemours & Co., 1946 to date. Equitable Trust Co. (dir.). Copper Metallurgy; nitrogen ind.; tech. of polymers. Mem.: OSRD comm. on program for Discovery & Dev. of Sc. Talent in Am. Youth, 1945; A.C.S., A.I.Ch.E., A.A.A.S., N.Y. Acad. of Sc. (life mem.). Del. Acad. of Medicine, Haskell Res. Foundation, Lalor Foundation. Clubs: Wilmington Country. Hobby: tennis.

BURDICK, Edward Chapman, hd. of pat. dept., The Dow Chem. Co., Midland, Mich.; res. 1218 Holyrood St., Midland, Mich.

Chem., pat. atty.; b. Mankato, Minn., July 23, 1890; s. of Allan and Mary Josephine (Chapman) Burdick; ed. H.S., Fairmont, Minn.; Hamilton Coll., Clinton, N.Y., B.S. 1911; grad. study, U. of Leipzig, 1911-12; mem.: Psi Upsilon; m. Gwendolin W. Ellis, Sept. 11, 1914; ch.: Frederick A., Roger W., Elizabeth (Mrs. A.A. Butterworth, Jr.). 1912-13 chem., Grasselli Chem. Co., E. Chicago, Ind.; 1913-16 chem. Eli Lilly Co., Indianapolis, Ind.; 1916-22 chem. The Dow Chem. Co.; 1922-28 sales dev., came co.; 1928 to date pat. dept., same co.; engaged with orig. res. grp. on dev. of Dow electrolytic magnesium proc. Mem.: Phi Beta Kappa, A.C.S. Former pres. Midland Boy Scout Council; former pres. Midland Community Fund. Club: Midland Country. Hobby: gardening.

BURDICK, Everette Marshall, dir. res., Texsun Citrus Exch., Weslaco, Tex.; res. Sproles Apartments No. 9, Mercedes, Texas. Mailing address: P.O. Box 26, Weslaco, Texas.

Res. biochem.; b. Champaign, Ill., Aug. 9, 1913; s. of Pearl Oscar and Margaret (Hyde) Burdick; ed. U. of Miami, B.S. cum laude, 1935; Purdue U., M.S. 1937; Ph.D. 1943; mem.: Pi Delta Sigma (now Kappa Sigma), local and state pres.; m. Lois Aline Enyart, Nov. 13, 1937. Res. chem., Northern Regional Res. Lab., U.S.D.A., Peoria, Ill., 1941-45; res. chem. U.S. Fruit & Veg. Prods. Lab. U.S.D.A., Weslaco, Tex. 1945-46; dir. res. Texsun Citrus Exchge., Weslaco, Tex., 1946 to date. Res. and notable work: citrus processing, enzymes, submerged combustion, waste utilization, food processing, naringin, pats. in citrus processing, submerged combustion, naringin, enzymes, wheat starch, etc. Mem.: A.C.S., fellow, A.I.C., A.A.A.S., Inst. of Food Technologists. Texas Soc. Food Technologists, Phi Lambda Upsilon, Sigma Xi. Clubs: A.F. and A.M., Rio Grande Valley Horticulture. Hobby: photography.

BURFORD, M(ortimer) Gilbert, Beach prof. of chem., Hall Lab. of Chem., Wesleyan U., Middletown, Conn.; res. Randolph Rd., Middletown.

Prof. of chem.; b. Bklyn., N.Y., Oct. 27, 1910; of Mortimer Gilbert and Leila Lowe (Howell) Burford; ed. B.A. Wesleyan U., 1932 (with honors); M.A. Princeton, U., 1933; Class of 1860 Fellow in Experimental Sci., 1934-35; Ph.D. Princeton 1935; mem.: Sigma Chi, Phi Beta Kappa, Sigma Xi; m. Beatrice M. Guelf, June 20, 1934. Asst. in chem., Princeton U., 1933-34; instr., Cornell, 1935-36; summer session, 1935-36; instr. in chem., Wesleyan U., 1936-39; asst. prof. 1939-45; assoc. prof., 1945-47; prof., chmn. of Dept. and dir. of Lab., 1947 to date; res. chem. Natl. Def. Res. Council and O.S.R.D., 1941-45; conslt. and supvr. State Water Commis. (Conn.), 1942 to date; res. on chem. reactions of hydriodic acid and ammonium iodide, spectrophotometric meths. of anal., flame photometry; indust. waste disposal. Author of arts. in sc. jls. Mem.: A.C.S., (past secy., v. chmn. and chmn., Conn. Valley Sect.); A.A.A.S., A.A.U.P. Club: Faculty. Hobbies: photography, mountaineering.

BURG, Anton Behme, prof. of chem., dept. of chem., U. of Southern Calif., Los Angeles 7, Calif.

Res. and teaching, b. Dallas City, Ill.; s. of Frank Winchester and Sadie (Hornby) Quinton Burg; ed.: B.S., 1927; M.S., 1928; Ph.D., 1931, U. of Chic.; conference M. for proficiency in both athletics and scholarship; University Student marshal; mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, Phi Kappa Phi. Central Scientific Co., 1923-27; U. of Chic, Libraries, 1927-28 (library asst. in chem.); Kimberley-Clark Corp. (Res. Dept.), 1928-29; U. of Chic. res. asst. 1929-31; instr. 1931-39; U. of Southern Calif.: asst. prof. of chem. 1939; assoc. prof. 1942; prof. 1943; hd. of dept. of chem., 1940-50. Publications on boron hydrides, complex cmpds. of "light elements," nonacqeous solvent chem.; heterogeneous equilibria; vacuum methods; chem. studies having significance to structural theory; fluorine chemistry. Contrib. chapter on volatile fluorides in book on fluorine chem. ed by J.H. Simons, 1950; Mem.: A.A.A.S., Sigma Xi, A.A.U.P. (Pres. U.S.C. Chapter, 1949), Am.C.S. (councilor, 1943 and 1946), mem. of Sc. Comm. advising L.A. Chamber of Commerce 1947-; mem. of Panel on Inorganic Chem., serving Office of Naval res., 1947- (chmn., 1950-51).

BURGESS, Wayland M., prof. chem., U. Cincinnati, Cincinnati 21, Ohio; res. 3303 Royal Place, Cincinnati 8.
Teaching; b. Providence, R.I., May 22, 1897; s. of Andrew W. and Addie E. Burgess; ed. B.S., R.I. St. Coll.; Ph.D. Brown U.; mem. Beta Phi (local); m. Florence McCoid, June 16, 1921; ch.: Doris, Frances, Roger, Wayland. Instr. R.I. St. Coll., 1919-20; instr. Worcester Polytech. Inst. 1920-24; asst. prof., assoc. prof., prof., U. Cincinnati, 1925 to date. Phase study of Lithium Chlorate, water; reactions in liquid ammonia solution. Mem.: Phi Lambda Upsilon, Omicron Delta Kappa, Sigma Xi, Tau Kappa Alpha, Phi Kappa Phi, A.C.S., Ohio Acdy. Sc. (fellow). Hobby: rose growing.

BURK, Robert Emmett, assoc. chem. dir., polychems. dept., E.I. du pont de Nemours Co., Wilmington, Del.; res. Beaver Valley Rd., Wilmington.
Chem. exec.; b. Jan. 29, 1901; s. of William E. and Mabel (Martin) Burk; ed. Cornell U., B. chem.; Harvard U., A.M.; Oxford, Ph.D.; mem. Kappa Sigma; m. Julia Attwater, Apr. 20, 1927; ch.: Robert Attwater, Julie Martin. Prof. of chem., Western Res. U.; dir. of res. Std. Oil Co. (Ohio); asst. chem. dir. plastics dept., E.I. du Pont de Nemours Co.; assoc. chem. dir. polychemicals dept. same co.; notable wk.: interpretation of contact catalysis; multiple adsorption theory. Author: "12th Report, Catalysis Comm., Natl. Res. Council," (Wiley & Sons); "Polymerization" (Reinhold), 1937. Mem.: A.A.A.S., A.C.S., Sigma Xi, Tau Beta Pi. Club: Wilmington Country. Hobbies: farming, gardening.

BURKE, William James, hd., Dept of Chem., U. of Utah, 201 Physical Science Bldg., Salt Lake City, Utah; res. 1265 Harrison Ave., Salt Lake City.
Chem.; b. Lowellville, O., May 24, 1912, s. of S. L. and M. Catherine (Saltzman) Burke; ed. Ohio U., 1930-34, A.B.; Ohio State U., 1934-37, Ph.D.; mem. Phi Beta Kappa, Phi Lambda Upsilon, Sigma Xi, Gamma Alpha; m. Katharine King, June 21, 1940; ch.: M. Katharine, Susan E., Thomas W. Res. chem., E.I. du Pont de Nemours & Co., 1937-46; assoc. prof. of chem., Ohio U., 1946-47; assoc. prof. of chem., U. of Utah, 1947-49; prof. of chem. same U., 1950 to date; hd., Dept. of Chem., same U., 1949 to date. Holds 40 pats. and has pub. var. arts. in flds. of heterocyclic nitrogen compds., org. sulfur compds., carbohydrates, cellulose, nylon, rubber and other polymers. Mem.: A.C.S., A.A.A.S. Hobby: golf.

BURKS, Harry Gray, Jr., exec. v. p., Esso Std. Oil Co., 15 W. 51st St., N.Y. 19; res. 855 Salem Ave., Elizabeth 3, N.J.
Exec.; b. Bedford, Va., Aug. 7, 1899; s. of Harry Gray and Mary Elizabeth (Watts) Burks; ed. U. of Va., 1915-21, B.A., M.A.; M.I.T., 1921-24, Ph.D.; mem.: Phi Beta Kappa, Chi Phi; m. Sarah Catherine Parnelle, Sept. 7, 1929; ch.: Harry G. 3rd, William P., Robert W. Started wk. with Std. Oil Co. (N.J.) in 1924 and is now exec. v.p. and dir. of Esso Std. Oil Co., having come up thru the mfg. dept. Dir. Std. Oil Dev. Co. Clubs: Baltusrol Golf; Elizabeth Town and Country; Madison (Conn.) Beach; Madison (Conn.) Country; University (N.Y.C.) Hobby: golf.

BURLAGE, Henry Matthew, dean; prof. of pharma. chem., Coll. of Pharmacy, U. of Texas, Austin, Tex.; res. 702 E. 43rd st., Austin, Tex.
Educator; pharmacist; b. Rensselaer, Ind., May 23, 1897; s. of Max and Mary (Linzbach) Burlage; ed. B.S. chem. (with Phi Beta Kappa honors) Indiana U., 1919; M.A. Harvard, 1921; Ph.G. and B.S., Purdue U. 1924; Ph.D. (Pharmacy) U. of Wash., (Seattle), 1929; mem.: Acacia; m. Alleda Virginia Robb, Dec. 29, 1925; ch.: Robb Kendrik. Instr. pharmacy, 1922-27; assoc. prof. drug anal., Oregon State Coll., 1927-29; asst. prof. and later assoc. prof. pharmacy and pharmaceut. chem., Purdue, 1929-31; prof. pharmacy, N.C., 1931-47; dean and prof. pharmacy, pharmaceut. chem., Texas, 1947 to date; chem., State Bd. Pharmacy, Oregon, 1927-29; chmn. Natl. Pharmaceut. Syllabus Comm. 1937 to 1945; res. in fld. of medicinal phytochem.; pharmaceut. anal. Author: "Fundamental Principles and Processes of Pharmacy" 1st ed. 1944; 2nd ed. 1949; "Lab. Manual to Principles and Processes of Pharmacy, 1st ed. 1944; 2nd ed. 1949; "Lab. Manual to Inorg. Medicinal Prods.," 1949; "A Study Guide and Problems to the Essential Literature of Pharmacy," 1949. Mem.: A.C.S., A. Phar.A., A.A.A.S., A.A.U.P., Kappa Psi, Alpha Chi Sigma, Phi Lambda Upsilon, Rho Chi, Amer. Geographic Soc. Hobbies: fishing, golf, gardening, stamp collecting.

BURNELL, Dorah Luscombe, assoc., prof. of chem., Houghton Coll., Houghton, N.Y.; res. same.
Prof. of chem.; b. Friend, Nebr., Dec. 14, 1889; d. of John and Laura Alice (Dean) Burnell; ed. Kearney State Tchrs. Coll., Kearney, Nebr., 1916; B.Sc. U. of Nebr., 1924; M.A. 1925; mem.: Phi Beta Kappa, Iota Sigma Pi, Sigma Xi (assoc.), Kappa Phi. H.S. principal, Lodgepole, Nebr., 1916-17; tchr. 1 yr., H.S. principal 4 yrs., Sutton, Nebr., 1917-22; tchr., U. of Nebr. (supply), 1 sem. 1923-24; chem. dept. Houghton Coll., Houghton, N.Y. 1926 to date; res. in micro meths. for quantitative determ. of fat in blood. Assoc. edit. of "Fundamentals of Org. Chem.," by Ed. Degering. Mem.: A.A.A.S., A.C.S., A.I.C. (fellow). Clubs: Pre Medic; Science. Hobbies: fishing, travel.

BURNETT, Raymond Seton, in chg. protein byprods. res., Wilson & Co. Inc., 4100 S. Ashland Ave., Chicago, Ill.; res. 8811 Dante St., Chicago.
Res. chem.; b. Ft. Collins, Colo., Sept. 26, 1900; s. of William L. and Eva H. Burnett; ed. B.A., U. of Calif., Berkeley, 1923; mem.: Sigma Nu; m. Katherine North, July 17, 1925; ch.: Barbara Ann, Virginia Jean, Carolyn North. 1925-41, Cudahy Packing Co., in chg. anal. div. & res. on glues; 1941-46, Southern Regional Res. Lab., New Orleans, res. on utilization of peanut & cottonseed proteins; 1946-49, Central Soya Co., Decatur, Ind., hd. protein res. div.; 1949 to date, Wilson & Co., Chicago, Ill., in chg. protein byprods. res. Numerous publ. & pats. on utilization of vegetable proteins (peanut & soybean). Two chapters on "Ind. Uses of Soybean Protein" & "Food Uses of Soybean Protein" in "Soybeans" edited by K.S. Markley, Intersc. Publ., in press for publ. in Fall 1950. Mem.: A.C.S. (chmn. Omaha sec. 1932).

BURNETT, Waldo Briggs, dir., U. of Wichita Foundation for Indust. Res., Wichita 14, Kans.; res. 245 North Pershing, Wichita 8, Kans.
Chem. and chem. engr.; b. Dallas, Tex., Apr. 29, 1898; s. of John Earle and Cecil A. (Rush) Burnett; ed. Southern Methodist U., A.B.; U. of Ill., M.S.; Ph.D.; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi, Gamma Alpha; m. Georgie Hilgard. June 24, 1924; ch.: George Hilgard, Betty Jane, Mary Louise, John Earle. Indust. fellow and sr. indust. fellow, Mellon Inst., Pittsburgh, Pa., 1923-39; asst. dir. of res.; dir. of res.; dir. of viscose operations—Tubize Rayon Corp., Rome, Ga., 1939-45; dir. U. of Wichita Found. for Indust. Res., Wichita 14, Kans., 1945 to date; res. in rubber accelerators

and antioxidants, naval stores, stearic acid, gluconic acid, plastics, var. flds. of rayon tech. Mem.: A.C.S., A.I.Ch.E., A.A.T.C.C., Kans. Engrg. Soc., A.A.Cereal C., Soc. of Automotive Engrs.; reg. prof. engr., Amer. Marketing Assoc. Clubs: Engineers (Wichita); Rotary (Wichita). Hobbies: gardening, fishing.

BURNHAM, Philip C., secy., dir., R. W. Greeff and Co., Inc., 10 Rockefeller Pl., N.Y. 20; res. 5 Ridge Dr., Chappaqua, N.Y.
Exec.; b. England, Sept. 12, 1909; s. of W. A. and M. L. Burnham; ed. Cambridge U., England, M.A.; m. Eloise Backus, July 19, 1937; ch.: Arthur B.

BURNS, G(eorge) Richard, chmn. and assoc. prof., Dept. of Chem., Hunter Coll. of the City of N.Y., 695 Park Ave., N.Y. 21; res. 17 Greenleaf St., Rye, N.Y.
Tchr.; b. Munich, Germany, Aug. 20, 1899; s of George P. and Annette (Hollington) Burns; ed. Ph.B., U. of Vermont, 1922; A.M., Princeton U., 1923; Ph.D. 1924; mem.: Phi Delta Theta; m. Laura T. Cannon, June 3, 1928; ch.: Richard Hollington, Le Grand Cannon. 1926-32 at Yale U.; 1932 to date at Hunter Coll.; 1925-45 (summers) with Vt. Agric. Exper. Sta.; Jan.-Oct., 1945, O. S.R.D.; res. on photosynthesis. Mem.: Phi Beta Kappa, Sigma Xi, A.C.S. Club: Mallets Bay (Vt.) Boat. Hobby: sailing.

BURNS, Jack W., 1153 Ocean Ave., Oakland, Calif., res. 267 Fairmont Ave., San Carlos, Calif.
Chem.; b. Chicago, Ill., Mar. 23, 1917; s. of Howard W. and Ruth Marie Burns; ed. Eureka Coll., Eureka, Ill., 1939, B.S.; U. Wisc., Madison, Wisc., 1941, M.S.; mem.: Tau Kappa Epsilon; m. Helen Penhallegon, Sept. 13, 1941; ch.: Jo Ann, Jay E. 1941 Comm. Solvents Corp., res. chem., 1943 (on leave fr. C.S.C. to N.D.R.C.), asst. dir. of res., 1946 Comm. Solvents Corp., chem. salesman; 1950 Balab, chem., salesman. Mem.: A.C.S. (secy. Calif. sect.).

BURNS, Robert M(artin), chem. dir., Bell Telephone Labs., Murray Hill, N.J.; res. 26 Edgewood Rd., Summit, N.J.
Chem.; b. Longmont, Colo., Jan. 9, 1890; s. of Thomas and Mattie (Ash) Burns; ed. U. of Colo., A.B. 1915; A.M. 1916; hon. Sc.D., 1945; Princeton U., Ph.D. 1921; mem.: Delta Tau Delta, Alpha Chi Sigma (Natl. pres.) at U. of Colo.; m. Ada Kneale, Sept. 11, 1924; ch.: Nadia. Instr. in chem., U. of Colo., 1916-17; 2nd Lieut. C.W.S., U.S.A., 1918-19; res. chem. Barrett Co., 1921-22; mem. Tech. Staff, Western Electric Co., 1922-25; with Bell Telephone Labs., 1925 to date, chem. dir. since 1945; res. in corrosion. Co-author with A. E. Schuh, "Protective Coatings for Metals." Reinhold Pub. Corp., N.Y., 1939. Mem.: Sigma Xi, Phi Beta Kappa, Tau Beta Pi, A.A.A.S., N.Y. Acad. Scs., chmn. 1949-50 N.Y. Sect., A.C.S., E.S. (pres. 1943); Natl. Res. Council. Clubs: Green Mountain (pres. N.Y. Chapt. 1946); N.Y. Chemists'. Hobbies: walking, mountain climbing, skiing, book collecting, gardening.

BURR, Alex(ander) C(arothers), chf., fuel tech. div., Region V., U.S. Bur. Mines, Grand Forks, N.Dak.; res. Jamestown, N.Dak.
Chem. engr.; b. Bottineau, N.Dak., Mar. 21, 1901; s. of A.G. and Roberta Carothers Burr; ed. Jamestown Coll., B.A. 1920; B.Sc. 1921; U. Mich., M.Sc. 1922; U. Munich, certificate 1938; mem.: Pi Kappa Delta (hon.), Phi Lambda Upsilon (hon.), Sigma Xi (hon.), Alpha Kappa Lambda (social); m. Lillie A. Fuller, June 22, 1926; ch.: Alexander Fuller, John Robert, Patricia Ann. 1929-34 asst. dir., in sch. chem. engr. practice, M.I.T.; 1934-38 Dean of faculty, Westminster Coll.; 1938-42 Dean of faculty, Jamestown Coll.; 1943 to date dir. res., N.Dak. Res. Foundation; 1946 to date non-res. prof. chem. engr. res., U. of N.Dak.; 1947-49 supvr. engr., Lignite Pilot Plant, U.S. Bur. of Mines; 1949 to date chf., fuels tech. div., Region V, U.S. Bur. Mines. Res. in heavy chems., natural resources of No.Dak., lignite, drying; mem.: A.C.S. (sr.); A.I.Ch.E.; Natl. Soc. Prof. Engr.; N.Dak. Soc. Prof. Engr. (pres. 1940-43); Natl. Council St. Bds. Engr. Examiners; Natl. Soc. for Crippled Children & Adults (trustee), N.Dak. Chpt., Nat. Soc. for Crippled Child. & Adults (pres. 1947-50); N.Dak. Bd. Registration of Prof. Engrs. 1943--; chmn. 1945-47. Hobbies: canoeing, camping, history of science.

BURRELL, George A., pres., Atlantic States Gas, Inc. and Burrell Technical Supply Co., 370 Lexington Ave., N.Y.C.; res. 101 W. 57th St., N.Y.C.
Exec.; b. Cleveland, O., Jan. 23, 1882; s. of Alexander and Jane Burrell; ed. Ohio State U., Chem. Engrg.; hon. D.Sc., Wesleyan U. (Conn.); Dist. Service Medal, War Dept.; Lamme Medal, Ohio State U.; Hanlon Medal, Natural Gasoline Assoc.; m. Naomi Shaffer, 1914; ch.: Dorothy May. U.S. Bur. Mines, 1904-16; in chg. gas investigations; Cons. Pet. Engr., 1916-36; in chg. res. wk., C.W.S., 1917-18, Colonel, U.S.A., W.W. I; pres. Burrell Tech. Supply Co., 1923 to date; also dir.; pres. Atlantic States Gas Co., 1936 to date, also dir.; v.p. and dir. Commonwealth Gas Corp.; dir. Standard Stoker Co.; v.p. and dir., Southurst Gas Producing Co. Mine gases; light petroleum hydrocarbons; chemical warfare. Author: "Gasoline Handbook," 1916; "The Extraction of Gasoline from Natural Gas," 1926; "An American Engineer Looks at Russia," 1933. Mem.: A.C.S., A.I.Ch.E., Am. Chem. Inst., Liquified Petroleum Gas Assoc., Tau Beta Pi, Sigma Xi. Clubs: Uptown (N.Y.C.), Westchester Country (Rye, N.Y.).

BURRELL, Harry, hd. of vehicle lab., basic dev. labs., Interchem. Corp., Finishes Div., 57 State St., Newark 1, N.J.; res. 8 South Mountain Rd., Millburn, N.J.
Chem.; b. Dover, N.J., May 13, 1913; s. of W.T. and J. (Morgan) Burrell; ed. B.S. 1934, Ch.E. 1938, Newark Coll. of Engrg.; highest honors in course and in class; mem.: Tau Beta Pi; m. Carol E. Morse, May 12, 1933; ch.: Donald H., Dorothy C. Res. chem. Ellis-Foster Co., 1934-40; res. supvr. Heyden Chem. Corp., 1940-46; conslt., Burrell and Neidig, 1946-48; instr., Stevens Inst. of Tech., 1947 to date; 1948 to date hd. vehicle lab., basic dev. labs., Interchem. Corp., Finishes Div., Newark, N.J.; specialized in high polymer chem., esp. as related to coatings; dev. commercial utilization of pentaerythritol. Has contrib. numerous arts. to tech. jls.; holds about 15 pats. Mem.: A.C.S., A.I.C., A.O.C.S., A.A.A.S. Hobbies: photography, gardening, art.

BURRELL, Robin Charles, prof. of agric. biochem., The Ohio State U., Columbus 10, O.; res. 195 Glenmont Ave., Columbus, Ohio.
Chem.; b. Northfield, O., Mar. 14, 1896; s. of Charles L. and Mary (Pollock) Burrell; ed. Mount Union Coll., B.Sc. 1918 (summa cum laude); The Ohio State U., M.A. 1921; Ph.D. 1925; mem.: Alpha Tau Omega; m. Esther Marie Johnson, Sept., 1925. Asst. in chem., Mount Union, 1916-18; Ohio State, 1919-21; assoc. prof. chem., U. of Richmond, Va., 1921-23; instr. in agric. chem., Ohio State, 1923-25; asst. prof., 1925-35; assoc. prof., 1935-40; prof. 1940 to date; also assoc. Ohio Agric. Exper. Sta. since 1949; res. in nitrogen metabolism of plants; vitamin C in vegetables; various isolations from plant matls. Author: "Chem. for Students of Agric. and Home Economics," Mc-

Graw-Hill, 1936. Mem.: A.C.S., Ohio Acdy. of Sc., Amer. Soc. of Plant Physiologists, A.A.A.S., Phi Lambda Upsilon, Gamma Alpha, Sigma Xi. Mem.: var. Masonic organ. Hobbies: gardening, travel.

BURROUGHS, Charles Franklin, pres., F.S. Royster Guano Co., Royster Bldg., Norfolk, Va.; res. 512 Pembroke Ave., Norfolk.
Exec.; b. Tarboro, N.C., July 31, 1871, s. of Thomas L. and Louisa Burroughs; ed. public schls.; m. Mabel Chamberlaine, Apr. 29, 1909; ch.: Charles Franklin, Jr., Mabel (Burroughs) Tyler. All bus. career with F.S. Royster Guano Co., clerk, secy., v.p., pres.; pres., Pamlico Chem. Co., Inc.; dir., New Bern Oil & Fertilizer Co. Trustee, Norfolk Academy. Club: Norfolk Yacht & Country. Hobby: farming.

BURROUGHS, Samuel Gross, treas., chf. chem., Penna. Indust. Chem. Corp., Clairton, Pa.; res. 6504 Jackson St., Pittsburgh 6, Pa.
Chem.; b. Pittsburgh, Pa., Dec. 23, 1892; s. of Hamilton Scott and Margaret A. (Hopkins) Burroughs; ed. Wash. & Jeff. Coll.; Harvard U., A.B. 1916; mem.: Phi Delta Theta; m. Alberta V. McFeely, Feb. 26, 1949. 1916-20 res. chem., duPont Co.; 1921-35 supt. Penna. Coal Prods. Co., Petrolia, Pa. (now a Koppers Co. subsid.); 1936 to date chf. chem., treas., Penna. Indust. Chem. Corp., Clairton, Pa.; dev. processes for mfr. of resorcinol, catechol, phloroglucinol, catechol derivatives (antioxidants), dye intermediates, sulphur colors, terpene resins, cumar resins, styrene resins, etc. In Internat. Who's Who, 1947. Clubs: Harvard (of Western Penna.). Hobbies: golf, farming. Officer: treas. and dir. Penna. Indust. Chem. Corp.

BURROWS, James Austin, prof. chem., Okla. A. & M. Coll., Stillwater, Okla.; res. 621 Monroe St.
Prof. chem.; b. Dubuque, Ia., Mar. 5, 1885; s. of James H. and Emily E. Burrows; ed. Ill. Wesleyan U., B.S. 1906; Ia. St. Coll., M.S. 1922; Ph.D. 1925; mem.: Phi Gamma Delta; m. Martha G. Bolton, Aug. 18, 1914; ch.: James A., Jr., David B. Robert G. Marengo, Ia. High Sch., sc. tchr., 1907-08; 1908-09; Sioux City, Ia. high sch., physics tchr. 1909-10; Dubuque, Ia. high sch. physics tchr. 1910-11, 1911-12; Paducah, Ky. high sch. physics, chem. tchr. 1912-13; Des Moines, Ia. high schl., physics tchr. 1913-18; Ia. St. Coll., chem. instr. 1918-26; U. N.Dak., asst. prof., assoc. prof. chem. 1926-29; Okla. A. & M. Coll., assoc. prof., prof. chem., 1929 to date. Author: "Lab. Exercises to Accompany Course in Gen. Chem." 1st ed. 1934, rev. 1936; "Semmicro Lab. Exercises in Gen. Chem." 1942, (now being revised); mem.: A.C.S., Okla. Acdy. Sc., Phi Kappa Phi, Sigma Xi, Phi Lambda Upsilon. Hobbies: Boy Scouts, Girl Scouts.

BURT, C. Pauline, prof. chem., Smith Coll., Northampton, Mass.; res. 101 Prospect St.
Prof. organ. chem.; b. Uhrichsville, Ohio, Aug. 15, 1890; d. of William F. and Emma S. Burt; ed. Pa. Coll., for Women, B.A. 1914; Mt. Holyoke Coll., M.A. 1916; Yale U., Ph.D. 1925; D. Sc. (hon.) Pa. Coll. for Women 1944. Grad. asst. chem., Mt. Holyoke Coll. 1914-17; instr., Vassar Coll. 1917-19; instr. Smith Coll. 1919-22; 1924-25; asst. prof. 1925-31; assoc. prof. 1931-37; prof. 1937 to date. Contrib. extens. to sc. and tech. jls.; mem.: A.C.S., A.A.A.S., A.A.U.P. Clubs: Sigma Xi, Iota Sigma Pi.

BURT, George Herbert, secy., treas., Coronet Phosphate Co., 19 Rector St., N.Y.; res. 511 Locust St., Roselle, N.J.
Exec.; b. Kansas City, Mo., July 28, 1888; s. of Arthur W. and Elizabeth (Manson) Burt; ed. N.Y. Law School; m. 1st, Helen M. Benson, 1920 (dec. 1943); m. 2nd. Emily M. Robinson, 1948; ch.: George H. Jr. With Coronet Phosphate Co. since 1913; in law offices prior to that time. Mem.: govern. body Roselle, N.J. for 16 yrs.; mayor, 1945-48. Mem.: Wheatsheaf Lodge Masons, Roselle, N.J.

BURT, Leland Howard, prod. supvr., Hercules Powder Co., 900 Market St., Wilmington, Del.; res. 41 Court Dr., Wilmington.
Chem.; b. Plainfield, N.J., Sept. 23, 1906; s. of Chauncey H. and Marion B. Burt; ed. Phillips Exeter 1922-26; Yale U. 1926-30, B.S.; 1939, 1941, 1942 Columbia U.; mem.: Phi Gamma Delta; m. Jessie Luke, June 2, 1944. Chem., Kelco Co.; prod. supvr. Hercules Powder Co. Notable work: principal part in dev. of Sodium carboxymethylcellulose. Mem.: A.C.S., A.A.A.S., A.A.T.C.C., Inst. Food Techs. Club: Yale of N.Y.C. Hobbies: painting, photography, sailing.

BURT, William Irving, v.p., mfg., B. F. Goodrich Co., 324 Rose Bldg., Akron, Ohio; res. 3532 Stoer Rd., Akron.
Exec.; b. Granger, Ohio, Oct. 15, 1893; ed. Ohio State, B.Sc. in Chem. Eng., 1917; m. Nannelle Paulk, Dec. 19, 1934; ch.: Barbara. Crowell & Murray, chem., 1913-15; Carnegie Steel Co., chem., 1920; Bristol Co., sales eng. 1920-22; Dolomite Prods. Co., chem. eng., 1923-26; B. F. Goodrich Co. 1927 to date; with C.W.S., 1918. Mem.: A.I.Ch.E., Phi Lambda Upsilon, Masons. Clubs: Y.M.C.A., Athletic. Hobbies: home, garden.

BURTON, Milton, prof. of chem., Dept. of Chem., U. of Notre Dame, Notre Dame, Ind.; res. 730 Indiana Ave., Mishawaka, Ind.
Prof., b. Stapleton, Staten Island, N.Y., Mar. 4, 1902; ed. N.Y.U., B.S. in Chem. Engineering, 1922; M.S. 1923; Ph.D. 1925; m. Sarah Holt Foust; ch.: James Joseph, Thomas Milton. Teaching Fellow, N.Y.U., 1922-24; Univ. Fellow, N.Y.U., 1924-25; Photion Elec. Corp., Photion Instrument Corp., 1925-29; P.R. Mallory & Co. 1929-30; Micamold Radio Corp., 1931-32; consulting chem., 1932-35; residence investigator, N.Y.U. 1935-36; asst., N.Y.U. 1936-37; visiting Fellow, U. of Calif., 1937-38; instr., N.Y.U., 1938-43; section chf. in charge of radiation chem. metallurgical lab., U. of Chic., 1942-45; section chf., in charge of radiation chem. metallurgical lab., Clinton Labs., Oak Ridge, Tenn., 1945-46; prof. of chem., U. of Notre Dame, Nov. 1945 to present; dir., Radiation Chem. Project, U. of Notre Dame, Feb. 1946 to present. Not. wk.: associate editor, Jl. of Physical and Colloid Chem.; Volume Editor, Plutonium Project Record; chmn., div. of physical and inorganic chem., 1951-52; secy., divisional officers group, A.C.S.; 1950-51; councilor, A.C.S., 1950-52. Co-author, Rollefson and Burton, "Photochemistry and the Mechanism of Chemical Reactions," 1939. Mem.: A.C.S., Acad. of Sc. (Ind.), A.A.A.S., Faraday Soc., A.A.U.P., Oak Ridge Asso. of Scientists and Engrs., Phi Lambda Upsilon, Sigma Xi. Club: Quadrangle. Hobby: antique furniture.

BURTON, Robert C(ooper), gen. supt., Tenn. Eastman Corp., Kingsport, Tenn.; res. 1344 Linville St., Kingsport, Tenn.
Chem. engr.; b. Memphis, Tenn., Aug. 17, 1909; s. of Madison T. and Lula (Cooper) Burton; ed. B.S. in Chem. Engrg. U. of Tenn., 1930; mem.: Alpha Chi Sigma, Tau Beta Pi; m. Anna Bee Johnson, 1929. With Tenn. Eastman Corp. 1930 to date in following positions: 1930-32 Proc. Dev.; 1932-39 Operating Dept. supt.; 1939-41 Tenite Div. supt.; 1942-45 gen. supt. Production, Holston Ordn. Wks.; 1945 to date gen. supt. Tenn. Eastman Corp. Mem.: A.C.S., A.I.Ch.E.

BUSCH, Karl George Adolph, prof. sc., hd. chem. dept., org. chem. prof., Capital U., Columbus 9, Ohio; res. 790 Montrose Ave.

Chem. tchr.; b. Woodville, Ohio, Mar. 23, 1883; s. of Henry and Sophia Cronenwett Busch, M.D.; ed. Capital U., B.Sc. 1903; A.B. 1904; Grad. Theol. 1906; Ohio St. U., A.M. 1921; Ph.D. 1930; mem.: Phi Lambda Upsilon, Sigma Xi; m. Winifred Miller Bez. Aug. 12, 1942; ch.: Karl Henry, Ph.D.; Henrietta B., M.A.; Daniel, A.B.; Ph.D.; Frieda Packson M.A. Lemoir Rhyne Coll., Hickory, N.C., 1906-08; 1913-14; Phalen Luther Coll., St. Paul, Minn., 1908-13 prof. sc. & math.; Capital U. 1914 to date, prof. sc., hd. chem., prof. org. chem., chem. methds. teaching. W.W. II coordinator Army Air Corps Unit, Capital Un., past. chmn. chem. sect., Ohio Acdy. Sc. Mem.: A.A.A.S. (fellow), A.C.S., Ohio Acdy. Sc. (fellow) Phi Lambda Upsilon, Sigma Xi; 12 yrs. mem. schl. bd., Bexley, Ohio. Hobbies: music, fine arts (oil painting), hunting, woodworking.

BUSENBURG, Earl B., The B. F. Goodrich Co., Akron, Ohio; res. 633 Moreley Ave., Akron, 20.

Tech. wk., sales dev.; b. Gambier, Ohio, Jan. 1, 1899; s. of Frank E. and Florence Busenburg; ed. 3½yrs. U. Akron, rubber chem. course, ex. 1922; mem.: Phi Sigma Kappa; m. Marie E. Connelly, May 1, 1926; ch.: Florence J. and Carol M. 1922-30 chem., Phila. Rubber Wks. Co.; 1930-32 chf. chem.; 1932-50 chf. chem., reclaim div. The B. F. Goodrich Co. Author, co-author of tech. artls. in A.C.S., Rubber Tr. Jls. Mem.: A.C.S., (rubber div.), Hobbies: philately, photography.

BUSH, George Leonard, assoc. prof. of chem., Kent State U., Kent, O.; res. 302 University Dr., Kent.

Teacher; b. New Haven, W. Va., Dec. 18, 1897; s. of George F. and Mary Bush; ed. Ohio State U., B.S. and M.A., Teachers College, Columbia U., Ed. D.; mem.: Gamma Alpha; m. Alma Millonig, June 13, 1931; ch.: Richard W., Charles A. 1916-17, Country schl., Gallia County, O.; 1917-18, high schl., Holloway, O.; 1918-22, Weir High Schl., Weirton, W. Va., teacher and principal; 1923-24, Grad. asst. in chem., Ohio State U.; 1924-35, John Adams High Schl., Cleveland O., Hd. of Sc. Dept.; 1935-39, South High School, Cleveland, O., asst. principal; 1940-46, East High School, Cleveland, O., head of Sc. Dept.; 1946-47, State Teachers Coll., St. Cloud, Minn. Chem. teacher; 1947 to present, Kent State U., assoc. prof. of chem. Author: "Dynamic Chemistry," 1936, "Senior Science," 1937, "A Biology of Familiar Things," 1939, Science "Education in Consumer Buying," 1941, "Chemistry Today," 1949. Mem.: A.C.S., A.A.A.S., Acad. of Sc. (Ohio), Am. Sc. Teachers Assoc. Mem.: Sigma Xi, Phi Delta Kappa, Phi Lambda Upsilon, Kappa Delta Pi. Hobbies: home movies, flower gardening.

BUSH, John F., Jr., pres. Genesee Res. Corp., 961 Lyell Ave., Rochester 6, N.Y.; res. Washington Rd., Pittsford, N.Y.

Mfr.; b. Rochester, N.Y., Nov. 15, 1900; s. of John F. and Maude (Emerson) Bush; ed. U. of Rochester, 1922, A.B.; mem.: Psi Upsilon; m. Elizabeth Daly, Apr. 5, 1926; ch.: John F. 3rd. Sheridan E. Lyddon & Hanford, advert. agency, 1922-25, acct. exec.; Hughes-Wolff & Co., 1925-30, co-founder, dir., v.p.; Puritan Soap Co., 1930-38, dir., v.p., in chg. of sales; Puritan Soap Co., Inc., 1938 to date, dir. v.p., gen. mgr.; Genesee Res. Corp., 1943 to date, dir. and pres. Dir.: Legal Aid Soc. Clubs: Chemists'; Country (Rochester); University.

BUSH, John V., pres., Duso Chem. Co., Incorp., Fulton Street, Poughkeepsie, N.Y.; res. 135 College Ave., Poughkeepsie, N.Y.

Gen. mgr., pres.; b. Mt. Morris, N.Y., May 10, 1891; s. of James W. and Delia N. Bush; ed. grammar schl. of Rochester; H.S. at Brockport, N. Y.; m. Dorothy L. Sheldon, Sept. 1, 1932; ch.: Robert J., Mrs Jane R. Dalrymple. Founded Duso Chem. Co. in 1929; active head since that time; previously dyer and asst. supt. of ivory button plants. Mem.: A.C.S. Club: Masonic of Poughkeepsie. Hobby: canoe sailing.

BUSSE, Ellis E., mgr. pigment div., Natl. Lead Co., 722 Chestnut St., St. Louis 1, Mo.; **res.** Park Plaza Hotel, St. Louis.

Exec.; b. Chicago, Ill., June 25, 1909; s. of Arthur A. and Emilia Busse; ed. Chicago U.; mem.: Phi Gamma Delta; m. Janet Moore Williams, June 28, 1940; ch.: Howard W. Clubs: Union (Cleveland), Hermit (Cleveland), Buffalo Athletic (Buffalo), Buffalo (Buffalo), Duquesne (Pitts.). Officer: Mau-Sherwood Supply Co., Cleveland, Ohio (dir.).

BUSSE, Warren Froemming, consultant, textiles, rubber, detergents; res. 919 Rugby Rd., Charlottesville, Va.

Consultant; b. Chicago, Ill., s. of Gustav M. and Emma Busse; ed. 1923 B.S. U. of Wis.; 1924 M. S.; 1927 Ph.D.; 1928 post Ph.D. fellowship, U. of Wis.; mem.: Phi Beta Kappa, Sigma Xi, Phi Kappa Tau; m. Fritzi, 1932; ch.: David M. 1923-24 jr. chem. Forest Prods. Lab.; 1924-25 tchr. H. S., (Wis.); 1927-28 fellow, Wis.; 1928-42 physicist with B. F. Goodrich Co.; 1936-42 mgr. Phys. Res. Lab. same co.; 1942-48 in chg. of Phys. Res. Central Res. Lab., Gen. Aniline and Film Corp.; tech. dir., Inst. of Textile Tech., 1948 to Sept. 1950, responsible for dev. in physics and chem. of colloids, particularly rubber and fabrics, mechanism of mastication of rubber; vulcanization of rubber, design of rubber prods., structure and properties of textile fibers and fabrics, physics of dyestuffs, photography, and resins. Holds 10 pats. and contrib. 20 articles to sc. jls. including a chapter in "Chem. and Tech. of Rubber." Mem.: A.C.S., A.Phys.S., A.A.T.C.C., Optical Soc., Amer. Rheology Soc., Fiber Soc. Clubs: Chemists' (N.Y.); Farmington Country (Charlottesville, Va.).

BUSSOW, Carl, tech. dir. A. W. Dow, Inc., 801 Second Ave., N.Y. 19, N.Y.; res. 217 Lawton Ave., Cliffside Park, N.J.

Conslt. chem. and chem. engr.; b. Union City, N.J., Mar. 11, 1899; s. of August and Caroline (Kohler) Bussow; ed. B.S. (chem.) Cooper Union, 1922; B.S. (chem. eng.) Polytech. Inst. of Bklyn., 1930; 2yrs. of grad. study at Polytech. Inst. of Bklyn.; m. Ethel Agnes Jones, June 15, 1935; ch.: Carl William. 1918-22 chem., Amer. Synthetic dyes Corp., Newark, N.J.; 1922-32 chf. chem., Dow & Smith, New York, N.Y.; 1932 to date tech. dir., A. W. Dow, Inc., New York, N.Y.; 1942-44 instr., Dept. of Physics, City College, N.Y.; res. work done for private clients and not pub.; author of sev. papers read before A.S.T. M. and A.A.P.T. Mem.: Cooper Union Chem. Soc. (secy.); A.I.C. (fellow); mem. of Council, Assoc. of Cnsltg. Chemists & Chem. Eng.; chmn. of sub-comms. of A.S.T.M., A.C.S., Marine Chemists Assoc.; N.Y. Acad. of Scs.; A.A.A.S., Assoc. Asphalt Paving Techs.; Natl. Soc. of Prof. Engrs.; Natl. Geographic Soc.; Amer. Museum of Natural History; associate, Highway Res. Bd. Clubs: Cooper Union Alumni Assoc.; Bklyn. Polytech. Alumni Assoc.; (former pres. of Cooper Union Alumni Assoc.; nw mem. of Bd. of Govs.) Hobbies: photography, hiking. Officer: secy.-treas., tech. dir., A. W. Dow, Inc.; mem. of Council, Assoc. Cons. Chem. & Chem. Eng.; secy. Cooper Union Chem. Soc.; mem. Bd. of Govs. of Cooper Union Alumni Assoc. and Bklyn. Polytech. Alumni Assoc.

BUSWELL, Arthur Moses, chf., Ill. State Water Survey; res. prof., Chem., U. of Ill., Box 232, Urbana, Ill.; res. 102 W. Vermont, Urbana. Chem.; b. Madison, Wis., Mar. 20, 1888; s. of James Oliver and Mary Emeline Porter Buswell; ed. U. of Minn. B.A. 1910; U. of Me., 1912 M.A.; Columbia U., Ph.D. 1917 (U. fellowship); mem.: Sigma Xi, Phi Lambda Upsilon; mem.: Alpha Chi Sigma; m. (1st) Helen Stobie (divorced), July 8, 1912; (2nd) Marian Marshall, Apr. 13, 1941; ch. Robert J., Mary Ann, Arthur Alexander (dec.). U. of Me., instr. 1910-12; Columbia U., instr. 1912-20; U. of Ill., 1920 to date; assoc. prof., san. chem., 1920-22, prof. same 1922-31, prof. chem. 1931-34, res. prof. chem. 1945 to date; chf. of State Water Survey, State of Ill. Official investigator, natl. defense res. comm. 1941-43. 1st lieut., A.E.F. 1917-18; capt. 1918-19; maj. Sanitary Corps, Med. Res., Edgewood Arsenal 1943-46. Res. in meth. of water & waste treatment; dev. two defensive weapons against chem. agents in warfare. Author: "The Chem. of Water and Sewage Treatment" (1928); ed. 6th ed. "Mason's Water Exam." (1931); chem. referee 5th, 6th, 7th, 8th, 9th editions, Stand. Meth. of Water Anal. Mem.: N.Y. Acad. Sc. (fellow); A.A.A.S. (fellow); Am. Pub. Health Assn., (fellow); A.I.C. (fellow); A.C.S., A.W.W.A., Amer. Micros. Soc., S.C.I. Recd. Army commend. ribbon with cit. (1946). Clubs: U. (Urbana, Chicago), Chaos (Chicago).

BUTLER, Clarence Albert, Jr., dir. of engrg., Diamond Alkali Co., P.O. Box 699, Painesville, Ohio; res. 1009 Mentor Ave., Painesville. Exec. engr.; b. Dell Rapids, S.D., Jan. 24, 1904; s. of Clarence Albert, Sr., and Mary Ann Butler; ed. State U. of Iowa, B.Sc. in engrg., 1925; mem.: Triangle; m. Kathryn M. Smith, Feb. 3, 1928; ch.: Richard Albert, Elizabeth. United Light & Power Serv. Co., 1925-41, piping engr., sponsor engr.; Diamond Alkali Co., 1941 to date, supt. of maintenance and construction; dir. engrg.; while with the United Light & Power Serv. Co. was responsible for installation of many utility projects, incl. 18 lge. turbo generators with total rated cap. of 371,000 KW.; with Diamond Alkali Co. had chg. of additions and installations the co. made to incr. cap. of their prods. and to mfr. new prods. req. by war; engaged in highly confid. wk. dur. war; org: grp. highly skilled engrs. engaged in planning post-war expansion for co.; grp. later org. to form present Central Engrg. Dept. of co. wch. constructed Houston Wks.; supervised design of many expansion and rehabilitation projects in most of the 12 plants operated by co.; holds a number of pats. and pending pats. Mem.: A.S.M.E., Tau Beta Pi, Sigma Xi. Clubs: Cleveland Engrg. Soc., Grand River Yacht. Officer: dir. of engrg., Diamond Alkali Co. Reg. prof. engr. in Ohio, Tex., N.J. and Wis.; holds Cert. of Qualif. from Natl. Bd. of Engrg. Examiners.

BUTLER, Clifford Thomas, works mgr., Hercules Works, Hercules Powder Co., Hercules, Calif.; res. 4 Kings Ave., Hercules. Chem. engr.; b. Pleasant Valley, Wis., Apr. 23, 1905; s. of Murray B. and Betta M. Butler; ed. U. of Minnesota, B.Ch.E. 1929; mem.: Alpha Chi Sigma; m. E. Marie Larson, July 30, 1931; ch.: Karla M., Thomas M., Mary L., John E. Held the following positions with Hercules Powder Co.: chem., chf. chem., acid supvr., dynamite supvr., asst. supt., at various plants; smokeless supt., Radford Ordnance Wks., also operating mgr. of that Works; following War, Supt. at Bessemer, Ala., and later to present, Works mgr., at Hercules, Calif. Mem.: A.I.Ch.E., Am. Ordnance Assoc. Officer: trustee, Pinole, Hercules Union School District, dir., Contra Costa County Public Health Association. Clubs: Rotary, F. & A.M., Shrine. Hobbies: golf, bowling, home movies.

BUTLER, Courtland L., Jr., res. assoc., Tech. Command, Army Chem. Center, Md.; res. Baltimore, Md. Org. chem.; b. Battle Creek, Mich., Jan. 20, 1897, s. of Courtland L. and Rose L. Butler; ed. Penn. State Coll., B.S. 1920; U. of Ill., M.S. 1923; Ph. D. 1925; Coll. de France, Paris; post doctorate res., 1926; mem.: Alpha Chi Sigma. 1926-38 Mellon Inst., Sr. Fellow Res. Pure Chem.; 1938-42 Bennington Coll., prof. of chem.; 1942-46 Gen. Chem. Co., Sr. Res. Chem.; 1946 to date, Chem. Corps, Tech. Command; res. and pubs. in flds. of gen. org. chem., chemotherapy, cinchona alkaloids, synthetic drugs, insecticides. Mem.: A.C.S., A.A. A.S., Sigma Xi.

BUTLER, Frederic Raymond, prof. of chem., Worcester Polytech. Inst., Worcester, Mass.; res. 76 Paine St., Worcester. Tchr.; ed. B.S., Worcester Polytech. Inst., 1920; M.S., 1922; A.M., Harvard, 1924; Ph.D., 1925. Instr., U. of Mass., 1925-27; asst. prof., Worcester Polytech. Inst., 1927-37; prof., 1937 to date.

BUTTERFIELD, Elmore Everest, chem., 10-50 Jackson Ave., Long Is. City, N.Y.; res. same. Chem.; b. Wash., D.C., Sept. 22, 1881; s. of George and Jennette Everest (Weston) Butterfield; ed. M.D., Medical Dept. of Columbian U. (now George Washington U.) 1903; m. Dorothea Gardthausen, Oct. 1922. 1903, resident pathologist, Garfield Memorial Hosp., demonstator of bacteriol., Columbian U.; 1904-06, instr. in pathol., U. of Mich.; 1906-1908, volunteer asst., Medinzinschklinisches Institut, U. of Munich, Germany; 1908-14, grants-in aid, Rockefeller Inst. for Med. Res. at Physiologisch-chemisches Institut, U. of Tuebingen, Lab. of Practical Physics, U. of Leiden, Holland, Rockefeller Inst., N.Y.C.; 1914, patholog. chem., Bellevue Hosp.; 1915-17, acting dir., Central Testing Lab., City of N.Y.; 1918-29, dir. of tests, Office of Borough Pres. of Queens wk.; 1929-39, chem. conslt.; 1939 to date, formulation of impregnating cmpds. for electronics. Spectrophotometric constants, oxygen capacity & iron content of human oxyhemoglobin in health & disease; differential diagnosis by means of physical constants of blood serum; reconstruction of P.c. concrete proportions by anal.; sewage disposal pats.; formulation of impregnating liquids to render natural & artificial stone, wood, leather & textiles water-repellent & resistent to fungus infestation. Mem.: A.I.C. (fellow). Hobbies: origin & significance of Lorentz transformations, early Chinese chemistry.

BUTTS, Joseph S., hd. dept. of agric. chem., prof. of biolog. chem., Oregon State Coll., Corvallis, Oregon; res. 3560 Harrison, Corvallis. Biochem.; b. Goshen, Ind., Dec. 14, 1903; s. of Elwyn and Estella (Paxson) Butts; ed. B.S. U. of Fla., 1926; M.S. Fordham U., 1928; U. So. Calif., Ph.D. 1933; mem.: Phi Delta Theta; m. Dorothy Calhoun, June 24, 1933; ch.: Donald, Richard, Joanne. Instr., U. of Mass., 1928-29; asst., U. So. Calif., 1929-33, instr. 1933-35, asst. prof. 1935-39, assoc. prof. 1939; prof. Oregon State Coll., 1939 to date; res. in intermediary metabolism; amino acid requirements. Mem.: Sigma Xi, Phi Kappa Phi, Phi Lambda Upsilon (chem.), Phi Chi (medical).

BUTZ, Lewis William, hd., Chem. Branch, Off. of Naval Res., Wash. 25, D.C.; res. 2925 Argyle Dr., Alexandria, Va. Admin. (res.); b. Cressona, Pa., Mar. 6, 1906; s. of James A. Jr., and Lulu May (Semar) Butz; ed. U. of Pa., B.S. 1927; U. of Ill., Ph.D. 1933; mem.: Alpha Chi Sigma, Tau Beta Pi; m. Eleanore Joffe, July 15, 1933; ch.: Andrew, Eric. Res. chem., U.S. Dept. Agric., 1936-46; hd., Chem. Branch, Off. Naval Res. 1946 to date; res. synthesis of alicyclic cmpds.; building and admin. of a govt.-sponsored natl. program of res. in chem. Author: (chapt.) "Organic Reactions," V. Wiley, 1949, "Diels-Alder Reaction." Mem.: A.C.S., A. A.A.S., Natl. Res. Council (Div. Chem. and Chem. Tech.). Club: Cosmos. Hobby: modern European languages.

BUZAS, August Joseph, asst. prod. mgr., J T. Baker Chem. Co., Phillipsburg, N.J.; res. R.D. 1, Easton, Pa.
Chem. prod. engr.; b. Easton, Pa., June 25, 1916; s. of Joseph and Julia Buzas; ed. Rutgers U., 1936-40, B.S.; m. Jenny Urba, Aug. 3, 1940; ch.: Carol Ann, Donna Lee. 1940-45 prod. engr. Merck & Co., Inc.; 1945-48 prod. engr. J. T. Baker Chem. Co.; 1948-49 chf. engr. same co.; 1949 to date asst. prod. engr. same co. Mem.: A.C.S. Hobbies: golf, fishing.

BYERS, Arthur M., Sr., v.p., Mich. Chem. Corp., Bankson St., St. Louis, Mich.; res. 631 Elkins Ave., Phila. (20), Pa., and P.O. Box 104, Saint Louis, Mich.
Sales mgr.; b. Phila., Pa., July 21, 1880; s. of Joseph and Rachel Ellen Byers; ed. Boys Central H.S., Phila., 1895-99, B.S.; m. Edna Shallcross, Apr. 22, 1913; ch.: Arthur M. Jr. 1901-16 salesman, Ehret Magnesia Mfg. Co., Valley Forge, Pa.; 1916-43 v.p. General Magnesite & Magnesia Co., Phila.; 1943 to date v.p. Mich. Chem. Corp., Saint Louis, Mich.

BYERS, Horace G(reeley), retired chem.; res. 2244 North Upton Street, Arlington, Va.
Retired chem., working in a nursery; b. Pulaski, Pa., Dec. 26, 1872; s. of Ambrose and Mary (McCracken) Byers; ed. in country schl., Pulaski, Pa.; Westminster Coll. (Pa.), B.S., A.B., 1895; M.S., 1897; LL.D., 1926; Ph.D., Johns Hopkins U., 1898; 1 yr. res., U. of Leipzig, Germany; mem.: Phi Lambda Upsilon (honorary); Alpha Kappa Sigma (honorary); m. Harriette Lane, Aug. 26, 1903; ch.: Ina Maud, Mary Lane, Jean, Naomi, Harriet. Acting prof. of chem., Tarkio Coll., Mo., 1895-96; prof. of chem., hd. of dept., U. of Washington, 1898-1918; prof. of chem., Cooper Union, N.Y., 1919-28; principal chem., U.S. Dept. of Agr., 1928-42; retired chem., 1942 to date; summer quarter, lecturer, U. of Chicago, 1903; summer quarter, lecturer, Columbia U., 1916; summer quarter, lecturer, U. of Washington, 1930; Capt., C.W.S., 1918; summer quarter lecturer on soils, U. of Chicago, 1937. About 100 papers on res. chfly. on the passivity of metals, soil chemistry and on the occurrence and distribution of selenium. Author: "General Chemistry Textbook," 1916; "Quantitative Analysis," 1920. Life mem., A.I.C.; ex-mem.: A.C.S., A.A.A.S. Club: ex-mem. Cosmos (Washington, D.C.). Hobbies: golf and tennis (no longer active), gardening (sole activity at present).

BYERS, Marshall S(umner), gen. supvr., Brunswick Plant, Hercules Powder Co., Brunswick, Ga.; res. Brunswick.
Exec.; b. Seattle, Wash., June 26, 1902; ed. U. of Wash., B.S. (Ch.E.) 1923; m. Elizabeth Mustin, June 6, 1930; ch.: 3 dau. Hercules Powder Co., June 29, 1923 to date; expt. sta., chem. 1923; Brunswick Plant, chem. 1923; Hattiesburg Plant, chf. chem. 1923-26; supvr. liq. prods. 1926-36; gen. supvr. Aug., 1926 to Oct. 1940; Radford Ordnance Works, Safety Supt., 1940-March 1946; Brunswick Plant, March 1946 to date, General Safety Supvr. Mem.: Chi Psi, Theta Delta; A.S.S.E. Club: Brunswick Golf. Hobbies: reading, golf, photography.

BYLER, William Henry, dir. of res., U.S. Radium Corp., 535 Pearl St., New York 7, N.Y.; res. 12 Kennedy Rd., Morris Plains, N.J.
Chem.; b. Prairie Home, Mo., s. of William Henry and Lutetia Tandy (Mills) Byler; ed. Central Missouri State Coll., B.S., A.B. 1927; U. of Mo.; M.A. 1931, Ph.D. 1937; mem.: Phi Sigma Pi, Kappa Delta Pi, Sigma Xi; m. Thelma Lois Tyson, Aug. 24, 1929. Tchr. chem. and physics, Hannibal LaGrange Coll., 1931-35; grad. asst., U. of Mo., 1935-37; res. chem. Gen. Electric Co., 1937-38; asst. biochem., N.Y. State Dept. of Health, 1938-39; dir. of res., U.S. Radium Corp., 1939 to date. Mem.: A.C.S., A.A.A.S., E.S., A. I.C. Hobby: sports.

BYRKIT, Gordon Dean, pat. and library supvr., Mathieson Chem. Corp., Niagara Falls, N.Y.; res. 115 Northwood Dr., Kenmore 17, N.Y.
Res. chem.; b. Indianapolis, Ind., July 15, 1905; s. of Hugh S. and Helen (McDonald) Byrkit; ed. U. of Kans., A.B. 1926; Washington (Seattle), M.S. 1927; Minn., Ph.D. 1930; mem.: Sigma Xi, Phi Lambda Upsilon; m. Catherine Lowe, Dec. 31, 1929; ch.: Margaret, George. U. of Wash., asst. 1926-27; U. of Minn., asst. 1927-30; Eastman Kodak Co., chem. 1930-31; U. of Minn., res. asst. 1931-34; 1934-42 res. chem. with Continental Oil Co.; 1942 to date with Mathieson Chem. Corp.; res. in molecular compds.; extreme pressure lubricants; heavy chems.. Contrib. sev. arts. to sci. jls. Mem.: A.C.S. Hobby: philately (Brit. colonials and Scandinavia).

BYRNS, Alva C., dir. of res., chem. div., Kaiser Aluminum and Chem. Corp., Kaiser Bldg., 1924 Broadway, Oakland 12, Calif.; res. 411 Roberta Ave., Concord, Calif.
Chem.; b. Spokane, Wash., Oct. 7, 1907; s. of John H. (dec.) and Anna K. Byrns; ed. U.C.L.A., A.B., Chem., 1931; U.C., Berkeley, Ph.D., Chem., 1934; mem.: Alpha Chi Sigma; m. Marcella L. Eyanson, May 21, 1932; ch.: Mavourneen A., Sheila E. 1925-26, Burnham Chem. Co., Westend, Calif., anal. and operator; 1928-31, Assoc. Oil Co., Wilmington, Calif., anal.; 1927-31, U.C.L.A., Los Angeles, student asst.; 1931-34, U. of Calif., Berkeley, tchg. fellow; 1934-36, Arthur Lachman, Berkeley, res. asst.; 1936-37, Richfield Oil Co., Wilmington, Calif., res. chem.; 1937-42, Union Oil Co., Wilmington, Calif., res. chem.; 1942-43, Henry J. Kaiser Co., Oakland, Calif., chem. engr.; 1944 to date, Permanente Metals Corp., Permanente and Oakland, Calif., dir. of res.; current co. name and title, Kaiser Aluminum and Chem. Corp., Oakland, Calif., dir. of res., chem. div. Author num. arts. in var. sc. jls.; holds about 25 U.S. pats. princ. in petroleum fld. Mem.: A.C. S., A.I.Ch.E., E.S., Am. Ceramic Soc., A.A.A.S., A.I.M.M.E. Hobbies: fishing, gardening.

BYWATER, William Glen, dir. of res., S. B. Penick & Co., 50 Church St., N.Y. 7, N.Y.; res. 133 Summit Ave., Upper Montclair, N.J.
Exec.; b. Salt Lake City, Utah, Oct. 20, 1906; s. of William A. and Elvira (Parr) Bywater; ed. U. of Utah, A.B. 1928; M.A. 1930; Iowa State Coll., Ames, Iowa, Ph.D. 1934; mem.: Sigma Pi; m. Elma Miller, June 12, 1931; ch.: William Glen, Jr., Barabara Anne. 1934-45, res. chem., grp. ldr., Parke, Davis & Co., 50 Church St., N.Y.C. Contrib. numerous papers and arts. to sc. jls. and holds five U.S. pats. on barbituric acid cmpd., proc. for mfr. of hydantoins, morpholine-substituted esters; author or co-author of sev. papers read before A.C.S. and A.A.A.S. Mem.: A.C.S., Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma, A.Phar. A., A.I.C. (fellow); A.A.A.S., N.Y. Acad. of Scs. (Council). Clubs: Chemsits', Railroad-Machinery; Deer Lake. Hobbies: bowling, gardening, motoring.

C

CABOT, Samuel, pres. Samuel Cabot, Inc., 141 Milk St., Boston, Mass.; res. 241 Perkins St., Jamaica Plain, Mass.

Mfg. chem.; b. Brookline, Mass., 1884; s. of Samuel and Helen (Nichols) Cabot; ed. Harvard U. 1906; M.I.T., 1909; mem: Fly Club, Harvard; Delta Psi, M.I.T.; m. Nancy Graves, 1909; ch.: Samuel, Jr., Helen A., Nancy C. Walton, Elizabeth C. Cochran. 1906-16 with Samuel Cabot, Inc., pres. 1909; 1917-19 Major 303d Inf. and 106th Inf.; 1919 to date pres. Samuel Cabot, Inc. Dir. Pacific Mills; Ludlow Mfg. and Sales Co.; Sulpho Napthol Co.; pres. Polygon Prods. Co.; N.E. Felt Roofing Wks. Fellow, A.A.A.S..,A.I,C., mem.: S.C.I., A.C.S., Soc. of Rheology, A.I. Phys. Officer in Boston Museum of Fine Arts. Clubs: Harvard (Boston), Country (Brookline), Tavern.

CABOT, Thomas Dudley, v.p., treas., Godfrey L. Cabot, Inc., 77 Franklin St., Boston 10, Mass.; res. 31 Farm Rd., Weston 93, Mass.
Mfr.; b. Cambridge, Mass., May 1, 1897; s. of Godfrey Lowell and Maria Buckminster (Moors) Cabot; ed. A.B., Harvard, 1919; m. Virginia Wellington, May 15, 1920; ch.: Louis Wellington, Thomas Dudley Jr., Robert Moors, Linda, Edmund Billings. V.p., treas., Godfrey L. Cabot, Inc., 1922 to date; pres., United Fruit Co., 1948-49. United Fruit Co. (dir., mem. exec. comm.); First Natl. Bank of Boston (dir.); John Hancock Mutual Life Ins. Co. (dir.); Boston Five Cents Savings Bank (trustee); Am. Mutual Liability Ins. Co. (dir.). Mass. Investors Trust (mem. advisory bd.); Gas Industries Fund, Inc. (mem. advisory bd.); Carbon Black Export, Inc. (dir.). Author: "Quick Water & Smooth" 1935. Mem.: Natl. Ind. Conference Bd., Am. Acad. of Arts & Sc., A.A.A.S., Natl. Gas Prods. Assn.; Corporation, M.I.T.; trustee, Radcliffe Coll., Hampton Inst.; governor, Pan Am. Soc. of New England. Clubs: Union (Boston). Harvard Club of Boston, Harvard Club of N.Y., Weston Golf, Cohasset Yacht, The Country Club. Hobbies: yachting and skiing.

CADWELL, Sidney Marsh, dir., res. & dev. dept., U. S. Rubber Co., 1230 Ave. of the Americas, N.Y. 20, N.Y.; res. 18 E. 68 St., N.Y. 21.
Res. scientist; b. Bozeman, Mont., Mar. 5, 1893; s. of E. P. and Laura (Marsh) Cadwell; ed. U. of Chicago, S.B. 1914, Ph.D. 1917; mem.: Natl. Gamma Alpha (past pres.), Sigma Xi; m. Elizabeth Nicol, July 12, 1919; ch.: Loraine (Cadwell) Dibble, Elizabeth Ellen. Federal Dyestuff & Chem. Corp., Kingsport, Tenn., 1917-18; res. chem.; C. W.S., U.S.A., 1918-19; U. S. Rubber Co., Passaic, N.J., 1919-29; res. chem., 1930 asst. dir., dev. dept.; U. S. Rubber Co., Detroit, Mich., 1930-45, dir., tire dev. div., 1945-46 asst. gen. mgr., tire div.; U. S. Rubber Co., N.Y.C., 1946 to date, dir., res. & dev. dept. Several contributions to the sc. advancement of rubber; 65 pats. incl. the dev. of improved antioxidants which have greatly increased the serviceable life of many rubber prods.; did res. in rubber which has added many miles to tread wear in today's tire; did wk. in dev. Cadwell-Geer cover to resist cuts & slice & name is on most golf balls. Numerous publ. in chem. journals. Mem.: A.C.S. (div. of rubber chem., past chmn. Detroit sec.), A.I.Ch.E., Am. Inst. of Physics, A.Phys.S., Chem. Corps Assn., Franklin Inst., Ind. Res. Inst. Inc., Soc. of Chem. Ind. (Am. sec.), S.A.E., Chem. Soc. of London (fellow), Tire & Rim Assn. (past pres.). Clubs: Ridgewood (N.J.) Country, Country Club of Detroit. Hobby: golf.

CADY, George H(amilton), prof. of chem., U. of Washington, Seattle, Wash.; res. 2532 Royal Court, Seattle 2, Wash.
Prof. of chem.; b. Lawrence, Kans., Jan. 10, 1906; s. of H. P. and Stella C. (Gallup) Cady; ed. A.B., 1927; A.M., 1928; U. of Kansas; Ph.D. 1930, U. of Calif. (Berkeley); mem.: Phi Beta Kappa, Sigma Xi, Alpha Chi Sigma; m. Alpha Anna Marsh, June 2, 1929; ch.: Howard H., Carl M. Asst. prof. of chem., U. of S.Dak., 1930-31; instr. of inorg. chem., M.I.T., 1931-34; res. chem., U.S. Rubber Co., Passaic, N.J., 1934-35; res. chem., Pittsburgh Plate Glass Co., Barberton, Ohio, 1935-38; asst. prof., 1938-43; assoc. prof. 1943-47; prof. of chem., 1947 to date, U. of Washington; grp. ldr. Manhattan Proj., Columbia U., 1942-43; notable wk.: studies of fluorine and of fluorides; preparation of hypochlorous acid and of calcium hypochlorite. Mem.: A.C.S., A.A.A.S., A.A.U.P. On Y.M.C.A. Board, U. of Wash. Hobbies: outdoor activities, Boy Scout work.

CADY, Raymond Davis, retired; res. 43 W. Fourth St., Oswego, N.Y.
Chem.; b. Providence, R.I., Nov. 5, 1883; s. of William Fletcher and Harriet Kempton (Damon) Cady; ed. Brown U., A.B., M.S.; mem.: Phi Beta Kappa, Sigma Xi; m. (1st) Cora S. Burrill, Oct. 6, 1908 (dec.); m. (2nd) Beulah M. Kelly, June 26, 1920; ch.: Aleda, Harriet Burrill, William Raymond. Remington Arms Co., chem., 1907-15; Diamond Match Co., hd. chem., 1915-48; retired. Dev. coating for water resistant match used in W.W. II. First Methodist Church, Oswego, N.Y., trustee, lay leader, Sunday Schl. supt. Mem.: A.C.S. Club: Masonic Order (Master, 1923; Chapter R.A.M., High Priest, 1925; Council, Illustrious Master, 1935; Commandery, Commander, 1927). Hobbies: photography, stamp collecting.

CADY, William Hamlin, conslt., U.S. Finishing Co., Norwich, Conn.; res. 127 Power St., Providence, R. I. (off. address).
Text. chem.; b. Providence, R.I., July 8, 1877; ed. Brown, A.B. 1898; A.M. 1905; Farbenfabriken Elberfeld Co., chem. 1899-1904, 1905-07; Badische Co., chem. 1907-17; Pacific Mills, res. chem. 1922-29; Slater Co., chf. chem. 1929-31; U.S. Finishing Co., chf. chem. 1918-22; 1931-46; conslt. 1946 to date. Mem.: A.C.S., A.A.T.C.C. (pres. 1935-36), Soc. Dyers & Colourists (Eng.), Tex. Inst. (Eng.), Alpha Delta Phi, Phi Beta Kappa, Sigma Xi.

CAHNMANN, Hans J., sr. biochemist, Natl. Cancer Inst., Cancerigenic Res. Labs., U.S. Public Health Serv., 3900 Reservoir Rd. N.W., Wash., D. C.; res. 56 Beach Ave., Bethesda, Md.
Res. chem.; b. Munich, Germany, Jan. 27, 1906; s. of Sigwart and Hedwig Cahnmann; ed. 1924-33; U. of Munich, Germ. Res. Inst. for Food Chem., Ph.D. chem., M.Pharm., Lic. Food Chem.; m. Ruth Heilbroner, Sept. 8, 1945; ch.: Catherine H., Vivian D. 1931-33; res. asst., U. of Munich, Germany; 1933-36; res. assoc., U. of Paris, France; 1936-39; dir. of res., Laboratoires Crinex-Uve, Paris, France; 1939-40; res. assoc., French Public Health Serv., Paris, France; 1940-41; res. assoc., U. of Aix-Marseille, France; 1941-42; dir. of labs., Biochem. Prods. Corp., N.Y.C.; 1942-44, res. assoc., Mt. Sinai Hosp., N.Y.C.; 1944-47; sr. res. chem., G. D. Res. Inst. (Givaudan-Delawanna), N.Y.C.; 1947-49; sr. res. chem., Warner Inst. (W. R. Warner), N.Y.C.; 1949-50; consltg. chem., self-employed, N.Y.C.; 1950 to date, sr. biochem., Natl. Cancer Inst., U. S. Public Health Serv., Wash., D. C. Syn. of Vitamin A. Mem.: A.C.S.

CAIRNS, Robert William, asst. dir. of res., Hercules Powder Co., Wilmington, Del.; res. 194-½ Brecks Lane, Wilmington.
Chemical research; b. Oberlin, Ohio, Dec. 23, 1909; s. of William DeWeese and Iva (Crofoot) Cairns; ed. U. of Calif., Berkeley, Calif., 1926-27; Oberlin Coll., Oberlin, Ohio, 1927-29, A.B.; Johns Hopkins U., Baltimore, Md., 1929-32, Ph. D.; mem.: Phi Beta Kappa, Sigma Xi, Phi Lamb-

da Upsilon; m. Katharine Kuhn, Oct. 22, 1932; ch.: Lindsey Ann, Michael John, Robert Christopher, Stephen William Waldo. Firestone Tire & Rubber Co., res. chem., summers 1930-33; Bartol Res. Foundation, fellow, 1933-34; Hercules Powder Co.; res. chem., 1934-40; asst. to dir. of res. 1940-41; dir., experiment station 1941-44; dir. of dev. dept., Radford Ordnance Wks., 1942-43; asst. dir. of res., 1945 to date. Chmn., Sc. Ad. Bd., Naval Ordnance Test Station; Deputy chmn., Panel on Ammunition & Explosives, Comm. on Ordnance, Res. & Dev. Bd., Nat. Mil. Establishment; original res. in fld. of x-ray diffraction; detonation of high explosives; dev. of smokeless powder mfg. processes; mem.: Div. 8, Natl. Defense Res. Comm. 1941-45; chmn., Del. Sec., A.C.S. 1944-45; councilor, Del. Sec., A.C.S., 1947-49. Mem.: A.C.S., A.I.Ch.E., A.Phys.S., Ind. Res. Inst., Am. Inst. Physics, Am. Soc. for X-ray & Electron Diffraction, Forest Prods. Res. Soc., Armed Forces Chem. Assn., Army Ordnance Assn., Natl. Security Ind. Assn. Travelers' Aid Soc., bd. of dir.; Family Soc., bd. of dir.; Christ Church Vestry (Episcopal). Hobbies: sailing, woodworking, mountain climbing.

CALAWAY, Paul Kenneth, dir., School of Chem., Georgia Inst. of Tech., Atlanta, Ga.; res. 856 Cherry St. N.W., Atlanta.
Prof.; b. Bethesda, Ark., Mar. 31, 1910; s. of W. L. and Ada (McSpadden) Calaway; ed. 1931; B.A., Arkansas Coll.; 1933 M.S., Ga. Tech.; 1938 Ph.D., U. of Texas; mem.: Alpha Lambda Tau, Phi Lambda Upsilon; m. Josephine McCall Fant, Feb. 11, 1945; ch.: P. K., Jr., Jody. Grad. asst., Ga. Tech., 1931-33; instr., 1933-35; part-time instr. U. of Tex., 1935-38; instr., Ga. Tech., 1938-42; asst. prof., 1942-44; assoc. prof. 1944-47; prof., 1947 to date; dir., School of Chem., Ga. Tech., 1948 to date; res. on aryloxy ketones, arylthioketones, quinolines. Rec. Ga. Tech. Sigma Xi Award, 1947; mem.: A.C.S., Sigma Xi, Ga. Acad. of Sc., A.A.U.P. Hobby: fishing.

CALCOTT, W(illiam) S., mgr. dev. grp., tech. div. org. chems. dept., E.I. du Pont de Nemours & Co., Nemours Bldg., Wilmington, Del.; res. 164 East Ave., Woodstown, N.J.
Chem.; b. (Berkley), Norfolk, Va., Dec. 12, 1892; s. of Alexander O. and Mary (Alexander) Calcott; ed. U. of Va., Ch.E., 1913; LL.D., U. of Notre Dame, 1937; mem.: Tau Beta Pi, Sigma Xi, Phi Beta Kappa, Alpha Chi Sigma; m. Henrietta Cooper Wood, Sept. 2, 1933. Gen. Electric Co., Pittsfield, Mass., 1913-15, wks. chem.; du Pont Co., Chem. Dept., 1915-18; res. chem.; Org. Chems. Dept., Jackson Lab., asst. div. hd., 1918-21; div. hd., 1921-28; assoc. dir., 1928-31; dir., 1931-43; asst. dir. Tech. Div. (Development), 1943-50; mgr. Dev. Grp., 1950 to date; notable wk. in flds. of corrosion, lead tetraethyl (proc.), synth. elastomers (neoprene), fluorocarbons, antioxidants. Author: "Lab. Corrosions Tests," 1922 (Calcott & Whetzell); "Chem. Engrs. Handbook," 1st ed. Jr. editor, (Perry & Calcott). Mem.: A.C.S., A.I.Ch.E., A.A.A.S., A.I.C., S.C.I., A.A.T.C.C., A,P.I., Chem. Soc. (London), Franklin Inst. Trustee of The Training Schl. at Vineland (for feebleminded children). Mem. of council, Proprietors of Western Div. of N.J. Club: du Pont-Penn's Grove Country. Hobbies: fishing, boating, folk lore.

CALDWELL, A. Lee, hd., prod. tech. serv. dept., Eli Lilly & Co.; res. 949 E. 86th St., Indianapolis 44, Indiana.
Pharm. chem.; b. Doniphan, Mo., Oct. 10. 1901; s. of A. Fred and Maude (Lee) Caldwell; ed. Phila. Coll. of Pharmacy and Sc., Ph.G., 1921; Ph.C., 1922; mem.: Upsilon Sigma Phi; m. Dorothy H. Newman, Oct. 17, 1925; ch.: A. Lee, Jr., Robert N. Instr., Phila. Coll. Pharm. and Sc., 1923-25; with Eli Lilly and Co. 1925-28 as anal. chem; 1928-38 in Pharm. Res. and Dev.; 1938-50; hd., Nutrition and Vitamin Res. Dept.; and 1950 to date hd., Product Tech. Serv. Dept.; notable wk.: hydrogen ion concentration control in pharmaceutical prods., barbiturates (i.e. 'amytal sodium', (Amobarbital Sodium, Lilly) Res. and Dev.), Vitamin concentrates; chmn. Res. and Dev. Sect., Amer. Drug Mfrs. Assoc. Mem.: A.C.S., A.A.A.S., A.Phar.A., N. Y. Acad. Scs., Indiana Acad. Sci. Clubs: Indianapolis Aero; Masonic organizations (Commandery; Scottish Rite). Hobbies: aviation, photography.

CALDWELL, Carlyle Gordon, dir. of res., Natl. Starch Prods. Inc., 270 Madison Ave., N.Y.C.; res. Flushing, N.Y.
Chem.; b. Little Rock, Ark., Mar. 13, 1914; s. of Howard P. and Catherine Caldwell; ed. Iowa State Coll., B.S., 1936; Ph.D., 1940; mem.: Phi Lambda Upsilon, Sigma Xi, Phi Kappa Tau; m. Anne Barman, 1940; ch.: Geoffrey P. Res. chem. 1940; res. dir., 1948 to date, Natl. Starch Prods. Inc. Modification of starches; starch derivatives, adhesives. Mem.: A.C.S. Hobby: golf.

CALDWELL, Mary L(etitia), prof. of chem., dept. of chem., Columbia U., New York 27, N.Y.; res. 875 Park Ave., New York 21.
Chem.; b. Bogota, Colombia, S.A., (parents U.S. Citizens), d. of Milton Etsil and Susannah (Adams) Caldwell; ed. A.B., Western (Oxford, O.), 1913; A.M., Columbia, 1919; Ph.D. 1921. Instr. in chem., Western Coll., 1914-17; asst. prof. of chem. 1917-18; Univ. Fellow in chem., Columbia, 1920-21; res. asst. in chem., 1921-22; instr. in chem., Columbia, 1922-29; asst. prof. of chem., Columbia, 1929-43; assoc. prof. of chem. 1943-48; prof. of chem. 1948 to date; notable wk.: numerous pubs. in sc. jls. and chapters in monographs. Mem.: A.A.A.S. (fellow); A.C.S., A.S.Bio.C.; N.Y. Acad. Scs. (fellow); Sigma Xi, A.A.U.P.; Am. Inst. of Nutrition.

CALDWELL, Robert Stowe, res. chem., Commercial Solvents Corp.; res. 723 S. Center, Terre Haute, Ind.
Infra-red spectroscopist; b. Nanking, China, Apr. 2, 1924; s. of Leonard H. and Marjorie (Rockwood) Caldwell; ed. Little Rock Jr. Coll. 1941-42; Iowa State Coll., 1942-44, 1946-47; B.Sc. in chem. engr., 1947; Navy electronics serv. schl.; mem.: Delta Sigma Phi, Alpha Chi Sigma; m. Waneta Louise Read, Sept. 11, 1949; 1947-49 tech. supvr. Commercial Solvents Corp.; 1949 to date res. chem. same co. Hobbies: photography, electronics.

CALDWELL, William Elmer, prof. of chem., Oregon State Coll., Corvallis, Oregon; res. Corvallis.
Prof. of chem.; b. Butte, Mont., Jan. 26, 1903; s. of William and Elizabeth Susan (Lyons) Caldwell; ed. Met.E., Montana Schl. of Mines, 1924; M.S. and Ph.D. U. of Wis., 1928, 1930; mem.: Alpha Tau Omega, Alpha Chi Sigma, Sigma Xi; m. Doris Charlotte Conger, Aug. 14, 1938; ch. Kathryn Ann, William Kent, Lynn Ellen. Instr., U. of Wis., 1929-30; asst. prof. chem., Oregon State Coll., 1930-50, except capt. to col., C.W.S., 1941-45; conslt. on inorg. raw matls.; has written numerous sci. papers for pub. on inorg. chem. Pres. Helena Mining Co. Author: "The Fundamentals of Coll. Chem." Am. Book Co., 1949; "Introduction to Semi Micro Qualitative Anal." 1946; Mem.: A.C.S., A.I.M.M.E.; rec. Army decorations, ribbons. Clubs: Corvallis Country; Elks. Hobbies: golf, field trips to mineral prospects, hunting, fishing.

CALDWELL, William T., dean, Coll. of Liberal Arts & Sc.; prof. of chem., Temple U., Phila.

22, Pa.; res. 122 Colonial Ridge, Moorestown, N. J.
Educator, chem.; b. Pawtucket, R. I., May 29, 1895; s. of William T. and Maria Louise Caldwell; ed. A.B., 1915, Princeton U.; A.M. 1917; Ph.D. 1923, Yale U.; m. Rose Mary McGinness, Aug. 13, 1921; ch.: William T. 3rd, Margaret, Mary Rose. Instr., 1919; assoc. prof. 1924; prof., chmn. of dept. 1926; dean, Coll. of Liberal Arts. & Sc., Temple U., 1942 to date. Author: "Org. Chem." 1943, Houghton-Mifflin Co. Mem.: A.C.S., Sigma Xi. V.p., Res. Inst. of Temple U.

CALEY, Earle Radcliffe, v. chmn. and assoc. prof., Dept. of Chem., The Ohio State U., Columbus 10, Ohio; res. 87 Erie Rd., Columbus.
Tchr., res. chem.; b. Cleveland, Ohio, May 14, 1900; s. of John Radcliffe and Minnie Anna (Mitchell) Caley; ed. Case Schl. of Applied Sci., 1918-20; Baldwin-Wallace Coll., 1921-23 (B.S.); The Ohio State U., 1924-28 (M.Sc. 1925), (Ph.D. 1928); mem.: Gamma Alpha, Phi Lambda Upsilon, Sigma Xi; m. Grace Fowles Cochran, Dec. 24, 1925; ch.: Grace Virginia, Robert Cochran, Paul Cochran. Tchr. of sci., H.S., Leroy, Ohio, 1923-24; principal H.S., Monroeville, O., 1925-27; instr. in chem., Princeton U., 1928-31; asst. prof. of chem., Princeton U., 1931-42; chem., Agora Excavation Staff, Athens, Greece, 1937; chf. chem., Wallace Labs., 1942-46; assoc. prof. of chem., Ohio State U., 1946 to date; v. chmn., Ohio State, 1949 to date. Author or co-author about 75 papers on new reagents, new anal. meths., hist. of chem., and on appl. of chem. to archaeology. Also author: "Anal. Factors and Their Logarithms." Wiley, N.Y., 1932; "The Composition of Ancient Greek Bronze Coins," Amer. Philosoph. Soc., Phila., 1939. Fellow, A.A.A.S., Ohio Acad. of Sci., and Royal Numismatic Soc.; mem.: A.C.S., N.Y. Acad. of Scs., and Hist. of Sci. Soc.; awarded Lewis Prize, Amer. Philosoph. Soc., 1940. Club: Ohio State Faculty. Hobbies: archaeology, numismatics, old chem. books.

CALHANE, Daniel Francis, prof. emeritus, electro-chem. engr., Worcester Polytech. Inst.; res. 32 Berkmans St., Worcester, Mass.
Retired prof. electro-chem. engr.; b. Bradford, Mass., Aug. 19, 1869; s. of Daniel and Anna (Emerson) Calhane; ed. Haverhill H.S.; Harvard U., A.B., 1894; A.M., 1897; Ph.D., 1904 (magna cum laude); honors in French and Latin; m. Luette Richmond, Sept., 1906; ch.: Lucy Frances, Richmond Emerson. Instr. French and Latin, Manlius, N.Y.; instr. French and Latin, Concord, Mass.; chf. asst. chem., Harvard U.; instr. and prof. electrochem. engr., Worcester Polytech. Inst., Worcester, Mass., 1903-36. Author of some 15 arts. on pure and applied chem. appear. in Eng., German and Amer. publs. Hobbies: gardening, culture of roses.

CALINGAERT, George, prof. Hobart and William Smith Colls., Geneva, N.Y.; res. 10 College Ave., Geneva.
Prof.; b. Brussels, Belgium, Sept. 9, 1896; ed. Brussels U., D.Sc., 1921; prof. Hobart and William Smith Colls.; consulting chemist and engineer; res. on antiknock cmpds., hydrocarbons. Mem.: A.C.S., A.A.A.S., A.I.Ch.E.

CALKIN, John B., chem. conslt., 500 Fifth Ave., New York 18, New York,; dir., Dept. of Indust. Coop. and assoc. prof. chem. engrg., U. of Maine, Orono, Maine.
Chem. engr.; b. Spring Grove, Pa., Jan. 1, 1904; s. of William S. and Mary I. (Acker) Calkin; ed. Haverford Coll., S.B. 1926; A.M. 1927; U. of Maine, M.S. in Ch.E., 1928; M.I.T. Arkwright F., 1931-32; Cornell U. Textile Found. F., 1932-35; mem.: Sigma Xi, Phi Kappa Sigma, Alpha Chi Sigma; m. Ruth W. Lichty, Mar. 24, 1928; ch.: Mary K., William S., Hannah S., Abigail B. Microscopist, Brown Co., 1927-29; chem. engr., Brown Co., 1942-43; chem. engr., Dennison Mfg. Co., 1929-31; 1935-39; own construction business, 1939-42; coordinator of res., Union Bag & Paper Corp., 1943-48; chem. conslt., 1948 to date; dir., Dept. of Indust. Cooperation and assoc. prof. chem. engr., U. of Maine, 1949 to date. Author: arts. pertaining to historical res., microscopy, chem. engrg., colloid chem., cellulose chem., and comm. chem. dev.; res. in pulp and paper chem. and tech.; fire prevention tech.; chem. marketing; wood and naval stores chems.; X-ray anal. and microscopy of indust. matls.; indust. res. advisor; food tech. Mem.: A.A.A.S.; A.C.S.; A.I.C.; A.I.Ch.E.; Chem. Mkt. Res. Assoc., Natl. Farm Chemurgic Coun.; N.Y. Acad. of Scs.; T.A.P.P.I.; Comm. Chem. Devel. Assoc. Clubs: Chemists' (N.Y.); M.I.T. (N.Y.).

CALLAHAM, John Robert, ed. "Chem. Engr.," 330 W. 42 St., N.Y. 18, N.Y., res. 423 N. Walnut St., E. Orange, N.J.
Chem. engr., ed.; b. Seneca, S.C., June 5, 1911; s. of William C. and Stella M. Moore Callaham; ed. B.S. U. S.C. 1933; Columbia U.; m. Ludmilla G. Thoro, May 16, 1937; ch.: Michael L., Donn R., Neil G. Gen. Chem. Co., Marcus Hook, Pa., chem. (plant), 1935-37; Gen. Chem. Co., N. Y.C., El Segundo, Calif., plann. div. 1937-41; "Chem. Metal. Engr.," (McGraw-Hill Pub. Co., N.Y.C.) asst. ed. 1941-45; "Chem. Engr.," N.Y., Exec. ed. 1949-50; ed. 1950 to date. Mem.: Jr. Chem. Engrs., (N.Y.) (pres. 1944); A.C.S., A. I.Ch.E., (chmn., N.Calif. chpt. 1947); (mem. nomenclature comm.); S.C.I. (Am.); Westn. Chem. Market Res. Soc., (pres. 1948); reg. chem. engr., (Calif.). Club: Engrs. (San Francisco) Hobbies: mineralogy, geology, climatology.

CALLAWAY, J(ack) B., sales promotion mgr., pigment colors, E.I. du Pont de Nemours & Co., Wilmington, Del.; res. 104 Elm Ave., Swarthmore, Pa.
Chem., sales promotion; b. Jaspar Co., Ind., Mar. 4, 1910; s. of Author B. and Kary Callaway; ed. U. Cincinnati, B.S., M.S., Ph.D.; mem.: Sigma Xi, Theta Chi; m. Florence Hudson, Apr. 24, 1937; ch.: Edward, Florence, William, David. E.I. du Pont de Nemours & Co., 1936 pigments dept., Newark, N.J., res. chem.; 1938 pigments dept., group leader; 1945 pigments dept., div. hd., sales serv.; 1949 pigments dept., Wilmington, Del., sales promotion mgr.; mem.: A.C.S., A.I.C. Hobbies: tennis, home workshop, cub scouts.

CALMON, Calvin, chf. res. chem., Permutit Co., Birmingham, N.J.; res. Browns Mills, N.J.
Res. chem.; b. Bakst, Poland, Oct. 1, 1908; s. of Philip and Anna Calmon; ed. Dartmouth Coll., 1930-34, B.A. (cum laude); U. of Minn., 1934-35; Yale U., 1935-36, Ph.D.; U. of Paris, 1949-50. Res. in de-salting of sea water. Author: "Ion Exchange in Water Treatment," 1949. Mem.: A. C.S.

CALVA, Jose Baraquiel, pres., J.B. Calva & Co., Kasota Bldg., Minneapolis, Minn.; res. 4821 Aldrich Ave., So., Minneapolis.
Chem. engr.; b. Puebla, Mexico; s. of Francisco Baraquiel and Carmen (Martin) de Calva; ed. B.S. in Ch.E. (1928), U. of Penn; Univeridad Nacional de Mexico, Chem. Engr. (1928). -Tech. Degree, Ch.E. U. of Penn. (1935); mem.: Phi Lambda Upsilon, Sigma Xi. Consltg. Chem. Engr. in Mexico; designer and builder of first electrolytic caustic soda and chlorine plant in Mex.; designer and builder of zinc oxide and antimonous sulphide plants in Mex.; prof. of inorg. and org. tech. at Universidad Nacional de Mex.; first engr. of Fabrica Nacional de Cartuchos No. 1, Mex.;

lab. asst. in chem. engr. lab. of Atlantic Refin. Co., Phila, Pa.; experimenter at das Materialpruefungsament, Berlin-Dahlem.; chf. chem., Fabrica Nacional de Polvera, Mex.; pres. of Tech. Comm. investigating Roy Cross oil-cracking proc. for Mex.; tech. dir. of Cia. Nacional Refinadora de Petroleo, S.A.; tech. advisor to Military-Commercial Mex. Commis. in France, Germany, Austria, Holland, Belgium, Czechoslovakia, Hungary and England, 1926-27; hd. of res. dept., Baeder Adamson Co., Phila., Pa.; mem.: res. staff, Minnesota Mining & Mfg. Co., St. Paul, Minn.; pres. and tech. dir. of J. B. Calva & Co. since 1935; pres. and tech. dir., Calva Proc. Indust., Inc.; secy., Calva Fur Pats. Corp., Inc. Work includes mfr. of sulphite pulp; modification of wool fibre to make it straight and resistant to moisture; chem. of hair; first "permanent" for Negro people; holds approx. 25 pats. Mem.: A.C.S., A.I.Ch.E.. A. Cons.C. & Ch. Engrs.; die Deutsche Chemische Gesellschaft. Soc. Chem. Ind. A.S.T.M., A.A.A.S., Natl. Soc. of Prof. Engrs., Minn. Indust. Chemists Forum, charter mem. of the Chapt. of A.I.Ch.E. of the Twin Cities, Tech. Assoc. of Fur Indust., S. C.I., etc. Clubs: Chemists' (N.Y.), Minn. Athletic Club, A.A.A. of Minnesota. Hobby: photography.

CALVERT, Robert, pat. atty., Mann & Burrows, 155 E. 44th St., New York 17; res. 222 Nelson Rd., Scarsdale, N.Y.
Pats.; b. Milford, Mo., Mar. 15, 1889; s. of William S. and Martha Ann (Newkirk) Calvert; ed. U. of Okla., A.B. 1909; U. of Chicago, S.M. 1911; Columbia, Ph.D. 1914; m. Mary S. Siggers, Mar. 6, 1922; ch.: Robert, Jr., George Edward. Columbia U. instr. chem. 1913-15; du Pont Co., chem. and res. lab. dir. 1915-20; Celite Co., res. engr. in chg. lab. 1922-24; U. of Md. prof. ind. chem. 1925-26; Van Schaack Bros. Chem. Wks., chf. chem., 1926-31; pat. dept., Johns-Manville Corp.; with Mann & Burrows, 1940 to date; inventor of proc. for recovery of saltpeter and with others of Hyflo filter aid. Author: "Diatomaceous Earth" (mono. of A.C.S.), 1929; "Patent Practice & Management for Inventors and Execs.," 1950. Mem.: A.C.S. (chmn. N.Y. Sect. 1940-41), Phi Beta Kappa, Sigma Xi, Tech. Socs. Council, N.Y. (pres., 1950 to date). Pres., 1949 to date, Scarsdale, N.Y., Community Service. Club: Chemists' (N.Y.).

CAMERON, Benjamin Franklin, III, asst. prof. of chem., The University of the South, Sewanee, Tenn.; res. Sewanee, Tenn.
Asst. prof. of chem.; b. Meridian, Miss., Nov. 4, 1920; s. of Ben. F. and Polly (Paine) Cameron; ed. B.S. (Optime Merens), The Univ. of the South, 1942; M.S. in Eng., U. of Cincinnati, 1944; Sc. D., U. of Cincinnati, 1948; mem.: Kappa Alpha, Omicron Delta Kappa, Phi Lambda Upsilon, Sigma Xi; m. Ruth Anders, Dec. 21, 1942; ch.: Douglas Winston, Robert Boatner. 1942-44 jr. res. engr., Cincinnati Milling Machine Co.; res. fellow, Grad. Dept. of Applied Science, U. of Cin., 1942-44; U.S.N. (Lt., j.g.), 1944-46; res. fellow, Grad. Dept. Appl. Sci., U. of Cincinnati, 1946-48; res. chem., Cincinnati Milling Mach. Co., 1948-49; plant supt., Carlisle Chem. Wks. (Reading, Ohio), 1949; asst. prof. of chem., U. of the South. 1949 to date; conslt.; res. in fld. of organometallics; in partic. in connect. with mech. activat. of chem. react. Mem.: A.C.S., A.A.A.S., Sigma Xi, Phi Lambda Upsilon. Clubs: Blue Key, English Speaking Union, local organizs. Hobbies: Cabinet making, photography.

CAMERON, Edwin J(ohn), dir. of res., National Canners Assn., Wash., D.C., 1133 20th St., N.W., Washington 6, D.C.; res. 2651 16th St., N.W., Washington 9.
Bacteriologist; b. Cambridge, Mass., Sept. 17, 1895; s. of John Johnson and Annie Ellis Cameron; ed. B.S., M.I.T., 1920; Ph.D. George Washington U., 1927; m. Dorothy Pray, Sept. 27, 1921. Commercial Solvents Corp., Terre Haute, Ind., 1920-23, bacteriologist. Held the following positions with the National Canners Assn., Washington, D.C.: 1923-36, bacteriologist; 1936-39, asst. dir. res.; 1939 to present, dir. Not. wk.: Work on the bacteriology of foods with special attention to organisms causing spoilage in canned foods. Contrib. numerous arts. on bacteriology of food spoilage, role of thermophilic bacteria in canned food spoilage, heat resistance of bacterial spores, canned food processing. Mem.: A.C.S., Am. Public Health Assn., Soc. of Am. Bacteriologists, Inst. of Food Technologists. Club: Cosmos.

CAMP, Arthur Dutton, asst. to mgr. foreign div., Dorr Co., Barry Pl., Stamford, Conn.; res. 56 Hughes Ave., Rye, N. Y.
Chem. engr. in sales; b. Stamford, Conn., July 25, 1881; s. of William S. and Anna (Curtis) Camp; ed. Montclair, N. J. High Schl., 1901; Cornell U., B.A., 1905; 1 yr. post grad. study; mem.: Delta Upsilon, Quill & Dagger, Alembic; m. Dorothy Bingham (dec.) Sept. 14, 1912; Philipine Huss, Sept. 14, 1932; ch.: Ariel (Camp) Horton, Richard Curtis (twins). Foundry chem., Cupola furnace frmn., Link Belt Co., Chicago, 1906; control & res. chem., N. J. Zinc Co., Depue, Ill., 1906-07; asst. supt., S. Chicago gas plant, Peoples Gas, Light & Coke Co., 1907-09; paper chem., & in chg. of gas eng. dept., Arthur D. Little, Inc., Boston, 1909-11; sales engr., tech. dir. of plant, Paper Makers Chem. Co., Stoneham, Mass., 1911-14; chf. chem. in chg. of wks. lab. & chem. mfg., Natl. Carbon Co., Cleveland, Ohio, 1914-18; tech. dir. of dry battery & flashlight plant, Natl. Carbon Co.., L.I.C., 1918-21; dev. engr., mgr. magnesia composition floor tile factory, Williamsport Building Prods. Co., 1921-24; mgr. of radio dry battery factory, Wireless Dry Cells Co., Niagara Falls, 1924-26; metallurg. engr. & sales promotions, Al. Co. of Am., Buffalo & Pitts., 1926-29; dev. & sales engr. of carbon specialties, Natl. Carbon Co., Cleveland, Ohio, 1929-32; res. dev. engr. of printing plates & rollers, Ideal Roller & Mfg. Co., Chicago, 1932-33; tech. adm. & sales promotion, Monsanto Chem. Co., Central Labs., Dayton, Ohio, 1933-35; mgr. tech. data div. 1935-42; dehumidification project engr. 1942-43; adv. mgr. 1943-44; asst. to mgr. foreign div. 1944 to date, Dorr Co., N.Y. & Stamford, Conn. Invented process for waterproofing paper; radio "B" battery, focusing flashligh, magnesia composition floor tile; meth. of welding al. alloys; abrasion device for testing paint films. Numerous tech. articles publ. in chem. journals. Mem.: A.C.S., Cornell Engrg. Soc. Am. Welding Soc., Am. Ceramic Soc., A.S.T.M., T.A. P.P.I., A.I.Ch.E., Licensed Prof. Engr. N.Y. State, U.S. Coast Guard Auxiliary, U.S.C.G. Reserve Temp. C.B.M. 1942-45; Ensign 1945. Clubs: Cornell of Westchester, Horse Shoe Harbor Yacht, Corinthians. Hobbies: yachting, swimming, skating, house repairs.

CAMP, George Lee, chem., exec., retired; res. Ponte Vedra Beach, Fla.
Exec. (retired); b. Midland, Mich., June 11, 1882; s. of George Roberts and Cynthia Ann (Hamilton) Camp; ed. pub. schls. of Midland Co., Mich.; m. Mildred Brooks Doherty, Apr. 15, 1933; ch.: Cynthia Lee; and by prior marriage, Lester Elmore, Harper Lee, Robert Donald. 1901-29 with The Dow Chem. Co., Midland, Mich.; 1930-42 with Monsanto Chem. Co., St. Louis, Mo.; asst. to pres., v.p., dir. and gen. mgr. of Org. Chem. Div., voluntarily retired, 1942. Club: Ponte Vedra (Fla.). Hobbies: practical psychology, political-economic questions and problems of day.

CAMPBELL, Calvin Arthur, secy., gen. counsel, dir., The Dow Chem. Co., Midland, Mich.; res. 1210 W. Park Drive, Midland.
Lawyer; b. Bay City, Mich., Dec. 15, 1902; s. of Calvin Albert and Emily Mary Campbell; ed. U. of Mich., B.S. in Ch. Eng. 1924; Mass. Inst. of Tech., B.S. in Eng. Admin. 1925; Harvard Law Schl., LL.B. 1928; mem.: Theta Delta Chi, Tau Beta Pi, Alpha Chi Sigma; m. Alta Christine Koch, June 26, 1929 (dec. mch. 31, 1949); ch.: Calvin Arthur, Jr., b. Sept. 1, 1934, Mary Christine, b. Feb. 14, 1940. Gen. Motors Corp., legal dept., 1928-35; The Dow Chemical Co. (gen. counsel 1940, dir. 1948, secy. 1949) 1935 to date.

CAMPBELL, Charles Russell, chf. chem., oil mill div., Crosby Forest Prods. Co., Picayune, Miss.; res. 5th Ave., Picayune, Miss.
Chem.; b. Limestone, Tenn., Oct. 19, 1894; s. of Hugh and Belle (Armentroute) Campbell; ed. B.S. Lincoln Memorial U., Harrogate, Tenn., 1921; M.S. N.C. State, Raleigh, N.C., 1927; m. Frances Turner, Aug. 4, 1921; ch.: Charles Russell, Jr., Mary Frances (dec.), Barbara Jean. 1922-28 hd. of sci. dept., Wash. Collegiate Inst., (Wash., N.C.); 1929-39 hd. of sci. dept., Whitworth Coll., Brookhaven, Miss.; 1940-45 hd. of sci. dept., Pearl Rive Jr. Coll., Poplarville, Miss; pres. pos. since 1945 (chf. chem. Oil Mill Div., Crosby Forest Prods. Co., Picayune, Miss.). Mem.: A.O.C.S. Club: Rotary. Hobby: tennis.

CAMPBELL, Edward Donald, dir., Div. of Biochem. Res., Eli Lilly & Co., Indianapolis 6, Ind.; res. 510 Blue Ridge Rd., Indianapolis 8.
Chem.; b. Kokomo, Ind., Mar. 4, 1895; s. of Verne S. and Emma (Wells) Campbell; ed. Butler U., Indianapolis, A.B. 1922; Chicago U., Ph.D. 1924; mem.: Sigma Chi, Sigma Xi; m. Ruth Beckman, Apr. 22, 1939; ch.: Linda Ruth. 1914-17 chf. chem., Citizens Gas Co., Indianapolis; 1917-18 supt. Hamilton By Prods. Co., Hamilton, O.; 1924-25 asst. prof. of chem., U. of N. Dak.; 1925-46 res. chem., Eli Lilly & Co., Indianapolis; 1946-49 hd. Dept. of Biochem. Res., same co.; 1950 to date dir. Div. of Biochem. Res. same co.; res. in liver extract anemia and growth factors, insulin, hormone fld. V.p. Wick & Fry, Inc. Mem.: A.A.A.S., A.C.S., N.Y. Acad. Scs., Sigma Xi. Dir.: Indianapolis Music Ensemble Soc. Club: Meridian Hills Country. Hobbies: music, art, golf, shooting.

CAMPBELL, Hallock Cowles, assoc. dir. of res. and engrg., Arcos Corp., 1500 So. 50th St., Phila. 43, Pa.; res. 348 Vassar Ave., Swarthmore, Pa.
Chem.; b. Cortland, N.Y., June 4, 1910; s. of Daniel R. and Bessie Ormiston (Cowles) Campbell; ed. Hamilton Coll., B.S. 1932, (Phi Beta Kappa, Elihu Root Fellowship in sci.); Harvard U., M.A. 1934, Ph.D. 1936; mem.: Theta Delta Chi; m. Marion Hutchinson, June 20, 1936; ch.: Peter Hallock, Susan Elizabeth. 1936-38 master in chg. of chem., Browne and Nichols Schl., Cambridge, Mass.; 1938-43 instr. in chem., Queens Coll., Flushing, N.Y.; 1943 to date res. chem. and exec., Arcos Corp., Phila. 43, Pa.; notable wk.: studies of arc welding electrodes for armor and stainless steel. Co-author with M. L. Eidinoff, "A Lab. Manual for a Second Year Course in Chem.—Theoretical Chem." 1940, priv. printed for Queens Coll., Flushing, N.Y. Mem.: A.C.S., Amer. Welding Soc., A.S.M. Hobbies: element. photography, bowling, badminton.

CAMPBELL, Ivor Eugene, asst. supvr., div. of non-ferrous metallurgy, Battelle Memorial Inst., 505 W. King Ave., Columbus, Ohio; res. 5686 Johnstown Rd., Gahanna, Ohio.
Chem. (inorg.); b. Kenton, Ohio, Oct. 16, 1919; s. of Ivor S. and Ethel E. Campbell; ed. Evansville Coll. (Ind.), A.B.; Ohio State U., Ph.D.; Franklin U. (Ohio), LL.B.; mem.: Pi Epsilon Phi, Sigma Xi, Tau Kappa Alpha, Order of Curia, Pi Beta Chi; m. Agnes P. Morgan, Oct. 22, 1944. 1939-40 exper. engr. Sunbeam Elec. Mfg. Co., Evansville, Ind.; 1942-43 asst. Dept. of Chem., Ohio State U., Columbus, O.; 1943 to 1946 res. chem. Battelle Mem. Inst.; 1946 to date asst. supvr.; preparation of pure metals; hot-wire reductions; vapor-deposition of refractory coatings. Mem.: A.C.S., A.A.A.S., E.S., Ohio State Bar Assoc. Mem.: Free & Accepted Masons, Order of the Eastern Star.

CAMPBELL, Kenneth Nielsen, prof. of chem., U. of Notre Dame, Notre Dame, Ind.; res. 1106 North St. Joseph St., South Bend 17, Ind.
Org. chem., prof.; b. Hillsdale, Mich., May 31, 1905; s. of R. Burke and Vivian (Nielsen) Campbell; ed. Kalamazoo Coll., 1924-26; U. of Chicago, 1926-32; B.S. in chem., 1928, Ph.D. in org. chem. 1932, U. of Chicago; m. Barbara H. Knapp, June 17, 1933. Post-doctoral res. fellow, Pa. State Coll., 1933-35; post-doctoral res. fellow, U. of Ill., 1935-36; mem. of faculty, U. of Notre Dame 1936 to date, instr. 1936-38, asst. prof. 1938-40, assoc. prof. 1940-45, prof. 1945 to date. Syn. of antimalarials for Comm. on Medical Res.; special conslt. to U.S. Pub. Health Serv., res. in flds. of acetylenes, hydrogenation, syn. drugs. Author: "Chem. of Quinolines" to be publ. in 1951 by Intersc. Press; about fifty res. papers in org. chem. Mem.: A.C.S. (chmn., Div. of Medicinal Chem., 1949-50; councilor, 1950; chmn., Sec. Natl. Medicinal Chem. Symposium, 1950; chmn., St. Joseph Valley Sec. 1944); A.A.A.S., Ind. Acad. of Sc., Sigma Xi, Phi Lambda Upsilon, N.Y. Acad. of Sc., A.A.U.P., Ind. Chem. Soc.

CAMPBELL, Robert Morrell, hd., dept. of ceramic engrg., N.Y. State Coll. of Ceramics at Alfred U.; res. 30 South Main St., Alfred, N.Y.
Ceramic engr.; b. Passaic, N.J.; Jan. 27, 1899; s. of John M. and May (Northrop) Campbell; ed. 1923, Alfred U., B.S.; 1944 U. of State of N.Y., P.E. (prof. engr.); 1950 Alfred U., C.E. (ceramic engr.); mem.: Delta Sigma Phi; m. Anna A. Merrill, Apr. 6, 1926; ch.: Merrillyn Anne, Robert M. 1923-26 ceramic engr., J. L. Mott Co., Inc., Trenton, N.J.; 1926-30 plant supt. same co.; 1930-33 ceramic engr., Trenton Potteries Co.; 1933-44 prof. ceramic tech., N.Y.S. Coll. of Ceramics; 1944 to date, hd., Dept. of Cer. Engrg., same coll. Contrib. sev. arts. pertaining to cers. and to cer. educ., in Jls. and Bulletins of the A. Cer. S. Mem.: A. Ceramic S. (past trustee and fellow); past chmn. whiteware div., A. Ceramic S.; mem.: Inst. of Ceramic Engrs.; A.S.E.E.; N.Y.S. Soc. Prof. Engrs. Trustee. Village of Alfred. Clubs: American Legion, University Lodge No. 944, F.&A.M., Keramos.

CAMPBELL, William Montgomery, pres. and founder of Magnus Chem. Co., Garwood, N.J.; res. 1030 Wychwood Rd., Westfield, N.J.
Exec.; b. New York City, Oct. 19, 1891, s. of W. J. and Josephine L. (Kyle) Campbell; ed. Columbia U., B.S.; mem.: Alpha Delta Phi; m. Doris K. Joffrion, Apr. 14, 1920; ch.: Sandy Montgomery. 1914-17 and 1919-21 with Oakley Chem. Co.; 1917-18 Lt. (Pilot), U.S.A. Air Force; 1921 to date with Magnus Chem. Co., pres. and chmn. of bd. Pres. and chmn. of bd. of DIF Corp. Club: Echo Lake Golf (bd. of trustees). Hobbies: golf, tennis.

CAMPBELL, William P., sr. res. chem., Rohm & Haas Co., 5000 Richmond Ave., Phila., Pa.; res. 602 Runnymede Ave., Jenkintown, Pa.
Chem.; b. Hagerstown, Md., Jan. 2, 1910; s. of

William D. and Marie P. Campbell; ed. B.S., St. John's Coll., Annapolis, Md., 1927-31; M.S., Ph.D., U. of Md., Coll. Park, Md., 1931-36; mem.: Delta Kappa Phi, Sigma Chi; m. Gladys D. Gibson, Sept. 1, 1934; ch.: John R., Judith A. 1936-39, res. fellow, Harvard U.; 1939-41, instr. in chem., Harvard U.; 1941-50, res. & dev., Hercules Powder Co., 1950 to date, sr. res. chem., Rohm & Haas Co. Publ. in rosin & resin acids, natural prods., paper chems. Mem.: A.C.S., T.A.P.P.I., Sigma Xi, Alpha Chi Sigma.

CAMPBELL, Yale Curtis, dir. of prod., Schieffelin & Co., 16-26 Cooper Sq., N.Y. 3, N.Y.; res. 30 Ridgeview Ave., White Plains, N.Y. Phar. chem.; b. Frankton, Ind., Aug. 17, 1907; s. of Lewis Clark and Melda Jane Campbell; ed. Frankton, Ind., grade & high schls. 1926; Purdue U., Ph.C. and B.S. in Ph. 1930; mem.: Sigma Mu Sigma, Kappa Psi; m. Martha Jane Daugherty, July 28, 1931; ch.: Nancy Jane, Yale Curtis Jr. 1930-36, E.R. Squibb & Sons, control & res. chem.; 1936-39, Burroughs Wellcome & Co. (U.S.A.,) control, dev. & plant chem.; 1939-41, Wm. P. Poythress & Co., gen. plant mgr.; 1941 to date, Schieffelin & Co., dir. of prod. Est. of control system for mfg. & lab.; dev. of cyclopropane; purification of anesthetic ether; new assay meth. for theobromine. Mem.: A. Phar. A., A.C.S., Combined Contact Comm. Am. Phar. Mfrs. Assn. V. chmn. of Bd., Ridgeview Congregation Church, White Plains; mem.: Bd. of Governors, Fisher Hill Assn., White Plains. Clubs: Sons of Ind. of N.Y. Inc., University Club of White Plains. Hobbies: tennis, photography.

CANN, Jessie Y(ereance), prof. chem., chmn. dept., Stoddard Hall, Smith Coll., Northampton, Mass.; res. 36 Bedford Ter., Northampton. Prof. chem. (phys.); b. Newark, N.J., May 17, 1883; d. of Frank W. and Frances H. (Yereance) Cann; ed. Newark, N.J. H.S.; Goucher Coll., A.B. 1904; Columbia U., A.M. 1910 and Ph.D. 1911; mem.: Phi Beta Kappa; Sigma Xi. 1904-09 sc. tchr. Belleville, N.J. H.S.; 1909-11 Curtis Schl., Columbia U.; 1911-14, hd. chem. dept. Rockford Coll., Rockford, Ill.; 1914-17 instr. chem., U. of Ill.; 1917-18 asoc. chem. same U.; 1918-19 asst. prof., 1919-29 assoc. prof., 1929 to date prof., 1943 to date chmn. dept., Smith Coll. Res. assoc., U. of Calif. 1927-28; res. in electromotive force measurements in electrochem; boiling point of silicate solutions; surface tension, etc. Contrib. arts. to schl. jls. Mem.: A.C.S.; A. Phys. S.; Fel., A.A.A.S.; N.Y. Acad. Sc.; A.A.U.P.; formery Fel. Ill. Acdy.; Daughters of Amer. Rev. Hobbies: automobile, stamps, sewing, rowing, radio.

CANNON, George Wesley, assoc. prof. chem.; U. of Mass., Amherst, Mass. Teacher; b. Dickey, N. Dak., Jan. 22, 1917; s. of Frank W. and Mabel A. Cannon; ed. B.S. Dak. Wesleyan U. 1939; M.S. U. of Ill. 1941; Ph.D. 1943; mem.: Alpha Chi Sigma; m. Lois K. Hixson, June 12, 1944; ch.: James Wesley. Res. chem. Rohm & Haas Co., Phila., 1943-47; tchr., U. of Mass. 1948 to date. Res. in synthesis of amino acids, acrylie monomers; studies of actones; studies of subs. cyclopropane compds.; mem.: A.C.S.; Sigma Xi, Phi Beta Kappa, Phi Kappa Phi. Hobbies: woodworking, music.

CANNON, Michael Robert, prof. of chem. engr.; consltg. prof. engr., Box 795 State College, Pa.; res. Boalsburg, Pa. Tchr., conslt.; b. Locust Gap, Pa., Sept. 16, 1907; s. of Bernard and Mary Ellen (Fitzpatrick) Cannon; ed. Penn. State Coll., B.S. 1931; M.S. 1932; Ph.D. 1935; mem: Alpha Chi Sigma; m. Betty L. Leed, Sept., 1937; ch.: Thomas, Michael II, Anne. Tchr. and conslt. since 1935; notable wk.: viscosity measurement; distillation equipment; viscometer design. Pres. Cannon Instrument Co.; dir. of res. and president Scientific Dev. Co. Mem.: A..Ch.E., A.C.S., Sigma Xi.

CANTWELL, Garrett Reid, plant mgr., E. I. du Pont, 256 Vanderpool St., Newark, N.J.; res. 330 S. Chestnut St., Westfield, N.J. Chem. engr.; b. Wilmington, Del., June 17, 1895; s. of Harry E. and Ella (Garrett) Cantwell; ed. U. of Delaware, B.S. 1919; B.S. and Ch.E. 1923; mem.: Sigma Nu; m. Reita E. Wright, Nov. 21, 1919; ch.: Garrett Wright. 1919-35 plant mgr. and supvr. E. I. du Pont, Newport Pigments; 1935-37 plant mgr. same co., Edge Moor Pigments; 1937-40 plant mgr. same co. Baltimore Pigments; 1940-41 plant mgr. same co. Newport Pigments; 1941-42 asst. plant mgr. Indiana Ord.; 1942-46 plant mgr. Okla. Ordn. Wks.; 1946 to date plant mgr., E. I. du Pont de Nemours & Co., Newark, N.J. Mem.: A.I.Ch.E., Tau Beta Pi.

CAPELL, Leonard Thomas, assoc. edit. Chem. Abstracts, Ohio State U., Columbus 10, Ohio; res. 45 Glenmont Ave., Columbus 14. Chem.; b. Columbus, Ohio, Oct. 5, 1894; s. of Thomas O. and Jeannette (Brown) Capell; ed. Ohio State U., B. chem. engr. 1918, M.S. 1922, Ph.D. 1925; m. Phileta A. Hamilton, Dec. 11, 1926; ch.: Janet Elizabeth. C.W.S., U.S.A., 1918; chem., Ill. Steel Co. 1919; grad. asst., Ohio State U., 1919-21, asst. 1921-22; Wheaton Coll., prof. chem., 1923-24; org. indexer, Chem. Abstracts 1925-28, assoc. edit. 1928 to date. Orthoquinones (res.); nomenclature. Co-author; "The Ring Index" with Dr. A. M. Patterson, 1941. Mem.: A.C.S., A.A.A.S., Sigma Xi, Phi Lambda Upsilon. Hobbies: photography, gardening.

CAPRIO, Amerigo F., hd. of tech. data, res. library & pat. liaison dept., Celanese Corp. of Am., Central Res. Labs., Summit, N.J.; res. Park Lane, Madison, N.J. Chem. with training in pat. law; b. Newark, N.J., May 14, 1895; s. of Raffaele and Filomena Caprio; ed. Cornell U., B.Chem. 1917; m. Josephine E. Matalene, June 21, 1924; ch.: Eugene, Francis, Gioia. Anal., res. & chf. plant chem., Celluloid Corp. (now plastics div. of Celanese Corp.) 1917-30; hd. of tech. data, res. library & pat. liaison dept., Celanese Corp. of Am., 1930 to date. Patentee of num. pats. in fld. of cellulosic plastics, plasticizers, solvents, cements, syn. pearl, safety glass; lecturer on plastics. Collab. in prep. of first "'Handbook of Plastics" by Simonds & Ellis. Mem.: A.C.S. Club: Masonic Order (past master). Hobbies: gardening, Boy Scout advancement, photography.

CARDINAL, Paul Joseph, v.p. in chg. of vitamin div., Hoffmann-La Roche Inc., Nutley, N.J.; res. 195 Midland Ave., Montclair, N.J. Pharmaceuts. and pharm. chems.; b. Paterson, N.J., Mar. 2, 1904; s. of Alphonse A. and Mary M. (Froehlich) Cardinal; ed. M.I.T., 1924, B.S. in business and engr. admin.; mem.: Phi Kappa; m. Lorene Frances Lapham, June 26, 1929; ch.: Lorene Mary, Joan Ruth, Paul Joseph, Jr., John Charles, Richard Albert, Anne Margaret, Carolyn Marie, Alan David. Has held var. successive positions in advertising and sales. Contrib. arts. to var. sc. and trade jls. Mem.: RESA, Pi Delta Epsilon, Scabbard & Blade. Clubs: Mercier; M.I.T. (Northern N.J.); Pharmaceutical Advertising. Hobbies: swimming, tennis, children, home movies.

CAREY, James Stark, mgr. N.Y. off., E.B. Badger & Sons Co., 500 Fifth Ave., N.Y. 18, N.Y.; res. 328 Sound View Ave., Stamford, Conn. Chem. engr.; b. West Chester, Pa., May 5, 1899; s. of James Stark and Lizette (Fitzimons) Carey;

ed. Lehigh U., Ch.E. 1922; Penn. State Coll., M.S. 1927; M.I.T., Sc.D., 1930; mem.: Delta Tau Delta; M. Sara M. Bacon, Aug. 25, 1924; ch.: Virginia. 1929-31 res. engr. M.W. Kellogg Co.; 1931-35 design and proc. engr., Alco Prods. Inc.; 1935-38 design and proc. engr., M.W. Kellogg Co.; 1938 to date chem. and sales engr., E.B. Badger & Sons Co.; res. and pubs. on distillation, petroleum processing. Author of Section on Distillation, Chem. Engineer's Handbook, 1st, 2nd and 3rd edits. Mem.: A.I.Ch.E.; licensed prof. engr., N.Y., Penn. Club: Chemists' (N.Y.). Hobbies: boating, gardening.

CARHART, Homer Walter, hd. org. chem. sect., Naval Res. Lab., Washington 25, D.C.; res. 852 Lee Pl., Falls Church, Va.
Res. chem.; b. Orange, Calif., May 21, 1914; s. of Walter D. and Ethel (Shepherd) Carhart; ed. Dakota Wesleyan U., B.S. (chem., math., music), cum laude, 1934; U. of S. Dakota, M.A. (chem.) 1935; U. of Maryland, Ph.D. (org. chem.) 1939; m. Julia Holzapfel, June 15, 1940; ch.: Martha Jean, David Henry. 1939-42 prof. chem. Gallaudet Coll. (for the deaf), Washington, D.C.; 1942-46 unit hd., org. and phys. grp. in chem. warfare; 1946 to date hd. org. chem. sect, Naval Res. Lab., Washington, D.C. Notable wk., chem. warfare protec; hydrides of lighter elements; chlorocarbons; mass spectrometry; fuels. Mem.: A.C.S., A.S.T.M., Alpha Chi Sigma, Sigma Xi, Phi Kappa Phi; Meritorious Civ. Serv. Award (Navy). Hobbies: music, gardening, photography.

CARLETON, Paul W., retired chem., res. 315 Riverside Walk, Penns Grove, N.J.
Retired chem.; b. Haverhill, Mass., Apr. 10, 1883; s. of Francis F.B. and Lucy Caleph (James) Carleton; ed. A.B., Harvard, 1906; A.M., 1907; Ph.D., 1911; m. Mary Helen Morse, Sept. 1, 1908; ch.: Paul W. Jr., Margaret (Carleton) Fleming, Edward M. Instr. in chem., Case Inst. 1907-09; U. of Wis., Instr. and asst. prof., 1911-19; C.W.S., 1917-19 (on leave of absence from U. of Wis.); res. chem., div. hd. and hd. of pat. div., Jackson Lab., du Pont Co., 1919-48; retired April 30, 1948. Mem.: A.C.S., Alpha Chi Sigma, A.A.A.S. (fellow). Mem. of local bds. of educ. for 25 yrs.

CARLETON, Ralph Kimball, assoc. prof. of chem., Boston College, Chestnut Hill, Mass.; res. 213 Plymouth St., Whitman, Mass.
Prof. of chem.; b. W. Somerville, Mass., Feb. 24, 1896; s. of Eddy Kimball and Alice (Ralston) Carleton; ed. B.S., Boston U., 1919; M.A., Harvard U., 1922; Ph.D., George Peabody Coll., Nashville, Tenn.; mem.: Kappa Phi Alpha; m. Lulu Mary Coyle, Nov. 26, 1924. Chmn. chem. dept., Shurtleff Coll., Alton, Ill., 1923-31; hd. div. inorg. chem., R.I. State Coll., 1931-48; assoc. prof. chem., Boston Coll., Chestnut Hill, Mass., 1948 to date. Author: "The Personal Equation in Chem. Anal." 1933; "A Lab. Manual of Inorg. Chem." 1934. Mem.: Sigma Zeta, Sigma Xi, Phi Delta Kappa, A.C.S., A.I.C. Clubs: Kiwanis, Harvard. Hobby: travel.

CARLIN, Robert Burnell, assoc. prof. of chem., Carnegie Inst. of Tech., Pittsburgh 13, Pa.; res. 5715 Ellsworth Ave., Pittsburgh 32.
Org. chem.; b. St. Paul. Minn., Nov. 13, 1916; s. of Robert J. and Madeline E. Carlin; ed. B. Chem. (with high distinc.), U. of Minn., 1937; Ph.D. 1941; mem.: Alpha Chi Sigma, Gamma Alpha; m. Catherine P., May 28, 1941. Lalor Found. Post-doctoral Fellow, U. of Ill., 1941-42; res. chem. du Pont Expers. Sta., summer, 1941; instr. in chem., U. of Ill., 1942-43; instr. in chem., U. of Rochester, 1943-46; assoc. prof. of chem., Carnegie Inst. of Tech., 1946 to date; res. chem., N.D.R.C., C.M.R., 1943-45; res. in chem. of the benzidine rearrangement, the Fischer indole synth., cyclic acetals as solvents for Grinard reagents; org. reaction mechanisms. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S., A.A.A.S. Hobbies: music, sports.

CARLISLE, James Mallory, M.D., med. dir., Merck & Co., Inc., Rahway, N.J.; res. 550 Hillcrest Ave., Westfield, N.J.
Physician; b. Thomasville, Ga., Jan. 20, 1904; s. of James Mallory and Annie Belle (Carroll) Carlisle; ed. U. of Ala., A.B., 1927; Temple U. Med. Schl., 1932, M.D.; m. Lillian Burt, Aug. 16, 1934; ch.: James Mallory, III, Lillian D., Margaret A., Janet R. Plant physician, Merck & Co. Inc., Rahway, N.J., 1934-36; med. dir., Merck & Co. Inc., Rahway, N.J., 1936 to date. Contrib. numerous tech. arts. to sc. jls. incl. "Need for Sc. Res. in Industrial Med.," pub. in "Occupational Medicine," Vol. 4, 1947, for which he rec. "Citation for Excellence in Med. Authorship in the Fld. of Indust. Med. and Occupational Health and Hygiene during the year 1947," presented at the 33rd Annual Mtg. of the Am. Assoc. of Indust. Physicians and Surgeons, Boston, Mass., March-April, 1948. Presented sc. exhibits before many med. societies and associations chfly. in relation to industrial medicine. Rec. "Certificate of Merit" for sc. exhibit on "Cortisone (Cmpd. E) Pharmacology and Clinical Use" at June, 1950, A.M.A. meeting, Atlantic City, N.J. Apptd. to: Temple Univ. Staff of Anes., 1933-34; Temple University Staff of Medicine, Lecturer on Ind. Medicine, 1942 to date; head, Department of Clinical Res., Rahway Memorial Hosp., Rahway, N.J. U.S.A. Med. Res. Pres., N.J. State Bd. of Health, 1934-44; Commis., Interstate Sanitation Commis., 1942-44; pres., N.J. Assoc. of Indust. Physicians and Surgeons, 1944-47; dir., Amer. Assoc. of Indust. Physicians & Surgeons, 1945-47, 1948-50; secy. 1946-49, dir., 1949-52, Am. Acdy. of Occupational Medicine; dir., Am. Bd. of Occupational Medicine; Medical Bd., Stony Wold Sanatorium. Fellow, A.M.A.; Am. Assoc. of Indust. Physicians & Surgeons; N.Y. Acdy. of Med.; N.Y. Acdy. of Scs.; Am. Pub. Health Assoc.; Am. Acdy. of Occupational Med.; Am. Coll. of Chest Physicians. Mem.: Union Co. Med. Soc.; subcomm. on Med. Practice, Advisory Comm. on Workmen's Compensation and Industrial Health, and chmn. of Advisory Comm. on Industrial Health & Hygiene of the Med. Soc. of N.J. (also chmn., Comm. on War Participation 1941-45); War Manpower Commis.—Procurement & Assignment Service 1941-45; N.J. Assoc. of Indust. Physicians & Surgeons; Assoc. of Military Surg. of the U.S.; Am. Soc. of Anesthetists; Amer. Soc. of Tropical Med.; Comm. on Tuberculosis in Industry, Natl. Tuberculosis Assoc.; Contact Comm., Bur. of Med. & Surg., Navy Industrial Assoc.; Subcomm. on Nutrition & Toxic Reactions in Industry, Natl. Res. Council; Medical Advis. Comm., Mfg. Chemists' Assoc.; Med. Advis. Sect., Am. Drug Mfrs. Assoc.; Med. Advis. Comm., Inst of Industrial Medicine, N.Y. U.-Bellevue Med. Center; Med. Advis. Comm., Amer. Trudeau Soc.; Am. Acdy. of Gen. Practice; Amer. Industrial Hygiene Assoc.; Babcock Surgical Soc; Gorgas Med. Soc.; Alpha Kappa Kappa; Alpha Tau Omega; Mason. Club: Rotary Internatl. Hobbies: hunting, fishing.

CARLISLE, Robert L., pres., R.L. Carlisle Chem. & Mfg. Co., 207 Norman Ave., Bklyn., N.Y.; res. 29-73 214 St., Bayside, L.I.
Owner, mgr.; b. Mont., 1910; s. of James Albert and Georgia Carlisle; ed. Coll. of Puget Sound, 1935, B.S. cum laude; mem.: Alpha Chi Nu, Mu Sigma Delta; m. Carol Penney, 1938; ch.: Robert L. Jr., Penney. Bendix Corp., 1937-38; Natl. Chem. & Mfg. Co., 1938-40; R.L. Carlisle Chem. & Mfg. Co., 1940 to date. Paint technologist,

M.I.T. res. student, 1935-37. Mem.: Soc. Gallaun Birds, N.Y. Paint Prod. Club, Paint & Varn. Assn., A.I.C. (fellow). Clubs: Alumni Assn. M. I.T., Bklyn. Polytech., Coll., of Puget Sound. Hobbies: golf, sports, photography.

CARLSON, G(ustaf) H(arry), res. chem., R.P. Scherer Corp., 9425 Grinnell Ave., Detroit 13, Mich.; res. 1781 Helen St., Detroit 7.

Res. chem.; b. Sweden, Dec. 18, 1904; s. of Carl J. and Anna C. Carlson; ed. A.B. Clark, 1926, M.A. 1927; M.A. Harvard 1930, Ph.D. 1932. Asst. to Prof. A. Michael, Harvard, 1932-39; res. chem., Merck & Co., N.J., 1939-40; res. chem., Lederle Labs., N.Y., 1940-43; res. chem., Wyeth Inst., Pa., 1943-46; res. chem., R.P. Scherer Corp., Mich., 1946 to date. Mechanism of org. reaction; prod. of riboflavin; intermediates; vitamins, penicillin, pharmaceuticals. Mem.: A.C. S., N.Y. Acad. Sc.

CARLYLE, Ralph Elmer, agronomist, Monsanto Chem. Co., 1700 South 2nd St., St. Louis, Mo.; res. 1528 Locust, St. Louis.

Agronomist; b. Calgary, Alberta, Canada, Mar. 18, 1910; s. of M.D. and Ethel M. Carlyle; ed. U. of Alberta, B.Sc.A. 1935; same U., M.Sc. 1937; Iowa State Coll., Ph.D. 1940; mem.: Delta Upsilon, Sigma Xi, Phi Kappa Phi, Delta Sigma Gamma. 1940, lecturer in soils, U. of Alberta; 1941-42 Canadian Army; 1942-43 sanit. engr., Canol Proj., N.W. Territories; 1944-46 res. asst. Connaught Med. Res. Labs., U. of Toronto; 1946-47 assoc. prof. bacteriol., U. of Idaho; 1947-49 assoc. prof. agronomy, soil microbiol., Colorado A. & M. Coll.; 1949 to date agronomist, Monsanto Chem. Co.

CARMARK, James C., overseer of dyeing, Bonnie Prods. Corp., Fall River, Mass.; res. 21 Irving Ave., Providence 6, R.I.

Overseer of dyeing; b. Denmark, Dec. 17, 1881; s. of Louis S. and Julia Carmark; ed. Cooper Union, N.Y., and Brown U.; m. Helen Cora Barbour, Sept. 25, 1908; ch.: James M. With Dunn Worsted Mills, Woonsocket, R.I., overseer of dyeing, 1910-15; pres. and treas., Regal Color & Chem. Co. Inc., 1915-41; supt. of dyeing at Dorlexa Dyeing & Finishing Co., Woonsocket, R.I., 1941-47; with Bonnie Prods. Corp. to date. Clubs: Shrine, Brown. Hobbies: golf, fishing, hunting, swimming.

CARMICHAEL, Emmett Bryan, prof. of biochem. and hd. of dept., Med. Coll. and Schl. of Dentistry, U. of Ala., Birmingham 5, Ala.; res. 3028 13th Ave. South, Birmingham.

Tchr.; b. Shelbyville, Mo., Sept. 4, 1895; s. of George Franklin and Amelia Grant (Tingle) Carmichael; ed. Central Coll., Mo., 1914-16; U. of Colo., 1916-18, B.A.; M.S., 1922; Ph.D. U. of Cincinnati, 1927; mem.: Sigma Phi Epsilon; Acadia; Alpha Chi Sigma; Gamma Sigma Epsilon; Phi Beta Pi; Supreme Archon Elect. 1948-50; Alpha Epsilon Delta (Natl. pres. 1932-38); Sigma Xi (1st President Ala. Chapter, 1939-40); m. Lelah Marie Van Hook, Nov. 23, 1921. Grad. from U.S. Tech. Schl for Inspectors, chems. and linemen, Carney's Pt., N.J., 1918; chem., Gates Rubber Co., Denver, Colo., 1919; instr. org. chem., U. of Colo., 1919-24; 1924-26 instr. biochem., U. of Cincinnati; 1926-27 bacteriologist, Wm. S. Merrill Co., Cincinnati, O.; 1927 asst. prof. and hd. Dept. Physiolog. Chem., Schl. of Med., U. of Ala.; 1928 assoc. prof.; 1932 prof., same schl.; 1945 to date prof. of biochem. and hd. of dept., Med. Coll., and Schl. of Dentistry, U. of Ala., Birmingham; res. in toxic proteins (rattlesnake venom, tetanus toxin, and ricin); anesthetics (barbiturates and parpaldehyde); enzymes; Demerol; etc.; has written many arts. on above subjs. Author: "Lab. Manual of Biochem.," (mimeographed) 1932; 2nd ed. 1933; 3rd ed. 1934; 4th ed. 1936; 5th ed. (planographed) 1938; 6th ed. (mimeographed) 1947; 7th ed. with Warner W. Carlson, 1949; 8th ed. with Warner W. Carlson, 1950. Mem.: A.A.A.S. (fellow); A.I.C. (fellow); Internat. Coll. of Anesthetists (fellow); A.M.A. (assoc. fellow); mem.: A.C.S. (chmn. Ala. Sect. 1934-35); S.Bio.C.; A.Phys.S.; Soc. Exp. Biol. & Med. Assoc. Study Int. Secretions; Assoc. Hist. Med.; A.A.U.P.; Ala. Acad. Sc. (pres. 1930-31, Edit. Jl. 1942-48); Editor Quarterly of Phi Beta Pi, 1945-49. Clubs: Kiwanis, Acadia, Mason. Hobbies: writing biogs. of med. men; observing sports; growing flowers.

CARMICHAEL, Emmett Scott, supvr., lubric. div., tech. serv. dept., Socony-Vacuum Oil Co., Inc., 412 Greenpoint Ave., Bklyn. 22, N.Y.; res. 3519-76 St., Jackson Hts., N.Y.

Chem.; b. Wellsburg, W.Va.; s. of Joseph Emmett and Elizabeth Pearl McCreary Carmichael; ed. B.S. Oberlin Coll. 1930; M.S. U. Mich. 1932; mem.: Phi Beta Kappa, Phi Lambda Upsilon; m. Flora Furen, 1936; ch.: Margaret Sandra; Socony-Vacuum Oil Co., Inc., N.Y.C., 1934 to date. Contrib. to tech. jls., patents. Dir. N.Y. sect. A.C.S.

CARMODY, Donald Richard, sr. proj. ldr., res. dept., Std. Oil Co. (Ind.), Whiting, Ind.; res. Dunbar Terrace, Lincolnshire Estates, Crete, Ill.

Res. chem.; b. Davenport, Iowa, Sept. 20, 1912; s. of Edward and Lorette (Rochelle) Carmody; ed. St. Ambrose Coll., B.S. 1934; State U. of Iowa, M.S. 1936; Ph.D. 1937; mem.: Alpha Chi Sigma; m. Violette Nyland, Jan. 6, 1940; ch.: Don Nyland. Std. Oil Co. (Ind.) res. chem., 1937-43; Maytag Co., chf. res. chem., 1943-45; Magnolia Petroleum Co., proc. res. supvr., 1945-46; Tex. Res. Found. hd., Chem. Res. Div., 1946-50; Std. Oil Co. (Ind.), sr. proj. ldr., 1950 to date; res. in synth. aviation gasoline, hydrocarbon chem., fatty acids. Mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi, A.C.S., A.O.C.S. In Amer. Men of Sci., Who's Who in Southwest. Clubs: Dallas Athletic. Hobbies: golf, fishing, gardening.

CARMODY, Walter Robert, prof. of chem., Seattle U., Seattle, Wash.; res. 317 18th Ave. N., Seattle 2, Wash.

Tchr.; b. South Bend, Wash., July 15, 1901; s. of John and Mary (Troyanek) Carmody; ed. B.S. in Chem. Engr., U. of Wash.; Ph.D., Catholic U. of Amer., Wash., D.C. 1926; mem.: Phi Lambda Upsilon, Tau Beta Pi, Sigma Xi; m. Frances Freund, 1931; ch.: James F., Susanne R. Reed Coll., Portland, Ore., asst. prof., 1926-40; Boston Coll., Chestnut Hill, Mass., assoc. prof., 1941-43; Radiation Lab., M.I.T. Staff Member, 1943-45; U. S. Bur. of Mines, Albany, Ore., electrochem., 1945-47; Seattle U., Seattle, Wash., prof. of chem., 1947 to date; res. in electrode potentials, overvoltage, indicators, metallurgy of zirconium. Mem.: A.C.S., E.S. Club: K. of C.

CARNAHAN, F(loyd) L(eroy), assoc. prof. of chem. engrg., Pa. State Coll., Walker Lab., State Coll., Pa.; res. Centre Furnace, State Coll.

Chem. engrg.; b. Utica, Pa., Feb. 1, 1906; s. of Chas. W. and Eva (Campbell) Carnahan; ed. B.S., Pa. State Coll., 1926; M.S., Northwestern U. 1927, Ph.D. 1930; mem.: Alpha Chi Sigma, Phi Kappa Phi, Phi Lambda Upsilon, Sigma Tau, Sigma Xi, Tau Beta Pi. Instr., asst. prof., assoc. prof., Pa. State Coll., 1930 to date. Org. mercury cmpds.; pyrolysis; identif. of lubricat. oils. Mem.: A.C.S., A.I.Ch.E. (active mem.).

CARNEY, Desmond M(aurice), assoc. prof. of chem., U. of Detroit, Detroit 21, Mich.; res. 16655 Turner, Detroit 21, Mich.

Coll. prof.; b. Ireland, Apr. 1, 1901; s. of Henry S. and Margaret A. Carney; ed. B.Sc. (hon.) Natl. U. of Ireland, 1921; M.S., U. of Detroit, 1930; m. (Mary) Mildred Harmer, May 7, 1927; ch.: Maureen, Margaret, Michael. Revenue chem., Irish Free State, 1922-23; asst. prof. math., Marquette U., 1923-27; prof. chem. & phys., Marygrove Coll., 1927-31; assoc. prof. chem., U. of Detroit, 1931 to date. Dir. of org. res. of staff of grad. assts. at U. of Detroit past 15 yrs. with pubs. in the Jl. of A.C.S. and other jls. Mem.: A.C.S. Hobby: electronics.

CARNEY, James Joseph, asst. dir. com. dev. div., Merck & Co., Inc., Rahway, N.J.; res. 1293 Maple Terrace, Rahway.
Chem. exec.; b. Duluth, Minn., Feb. 23, 1912; s. of Peter Thomas and Marie (Carmody) Carney; ed. B.Sc., Coll. of St. Thomas, St. Paul, summa cum laude, 1933; M.Sc., Cath. U. of Am., Wash., D.C., 1934; Ph.D., U. of Minn., Minneapolis, Minn., 1942; m. Lucille M. Belisle, Aug. 13, 1938; ch.: William Peter. 1934-42, instr., asst. prof. org. chem., Coll. of St. Thomas, St. Paul; 1942-43, res. chem., Merck & Co. Inc., Elkton, Va., 1943-44 asst. dept. hd. riboflavin mfg., 1945-48 dept. hd. riboflavin mfg.; 1948-49, dept. hd., sterile techniques dept., Merck & Co. Inc., Rahway, N.J., 1949-50 antibiotic prods. mgr. 1950 asst. dir. com. dev. div. Co-author: "Qualitative Inorg. Anal." 1935, with Wm. J. Tomsicek. Mem.: A.C.S. (1936 to date), A.A.A.S., Sigma Xi (1942), Phi Lambda Upsilon (Zeta) (1936). Hobbies: music, choral & instrumental.

CARNEY, Richard I., chf. chem., W.F. Schrafft & Sons Corp., 529 Main St., Charlestown Distr., Boston 29, Mass.; res. 69 Norman Rd., Melrose 76, Mass.
Chem.; b. Newcastle, Me., Nov. 21, 1884; s. of F. Irving and Jennie (Mosher) Carney; ed. Bowdoin Coll., A.B. 1907; mem. Kappa Sigma; m. Gretchen Horstmeyer, Sept. 4, 1918; ch.: Franklin W., Richard I. Jr., Otis W. 1907-10 sci. tchr., priv. schls.; 1910-11 chem., Nutrition Lab., Carnegie Inst. of Wash.; 1911 to date chf. chem., W.F. Schrafft & Sons Corp., Boston, Mass. Dir. and v.p., Boston Fed. Savings & Loan Assoc. Mem.: A.C.S., I.F.T. Clubs: var. Masonic bodies.

CARNEY, Thomas P., hd., org. chem. res. dept., Eli Lilly & Co., Indianapolis, Ind.; res. 3747 N. Oxford St., Indianapolis, Ind.
Res. chem.; b. DuBois, Penn., May 27, 1915; s. of James P. and Margaret E. Carney; ed. U. of Notre Dame, B.S. in Ch.Eng.; Penn. State, M.S. and Ph.D., Org. Chem.; U. of Wis., postdoctorate; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi; m. Mary E. McGuire, Oct. 3, 1942; ch.: Thomas P. Jr. With Reilly Tar & Chem. Co., 1937-38 and 1941-43; with Eli Lilly & Co., 1944 to date. Author: "Lab. Fractional Distillation," 1949. Mem.: A.C.S., N.Y. Acad. of Scs.

CARODEMOS, Peter Panagiotes, prof. of chem., Clemson Coll., Clemson, So. Carolina; res. Clemson, S.C.
Chem. prof.; b. Aghios Petros, Cynouria, Greece, Feb., 1898; s. of Panagiotes and Elene Carodemos; ed. Boston Latin Schl., Boston, Mass.; Tufts Coll. B.S. 1922; Cornell U., Ph.D. 1927; m. Martha Stribling, June 4, 1931. Instr. in chem., Cornell U., 1923-26; asst. chem., N.Y. Agric. Expt. Sta., Geneva, N.Y., 1927-28; asst. prof. in chem., Clemson Coll., 1928-32; assoc. prof. in chem., 1932-40; prof. of chem., 1940 to date, and hd. of Dept. of Org. Chem.; res. in dairy chem.-metals in milk and dairy prods.; food chem.-meat proteins; org. chem.-phenothiazine derivatives. Mem.: A.I.C. (fellow); I.F.T. (charter mem.); A.C.S., (chmn. S.C. Sect. 1945); Alpha Chi Sigma, Free and Accepted Masons. Hobbies: Internatl. relat., hiking, fishing.

CARPENTER, Dwight Clark, prof. chem. and res. chf., N.Y.S. Exper. Sta., Geneva, N.Y.; res. 78 Maple St., Geneva, N.Y.
Res. chem.; b. Lansing, Mich., June 6, 1890; s. of John I. and Cora M. Carpenter; ed. Mich. State Coll., B.S. 1911; U. of Mich., M.S. 1920; Ph.D. 1921; fellow, Internatl. Educ. Bd., Upsala, 1927, Vienna, 1928; mem.: Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma, Gamma Alpha; m. Lella Mae Jenkins, Mar. 26, 1916. Instr. chem., Mich. State Coll., 1914-18; instr. chem. U. of Mich., 1918-21; assoc. prof. chem., U. of Iowa, 1921-22; assoc. in res., N.Y.S. Expt. Sta., 1922-29; res. chf. 1929 to date; prof. chem., Cornell U., 1929 to date; res. on proteins, amino acids, etc.; monolayers; effects of ultraviolet light; fruit and vegetable prods.; vitamins and nutrition. Mem.: A.C.S. Clubs: Athaeneum, Chemists' (N.Y.C.), Rotary, University. Hobbies: fishing, gardening.

CARPENTER, Gilbert Brown, mgr., res. div., Air Reduction Co., Inc., Murray Hill, N.J.; res. 3 Crescent Dr., Mountain Lakes, N.J.
Chem.; b. Lachute, Quebec, Canada., June 5, 1905; s. of Robert J. and Maude B. Carpenter; ed. B.A., 1st cl. honors in chem., British Columbia, 1925; M.A. chem. 1926; Ph.D. McGill, 1948 (major-phys. chem., minor-org. chem. and phys.); Natl. Res. Council Scholarship, 1926-27-28; m. Hazel Stearns, June 12, 1929; ch.: Joan, Robert S., J. Donald. 1930-31 E.I. du Pont de Nemours & Co., res. chem.; 1932 to date with Air Reduction Co. in following positions: 1941-47 asst. dir. res., Petroleum Chem., Inc.; 1947-48 assoc. dir. res., Air Reduction Co., Inc.; 1948 to date mgr., Res. Div.; 1944-45 Tech. Deferment Comm., W.P.B.; June, 1946 to Nov., 1946, Sc. Conslt., U.S. Dept. of Commerce; Jan., 1947 to July, 1947, chf., Chem. Branch, U.S. Field Information Agency Technical, Karlsruhe, Germany; res. in utilization petroleum hydrocarbs.; high pressure synth.; indust. compressed gases. Mem.: Sigma Xi, A.C.S., Commercial Chem. Dev. Assoc., Chem. Market Res. Assoc. Hobbies: badminton; other sports.

CARPENTER, James Henry, mgr., coal tar chem. sales, Koppers Co., Koppers Bldg., Pitts., Pa.; res. 83 Gibb St., Emsworth, Pitts.
Chem. engr.; b. Concord, Ky., May 4, 1891; s. of Ezra James and Kathryne M. (Henry) Carpenter; ed. Centre Coll., Danville, Ky., 1908-10; Cornell U., Ithaca, N.Y. 1910-12; 1913-14, A.B. 1912, B.Chem. 1914; mem.: Kappa Alpha; m. Ruth Evelyn Nelson, Feb. 9, 1936; ch.: Charlton Henry, Lucy Jeannette. E.I. du Pont de Nemours & Co., Carney's Point, N.J., 1914-16; Barrett Co., N.Y.C. 1916-22 (excepting yrs. in Army); 1917-19, A.E.F. France, 2nd Lt., Asst. Div. Gas Officer, 91st Div., 90th Div.; mgr., Tar Acid Refining Corp., N.Y., 1925-29; 1929 to date, Koppers Co., Pitts. in chg. sales tar acids entire time & all chem. part of time. Clubs: University (Pitts.), Cornell (N.Y.), Southern Society (N.Y.).

CARPENTER, Paul G(ershom), chf., prod. res. sect. res. dept., Phillips Pet. Co., Bartlesville, Okla.; res. 1648 Hickory Ave.
Res. supvr., chem.; b. Salem, Ore., Jan. 16, 1914; s. of Harry Bertram and Elsie (Dennis) Carpenter; ed. Willamette U., 1935; Ore. St. Coll., M.S. (physical chem.) 1937; U. Wisc., Ph.D. (org. chem.) 1941; m. Janice Anne Higgins, Aug. 14, 1937; ch.: Patricia Anne, Charles Bertram. Teach. asst., Ore. St. Coll., 1935-37; teach. asst., U. Wisc., 1937-38; asst. prof. chem., Willamette U. 1938-39; Wisc. Alumni Res. Found., res. asst., U. Wisc., 1939-41; Hercules Powder Co., Wilming-

ton, Del., res. chem., 1941-42; supvr. 1942-45; sales res. dept. 1945-47; Phillips Pet. Co., chf., prod. res. sect. 1947 to date; mem.: A.C.S., A. I.M.M.E., Sigma Xi, Phi Lambda Upsilon. Hobbies: golf, fishing.

CARR, Donald Eaton, asst. dir. of res., Phillips Pet. Co., Bartlesville, Okla.; res. 1433 Shawnee, Bartlesville.

Chem.; b. Los Angeles, Calif., Oct. 17, 1903; s. of Henry Clay and Alice (Eaton) Carr; ed. U. of Calif., 1930, summa cum laude, B.S. (Coll. of Chem.); mem.: Sigma Xi, Phi Beta Kappa; m. Mildred Clarke, Feb. 10, 1934; ch.: Michael Eaton. Res. chem., 1930-38, res. supvr. 1938-40, res. mgr. 1940-47, Union Oil of Calif.; assoc. dir. of res. 1947-50, asst. dir. of res. 1950 to date, Phillips Pet. Co.

CARR, Francis J., controller, Mallinckrodt Chem. Wks., 3600 N. Second St., St. Louis 7, Mo.; res. 4635 Maryland Ave., St. Louis 8.

Controller; b. Batavia, Ill., Apr. 26, 1892; s. of Francis J. and Kate (Doty) Carr; ed. U. of Chicago; U. of Penn., B.S., in Econ., 1915; M. A. 1916; m. Francia I. Baird, Aug. 31, 1937; ch.: Rachel Carr White, Janet Carr Bayley, Francis J. Jr. 1915-30 instr., U. of Penn.; indust. engr.; 1st. Lt. Ordn., U.S.A.; treas., James McDuffee & Stratton Corp. (Boston); dir. of Expense Control, Hahn Dept. Stores (N.Y.); 1930-Aviation Corp., Amer. Airlines (N.Y.) Controller; 1933-Tenn. Valley Authority (Knoxville), Controller; 1937-Amer. Steel & Wire Co. (Cleveland), Controller, v.p., Finance; 1944-Sanderson & Porter (N.Y.), indust. engr.; 1946-Mallinckrodt Chem. Wks. (St. Louis), Controller. Mem.: Controllers Inst. of Amer., 1st Natl. Pres. Clubs: Missouri Athletic (St. Louis), Cosmos (Wash.), University (Boston), life mem. Hobbies: shop, bridge, photography, collecting pub. plays.

CARR, George Russell, chmn. of bd., Dearborn Chem. Co., 310 South Michigan Ave., Chicago 4, Ill.; res. 209 Lake Shore Dr., Chicago 11.

Exec.; b. Argenta, Ill., Jan. 23, 1877; s. of Dr. Robert Ferrier and Emily (Smick) Carr; ed. Argenta, Ill., grammar schl.; Austin H.S., Chicago; U. of Ill., 1901, B.S.; mem.: Kappa Sigma; m. Katherine Mortenson (dec.) July 15, 1913; ch.: Katherine (Carr) Henze, Martha (Carr) Fareed. Began in 1901 as salesman with Dearborn Chem. Co., serv. successively until 1922 as asst. gen. mgr. and gen. mgr.; 1922-44, v.p. and gen. mgr.; 1944-45, chmn. Exec. Comm.; 1945 to date, chmn. of bd. Chmn. of bd., Locomotive Firebox Co.; dir., Apex Ry. Prods. Co. Chevalier of the French Legion of Honor; mem.: A.C.S., Western Ry. Club, Railway Business Assoc., Amer. Railway Engrg. Assoc., Natl. Assoc. of Power Engrs. Mem. of Bd. of Govs., Transportation Assoc. of Amer. Dir. of Chicago Nursery and Half Orphan Asylum; mem. of bd. of mgrs., Chicago Home for Friendless; dir. of Citizens' Assoc. of Chicago. Clubs: Chicago Club; Casino; Commercial Club of Chicago; University; Chicago Athletic; South Shore Country; Newcomen Soc. of England; Annandale Golf of Pasedena; Traffic Club; Old Elm Club. Hobbies: fishing, golf.

CARR, Ralph Howard, prof. of agr. chem. (retired), Purdue U., Lafayette, Ind.; res. Orlando, Fla. (2835 Fairbanks Ave.).

Prof. of chem., retired; b. Wooster, Ohio, Aug. 28, 1877; s. of Lucius Cranmore and Sara (Brown) Carr; ed. Wooster, Ohio, Coll., 1900; U of Wis., M.S. 1910; Ph.D., 1913; mem.: Lambda Chi Alpha; m. Frances Louthan, Dec. 26, 1939 (2nd wife); ch.: Bruce B. Chem., Western Electric Co., 1901-02; chem. tchr., Buena Vista Coll., Iowa, 1904-08; chem. tchr., Coll. of Emporia, Kans., 1908-12; grad. U. of Wis., 1912-13; tchr. Agr. Chem., Purdue U, 1913-43. Pub. 41 chem. res. arts. on Soil Acidity Methods, Minerals in Nutrition, Pop in Popcorn, etc. Author also of "Quantitative Agric. Anal." by Mohm & Carr, 1923; in Australia, Carr, 1939; "Foods and Food Products," 2 vol., 30 authors, 1943—Chapt. 8, Carr, "Minerals in Nutrition." Mem.: Sigma Xi, Phi Lambda Upsilon. Church trustee, College trustee. Clubs: Optimist, University, Winter Park (Fla.). Hobbies: farming, orange growing, Irish setter dogs.

CARR, Ralph Leonard, mgr., tech. service dept., Mathieson Chemical Corp., Mathieson Bldg., Baltimore 3, Md.; res. 530 Stevenson Lane, Towson 4, Md.

Chem.; b. Danville, Ill., Jan. 4, 1904; s. of George Matthew and Mary Josephine Smith Carr; ed. Mt. Carmel High School, 1922, (Ill.), Shurtleff College, Ill. B.S., 1930; graduate teaching and study, Cornell U., 1931-35; mem.: Alpha Chi Sigma; m. Ruth MacFarlane, Sept. 10, 1938; ch.: Judith Anne, Andrea Delane. Mathieson Alkali Works, Inc., 1930-31; Cornell U., 1931-35; Mathieson Chemical Corp., 1936 to present. Mem.: Alpha Chi Sigma, A.I.Ch.E., A.A.T.C.C., C.C. D.A. Hobbies: golf, cabinet work, reading.

CARR, Wiley William, mgr. market res. dept., Calco Chem. Div., Amer. Cyanamid Co., Bound Brook, N.J.; res. Washington Valley Rd., Martinsville, N.J.

Chem. engr.; b. Tularosa, N.M., Feb. 11, 1919; s. of Wiley and Minnie (Nelson) Carr; ed. New Mexico A. & M. 1937-41 B.S. chem. engr. (with honors); mem.: Tau Kappa Epsilon, Mu Phi Pi; m. Marjorie Gay Dodds, Oct. 20, 1942; ch.: Robert Lee, Wiley Richard. 1941-45 with U.S.A., 2nd Lt. to Major; 1946 dev. chem. Calco Chem., Div. Am. Cyanamid Co.; 1947 U.S. Navy, chem. engr.; 1947-48 prod. supt. Calco Chem. Div. Am. Cyanamid Co.; 1949 to date mgr. market res., same co. Quot. from citation for Army Commendation Ribbon, ". . . .Major Carr played a vital role and greatly influenced the course of res. and dev. in the fld. of incendiaries and lge. chem. bombs. . . . . ." Holds U.S. pat. on fuses. Mem.: Chem. Market Res. Assoc., Armed Forces Chem. Assoc.; Army Commendation Ribbon. Scoutmaster-Boy Scouts of Amer. Hobbies: golf, woodworking, horticulture.

CARRAD, Anthony Landon, dir., Imperial Chem. Industries (N.Y.) Ltd., 521 Fifth Ave., N.Y.C.; res. 24 Argonne Court, W. Englewood, N.J.

Tech. dir.; b. Birmingham, England, July 3, 1908; s. of Harold Landon and Mildred (Morgan) Carrad; ed. U. of London (Eng.), 1926-31, B.Sc. (hons.); m. Sara Kathryn Harris, July 4, 1942; ch.: David Clayton, Kathryn Ann. 1932-33 Joseph Tomey & Sons, Ltd., Birmingham, Eng., tech. adviser; 1933-37 Imperial Chem. Industries Ltd. (Billingham Div.), res. chem.; 1937 to date Imperial Chem. Industries (N.Y.) Ltd., tech adviser, apptd. dir., 1946. Mem.: A.C.S., A.A.A.S., S.C.I., Chem. Market Res. Assoc. Club: Chemists' (N. Y.). Hobbies: bridge, erratic golf.

CARRICK, Leo Lehr, prof. of chem. engrg., U. of Michigan, Ann Arbor, Mich.; res. 2000 Hill St., Ann Arbor.

Tchr. & conslt.; b. Platteville, Wis., Feb. 5, 1889; s. of A.J. and Stella M. Carrick; ed. Valparaiso U., A.B., 1914; Ind. U., A.M., 1915; Ph.D., 1922; mem.: Phi Kappa Phi, Phi Delta Kappa, Phi Beta Kappa, Alpha Chi Sigma, Sigma Xi; m. Olive Frances Littlejohn, Aug. 14, 1912. Prest-O-Lite Co., electric storage battery engr., 1915-17; Ault-Wiborg Co., res. chem., 1918-19; North Dakota Agr. Coll., prof. of phys. & indus.

chem., dean, Schl. of Chem. Tech., 1920-42; Red Lead tech. dir., Lead Indus. Assoc., N.Y.C., 1942-44; prof. of chem. engrg. in chg. of organic protective coatings, U. of Mich., 1944 to date; supvr. of selected res. projects, Engrg. Res. Inst., U. of Mich., 1944 to date. Collaborator: "Handbook of Chem. & Physics," Chem. Rubber Pub. Co.; coauthor of sev. paint bulletins; author of num. sc. arts. in tech. jls.

CARRICO, James Leon, dir. of chem. dept., North Texas State Coll., Denton, Tex.; res. 1922 W. Chestnut St., Denton.
Prof.; b. Sanger, Texas, Nov. 22, 1906; s. of James E. and Mary (Champion) Carrico; ed. B.A., 1927, North Tex. State; B.S., 1929; M.A., 1931, Tex. U.; Ph.D., 1935, Calif. Inst. of Tech.; m. Mary Lou Jones, July 9, 1933; ch.: Charles James, William Raymond, Mary Elizabeth. Sc. tchr., 1927, Elizabeth (La.) H.S.; 1928, McLean (Tex.) H.S.; 1929-31, tutor, Chem. Dept., Tex. U.; 1932, asst. prof. chem., North Tex. State; 1933-35, Henry Lawes Fellow, Cal. Tech.; 1935, res., The Texas Co.; 1937 to date, Chem. Dept., North Texas State Coll. Res. on mercury, sensitized reactions of hydrocarbons. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S., A.A.A.S., Tex. Acdy. of Sc. (fellow). Club: Kiwanis. Hobbies: photography, hunting.

CARRIER, Courtland F., conslt. chem. engr., prop. Courtland F. Carrier, Chemical Economist and Res. Cousel, Experimental Laboratory, White Plains, N.Y.; res. 233 Davis Ave., White Plains.
Res. chem. engr. and conslt.; b. Elmira, N.Y., Oct. 25, 1882; s. of Courtland Fremont and Mary (Hatch) Carrier; ed. Lehigh U., B.S. in chem. 1903; Zurich Polytechnikum 1903 (grad. wk. in Indust. Chem.); Karlsruhe, Germany, electrchem.; mem.: Psi Upsilon, Tau Beta Pi; m. Ada A. Birge, Jan. 3, 1907; ch.: Mary Jane (Mrs. James Angel MacLachlan), Katherine (Mrs. George R. Merchant), Courtland F. 3rd. Res. chem., Warner Chem. Co., Carteret, N.J.; chem. and res. dir., Vulcan Detinning Co., Sewaren, N.J.; gen. supt. wks. mgr., Warner-Klipstein Chem. Co., Charleston, W.Va.; dir. chlorine div., Rollin Chem. Co., Charleston, W.Va.; tech., American Cyanamid Co., Warners, N.J.; chem., supt., by-prods. div., J.Q. Dickinson & Co., Charleston, W.Va.; chem., plt. supt., Missouri Paint & Varnish Co., St. Louis, Mo.; spec. conslt., E.I. du Pont de Nemours & Co., Wilmington, Del.; chem. engr., Anaconda Wire & Cable Co., Hastings, N.Y.; personal consltg. and res. pract., White Plains, N.Y. Inventor of graphite local-electrolytic amalgam decomposer used in mercury cathode chlorine and alkali cells. Pioneer builder and operator chlorine and alkali plants in Chareston, W.Va.; inventor and operator anhydrous chlorine detinning system used by Vulcan Detinning Co. Pioneer in development of chlorinated rubber base paints; developer of longitudinally water-proof shipboard cable for U.S.N. Mem.: A.C.S., A.C.C.C.E., Lehigh U. Alumni Assoc. Secy., Laymen's Interchurch Council of White Plains, N.Y.; Church in the Highlands Men's Club; White Plains Repub. Club. Hobbies: gardening, mechanical handicrafts, refinishing antique furniture.

CARRIGAN, Richard A(lfred) Sr., biochemist & prof. of soils, Fla. Agric. Expt. Station, Gainsville, Fla.; res. Rt. 2, Box 541/2, Gainsville.
U. prof. & agric. expt. station res. worker; b. Somerville, Mass., May 11, 1906; s. of Vasco Silva and Marion E. Mears; adopted father J.O. Carrigan; ed. U. of Fla. 1924-28, 1931-32, B.S. chem. 1932; U. of Fla., 1938-39; honors: Gamma Sigma Epsilon, U. of Fla., Phi Kappa Phi, Cornell, Sigma Xi, Cornell; M.I.T., 1940, 1 mo. short course, spectrochem. anal.; Cornell U., 1942-45, Ph.D., awarded 1948, soil chem.; m. Lily Foxall, Jan. 28, 1931; ch.: Richard Alfred Jr. Chem. anal., Magnolia Pet. Co., Beaumont, Texas, 1928-29, chem. anal. of oils, greases, & misc. oil refinery matls.; chem. anal., Mine Safety Appliances Co., Pitts., Pa., 1929, chem. anal., of gas mask canister fillings & related mtls.; chem. anal., Carnegie Steel Co., 1930-31, chem. anal. of coke ash & other matls. related to coking of coal; teacher, Chiefland H.S., Chiefland, Fla., 1932-33, taught gen. sc., biol., physics & algebra; lab. supvr., Magnolia Pet. Co., Beaumont, Texas, 1933-38, (supervised lab. 1935-38, chem. anal. 1933-35), supervised gen. anal. lab. dealing with oil refinery matls.; asst. chem., U. of Fla. Agric. Expt. Station, 1938-42, spectrographic anal., soil chem. res., assoc. chem. 1942-45 (mostly on leave during this period), assoc. biochem. 1945-48, specializing in minor elements; biochem. & prof. of soils, U. of Fla. Agric. Expt. Station & Coll. of Agric., 1948 to date, teach course in soil chem. Chem. of minor elements in soils; spectrographic anal.; pasture fertility studies. Mem.: Soil Sc. Soc. of Am., A.C.S., Soil Sc. Soc. of Fla., A.S.A., Assn. of Southern Agric. Workers, A.A.U.P. Hobby: music.

CARRITT, Dayton Ernest, asst. prof. of sanitary engrg., Johns Hopkins U.; res. 5000 Blythwood Rd., Baltimore 10, Md.
Teacher, conslt.; b. Boston, Mass., Mar. 12, 1915; s. of Ernest H. and Laura C. Carritt; ed. R. I. State Coll., B.S. 1937; Harvard U., Ph.D. 1948; m. Jeanne R. Brooks, Aug. 5, 1939; ch.: Jan Brooks. Teaching fellow, chem., Harvard U., 1940-42; res. chem., Woods Hole Oceanographic Inst., 1942; instr. of chem., R. I. State Coll., 1943; scientist, Manhattan District, Los Alamos Pjct, 1943-46; instr. 1948, asst. prof. 1949, U. of Calif., Scripps Inst. of Oceanography; asst. prof., Johns Hopkins U., 1949 to date. Applications of anal. chem. in applied flds. Mem.: A.C.S., A.A.A.S., Sigma Xi, Am. Soc. of Oceanography & Limnology.

CARROLL, Albert, adv. mgr., Merck & Co., Inc., Rahway, N.J.; res. 281 Chatterton Pkwy., White Plains, N.Y.
Adv. exec.; b. Phila., Pa., Aug. 25, 1914; s. of William and Florence Carroll; ed. Wharton Schl. of Finance & Com., U. of Pa., 1936, B.S.Econ. (with honors); mem.: Beta Gamma Sigma, Pi Gamma Mu (hon.); m. Rhoda F., June 20, 1942; ch.: David William, Barbara Jean. Adv. copy writer, N. W. Ayer & Son, 1936-40; Merck & Co., 1940 to date. Hobbies: community activities, golf & tennis.

CARROLL, William Robert, biochem., lab. physical biol., Natl. Inst. Health, Bethesda, Md., res. 5317 McKinley St.
Biochem.; b. Logan, Utah, June 9, 1916; s. of William Ernest and Lenoire Ure Carroll; ed. Swarthmore Coll., A.B. (hon.) 1938; Harvard U., M.A. 1940; Ph.D. 1942; m. Harriet Dana, June 28, 1941; ch.: Dana, Bruce, Catherine. Teach. fellow, Harvard, Dept. Biol. 1938-41; Capt. Sanitary Corps., (Food, Nutrition), 1942-45; res. fellow, Cornell U., Med. Coll., dept. biochem. 1945-48; biochem., Natl. Inst. Health, 1948 to date. Studies on transmethy., trans-sulfura. biochem. systems; effects high energy radiations on proteins; mem.: A.A.A.S., A.C.S., Sigma Xi. Hobbies: gardening, photography.

CARRUTHERS, John Litster, prof. and chmn., Dept. Ceramic Engrg., Ohio State U., Columbus 10, Ohio; res. 2029 Collingswood Rd., Columbus 12, Ohio.
Tchr., conslt.; b. LaFayette, Colo., July 25, 1895; s. of John and Frances (Messenger) Carruthers;

ed. Ohio State U., B.Cer.Eng., 1921; Cer. Engr. (prof.) 1934; mem.: Sigma Nu; m. Marjorie J. Miller (dec. 1945), Nov. 20, 1923; ch.: John M., Robert J. 1921-22 Denver Terra Cotta Co., Ceramic Engr.; 1922-25 Harrop Ceramic Serv. Co., Ceramic Engr.; (Columbus, O.); 1925-30 asst. prof. cer. engr., 1930-34 assoc. prof. cer. engr., 1934-46 prof. cer. engr., 1946 to date prof. and chmn., cer. engr., all, Ohio State U.; 1944 to date mgr., Edward Orton, Jr. Ceramic Foundation, mfrs. and sponsors of res. for ceramic industry (also a trustee since 1946); 1926 to date consltg. wk. Pres., Amer. Ceramic Soc., 1940-41 (formerly v.p., 1939-40); pres., Inst. of Ceramic Engrs., 1939-40. Mem.: A. Cer. S., Inst. of Cer. Engrs., Cer. Educ. Assoc., Am. Soc. Eng. Educ., Ohio Cer. Indus. Assoc., C-8, C-21, A.S.T.M., Sigma Xi, Tau Beta Pi, Keramos. Clubs: Faculty, Univ. Golf.

CARSWELL, Thomas S., v.p., res. and dev., Commercial Solvents Corp., Terre Haute, Ind.; res. Hill Haven Farm, R.R. 2, Terre Haute.
Chem.; b. Wilmington, Del., Jan. 9, 1897; s. of Frank Roberts and Emma (Smyth) Carswell; ed. U. of Del., B.S. 1918; mem.: Theta Chi; m. Louise Thompson, 1924; ch.: Richard Warren, Michael Stuart. 1918-23 res. chem. Natl. Aniline & Chem.; 1923-25 res. chem. Rohm & Haas; 1925-26 v.p. Bates Chem.; 1926-33 res. chem. Monsanto Chem. Co.; 1933-36 dev. engr., 1936-39 asst. dir. of dev., 1939-44 res. dir., plastics, 1944-46 Northwest Ambassador, all Monsanto Chem. Co.; 1946-49 mgr. of res., Commercial Solvents Corp., 1949 to date v.p. res., Commercial Solvents Corp. Author: "The Phenoplasts," 1946. Mem.: A.C.S., S.C.I., A.I.Ch.E., Tau Beta Pi. Clubs: Terre Haute Country, Chemists' (N.Y.C.). Hobbies: photography, farming.

CARTER, Arthur Budd, mgr. tech. serv. dept. Central Scientific Co., 1700 Irving Park Rd., Chicago 13, Ill.; res. 2311 Harrison St., Evanston, Ill.
Exec.; b. Churubusco, Ind., June 16, 1887; ed. Purdue U., Ph.G., 1906; Ph.C., 1909; U. of Chicago, S.B., 1916; mem.: Sigma Phi Epsilon, Gamma Alpha; ch.: 2 daughters. Instr. phar. chem., Purdue U., 1907-09; curator, Kent Chem. Lab., U. of Chicago, 1911-16; factory mgr., Central Scientific Co., Chicago, Ill., 1916-17; indus. sales mgr., 1917-45; mgr. tech. serv. dept., 1945 to date.

CARTER, Edgar Brock, exec. dir. res., Abbott Labs., 14th St. & Sheridan Rd., North Chicago, Ill.; res. 2092 S. Sheridan Rd., Highland Park, Ill.
Res. exec.; b. Elkinsville, Ind., Apr. 22, 1886; ed. A.B., Indiana U., 1911; m. (1st) Susie Field Huffines, 1914 (dec., 1918); 1 son; m. (2nd) Ruth Ann Cheney, 1922; 1 dau. Cunningham Sugar Co., Sugarland, Texas, chem., 1908; chf. chem., 1909; Landon C. Moore, anal. and conslt. chem., Dallas, Texas, 1911-15; dir., biolog. lab., Swan-Myers Co., Indianapolis, 1915-31; Abbott Labs., 1931 to date; bd. of dirs., 1935 to date; assoc. dir. res., 1942-46; asst. secy., 1946 to date; exec. dir. res., 1946 to date. Mem.: Soc. of Am. Bacteriols. (pres. Indiana br., 1922-24); A.Phar.A., A.C.S. (chmn. Indiana sec., 1921; councilor, 1929-31; chmn., div. of medicinal chem., 1921-23; chmn. program comm., Chicago Sec., 1934-36; councilor Chicago sec., 1935-42), A.P.H.A. (fellow), A.A.A.S. (fellow), Alpha Chi Sigma, Sigma Xi, Chicago Chemists' Club. Pres., Highland Park Social Service Comm., 1938-40; dir., Highland Park Community Chest, 1940-46. Presbyterian. 32nd deg. Mason. Hobby: painting in oil.

CARTER, Herbert Edmund, prof. of biochem., U. of Ill., 401 E. Chem. Bldg., Urbana, Ill.; res. 703 W. Ohio St., Urbana.
Prof. of biochem.; b. Mooresville, Ind., Sept. 25, 1910; s. of George B. and Edna T. Carter; ed. DePauw U., A.B. 1930; U. of Ill., M.A. 1931, Ph.D. 1934; mem.: Lambda Chi Alpha; m. Elizabeth W. De Wees, Aug. 30, 1933; ch.: Anne W., Jean E. With U. of Ill. Dept. of Chem. in following positions: 1932-35 instr. chem., 1935-37 assoc., 1937-43 asst. prof., 1943-45 assoc. prof., 1945 to date prof.; res. wk. in amino acids, lipids and antibiotics. Ed.-in-chf., "Biochem. Preparations," Vol. I, 1949. Secy-treas., Biochem. Preparations, Inc. Mem.: A.C.S., A. S. Bio. C., A. I. Nutrition, A.A.A.S., Swiss Chem. Soc., N.Y. Acad. Scs.; recipient of Eli Lilly Award in Biochem., 1943. Hobbies: bowling, golf.

CARTER, James M(aurice), conslt. engr., 2418 Mayflower Ave., Monrovia, Calif.
Chem., chem. engr.; b. Cincinnati, Ohio, May 31, 1903; s. of James S. and Dora Clark Carter; ed. 1926 Calif. Inst. Tech., B.S. (hon.); 1929 Western Reserve U., Cleveland, O., Ph.D. (cum laude); m. Katherine L. Ray; ch.: James S. II, Mary E., Robert L., Katherine B. 1929-30 chem. dept., U. of Calif., Berkeley, Calif., res. assoc.; 1930-31 Helium plant, Bur. Mines, Amarillo, Texas, assoc. chem.; 1931-38 Linde Air Prods. Lab., Buffalo, N.Y., dept. hd.; 1938-42 Jergins Oil Co., Long Beach, Calif., dir. res.; 1942-43 Rad. Lab., U. of Calif., supvr. chem.; 1943-44 Aerojet Engr. Corp., Pasadena, Calif., asst. (later acting) chf. chem.; 1944-46 Bone Engr. Co., Glendale, Calif., dir. res.; 1946 to date, conslt.; mem.: A.C.S., E.S.

CARTER, Ray Milo, pat. adviser, U. S. Ind. Chem. Inc., 60 E. 42nd St., N.Y. 17, N.Y.; res. 149 Holmes Ave., Darien, Conn.
Chem.; b. West Hawley, Mass., Jan. 23, 1895; s. of Stillman C. and Mattie L. (Miller) Carter; ed. U. of Me., 1917, B.S.; U. of Md., 1930, M.S.; mem.: Phi Gamma Delta, Alpha Chi Sigma; m. Bertha L. Lewis, Aug. 20, 1918; ch.: Jean L., Nancy L. U. S. Ind. Alcohol Co. & U. S. Ind. Chem. Inc., 1917 to date. Mem.: A.C.S., A.S.T.M. Hobbies: fishing, antiques

CARTLEDGE, Groves Howard, prof. of chem., King Coll., Bristol, Tenn.; res. Bristol, Tenn.
Tchr., dean of faculty; b. Gainesville, Ga., Feb. 10, 1891; s. of Samuel Jackson and Louisa (Burns) Cartledge; ed. A.B. and A.M., Davidson (N.C.) Coll., 1911; Sc.D. 1937; Ph.D., U. of Chicago, 1916; mem.: Phi Beta Kappa, Sigma Xi; m. Matilda S. Witmer, June 6, 1918; ch.: Matilda Roberts, Louisa Burns. Prof. of chem. at Presby. Coll. of S.C., 1913-17; assoc. prof. of chem., Davidson Coll., 1917-18; 2nd Lt. C.W.S, 1918-19; chf. chem. Island Refin. Corp., N.Y., 1919-20; assoc. prof. later prof. and dir. coll. wk. in chem. Johns Hopkins, 1920-31; prof. of chem. and hd. dept., U. of Buffalo, 1931-45; hd. Matls. Dept., Curtiss-Wright Res. Lab., 1943-45; dean of faculty, prof. chem., King Coll., Bristol, Tenn. since 1946; res. on manganese complex compds., and on ionic potentials. Author: "Introductory Theoretical Chem.," 1929; "Introd. to Inorg. Chem.," 1935; "Lab. Exercises in Inorg. Chem."-(with H. M. Woodburn), 1935. Mem.: A.C.S. Hobby: music.

CARTWRIGHT, Leonard Carl, acct. exec., Foster D. Snell, Inc., 29 W. 15th St., N.Y. 11, N.Y.; res. 57 Fifth Ave., New York 3.
Chem. engr., conslt. chem.; b. Flatwoods, Mo., Sept. 17, 1906; s. of John H. and Melinda Emmaline (Stevens) Cartwright; ed. U. of Fla., B.S. in Ch.E. 1927; Harvard U., M.A., 1935; N.Y.U., 1937-40; m. Marguerite P. Dorsey, Dec. 20, 1930. Austin tchg. fellow, Harvard, 1927-28; chem., Sterling Prods. Co., Easton, Pa., 1929; refrig. res., Comstock & Westcott, Inc., Cambridge, Mass.,

1929-30; res. worker, Raytheon, 1930-31; chem., Textile Pat. & Proc. Co., Boston, 1931; Skinner & Sherman, Inc., 1932-35; chem. engr., C.A. la Indust., Quimica Nac, Venezuela, S.A., 1935; chem., Sterisol Ampoule Corp., L.I.C., 1936; consltg. chem. and acct. exec., Foster D. Snell, Inc., 1936 to date, also sec.; extensive res. as consltg. chem. in many flds. incl. refrigeration; radiation; electronics; paper; textiles; phenolic resins; dyeing; emulsions; waxes; paints; varnishes; lacquers and other protective coatings; packaging; food formulations; organoleptic panel meths.; surface-active agents; org. synth.; testing meths.; sanitation; corrosion; insecticides; this work has led to a number of pats. issued and pending, and a score or more of papers pub. in var. tech. jls. Mem. of bd. of dir. and secy., Foster D. Snell Res., Inc.; secy., Foster D. Snell Foundation, Inc. Mem.: Phi Kappa Phi, S.C.I., A.C.S., T.A.P.P.I., A.A.A.S, A.I.C. (fellow). Hobbies: bridge, travel.

CARUS, Edward Hegeler, pres., Carus Chem. Co., 1377 8th St., La Salle, Ill.; res. Twin Oaks Rd., Peru, Ill.

Chem. mfr.; b. La Salle, Ill., Aug. 16, 1890; s. of Paul and Mary (Hegeler) Carus; ed. B.S. 1912, U. of Wisc., Ph.D., U. of Chicago, (cum laude); mem.: Tau Beta Pi; m. Dorothy Blouke, Sept. 24, 1921; ch.: Louise (Mrs. Mahdi), Paul, Theodate Harter, Blouke, Edward, Jr. Pres., Carus Chem. Co.; pres. Appollo Metal Wks.; secy., Matthiessen & Hegeler Zinc Co.; secy., La Salle & Bureau Co. R.R.

CARY, Joseph Brackenridge, exec. v.p., Food Mach. & Chem. Corp., 333 W. Julian St., San Jose, Calif.; res. 10812 Ridgeview Ave., San Jose.

Gen. mgt.; b. Ft. Wayne, Ind., May 23, 1890; s. of Harry E. and Edith (Brackenridge) Cary; ed. Pawling Schl., Pawling, N.Y., Yale U., Ph.B. 1912; m. Margaret Ransom, Jan. 1, 1926; ch.: Virginia R. (Mrs. Forrest C. Read III), Joseph B. Jr. 1911-12 apprentice, Am. Steel Foundries, Chester, Pa.; 1912-17 eng. and supt., Am. Malleables Co., Lancaster, N.Y.; 1919-21 mgr. operations, Air Reduction Co., N.Y.C.; 1921-25 v.p. Am. Malleables Co., Lancaster, N.Y.; 1925-27 oper. mgr., Beaver Prods. Co., Buffalo, N.Y.; 1928-41 v.p. and gen. mgr., Niagara Sprayer & Chem. Co., Middleport, N.Y.; 1941-47 pres. same co.; 1947 to date exec. v.p., Food Mach. & Chem. Corp., San Jose, Calif. Clubs: Saturn (Buffalo), Yale (N.Y.C.), San Jose Country, St. Claire (San Jose).

CASE, Francis H., prof. of chem., Temple U., Phila., Pa.; res. 1801 N. Broad St., Phila.

Tchg.; b. Milwaukee, Wis., Apr. 4, 1899; s. of Ermine C. and Mary M. (Snow) Case; ed. U. of Mich., 1920, B.S.; Yale, 1921, M.S., 1923, Ph.D.; mem.: Phi Delta Theta. 1923-25 Natl. Res. Fellow, Harvard; 1925-26 instr. at Swarthmore; 1926-27 Natl. Petroleum Fellow, Johns Hopkins; 1927 to date prof. of chem., Temple U., Phila., Pa.; has written arts. on local anesthetics, biphenyl derivatives, and substituted phenonthrolines. Mem.: Alpha Chi Sigma, Sigma Xi, Phi Lambda Upsilon. Club: Germantown Cricket.

CASE, Lee O(wen), assoc. prof. of chem., U. of Mich., 1245 Chem. Bldg., U. of Mich., Ann Arbor, Mich.; res. 2111 Vinewood Blvd., Ann Arbor, Mich.

Tchr. of chem. (phys.); b. Marshall, Mich., Oct. 3, 1895; s. of A. P. and Harriet Case; ed. B.S. 1920 (Ch.E.); M.S. 1921; Ph.D. 1926, all at U. of Mich.; m. Ava Comin, Sept. 9, 1923; ch.: Lee O. Jr., John. Mem.: A.C.S.

CASEBOLT, George Sims, dev. engr., Am. Cyanamid Co., 1937 W. Main St., Stamford, Conn.; res. 20 Wakeman Rd., Darien, Conn.

Chem. engr.; b. Newark, N.J., May 30, 1912; s. of George Henry and Renette (Sims) Casebolt; ed. Princeton U., B.S. in engrg. 1934, chem. engr. 1935, Sigma Xi 1935; Harvard Bus. Schl. M.B.A. 1937; mem.: Dial Lodge (Princeton); m. Margaret H. Zimmer, Sept. 11, 1937; ch.: Nancy Lee, Margaret. Aug. 1937-June 1940, Procter & Gamble, prod. frmn.; June 1940 to date, Am. Cyanamid Co., dev. engr., syn. resin adhesives. Mem.: A.I.Ch.E. Hobby: Boy Scouts.

CASEY, Robert Ernest, gen. sales mgr., Naugatuck Chem., Naugatuck, Conn.; res. Center Rd., Woodridge, New Haven 15, Conn.

Sales exec.; b. Richmond, Vt., July 29, 1899; s. of John Edward and Mary Leonard Casey; ed. U. of Vt., B.S. Chem. (cum laude) 1919; mem.: Phi Mu Delta, Phi Beta Kappa; m. Florence Nestor, Sept. 4, 1937. Instr. chem., U. of Vt. 1919-20; contr. lab. mgr. Calco Chem. Co. 1920-22; Naugatuck Chem., div. U.S. Rubber Co. 1922 to date. Pres. Rubber Reclaimers Assn., Inc. Contr. chem. tech. rep., sales mgr., gen. sales mgr., mem.: A.C.S. Club: Lotos.

CASEY, Robert S(abert), dir. of res., W. A. Sheaffer Pen Co., 311 Ave. H., Ft. Madison, Iowa; res. Denmark Hill, Ft. Madison.

Chem.; b. Ft. Madison, Iowa, Jan. 11, 1898; s. of Joseph Montgomery and Sarah (Johnson) Casey; ed. Trinity Coll., Conn., 1919 B.S., with hon. in gen. scholarship & in chem., 1920 M.S.; 1921, Columbia U., Phi Beta Kappa; mem.: Delta Phi, Alpha Chi Sigma; m. Helen Lusk Reeves, 1922; ch.: Sarah McFarland (Casey) Weber. W. A. Sheaffer Pen Co. 1919, chem.; dev. "Skrip" writing fluid & prod. meths.; 1924, mgr. "Skrip" factory; 1936, mgr. res. lab.; 1943 to date, dir. of res. Abstractor for Chem. Abstracts; advisory bd. Chem. Lit.; adv. comm. for Chem. of Com. feature in Ind. & Engrg. Chem. Co-editor "Punched Cards: Their Applications in Sc. & Ind." Reinhold, in press 1950. Mem.: A.C.S. (Comm. on Sci. Aids for Lit. Searching 1947 to date, Iowa Sec. v. chmn. 1940, chmn. 1947, Div. of Chem. Lit. secy. 1948 to date); A.I.Ch.E., A.A.A.S. (fellow), Ia. Acad. Sc. (fellow), A.I.C. (fellow), Ia. Eng. Soc. (dir. 1947, chmn. various comm.), S.A.M.E., Reg. Prof. Engr. in Iowa. Awards: received 1946 Anson Marston Award of the Ia. Eng. Soc. and 1949 Iowa Award of Iowa Sec. of A.C.S. Clubs: Am. Legion, Izaak Walton League, Ft. Madison Boat, Keokuk, Keokuk Country, Ft. Madison Country, University (Chicago), Chemists' (N.Y.) Hobbies: hunting, pistol shooting, contract bridge, "Barbershop Quartette" singing.

CASPARI, Charles Edward, Jr., asst. secy. and atty., Monsanto Chem. Co., 1700 S. 2nd St., St. Louis, Mo.; res. 8021 South Dr., Hampton Pk., St. Louis 17, Mo.

Lawyer; b. St. Louis, Mo., Mar. 6, 1906; s. of Charles Edward and Emilie (Ganz) Caspari; ed. Princeton U., A.B. 1928; Wash. U., LL.B.; mem.: Phi Delta Phi; m. Elizabeth Wyman, Nov. 6, 1937; ch.: Charles Wyman, John Allan, Susan Smiley. Associated with Fordyce, Holliday & White, Attys. in St. Louis, and then joined Law Dept., Monsanto Chem. Co. Mem. of St. Louis, Mo., and Amer. Bar Assocs. Dir.: St. Louis Chamber of Com. Club: Noonday.

CASPARI, Wm., Jr., gen. sales mgr, phosphates dept., Davison Chem. Corp., 101 N. Charles St., Baltimore 3, Md.; res. 4402 Atwick Rd., Baltimore 10.

Gen. sales mgr.; b. Balt., Md., May 11, 1896; s. of Dr. William and Mary Baden Caspari; ed. Balt. City Coll.; m. Elena Chao, Nov. 17, 1928; ch.: William. 1916-34, Davison Chem. Co. & subs.; Jan., 1935 to date, Davison Chem. Corp.

CASSIDY, James Clarke, pres., Niagara Alkali Co., Niagara Falls, N.Y.; res. River Rd., Youngstown, N.Y.
Exec., civ. engr.; b. N.Y.C., 1891; s. of Henry and Ella R. Cassidy; ed. Columbia U., C.E. 1914; mem.: Phi Gamma Delta; m. Ruth Ryan, 1918; ch.: James Clarke, Jr., Mary Josephine. 1915-19, Aetna Explosive Co., engr.; 1919-20, Calco Chem. Co., engr.; 1920 to date, Niagara Alkali Co., ch. eng., wks. mgr., pres. since 1941. Pres. of follow. cos.: Niagara Falls Hotel Corp., Niagara Brine Corp., Pacific Lime Co. Ltd.; dir. of Power City Trust Co.; trustee, Niagara County Savings Bank. Mem.: E.S. Trustee, Mt. St. Mary's Hosp., Com. Chest, A.R.C. Clubs: Niagara, Niagara Falls Country, Country Club of Buffalo, Chemists' (N.Y.C.). Hobby: various sports.

CASSIDY, Mary Catherine, librarian, Harshaw Chem. Co., 1945 E. 97th St., Cleveland 6, Ohio; res. 2374 Euclid Heights Blvd., Cleveland 6.
Chem. librarian; b. Bellefontaine, Ohio, Nov. 11, 1902; d. of John Ross and Nancy Starr (Chandler) Cassidy; ed. B.A., B.Sc., Ohio State U. 1924; M.A., Teachers Coll., Columbia U. 1927; Ph.D., Western Reserve U. 1939; mem.: Kappa Delta. Teacher, Hillsboro, Ohio, H.S., June 1924-26; teacher, Elmira, N.Y., Jr. H.S., June 1927-28; teacher, E. Caroline Teachers Coll., Greenville, N.C., June 1928-35; teacher, Parma H.S., Parma, Ohio, June 1939-41; asst. librarian, Grasselli Expt. Lab., du Pont Co., Cleveland, 1941-46; librarian, Harshaw Chem. Co., Cleveland, Ohio, 1946 to date. Doctor's thesis on fluorination of thiophosphoryl chloride. Mem.: A.C.S., Special Libraries, Sigma Xi.

CASTO, Carl S., Lieut. Col., U.S.A. and Com. Officer, Chem. Corps Procurement Agency; res. Army Chem. Center, Edgewood, Maryland.
Fed. Officer; b. Ohio, July 30, 1913; s. of S. E. and Isa B. Casto; ed. B.Ch.E., Ohio State U., 1938, M.B.A., Harvard Bus. Schl., 1949; mem.: A. Chem. Soc., Pershing Rifles and Scabbard and Blade; m. Georgia F. (Annette), June 1939; ch.: Donn. F., Carole F. Chem., Ashland Oil & Refining, 1938-39; dist. engr., W. Va. Dist., CCC 1939-40; asst. chief of prod., Edgewood Arsenal 1940-42, chf. Inspection Div., Edgewood Arsenal, Md., 1942-45, com. officer, Chicago Chem. Procur. District, 1946-47, com. officer, Chem. Corps Procur. Agency, 1950 to present. Mem.: A.C.S., Armed Forces Chem. Assoc. Clubs: Army and Navy Country Club, O.S.U. Alumni Assoc., Harvard Alumni Assoc., Harvard Business Schl. Club of Cleveland. Hobbies: sports, photography.

CATHCART, William H., dir. bakeries lab., Great A.&P. Tea Co., 420 Lexington Ave., N.Y. 17, N.Y.; res. 14 Oxford Rd., Larchmont, N.Y.
Chem.; b. Bloomington, Ind., June 15, 1911; s. of Henry J. and Bertha (Athy) Cathcart; ed. A.B., Ind. U., 1933, A.M. 1934; Ph.D. chem., N.Y.U. 1936, Phi Beta Kappa; mem.: Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma; m. Virginia Reeves, June 15, 1935; ch.: Emily Ann, Virginia. 1936-41, dir. lab., Am. Inst. of Baking; 1941 to date, dir. bakeries lab., Great A. & P. Tea Co. Nat. Bakery Div. Great A. & P. Tea Co. (dir). Dev. electronic processes for high-speed defrosting of frozen foods & for eliminating mold spores in bread without affecting its nutritive value. Chapters on "Baking & Bakery Prods." & "The Prod. of Bread & Bakery Prods." in The Chem. & Tech. of Food & Food Prods. ed. by M. B. Jacobs 1944, (being revised). Mem.: A.C.S., A.A.A.S., A.A.C.C., I.F.T., N.Y. Acdy. Sc.

CAUL, Jean F(rances), res. chem., Arthur D. Little, Inc., 30 Memorial Dr., Cambridge 42, Mass.; res. 22 Chauncey St., Cambridge.
Res. chem., Flavor Lab.; b. Cleveland, O.; d. of Philip M. and Viola (Weil) Caul; ed. A.B., Lake Erie Coll., Painesville, O., 1937; M.A., The Ohio State U., Columbus, O.; Physiolog. Chem., 1938; Ph.D. The Ohio State U. Physiolog. Chem. 1942. 1937-38 Lake Erie Coll. Scholar at Ohio State U. in physiolog. chem.; 1938 Univ. Scholar at O.S.U.; 1938-39 Univ. Fellow at O.S.U.; 1939 Comley Res. Fellow at O.S.U.; 1940-42 Grad. Asst. at O.S.U., all in physiolog. chem.; 1942-44 chem., The Borden Co., Res. Div., Bainbridge, N.Y.; 1944 to date res. chem., Arthur D. Little, Inc., Cambridge, Mass., res. in high fat diets; lipotropic action of choline, methionine and betaine; foods; flavor. Mem.: A.C.S., Sigma Xi, I.F.T. Club: Cambridge Civic Assoc. Hobbies: sports, leather, music.

CAUWENBERG, Winfred Joseph, mgr., titanium dept., Calco Chem. Div., Am. Cyanamid Co., Piney River, Va.; res. Piney River.
Chem.; b. Green Bay, Wis., Apr. 18, 1896; s. of Gustav and Elizabeth (Brunner) Cauwenberg; ed. U. of Wis., B.S. 1919; U. of Buffalo, M.A. 1928; Columbia U. Ph.D. 1930; m. Mary Evelyn McGinnis, Jan. 28, 1939; ch.: Betty E. Res. chem., Newport Co., 1919-24; res. chem., Natl. Aniline & Chem. Co., 1924-28; res. chem., Titanium Pigment Co., 1930-32; res. chem., United Color & Pigment Co., 1932-36; res. chem., Va. Chem. Corp., 1936-38; dir. of res., Va. Chem. Corp., 1938-45; dir. of dev., Am. Cyanamid Co., Calco Chem. Div., titanium dept., 1945-48, mgr., 1948 to date. Dyestuffs & pigments. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S., A.A.A.S., A.I.C., A.I.Ch.E.

CAVELTI, John E(lmer), prof. chem., dept. hd., Allegheny Coll., Meadville, Pa.; res. 469 Highland Ave., Meadville.
Instr.; b. Stratford, Conn., June 8, 1896; s. of John and Grace Welsh Cavelti; ed. Wesleyan U., B.S. 1918; M.S. 1920, Yale U., Ph.D. 1929; mem.: Sigma Chi, Sigma Xi, Delta Sigma Rho, Phi Beta Kappa; m. Catherine Carpenter, Dec. 27, 1920; ch.: Catherine Ruth Africa; Miracyl Jane Damon. Chem., Remington Arms, U.M.C. Co., 1917-19; asst. instr., asst. prof., assoc. prof. chem., Wesleyan U. 1919-36; res. chem. Goodyear Rubber Co., Middletown, Conn., 1922-36; prof. chem. Allegheny Coll. 1936 to date; tech. supt., Seamless Rubber Co. 1940-41; mem.: A.A.A.S.; A.C.S.; A.I.C.; Penn. Chem. Soc. Clubs: Kiwanis, Green Mt. Hobbies: stamp collecting, hiking.

CAWOOD, Richard Lawrence, pres., Patterson Foundry & Mach. Co., and American Paper Prods. Co., 1250 St. George St., East Liverpool, O.; res. Thompson Park Blvd.
Exec.; b. Belpre, O., Feb. 12, 1882; s. of Alexander and Frances Henderson Cawood; ed. East Liverpool Pub. and High Schl; m. Mary Virginia Stone, July 12, 1922; ch.: Mary Frances, (Mrs. H. Houghton Phillips, Jr.), Sarah Louella. App. Machinist, Patterson Foundry & Mach. Co., 1900; foreman, supt., chf. eng., gen. mgr., v.p., 1900-20; pres., 1920 to date; org. and became pres. Richard L. Cawood Co., chem. mfrs. 1904—; Kenilworth Tile Co., Newell, W. Va., 1907—; Amer. Paper Prods. Co., East Liverpool, Ohio, 1914 to present; Natl. Prods. Co., East Liverpool, 1917—; Patterson Steel Prods. Co., East Liverpool, Ohio, 1929—; Patterson Refractories Co., E. Liverpool, Ohio, 1930; v.p., Community Bank, E. Liverpool, O., Consolidated Potters Natl. Bank and Dollar Savings Bank, forming Potters Bank & Trust Co., became pres. 1930. Designer and patentee many machines used in chem. and process indust., as well as systems for improve. of prods. manuf. for these inds. Has written many papers on sub. of matls. processed. Mem.: A.S.M.E.,

Am. Ceramic Soc. Member Bd., Sinking Fund Trustees, East Liverpool, O. Clubs: Pittsburgh Athletic Assoc., Longue Vue, Duquesne, University (Pittsburgh, Pa.), East Liverpool Country, B.P.O.E., (East Liverpool, O.) Hobbies: art and architecture.

CEAGLSKE, Norman Hugo, prof. of chem. engrg., chem. engrg. dept., U. of Minn., Minneapolis, Minn.; res. 5139 Belmont Ave. S., Minneapolis 19.
Tchr; b. Merrill, Wis., Feb. 16, 1907; s. of Hugo Helmuth and Clara (Juhlke) Ceaglske; ed. B.S. 1928; M.S. 1929, Ph.D. all in chem. engrg., U. of Wis.; mem.: Phi Lambda Upsilon, Tau Beta Pi, Sigma Xi; m. Lucille M. Ostby, Nov. 3, 1929; ch.: Nancy Lucille, Norman H. Jr., Jean Ann. 1929-30, Wis. Gas & Elec. Co., Racine, Wis.; 1930-36, instr., U. of Wis.; 1936-40, instr., asst. prof., State U. of Iowa; 1937 summer. Universal Oil Prods. Co., Chicago, Ill.; 1940-46, asst. & asoc. prof., Washington U., St. Louis, Mo.; 1941 summer, Schullin Steel Co., St. Louis, Mo.; 1942-46, part time, Anheuser Busch, St. Louis, Mo.; 1946 to date, prof., U. of Minn., Minneapolis, Minn, Aeration of gas burners; drying of granular solids; capillary flow in porous solids; mechanism of dielectric drying. Mem.: A.I.Ch.E., A.C.S., Instr. Soc. of Am., Am. Soc. Eng. Ed., A.A.UP, I.F.T. Hobbies: woodworking, photography.

CESSNA, Oren Carlyle, dir. indust. appli. lab., The Dow Chem. Co., First and Water St., Bay City, Mich., res. 1105 Pendleton.
Chem. engr.; b. Davenport, Ia., May 11, 1909; s. of Charles C. and Emalyne Cessna; ed. Ia. St. Coll., B.S.; U. of Mich., M.S.; Ph.D.; mem.: Beta Theta Pi, Alpha Chi Sigma; m. Marian V. Russell, Dec. 1, 1933; ch.: Barbara Ann. Kelvinator Corp., res. engr. 1933-37; U. of Mich., dept. engr. res., Res. Engr., 1937-40; The Dow Chem. Co., asst. mgr., conslt. engr. div. 1940-44; mgr. Ann Arbor Lab. 1944-49; dir., Indust. Appl. Lab. 1949 to date. Mem.: Sigma Xi, A.C.S., A.I.Ch.E.

CHABAN, Charles Jack, chf. chem., The Landers Corp., P.O. Box 911, Toledo 1, Ohio; res. 3715 Rushland Ave., Toledo 13.
Chf. chem.; ed. 1928, Polytech. Inst., Liege, Belgium, magna cum laude, indus. chem.; 1929, Textile Inst., Verviers, Belgium, textile engr., magna cum laude. Chem. in chg. of indigo dept., Union des Teintureriers, Ghent, Belgium, 1929-30; chf. chem., S.A. Manta, Waesmunster, Belgium, 1930-32; hd., textile div., S.K.F. Industries, Belgium, 1932-40; res. chem., plastic div., U.S. Stoneware Co., Akron, Ohio, 1942-43; chf. chem., The Landers Corp., 1943 to date. Bd. mem. & chmn. educational comm., Internatl. Inst. Inc., Toledo, Ohio. U.S. & foreign pats. in fld. of stabilization of vinyl resins. Mem.: A.C.S., A.A.T.C.C., A.S.T.M., S.P.I.

CHACE, Edward M(ac-Kay), retired chem.; res. 1842 North Gramercy Place, Hollywood 28, Calif.
Chemist, food technologist; b. Havana (now Montour Falls), Schuyler Co., N.Y.; s. of Edward and Mary Ann (Mac-Kay) Chace; ed. Columbian Coll. (Geo. Washington); Natl. Univ. Law Schl., LL.B. and LL.M.; m. Lillian Grayson, Feb. 21, 1901; ch.: Edward Grayson, Eleanor Mac-Kay, (Mrs. D.J. Richwine), Marion Louise (Mrs. Buford Max). Chem., Cuban Sugar Factories; chf. chem., Havana Custom House; U.S. Dept. Agr. asst. chem., chem., sr. chem., principle chem., asst. chem. of div., chem. in chg. var. labs., 1901-44. Notable wk.: stds. for fruit maturity; coloring fruit by ethylene gas; dehydration of fruit and vegetables; preservation of fruit and vegetables by freezing; sun drying of fruits; canning studies; citrus prods. etc. Mem.: A.C.S. (50 yrs. membership certificate), I.F.T. (past v.p.), A.A.A.S. (fellow). Clubs: Avocado Soc., Lemon Mens Club, Metropolitan Luncheon Club, Town Hall. Hobbies: fruit growing and gardening.

CHACE, William George, assoc. prof. of chem., Lowell Textile Inst., Lowell, Mass.; res. Westford, Mass.
Physical chem. prof.; b. Stamford, Conn., Dec. 10, 1904; s. of William Weld and Katherine (George) Chace; ed. 1910-18, Cleveland public schls.; 1918-22, Peddie Schl.; 1922-26, Brown U., Ph.B.; Lowell Textile Inst., 1942, M.S.; mem.; Omicron Pi; m. Helen M. Sheldon, Nov. 19, 1926; ch.: William G. Jr., Stephen S. 1926-28, instr. in math., Lowell Textile Schl.; 1928-43, instr. in chem., Lowell Textile Inst.; 1943-46, U.S.N.R., Lt. Com.; 1946-49, asst. prof. in chem., 1949 assoc. prof. of chem., Lowell Textile Inst. Co-author: "Elementary Qualitative Procedure" with C. L. Daley, 1941; author: "Experiments for Gen. Chem. Lab." 1946. Mem.: Sigma Xi, A.C.S., New England Assn. of Chem. Teachers. Pres., Lowell Textile Inst. Library Assn. Clubs: Appalachian Mt., Am. Radio Relay League. Hobbies: mountaineering, amateur radio.

CHADDOCK, Richard Eastman, mgr., sales res. div., Hercules Powder Co., Wilmington, Del.; res. 704 Bellefonte Ave., Wilmington, Del.
Chem. engr.; b. Colon, Panama, Dec. 10, 1916; s. of Clarence W. and Jane (Eastman) Chaddock; ed. U. of Mich., B.S. 1937; Ph.D., 1940; mem.: Sigma Xi, Phi Kappa Phi, Phi Lambda Upsilon; m. Kathryn A. Massfeller, Dec. 6, 1941; ch.: Emilie Jane, Kathryn Elyse. Atlas Powder Co., chem. engrg. div., 1940-45; Hercules Powder Co., asst. to dir. of res., 1945-48; mgr. sales res. div., 1948 to date. Mem.: A.C.S., A.I.Ch.E., Chem. Market Res. Assoc., Armed Forces Chem. Assoc.

CHADDUCK, Harry Webster, exec. asst. to v.p. and sc. dir., Merck & Co. Inc., Rahway, N.J.; res. Elizabeth, N.J.
Exec.; b. Grafton, W.Va., Apr. 17, 1907; s. of Harry W. and Ada (VanKirk) Chadduck; ed. W.Va. U., Ph.C., 1928; S.E. U., LL.B., 1936; mem. of Bars, D.C.; mem. of Phi Kappa Sigma; m. Mary Jo Moran, Aug. 2, 1930; ch.: Harry, III, William. Maxwell & Tennyson, Wash., D.C., 8 yrs., phar. chem.; Fed. Bur. of Inves. (Dept. of Justice), 4 yrs., spec. agent; U.S.A., 4 yrs., Colonel (present res. rank); Merck & Co. Inc., 4 yrs. and to date. Chemical Warfare Service, W.W. II. Mem.: A.C.S., A.Phar.A., Fed. Bar Assoc., Amer. Bar Assoc., Soc. Former Special Agents of F.B.I., Kappa Psi. Club: Kenwood Golf and Country (Bethesda). Hobbies: firearms, tennis.

CHADWICK, David Henry, res. group leader, Monsanto Chem. Co., res. dept., Anniston, Ala.; res. 823 Maplewood Ave., Anniston.
Res. chem.; b. Sutton, N.H.; s. of Harold W. and Margaret F. Chadwick; ed. B.S. with hon., M.S., U. of N.H., 1940, 1942; Ph.D., U. of Ill., 1946; mem.: Phi Mu Delta, Phi Kappa Phi, Phi Lambda Phi, Phi Lambda Upsilon, Alpha Chi Sigma, Sigma Xi; m. Frances Margaret Frampton, 1944; ch.: Gayle Ann. Dennison Mfg. Co., Framingham, Mass., res. asst., summers 1939, 1940, 1941; Clinton Engr. Wks. of Tenn., Eastman Corp., Oak Ridge, Tenn., anal. lab. control supvr., 1944-45; grad. asst. at N.H. 1940-41, at Ill. 1942-43, 1943-44, 1945-46; instr. at N.H. 1941-42, at Ill. 1946; Monsanto Chem. Co., phosphate div., res. dept., res. chem., 1946-49, res. group leader 1949 to date. Formation & rearrangement of the diphenylmethyl ether of o-cresol; vinyl alcohols—increased hindrance; replacement of nuclear alkoxyl groups by the action of Grignard reagents;

structure of the prod. obtained by sodium re-arrangement of benzyl ether of o-cresol. Mem.: Alpha Chi Sigma (pres. at N.H., v.p. at Ill.), A.C.S. (Ala. sec., secy. treas. 1949-50, pres. elct 1950-51). Club: Anniston Camera. Hobbies: sports, gardening, music, photography, flying (no longer active).

CHALUPSKI, Victor, production supvr., E.I. du Pont de Nemours & Co., pigments dept., 256 Vanderpool St., Newark 5, N.J.; res. RFD. 1, Bound Brook, N.J.
Chem.; b. New York City, Mar. 7, 1905; s. of Stanislaw and Alexandra Chalupski; ed. Cornell U., B.Chem.; m. Helena Ramet, Nov. 13, 1926; ch.: Carol. 1925-46, E. I. du Pont de Nemours & Co., pigments dept., res. chem., group leader, research, res. supvr., inorganic and physical; 1946 to date, E. I. du Pont de Nemours & Co., pigments dept., prod. supvr. Mem.: A.C.S., A.I.Ch.E., A.I.C., Optical Soc. Amer. Club: Chemists' (New York). Hobbies: photography, woodworking.

CHAMBERLAIN, David Roe, secy., Wm. S. Gray & Co., 342 Madison Ave., N.Y. 17, N.Y.; res. 200 Fox Lane, Northport, L.I., N.Y.
Chems. and Solvents; b. Chicago, Ill., Sept. 13, 1912; s. of Albert Roe and Lillian (O'Meara) Chamberlain; ed. Hotchkiss Schl., 1927-31; Princeton U., 1931-35, B.A.; mem.: Tiger Inn; m. Grace Purinton, Aug. 11, 1939; ch.: David Purinton, Michael Roe, Sarah O'Meara. 1935-42, with Wm. S. Gray & Co.; 1942-46, Lt. Col., Intelligence, A.A.F.; 1946 to date secy. and sales mgr., Wm. S. Gray & Co. Clubs: Chemists' (N.Y.C.), Edgewater Yacht (Northport, L.I.), Hobbies: sports, gardening, sailing.

CHAMBERLAIN, Donald Frank, prof. of chem. engrg., Washington U., St. Louis 5, Mo.; res. 53 Jefferson Rd., Webster Groves 19, Mo.
Teaching; b. Wayzata, Minn., July 14, 1914; s. of Harry T. and Anna C. Chamberlain; ed. B.S. Ch.E. with distinction, 1936, U. of Minn., Ph.D. major-chem. engrg., minor-org. chem., 1940, U. of Minn.; mem.: Alpha Chi Sigma; m. Phyllis M. Barnard, Mar. 30, 1940; ch.: David A., Denis O., Douglas E. 1936-40, teaching asst. dept. of chem. engrg., U. of Minn.; 1940-46, res. engr., Natl. Aniline Div. Allied Chem. & Dye, Buffalo, N.Y.; 1946-47, asst. prof., dept. of chem. engrg., Washington U., 1947-49 assoc. prof., 1949 to date prof.; 1943-45 instr., E.S.M.W.T., Cornell U., Buffalo, N.Y. Factors influencing vegetable oil bleaching by adsorption; vapor phase condensation of aniline to diphenylamine. Mem.: Sigma Xi, Tau Beta Pi, Phi Lambda Upsilon, A.I.Ch.E., A.C.S., A.S.E.E., Assn. Drug & Chem. Ind. of Mo., Reg. Engr. State of Mo. Hobbies: gardening, 8 mm color movies.

CHAMBERLAIN, James M. W., pres. The U.S. Stoneware Co.; res. 178 Hampshire Rd., Akron, Ohio.
Engr., exec.; b. Akron, Ohio, July 19, 1905; s. of John and Elizabeth Chamberlain; ed. M.I.T., 1927, B.S.; mem.: S.A.E.; m. Roberta Wunderlich, June, 1945; ch.: Craig, Cynthia (by former marriage). 1927-28 tire design, Goodyear Tire & Rubber Co.; 1928-30 res. on lighter than air, Goodyear Zepplin Corp.; 1930 to date pres., U.S. Stoneware Co. Mem.: A.I.Ch.E., A.C.S., A. Cer. S., Soc. of Prof. Engrs. Clubs: Union League (N.Y.), Chemists' (N.Y.C.), Portage Country (Akron). Officer: pres. and dir. of following concerns: U.S. Stoneware, Fed. Refractories Corp., Chamberlain Engrg. Corp., Colonial Rubber Co., Chamberlain Aviation Corp., Super Mach. Co.; v.p. and dir. of following: Hamilton Kent Mfg. Co., Ravenna Ceramics Co., Flexlock Corp., Republic Lead Equipment Co., Akron Bronze and Aluminum Co.

CHAMBERLAIN, Leonard Clare, Jr., dir. of plastics res., The Dow Chem. Co., Midland, Mich.; res. R.F.D. 5, Midland.
Chem. engr.; b. New Orleans, La., Jan. 23, 1907; s. of Leonard Clare, Sr., and Jeanette Gertrude (Drysdale) Chamberlain; ed. Tulane U., chem. engrg., 1928; mem.: Kappa Sigma, Alpha Chi Sigma; m. Esther Gage, Sept. 14, 1935; ch.: Leonard, Elizabeth, Esther. The Dow Chem. Co., res., 1928 to date.

CHAMBERLIN, Earl Martin, developmental res. chem., Merck & Co. Inc., Rahway, N.J.; res. 2028 Hilltop Rd., Westfield, N.J.
Chem.; b. Cochranville, Pa., Dec. 4, 1914; s. of Preston and Jane (Martin) Chamberlin; ed. B.Sc., 1936, Phila. Coll. of Phar. and Sc.; A.M. 1937, Boston U.; A.M. 1944, Harvard U.; Ph.D., 1946; m. Mary Helen Coenen, Apr. 26, 1947; ch.: Karen Joan. 1938-41, res. asst., Merck & Co. Inc.; 1941-46, tchg. fellow, Harvard U.; 1946 to date, developmental res. chem., Merck & Co. Inc. Mem.: A.C.S., British Chemical Soc., Assoc. of Harvard Chemists. Hobby: photography.

CHAMBERS, Arthur Douglas, Nemours Bldg., Wilmington, Del.; res. 509 Lore Ave., Wilmington.
Chem. engr.; b. Oxford Co., Ontario, Canada, May 4, 1870; s. of James Douglas and Josephine (Mollins) Chambers; ed. Woodstock Coll., 1884-88; Toronto U., 1888-92, B.S.; Johns Hopkins U., 1892-96, Ph.D.; m. May Fleming, July 21, 1897; ch.: Ivan Fleming, Ira Douglas, Arthur Edwin. Chem., Solar Refining Co., Ohio, 1896-97; E. I. du Pont de Nemours & Co.: asst. supt. 1897-1906, Ashburn Plant; supt., Ashburn Plant, 1906-07; supt., Louviers Plant, 1907-15; dev. dept. 1915-17; mgr. mfg. div., dyestuffs dept. 1917-31; mgr. dyestuffs div., org. chem. dept., 1931-41; prod. adviser 1941-44, ret. Mar. 31, 1944. One of dominant factors in est. of du Pont dyestuffs & org. chems. indus. & on retirement from du Pont Co., the large dyestuffs plant was named "Chambers Wks." Mem.: A.C.S., Franklin Inst. Clubs: Wilmington, Wilmington Country. Hobbies: mineralogy, bridge.

CHAMBERS, Gordon Harispre, v.p. and treas., Foote Mineral Co., 18 W. Chelton Ave., Phila. 44, Pa.; res. 7909 St. Martins Lane, Phila. 18, Pa.
Exec.; b. Norwood, Pa., Apr. 27, 1907; s. of Gordon (dec.) and Amelie Chambers; ed. U. of Penn., B.S. 1928; m. Marjorie Davison, July 21, 1948; ch.: Joyce D., Robert G. Solid Carbonic Corp., 1928; Foote Min. Co., salesman 1928-33, secy. 1933-36, v.p. and secy, 1936; to date, v.p. and treas. V.p. Zirmet Corp. Col., U.S.A., Retired. Author of arts. on zirconium, lithium, strontium, manganese; holds sev. U.S. and for. pats. on zirconium. Mem.: A.I.M.M.E. Club: Phila. Cricket.

CHANCE, Britton, prof. of biophysics and dir. Johnson Research Foundation, U. of Pa., 36th & Spruce Sts., Phila., Pa.; res. 3508 Hamilton St., Phila., Pa.
Prof.; b. Wilkes Barre, Pa., July 24, 1913; s. of Edwin M. and Eleanor (Kent) Chance; ed. U. of Pa., 1936 B.S., M.S., 1940 Ph.D. phys. chem.; U. of Cambridge, 1942, Ph.D. biology.; mem.: Delta Psi; m. Jane Earle 1938; ch.: Eleanor, Britton Jr., Jan, Peter. 1939-40, E. R. Johnson Foundation Fellow, U. of Pa., 1940-48, asst. prof. biophysics; 1940-41, acting dir., Johnson Foundation; 1941-46, staff mem., M.I.T.; 1946-48, Guggenheim Fellow, Stockholm, Sweden; 1949 to date, prof. of Biophysics, dir., Johnson Foundation. Co-author: "Waveforms" with F. C. Williams, V. Hughes, E. F. MacNichol & D. Sayre, 1949; "Electronic Time Measurements" with R. I. Hul-

sizer, E. F. MacNichol & F. C. Williams, 1949. Mem.: A. Phys. S. (fellow), Inst. Radio Engrs. (sr. mem.), Sigma Xi. Award: Presidential Cert. of Merit; Paul Lewis Award in Enzyme Chemistry, 1950. Club: St. Anthony. Hobbies: yachting, sailboat racing.

CHANDLEE, Grover C., prof. emeritus, The Penn. State College, State College, Pa.
Prof. chem. (emer.); b. Delta, Pa., Sept. 5, 1884; ed. Franklin & Marshall, Ph.B., 1907; Pa. State, M.S., 1913; Columbia, M.A., 1922; Ph.D., 1925; D.Sc. (hon.), Franklin & Marshall, 1943. Pa State, instr. chem. 1907-10; indust. wk. 1910-11; asst. prof., 1912-18; assoc. prof., 1919-20; prof. & hd. of dept., 1922-49; prof. emer., 1949 to date; acting dean grad. schl., 1933-34; U.S. Army Univ., Shrivenham, England, 1945; prof. of chem, U. of S. Carolina, 1949-50; U.S.A., 1st Lt., 1918-19. Papers inorg. anal. chem. Mem.: Sigma Xi, A.C.S.

CHANDLER, Joseph, prof. biol. chem., registrar, Hahnemann Med. Coll., 235 N. 15th St., Phila., 2, Pa.; res. 3315 Highland Ave., Drexel Hill, Pa.
Prof. biol. chem., registrar; b. Livermore Falls, Me., Jan. 16, 1889; s. of George and Isora Hatch Chandler; ed. A.B. Colby Coll. 1909; Ph.D. Johns Hopkins U. 1912; mem.: Delta Upsilon, Phi Beta Kappa; m. Anita Gray June 2, 1914; ch.: George Gray. Asst. prof. chem., U. of Louisville, 1912-14; instr., asst. prof. organ. chem., Tufts Coll. 1914-19; res. chem., U.S. Color and Chem. Co. 1919-20; res. chem. Semet-Solvay Co. 1920-21; instr., asst. prof. chem., Boston U., Sch. Med. 1921-26; assoc. prof., prof. chem., Hahnemann Med. Coll. 1947-49; prof. biol. chem. 1949 to date; Registrar Sept. 1, 1950; Capt. Chem. Warfare Res. 1923-40; Capt. inactive Res. 1940 to date; sr. gas off., Phila. Council Defense 1941-45; adv. Phila. Council Defense on chem. warfare defense, chf. gas defense servs. Author: "Manual for Gas Defense Services, Phila. Council of Defense," 1942; mem.: A.C.S. Hobby: stamp collecting.

CHANEY, Albert Laurence, owner and dir. of Albert L. Chaney Chem. Lab., 1503 E. Chevy Chase Dr., Glendale 6, Calif.; res. 1347 Andenes Dr., Glendale 8, Calif.
Biochem. res.; b. Asheville, N.C., May 21, 1900; s. of Frank L. and Bertha (Shanks) Chaney; ed. Washington Missionary Coll., Takoma Park, Md., B.A. 1920; U. of Minn., M.Sc., 1925; Ph.D. 1930; mem.: Phi Lambda Upsilon; m. Gwendoline Lacey, Aug. 19, 1925; ch.: Albert Laurence, Jr. 1920-23 H.S. tchr. Battleford, Saskatchewan; 1925-28 prof. of phys. and chem. Emmanuel Missionary Coll.; 1930-45 asst. patholog. in chg. of biochem., Los Angeles County Gen. Hosp.; 1932 to date asst. prof. in path., Coll. of Med. Evangelists; 1941-45 dir. of Indust. Hygiene and Toxicol., Lockheed Aircraft Corp.; 1936 to date owner and dir. of the Albert L. Chaney Chem. Lab. (biochem. res.). V.p. Aseptic-Thermo Indicator Co. Contrib. numerous arts. to sc. jls. Mem.: A.C.S., A. Phys. S., A. A. Clin. Chems., Western Soc. for Clinical Res., Am. Council of Commercial Labs., Los Angeles Co. Med. Assoc. Res. Found. Club: Amateur Radio Relay League.

CHANEY, Lee F. serv. engr., The Flox Co., Inc., 1409 Willow St., Minneapolis, Minn.; res. c/o Star Route, Tacoma, Washington.
Serv. engr.; b. Sept. 7, 1909, Delta, Colo.; ed. grammar and H.S., Delta, Colo.; Colo. A.&M., Colo. U., and Denver U., Chem. Engrg.; m. Marjorie B.; ch.: Fred B., Robert L. Res. anal., Great Western Sugar Co., Denver, July 1, 1929 to July 24, 1935; chf. chem., Pub. Serv. Co. of Colo., Boulder, Colo., July 26, 1935 to 1945; joined The Flox Co. July 1, 1945 at Tacoma, Wash.; moved to Puyallup, Wash. Jan., 1948; at present serv. engr., The Flox Co.

CHANEY, Newcomb Kinney, res. dir., United Gas Improvement Co., res. conslt., Am. Gas Assoc., 1401 Arch St., Phila. 5, Pa. and 420 Lexington Ave., Rm. 550, New York 17; res. Possum Hollow Rd., Rose Valley, Media R.D. 3, Pa.
Chem. and chem. engr.; b. Apr. 27, 1883; s. of Dr. Lucian W. and Mary (Hill) Chaney; ed. Carleton Coll., Minn., B.S. 1904; M.S. 1905; Dept. Honors Philosophy and Biol.; Balliol Coll., Oxford U., Eng., hon. B.A. in chem. 1910; Rhodes Scholar; U. of Pa., Ph.D. 1912; Harrison Fellow in chem.; mem.: Phi Beta Kappa; m. Elsie E. Webb, July 19, 1911; ch.: Elizabeth Webb (Mrs. Bassett Ferguson, Jr.), Dr. David Webb. 1906-07 instr. biol. and football coach, Carleton Coll.; 1911-17 res. chem. arc and projection photometry, dry battery and electrochem. res. Natl. Carbon Co., Cleveland, O.; cons. chem. Res. Div. Am. U. Explt. Sta., War gas investigations, sect. chf. Charcoal Sect., U.S. Bur. of Mines, 1917-18; cons. chem. Res. Div. C.W.S., in gen. chg. gas mask carbon res. and mfg. cons. for Gas Defense Div. 1918-19; with Natl. Carbon Co. Inc., 1919-21 and 1925-35; asst. dir. Res. and Dev. Labs.; with Union Carbide & Carbon Res. Lab. Inc. 1920-25; in chg. carbon and battery div.; Dir. of Res., United Gas Improvement Co., Phila., 1935 to date. 1947 to date res. conslt. Am. Gas Assoc., N.Y.C., in chg. of gas prod. res. Inventor and patentee: activated carbon and the sev. procs. for mfg. same employed by Gas Def. Div. in preparation of all gas mask carbon made for Am. Army; pats. on primary batteries, pyro-plastics, carb. prods., irradiation of food prods., activated carb., cracking procs. for petroleum, etc.; high temp. arc and elec. furnace measurements and arc lamp photometry. Author and co-author of many pubs. dealing principally with properties and use of carbon; incl.: (1925) "Cooperating Expert" (Vol. II) Int. Critical Tables; "Properties of Indus. Carbon for Elec. Uses." 1936 to 1945 engaged in high temp. pyrolysis of hydrocarbs. for the prod. of fuel gas diolefines, aromatics and resin forming bodies. Treas. Rose Valley Swimming Pool Co., Rose Valley, Pa. Fellow, Chem. Soc. (London), and A.I.C. Mem.: Inst. of Petroleum (London), A.I.Ch.E. (dir. 1925-28), A.C.S. (chmn. Cleveland Sec. 1928, Phila. Sect. 1939), S.C.I., A. Phys. S., Am. Gas Assoc.; rec. Potts Gold M. Franklin Inst. 1939; Modern Pioneer Award, 1940. Treas., Borough of Rose Valley, Pa. Clubs: Engrs. (Phila.); Chemists' (N.Y.); Franklin Inst. (Phila.); Oxford Union Soc. (Oxford). Hobbies: gardening, color photography.

CHAPIN, Harold Canning, secy., Am. Assn. of Textile Chemists & Colorists, Lowell Textile Inst., Lowell, Mass.; res. 290 Pine St., Lowell.
Chem.; b. Gill, Mass., Sept. 20, 1883; s. of Edward Sumner and Sarah (Canning) Chapin; ed. Harvard, A.B. 1904, Ph.D. 1910; m. Pauline Elizabeth Durfee, Sept. 20, 1917; ch.: Nancy Orne, Edward Canning, Elizabeth (Chapin) Heath, John Whitney. Rensselaer Polytech. Inst., instr., 1909-13; Natl. Carbon Co., chem., frmn., 1913-18; Lafayette Coll., assoc. prof., 1918-20; Lowell Textile Inst., asst. prof., 1920-47; A.A.T.C.C., secy., 1933 to date. Mem.: A.A.T.C.C., A.C.S Club: Chemists' (N.Y.).

CHAPMAN, Alfred Dale, pres., Chapman Chem. Co., Dermon Bldg., Memphis, Tenn.; res. 850 Lake Shore Dr., Chicago, Ill.
Pres. & gen. mgr.; b. Oacoma, S.D.; s. of Romanzo G. and Mary L. Chapman; ed. B.S., U. of Minn., 1919, M.S., U. of Wis., 1931; mem.: Pi Kappa Alpha, Alpha Zeta, Sigma Xi, Gamma Al-

pha. Agent, H.S.D.A. 1930-33; pres. & gen. mgr., Chapman Chem. Co., 1933 to present. Res. in chem. control of sap stain and decay in wood prods. Short pubs. on above sub. 15 or so in all. Mem.: Amer. Wood Pres. Assn., Xi Sigma Pi, Forest Prods. Res. Soc., Soc. Amer. Foresters, A.R.E.A. Clubs: University, Lake Shore (Chicago), Tennessee Club (Memphis). Hobbies: golf, photography.

CHAPMAN, Arden Watson, res. supvr., res. dept., Celotex Corp., 205 W. Monroe St., Chicago 6, Ill.; res. 2329 Gen. Pershing St., New Orleans 15, La.
Chem. engr., chem.; b. New Orleans, La., Feb. 5, 1906; s. of Arden Ray and Anna Lilia (Watson) Chapman; ed. Tulane U., B.E. in Ch.E., 1927, B.S. in chem. 1927; mem.: Alpha Chi Sigma, Tau Beta Pi, Omicron Delta Kappa. Chem. engr., Celotex Corp., 1927 to date; at Marrero, La., plant until Nov., 1946, when tsfd. to main off. in Chicago as res. supvr.; chf. chem. 1937-40; personal asst. to tech. dir. supvr. 1940-42; asst. tech. dir. 1942-44; mgr. tech. opers. dept. 1945-Nov. 1, 1946; res. supvr., res. dept. to date. 2nd v.p. 1938-42, 1st v.p. 1942-46, natl. pres. 1946-48, Alpha Chi Sigma. Mem.: A.C.S. (natl. councilor 1943-47, pres. of La. sec. 1941, 1942), A.I.C. (fellow), A.I.Ch.E., L.E.S., Instruc. Soc. of Am., A.A.A.S., T.A.P.P.I. Treas. 1943-45, v.p. 1946-47, pres. 1948-49, Tulane U. Alumni Assn.; v.p., Friends of Howard-Tilton Libr. (Tulane U.), 1946-47. Clubs: Round Table (New Orleans), Ill. Athletic (Chicago), Chemists' (Chicago).

CHAPMAN, Gerald Howard, prof. chem., Kent State U., Kent, Ohio; res. 122 University Dr., Kent.
Prof.; b. Kent, Ohio, June 3, 1902; s. of Howard and Maud S. Chapman; ed. B.S., Kent State U. 1925; M.A. Ohio State U.; Ph.D. Western Reserve, 1939; mem.: Sigma Nu; m. Vera Morris, 1928; ch.: Linda. 1925-29, Niles H.S.; 1929 to date, Kent State U. Antimony electrode. Mem.: Sigma Xi, A.C.S.

CHAPMAN, Homer Dwight, prof. soils, plant nutrition, chem., Exp. Sta., U. of Calif., Citrus Exp. Sta., Riverside, Calif.; res. 830 University Drive.
Res. in soils, plant nutritions; b. Darlington, Wis., Oct. 4, 1898; s. of F.W. and Nettie Merriam Chapman; ed. U. of Wis., B.S., M.S., Ph.D.; mem.: Alpha Gamma Rho; m. Daisy E. Ernest, Mar. 10, 1928. Asst. chem. U. of Calif. Citrus Exp. Sta., 1927-37; assoc. chem., 1937-44; prof. Agri. U., 1944-46; prof. soils, plant nutrition, chem. Exp. Sta. 1946 to date; chrmn. Div. Soils & Plant Nutrition 1938 to date. Res. in soils & plant nutrition; Contrib. extens. to sc. and tech. jls.; mem.: Soc. Sc. Soc. Am., A.S.A.; Am. Soc. Horticul. Sc., Western Soc. Soil Sc., A.C.S.; Elder, Presby. Ch. (Riverside, Calif.). Clubs: Kiwanis (Riverside), Present Day (exec. comm., Riverside, Calif.). Hobbies: music, gardening.

CHAPMAN, Ray Parkin, dir., anal. & testing div., Am. Cyanamid Co., 1937 W. Main St., Stamford, Conn.; res. Bote Acres, Greenwich, Conn.
Chem.; b. Prince Edward Is., Canada, July 15, 1898; s. of A. Eugene and Elizabeth (Parkin) Chapman; ed. B.A., Mt. Allison U., 1921, B.Sc. 1922, hon. in chem.; M.A., Columbia U. (Tchrs. Coll.) 1928, Ph.D. chem. 1932; m. Caroline Cahill, Aug. 21, 1926. Teacher, high schl., New Brunswick, Canada, 1922-29; asst. in chem., Columbia U., 1929-32; instr., St. Stephen's Coll., 1932; University asst., Columbia, 1932-33; anal. chem., Expt. Lab., Am. Cyanamid Co., Linden, N.J., 1933-37; group leader, Anal. Lab., Stamford Res. Labs., Am. Cyanamid Co., 1937-44; asst. dir., tech. service & dev. div. 1944-49, dir. of anal. & testing div., Am. Cyanamid Co., 1949 to date. Mem. of Advisory Bd., Anal. Chem., 1944-49; mem. of Comm. D-1 & D-17 of A.S.T.M. Mem.: A.C.S., Soc of Chem. Industries, Sigma Xi, Phi Lambda Upsilon. Club: Milbrook (Greenwich, Conn.). Hobby: stamp collecting.

CHAPMAN, Thomas Shelby, asst. dir., Argonne Natl. Lab., U. of Chicago, P.O. Box 5207, Chicago 80, Ill.; res. 171 Fellows Ct., Elmhurst, Ill.
Exec.; b. McAlester, Okla., Nov. 1, 1905; s. of Thomas Shelby and Nellie Owen (Martin) Chapman; ed. New Mexico Military Inst.; Rice Inst., B.A., M.S.; Okla. U.; Cornell U., Ph.D.; m. Ruth Tisdale, Aug. 8, 1931; ch.: Thomas Shelby III. Asst., fellow, Rice Inst., 1927-31; teacher, high schl., McAlester, Okla., 1931-36; res. engr., Humble Oil & Refining Co., 1938-42; Army inspector of ord., Maumelle Ord. Wks., 1942-43; procurement officer, Office Chf. of Ord., 1943; tech. officers, Manhattan Engr. District, 1943-46; chf., operations branch, res. div., U.S. Atomic Energy Commis., 1947; asst., Argonne Natl. Lab., U. of Chicago, 1947 to date. Improvement of oil well drilling fluid. Mem.: A.C.S.

CHAPPELL, James Wilbert, prof. chem., chmn. dept., Madison Coll., Harrisonburg, Va.
Tchr., prof. chem.; b. Paola, Kans., Oct. 2, 1906; s. of George L. and Mary A. Chappell; ed. Ottawa Univ., Ottawa, Kans., B.S. 1929; U. of Kans. M.A. 1933; Ph.D. 1939; m. Ellen A. Harris, 1936; ch.: James Lee, Allen Harris. Asst. prof., assoc. prof., chem., Fort Hays, Kans. St. Coll., Hays, Kans. 1935-42; prof. chem., chmn. dept., Madison Coll., 1943 to date. Res. on solubilities of acetates, halides in anhyd. acetic acid; mem.: Alpha Chi Sigma, Sigma Xi, A.C.S., Kans. Acdy. Sc., Va. Acdy. Sc., A.A.U.P. Hobby: gardening.

CHARAK, Henry Brackett, exec. v.p., treas., Metropolitan Ref. Co., Inc. 50-23 23rd St., L.I.C. 1, N.Y.; res. 15 W. Beech St., Long Beach, N.Y.
Exec.; b. Nov. 5, 1889; s. of William and Marie Charak; ed. Boston, Mass.; m. Claire Edwards, Apr. 6, 1944. R. M. Hollingshead Corp., reg. mgr.; Dubois Soap Co., U.S.A., 1st Lt. Chem. Warfare; exec. v.p., treas.; Cosmopolitan Chem. Co., Inc. v.p., treas.; Harlou Prods. Co., Univ. Ref. Prods. Co., Inc., Presidio Realty Holders, Inc. Clubs: F.&A.M., Natl. Sojourner, Am. Legion, Military Order W. Ws., C.C., Oceanside Golf. Hobbies: gardening, puttering.

CHARMBURY, Herbert Beecher, assoc. prof., chf. div. of mineral preparation, Pa. State Coll., State College, Pa.; res. 1168 S. Atherton St., State College.
Teaching, res.; b. Hanover, Pa., Sept. 21, 1914; s. of Dr. Thomas H. and Daisy L. Charmbury; ed. Gettysburg. Coll., A.B. cum laude; U. of Pa., M.S.; Pa. State Coll., Ph.D.; m. Mildred L. Wentz, June 22, 1938; ch.: Deborah L., Thomas E. 1937-39, res. asst. pet. & natural gas; 1939-42, res. asst. fuel tech.; 1942-47, asst. prof. fuel tech.; 1947-50; assoc. prof. fuel tech.; 1950 to date, assoc. prof., chf. mineral prep., Pa. State Coll. Hydrogenolysis of coal & pure cmpds.; oxidation & nitration of coal; pat. on dyes from coal; atmospheric pollution; allaying of dust in coal mines; secondary recovery of pet. Mem. A.C.S. (secy.-treas. gas & fuel div. 1947 to date), Am. Gas Assn., A.A.U.P., A.I.M.E. Clubs: F.&A.M. Patmos Lodge 348; B.P.O. Elks, State Coll. Lodge 1600.

CHARRON, Roy Chester, dir. of Lab., U.S. Envelope Co., 84 Prescott St., Worcester, Mass.; res. 1 Bellingham Rd., Worcester.

Chem.; b. Leominster, Mass., May 11, 1892; s. of Isaac C. and Mary Ellen (Cole) Charron; ed. Leominster High; Worcester Acad.; Mass. Coll. of Pharmacy, Pharm. D., Ph.C.; M.I.T. special (no deg.); Worcester Polytech. Inst. (special, no deg.); mem.: Phi Delta Chi; m. Alice Bertha Parkman, Nov. 30, 1916; ch.: Richard Parkman. Riker Jaynes Drug Co., control lab.; Arthur D. Little, Inc., chem.; U.S. Envelope Co., chem., dir. of lab.; W.W. I, Lt., 76th Div. & Am. Univ. Emer. Lab.; W.W. II, Col., Sel. Ser. Hg. Mass. Occupational Advr. & Reg. Fld. O. Regt. on Gen. Hershey's staff, C.W.S., E.T.O. Deputy The. Chem. Officer, Forward Echelon France, chg. of C.W.S. supplies. Paper, adhesives, inks; dextrin & starch for envelope adhesives; latex & high polymers. Mem.: Wor. Eng. Soc. (past pres.), A.C.S., T.A.P.P.I., N.E. Paint & Varn. Prod. Club, Boston Rubber Group, A.I.C. (fellow), Armed Forces Chem. Assn., Soc. of Rheology, A.A.A.S.; W.W. I, Lt. C.W.S., W.W. II, Col., Chem. Corps, Bronze Star, Citation-Secy of War as staff officer on Gen. Hershey's staff, Croix de Guerre. Clubs: Laymen's League, University, Masonic bodies, Citizen Plan E. Assn., Military Order of World Wars, C.W.S. Veterans Assn. (dir.), Am. Legion. Hobbies: photography, 16 mm. movies, hunting.

CHASE, Edward Sherman, partner, Metcalf & Eddy, 1300 Statler Bldg., Boston, Mass.; res. 47 Woodland Rd., Auburndale, Mass.

Conslt. Sanit. Engr.; b. Merrimac, Mass., July 14, 1884; s. of Arthur W. and Emeline A. Chase; ed. M.I.T. (Sanit. Engr.); mem.: Delta Omega (hon. Pub. Health); m. 1st, Frederica H. Atherton (dec.) June 14, 1911; m. 2nd. Bertha A. Chestey, Sept. 27, 1924; ch.: Edward Sherman, Jr. 1907-08 priv. asst. to Prof. Leonard P. Kinnicutt, W.P.I.; 1908-09 chem. and bacteriol., Hering & Fuller, Cons. Engrs.; 1909-12 chem. in chg. Sewage Treatment Wks., Reading, Pa.; 1913 expert on Sewage Disposal, Bor. of Richmond, N.Y.C.; 1913-20 asst. engr., N.Y.S. Dept. Health, Albany, N.Y.; 1920-27 sanit. engr., Metcalf & Eddy, Boston, Mass.; 1927 to date partner, Metcalf & Eddy; studies and investigations in fld. of water, sewage and indust. wastes treatment for many municipalities and indust. clients. Mem.: Inst. of Water Engrs. (hon,); N.E.W.W.A. (past pres. and hon. mem.); Am. Soc. C. E.; Am. W.W.A., Am. Pub. Health Assoc., Boston Soc. C.E., Inter-Amer. Assoc. San. Engrs., Fed. of Sew. Wks. Assocs., A.I. Cons. Engrs. Mem.: Alumni Council, M.I.T. Club: Engineers (Boston).

CHATENEVER, Alfred, res. engr., assoc. prof. of pet. engrg., U. of Okla., Norman, Okla.; res. 519 Sooner Dr., Norman.

Res. sc., conslt.; b. N.Y.C., May 1, 1916; s. of Simon and Rose Chatenever; ed. C.C.N.Y., B.S., 1936; Columbia U., M.A. 1937; N.Y.U., Ph.D., 1948; m. Blanche Picker, Aug. 10, 1940; ch.: Richard. Jan. 1938-Sept. 1942, Aquatic Chem. Labs., N.Y.C., chf. chem.; Sept. 1942-Jan. 1944, Matam Corp., L.I.C., N.Y., sr. chem.; Jan. 1944-Sept. 1944, Kellex Corp., S.A.M. Labs., N.Y.C., res. sc.; Sept. 1944-Mar. 1945, Columbia U., S.A.M. Labs., N.Y.C., res. sc.; Mar. 1945-June 1946, Carbide & Carbon Chem. Corp., S.A.M. Labs., N.Y.C., res. sc.; July 1946-Dec. 1947, Aquatic Chem. Labs., N.Y.C., tech. dir.; Jan. 1948-Sept. 1949, Alfred Chatenever, Bklyn., N.Y., conslt.; Sept. 1949 to date, U. of Okla., Norman, Okla., res. engr., assoc. prof. of pet. engrg. Physico-chem. res. in gaseous diffusion connected with atom bomb prod.; res. in kinetics of ionic reactions in solution; dev. of water conditioning treatments & equip.; studies in corrosion; org. syn.; process dev.; res. in the flow of fluids thru porous media. Mem,: A.C.S., A.A.A.S., Sigma Xi, Natl. Assn. of Corrosion Engrs.

CHAVE, Charles T., process engr., Stone & Webster Engrg. Corp., 49 Federal St., Boston 7, Mass.; res. 24 Shadow Lane, Wellesley 81, Mass.

Engr.; b. N.Y.C., Apr. 4, 1905; s. of Charles B. and Alice G. Chave; ed. Columbia U., A.B. 1927, B.S. 1928, M.E. 1929; mem.: Delta Tau Delta; m. Eileen Bradley, Nov. 9, 1940; ch.: Victoria Ann. 1929-31, Foster Whebler Corp., heat exchanger rating engr.; 1931-39, Alco Prods. Div. Am. Locomotive Co., operator, job ,engr., heat exchanger rating engr., process engr.; 1939 to date, Stone & Webster Engrg. Corp., engr. pet. div., pet. engr., process engr.

CHELDELIN, Vernon H., prof. chem., Oregon State Coll., Corvallis, Ore.; res. Corvallis.

Chem. prof.; b. Clatskanie, Ore., Mar. 15, 1916; s. of John F. and May C. Cheldelin; ed. B.A., Reed Coll., 1937; M.S., Ore. State Coll., 1939; Ph.D., U. of Texas, 1941; m. Irene Hinnells, Sept. 7, 1938; ch.: Verene B., Ronald H., Lawence V., Sandra I. Instr. chem., U. of Texas, 1939-41; res. chem., R.R. Williams Labs., Summit, N.J., 1941-42; res. assoc., U. of Texas, 1942; asst. prof. chem., Ore. State, 1942-44; assoc. prof., 1944-48; prof., 1948 to date; Rockefeller Travelling Fellow, Enzyme Inst., U. of Wis., 1949-50; study sec., biochem. & nutrition div., U.S.P.H.S., 1951-55. Some 54 contribs. to sc. and tech. jls. lgely. in flds. of new growth factors, antimetabolites and metabolite interrelationships, nutrition, growth requirements of microorganisms, and assay methods. Co-author: (with B.E. Christensen, L. Friedman & M.B. Williams) "Lab. Exercises in Experimental Genl. Chem.," Ore. State Coll. Co-op. Assoc., 1947; (with J.S. Butts) "Lab. Experiments in Biochem.," Ore. State Co-op. Assoc., 1949. Mem.: A.C.S., A. S.Biol.C., Am. Inst. Nutrition, Biochem. Soc. (British), Soc. Am. Bacteriols., Ore. Acdy. Sc., Sigma Xi, Phi Kappa Phi, Phi Lambda Upsilon. Clubs: Kiwanis, Toastmasters. Hobby: golf.

CHEN, Ko Kuei, dir. of pharmacologic res.; prof. of pharmacol., Eli Lilly & Co., Indianapolis 6, Ind.; res. 519 W. Hampton Dr., Indianapolis 8.

Pharmacologist, phytochemist, and physician; b. Shanghai, China, Feb. 26, 1898; s. of Jui-Chien and Ta-Chi (Chou) Chen; ed. grad. Preparatory Dept., Nanyang Coll., Shanghai, 1916; Tsing Hua Coll., Peking, 1918; B.S., U. of Wis., 1920; Ph.D. in physiol. and pharmacol., 1923; M.D., Johns Hopkins U., 1927; Sc.D. (h.c.) Phila. Coll. of Phar., 1946; m. Amy Shu-Hao Ling, July 15, 1929; ch.: Thomas Tao-Yuan, Janet Mei-Fong. Sr. asst., Peking Union Med. Coll., 1923-25; res. pharmacol., U. of Wis., 1925-26; intern, State of Wis. Gen. Hosp., 1925-26; assoc in pharmacol., Johns Hopkins U., 1927-29; dir. of pharmacologic res., Eli Lilly & Co., since 1929; prof. of pharmacology, Indiana U., since 1937; notable wk.: introduction of ephedrine to medicine; study of cardiac glyosides and toad poisons; introduction of new antidote for cyanide poisoning. Author: (with Carl F. Schmidt), "Ephedrine and Related Substances," 1930; contributor to: Bentley and Cowdry's Problem of Mental Disorder, 1934; Stieglitz's Geriatric Medicine, 1943. Mem.: A.M.A.; A.A.A.S.; A. Soc. Exper. Pharmacol. & Therap. (treas. since 1947); A. Physiol. Soc.; S.E.B.M.; Natl. Acdy. of Peking, 1948; Advisory Bd., Anal. Chem., A.C.S., since 1948; Foreign Editor, Chinese Med. J., Shanghai, since 1948; conslt. to Med. Service, Indianapolis Gen. Hosp., since 1948; fellow, Am. Coll. of Physicians, 1950. Rec. first prize for res. by China Foundation for Promotion of Education and Culture, 1928; res. Cert. of Merit for a sci. exhibit on "Experimental Liver Injury" (with Paul N. Harris), by A.M.A., 1944. Mem.: Phi Beta Kappa, Sigma Xi, Sigma Sigma, Phi Sigma, hon. mem. Phi Beta Pi, 1929. Hobby: amateur movies.

CHENICEK, Dr. Albert G(eorge), res. chem., Interchem. Corp., 432 W. 45th St., N.Y. 19, N.Y.; res. 130 Maple St., Haworth, N.J.
Chem., coordinator of resin res. & dev.; b. Chicago, Ill., Dec. 15, 1913; s. of Joseph A. and Rose B. Chenicek; ed. B.S., Chicago, 1934, Ph.D. org. chem. 1937; m. Beth L. Mackey, Aug. 21, 1943; ch.: Anne F., Robert B. Res. chem., Columbia Chem. Div., Pitts. Plate Glass Co., Ohio, 1937-41; group leader, coordinator of resin res. & dev., Inter chem. Corp., 1941 to date. Mem.: Sigma Xi.

CHERKIN, Arthur, v.p., dir. res., Don Baxter, Inc., Glendale 1, Calif.; res. 5624 Green Oak Dr., Los Angeles 28, Calif.
Chem.; b. Latrobe, Pa., July 24, 1913; s. of Carl and Frances Cherkin; ed. U.C.L.A., B.A. 1933; U. Southern Calif., 1940-41; U.C.L.A. 1945 to date (toward Ph.D.); m. Adina Mantchik, Mar. 14, 1934; ch.: Della Fay, Daniel Craig. 1933 Max Factor & Co., L.A., Calif., chem.; 1934 Synthetics, L.A., Calif., co-owner; 1934 to date Don Baxter, Inc., chem. to v.p., dir. res. Res. in esta. of contr. procedures for parenteral solutions, dev. of sterile solutions for parenteral alimentation and therapy, studies on pyrogens, protein nutrition; mem.: A.C.S., A.A.A.S., A.I.C. (fellow), I.F.T. Hobbies: home movies, gardening.

CHERNOFF, Lewis H., ret. chf. chem., Denver Distr., U. S. Food & Drug Admn., 531 Customhouse Bldg., Denver, Colo., res. 646 York St.
Chem.; b. Russia, Jan. 1, 1890; s. of Hill and Ruth Chernoff; ed. Yale, Ph.B. 1911; Ph.D. 1914; undergrad. wk., Denver U., Chicago U., Yale (Sheffield); m. Sophie Lovins, June 25, 1912; ch.: Olive, Leonard, Debilee. Prof. chem., physics. Coll. Charleston, Charleston, S.C. 1914-15; chem. Bur. Chem., Wash., D.C. 1915-18; chem., Denver Sta., U.S. Food & Drug Admn., Denver, Colo. 1918-30; chem., Los Angeles, Sta., U.S. Food & Drug Admn,. Denver, Colo. 1937-50 (ret. July 1, 1950.). Res. in pyrin., nucleos., sapon., carbohyd., proteins, various anal. methds. pertaining to foods, drugs; mem.: A.C.S., A.I.C., (fellow), Sigma Xi. Hobbies: music (violinist, symphony & theatre orchestras).

CHESLEY, Kenneth Groves, dir. res., Crossett Lumber Co., Crossett, Ark.
Chem.; b. Los Angeles, Calif., Mar. 15, 1909; s. of K. E. and Jennie Groves Chesley; ed. U. of Kans. A.B. 1926-30; Lehigh U., M.S. 1930-32; mem.: Alpha Chi Sigma; m. Ruth Beard, Aug. 23, 1930; ch.: Harold E., Charles C. Res. fellow, Lehigh Inst. Res., 1930-32; chf. chem., Crossett Chem. Co., 1933-40; res. chem., Crossett Paper Mills, 1940-41; res. dir., Crossett Lumber Co. 1941 to date; mem. A.C.S., T.A.P.P.I., Forest Prods. Res. Soc. Club: Rotary.

CHESNUT, Charles O., gen. mgr., Pacific Div., Wyandotte Chem. Corp., 506 Central Tower Bldg., San Francisco 3, Calif.; res. 3755 Jackson, San Francisco.
Exec.; b. Paris, Ill., July 28, 1899; s. of Dan LeGore and Adele (Houston) Chesnut; ed. Lawrenceville Schl., Princeton U.; m. Ruth W. Warner Sept. 4, 1929; ch.; William Warner, Dan LeGore. 1921-29, Home Ins. Co., N.Y., special agent; 1929-45, McCord Corp., Detroit, v.p., treas.; 1945 to date, Wyandotte Chem. Corp., gen. mgr., Pacific Div. Pres. & dir. Natural Soda Prods. Co. Clubs: Detroit Club (Detroit, Mich.), Country of Detroit (Grosse Pointe Farms, Mich.), Jonathan (Los Angeles), Cercle de l'Union (San Francisco), Princeton of N.Y.

CHESTER, K. Starr, supvr. agri. res., Battelle Memorial Inst., Columbus 1, Ohio; res. 1845 W. 2nd Ave., Columbus 12.
Adm. Agri. res.; b. Turner's Falls, Mass., July 21, 1906; s. of John D. W. and Alice Starr Chester; ed. B.S. 1928, M.S. 1929, Boston U.; A.M. 1930, Ph.D. (biol.) 1931, Harvard U.; postgrad. study, Zurich, Switzerland, 1931-32; mem.: Phi Beta Kappa, Lambda; m. Dorothy Goodard, Aug. 13, 1935; ch.: Desire Packer. Res. fellow, Rockefeller Inst. Med. Res. 1932-37; prof., hd. dept., botany and plant pathology, 1937-48, dir., Res. Foundation, 1944-48; Okla. Agri. Mech. Coll.; supvr. agr. res., Battelle Memorial Inst. 1948 to date. Res. on serology of plant viruses, on fungicides, nematocides; adm. of agri. chem. res. Contrib. extens. to sc. and tech. jls. Mem.: A.A.A.S. (fellow), Botanical Soc. Am. Phytopath. Soc., Sigma Xi; chmn. bd. dir., Natl. Flying Farmers' Foundation; Bd. Governs., Ohio Forestry Assn.

CHEW, John Aldridge, pres., John A. Chew, Inc., 60 E. 42nd St., N.Y.C.; res. 290 Park Ave., N.Y.C.
Merchant; b. Charles Town, Jefferson Co., W. Va., Jan. 5, 1884; s. of Joseph A. and Mary (McIntosh) Chew; ed. pub. schls.; m. Octavia Thomson, Jan. 1, 1910; ch.: Elizabeth (Mrs. L. S. Willard, Jr.), Robert P., Peter T. Rosengarten & Sons, steno-salesman, 1903-05; Powers-Wrightman Rosengarten Co., salesman, 1905-10; Bauer Chem. Co., off. mgr., 1912-16; Brit. Amer. Chem. Co., sales mgr., 1916-17; Warner Chem. Co., Warner-Klipstein Co., and Westvaco Chlorine Prods., sales mgr., v.p. in chg. of sales, 1917-30; Swann Chem. Co., v.p., 1930-32; John A. Chew, Inc., pres., 1932 to date. Clubs: Chemists'; Union League; Maidstone of East Hampton, L.I.

CHEYNEY, LaVerne Emerson, dir. of fundamental and exploratory res., adhesives and coatings div., Minn. Mining and Mfg. Co., Detroit, Mich.; res. 254 Kerby Rd., Grosse Pointe 30, Mich.
Chem., chem. engr.; b. Akron, Ohio, Mar. 26, 1911; s. of Roy E. and Adah B. Cheyney; ed. B.S., U. of Akron, 1933; M.S., U. of Pa., 1935; Ph.D., Ohio State U., 1938; m. Margaret Helbig, Sept. 23, 1939; ch.: Barbara, Harold. B.F. Goodrich Co., 1933-34, anal. and dev. chem.; Natl. Aniline Div., Allied Chem. and Dye Corp., 1938-39, res. and dev. chem.; Goodyear Tire & Rubber Co., 1939-41, res. chem.; Univ. of Akron, 1941-42, asst. prof. in chg. of rubber chem.; Goodyear Tire & Rubber Co., 1942-45, Sect. Hd. in Res. Div., Sect. Hd. in Chem. Prods. Dev. Div.; Battelle Memorial Inst., 1945-48, supvr. of resin and rubber res.; Pollock Paper Corp., 1948-49, res. dir.; Adhesives and Coatings Div., Minn. Min. & Mfg. Co., dir. of Fundamental and Exploratory Res., 1949 to date; res. is basis of 17 U.S. pats. and 39 tech. arts., primarily in flds. of rubber, plastics, and packaging; served as instr. in gas def. for Off. of Civilian Def., 1942-43; org. and taught evening course in plastics in Goodyear Indust. U., 1942-45; mem. of Edit. Adv. Bd., S.P E. Jl., 1949; co-chmn. Polymer Symposium, Columbus Sect., A.C.S., 1947; secy., Natl. Adv. Council, Soc. Plastics Engrs., 1947; Comm., Symposium on Rubber Aging, A.S.T.M., 1949. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S., A.I.C., A.I. Ch E., A.A.A.S., A.S.T.M., T.A.P.P.I., S.P.E. Hobbies: gardening, music, stamp collecting.

CHILDS, Carl S., chmn., treas., The Flox Co., Inc., 1409 Willow St., Minneapolis, Minn.; res. Huntington Pt., R.F.D. No. 1, Wayzata, Minn.
Exec.; b. Dec. 30, 1890, St. Paul, Minn.; ed. grade schls. and Hoyne Manual Training H.S.,

Chicago; m. Marjorie B.; ch.: Sheldon M., John N. Salesman, Int. Correspd. Schl., Minneapolis, 1910-13; bond salesman, 1914-17; served in U.S.A., 2nd Balloon Co., in Europe, 1918-19; employed Chicago Chem. Co., May 1, 1920 as sales rep. at Minneapolis, to Milwaukee, Sept., 1925; joined The Flox Co. Mar. 1, 1926, v.p. and treas.; elected chmn. of bd., July, 1943.

CHILTON, Thomas Hamilton, tech. dir., dev. engrg. div., E. I. du Pont de Nemours & Co., Wilmington, Del.; res. 805 Augusta Rd., Wilmington.
Chem. engr.; b. Greensboro, Ala., Aug. 14, 1899; s. of Claudios L. and Mabel (Pierce) Chilton; ed. U. of Ala., 1915-16; Columbia U., 1917-22, Ch.E. 1922; m. Cherridah McLemore, June 29, 1926; ch.: Thomas McL., Daniel T. Res. chem., F. J. Carman, N.Y., 1922-25; chem. engr., chem. dept., E. I. du Pont de Nemours & Co., Expt. Station, Wilmington, Del., 1925-30, group leader 1930-35, asst. div. hd., tech. div., engrg. dept., 1935-38, dir. tech. div. 1938-45, mgr. dev. engrg. div., Nemours Bldg. 1945-47, tech. dir. 1947 to date. Mem.: A.C.S. (chmn. Div. Ind. Eng. Chem. 1944-46), A.I.Ch.E. (dir. 1937-39, 1942-44, 1947-49, v.p. 1950), A.S.M.E., Am. Soc. Engrg. Ed., Tau Beta Pi, Phi Lambda Upsilon, Sigma Xi, A.A.A.S. Awards: Chandler M. 1939; Egleston M. 1943; D.Sc. hon., U. of Del., 1943; University M., Columbia U., 1950. Trustee, Tower Hill Schl., Wilmington, Del., 1941-48. Clubs: Chemists' (N.Y.), du Pont Country (Wilmington, Del.).

CHIPMAN, Ernest E., v.p. & genl. mgr., Productol Co., 417 S. Hill St., Los Angeles 13, Calif.; res. 979 Topeka St., Pasadena 6, Calif.
Chem. engr.; b. Windsor, Mo., Dec. 8, 1915; s. of Clyde A. and Lena M. Chipman; ed. Purdue U., B.S.Ch.E., 1937; m. Mary B. Chipman, Sept. 3, 1937; ch.: Stephen C., Margaret A. 1937-43, engrg. dept., E. I. du Pont de Nemours & Co., final position group leader in engrg. dev.; 1943-46, Manhattan District, U.S. Corps of Engrs., final position sr. chem. engr. P-6; 1946 to date, Ehrhart & Arthur, Inc., Los Angeles (v.p. and dir.), chf. process engr., mgr. of Productol Co. Div. Mem.: A.I.Ch.E. (active), A.C.S. (active), Calif. Natural Gasoline Assn., Res. Prof. Engr. in Del. & Calif. Club: University (Los Angeles). Hobby: fishing.

CHIPMAN, John, prof. of metallurgy, hd. dept. of metallurgy, M.I.T., Cambridge 39, Mass.; res. 19 Lorena Rd., Winchester, Mass.
Prof. of metallurgy; b. Tallahassee, Fla., Apr. 25, 1897; s. of John and Maria (Randolph) Chipman; ed. B.S., U. of the South, 1920; M.S., State U. of Iowa, 1922; Ph.D., U. of Calif., 1926; Sc.D., U. of the South, 1940; mem.: Delta Tau Delta, Alpha Chi Sigma; m. Ruth Hayes, 1923; ch.: David Randolph, Ruth Elizabeth. 1920-22, teaching asst. in chem., State U. of Iowa; 1922-24, asst. prof. of chem., Ill. Wesleyan U.; 1924-26, teaching fellow, U. of Calif.; 1926-29, asst. prof. of chem., Ga. Schl. of Tech.; 1929-34, res. engr., U. of Mich.; 1934-37, assoc. dir. of res., Am. Rolling Mill Co.; 1937 to date, prof. of metallurgy, M.I.T., 1946 to date, hd. dept. of metallurgy. Mem.: A.I.M.E., A.S.M., Iron & Steel Inst. (Gt. Britain), Swedish Royal Acad. of Sc., Sigma Xi; Howe M., A.S.M., 1937; Hunt Award, A.I.M.E., 1939; Campbell Memorial Lecturer, A.S.M. 1942; Howe Memorial Lecturer, A.I.M.E. 1949. 1945, dir. 1950, v.p., A.S.M.

CHISDES, Meyer, chf. chem., Port of N.Y. Authority, 111 Eighth Ave., N.Y. 11, N.Y.; res. 1647 Nostrand Ave., Bklyn. 26, N.Y.
Chem.; b. Bklyn., N.Y., Aug. 7, 1901; s. of Samuel and Esther Chisdes; ed. Northwestern U., B.S., 1927; m. Ray Saldin, Mar. 9, 1929; ch.: Francis S., David M. City of N.Y., jr. chem., 1925-26; G. Siegle Corp., Staten Is., N.Y., res. chem., 1927-28; Anaconda Copper Mining Co., Butte, Mont., chf. chem., Moonlight Lab., 1928-33; City of N.Y., group leader, anal. chem., 1934-36; Port of N.Y. Authority, N.Y.C., chem., 1936-41, chf. chem. 1941 to date; on leave of absence from The Port of N.Y. Authority before & during W.W. II & connected with Anglo-Chilean Nitrate Corp., Lithaloys Corp., Empire Findings Corp., Westchester Chem. Corp., Hazeltine Corp., Lubrication, corrosion of ferrous metals, inorg. anal. chem., lithium, manganese, portland cement, ferrous metals & alloys. Mem.: A.A.A.S. (fellow), A.C.S., A.S.T.M.

CHISWELL, Edgar B(urns), Jr., chf. design engr., Calif. Res. Corp., Box 1627, Richmond, Calif.; res. 2901 Forest Ave., Berkeley 5, Calif.
Chem. engr.; b. Poolesville, Montgomery Co., Md., Feb. 23, 1914; s. of Edgar B. and Haddie S. Chiswell; ed. George Washington U., 1929-30; M.I.T. 1930-37, B.S. 1934, M.S. 1935, Sc.D. 1937; m. Hester M. Rayner 1936; ch.: Helen Kathryn, Edgar B.; Stand. Oil Co. of Calif., 1937-44, engr.; Calif. Res. Corp. (subsid. of S.O. of Calif.), 1944 to date, div. supvr. 1945-50, chf. design engr. 1950 to date. Mem.: A.I.Ch.E., A.C.S.

CHITTENDEN, F. Dudley, dev. mgr., Naugatuck Chem. Div. of U.S. Rubber Co., Naugatuck, Conn.; res. 77 Dunn Ave., Naugatuck.
Chem. engr.; b. New Haven, Conn., Aug. 11, 1902; s. of George D. and Ellen R. Chittenden; ed. Yale B.S. 1923, Ph.D. 1926; mem.: Alpha Chi Sigma, Gamma Alpha, Sigma Xi; m. Helen Dickinson, Nov. 11, 1932; ch.: Ann, Jane. Gen. Labs., res. chem., 1923-31; Providence plant, asst. dev. mgr. 1931-42; Naugatuck Chem. Div., tech. coordinator for syn. rubber div. 1942-44: Naugatuck G.R.S. plant, factory mgr., 1944-45; Naugatuck Chem. Div., dev. mgr., 1945 to date; all with U.S. Rubber. Mem.: A.C.S., Soc. of Chem., Ind. A.I.Ch.E. Clubs: Waterbury Country, Rotary (Naugatuck).

CHITTICK, Martin Burton, tech. dir., dir. of tech. sales, Am. Mineral Spirits Co., 155 E. 44th St., N.Y. 17, N.Y.; res. 3-A Carlyle, Garth Rd., Scarsdale, N.Y.
Chem. engr.; b. Stuart, Nebr., Apr. 18, 1892; s. of Robert E. and S. Lorena Chittick; ed. U. of Nebr., 1916, A.B., Ph.G.; U. of Minn., 1917 grad. wk., Sigma Xi; mem.: Alpha Tau Omega, Alpha Chi Sigma; m. Margarette G. Chittick, Mar. 20, 1918; ch.: Elaine C. Evans. U. of Minn., grad. instr., 1916-17; U.S.A., Capt. Corps Engrs., 1917-19; U. of Minn., instr., 1920-24; Pure Oil Co., plant mgr., asst. chf. process engr., asst. chf. chem., mgr. specialty & tech. sales, 1925-41; U.S.A., Col. CmlC. 1941-45; Pure Oil Co., mgr. spec. & tech. sales, 1945-47; Am. Mineral Spirits Co., tech. div., 1948 to date. Pet fuels, lubricants, petrochem. Author: "Automotive Lubrication" 1935. Mem.: A.C.S., A.I.Ch.E., A.S.T.M. Awards: Legion of Merit & var. other mil. decs. Clubs: Cosmos, Army-Navy. Hobbies: golf, photography.

CHITTUM, John W(illiam), prof. of chem., Coll. of Wooster, Wooster, Ohio; res. 722 N. Bever St., Wooster.
Teaching chem.; b. Wapello, Iowa, July 19, 1901; s. of John Hefner and Ida Mae (Davis) Chittum; ed. B.S., Iowa Wesleyan Coll., 1922; M.S., U. of Chicago, 1924, Ph.D., 1928; m. Alma Pearl Spencer, Aug. 22, 1924; ch.: John Raymond, Edith Eileen, Roger Dean. Teacher, Eddyville, Iowa, high schl. 1922-23; prof. of physics, Iowa Wesleyan Coll. 1924-27; prof. of chem., Olivet, Mich., Coll.,

1928-29; asst. prof. of chem., Coll. of Wooster 1929-38, prof. of chem., 1938 to date. Co-author: "The Chemist at Work" 1940, with Roy I. Grady and others. Mem.: A.C.S., Sigma Xi, held var. offices in Wooster sec. A.C.S. Hobbies: reading, volleyball.

CHODROFF, Saul, assoc. res. dir., Nopco Chem. Co., Harrison, N.J., res. 10 Ocean Parkway, Bklyn. 18, N.Y.
Chem.; b. Bklyn., Apr. 29, 1914; s. of Israel and Anna Davis Chodroff; ed. B.S. (cum laude), Bklyn. Coll. 1938; Award A.I.C., Sophia E. Tobin Mem. Scholarship, award in chem.; M.A. 1942; Ph.D. Polytech. Inst. Bklyn., 1948; m. Blanche Rosenbaum, Dec. 23, 1939; ch.: Susan Doris, Stephen Leon. Weiss & Downs, engr. conslt., N.Y.C., 1939-40; res. asst. Nopco Chem. Co., 1941 to date res. chem. to assoc. res. dir. Res. in vitamins, horm., pharm., Synthesis of B-alanine, Resol. pantoyl. lactone, prep. of unsaturated sulf., use iodine in certain Freidel-Crafts reaction, vitamin D., sex horm., anti-histam., fungicides. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S. Hobbies: music, phonograph records.

CHOGUILL, Harold S., hd., dept. chem., Ft. Hays Kans. St. Coll., Hays, Kans.; res. 418 W. 5th St.
Prof. chem.; b. Humboldt, Kans., Jan. 12, 1907; s. of L.G and Effie M. Choguill; ed. Coll. Emporia, Emporia, Kans., A.B. 1927 (summa cum laude); U. of Kans., M.A. 1931; Ph.D. 1938; mem.: Alpha Chi Sigma; m. Genevieve Lindner, Apr. 24, 1933; ch.: Charles L. Principal High Schl., Winona Consolidated High Schl., Winona, Kans. 1927-30; instr. physical sc., Garden City Jr. Coll., Garden City, Kans., 1932-37; instr. physical sc., Independence Jr. Coll., Independence, Kans 1937-43; electron. engr. U.S.N. 1943-46; prof. chem., Ft. Hays Kans. St. Coll., 1946 to date. Res. in organ. iodination, sulfamic acid, sulfamates. Mem.: Sigma Xi, A.C.S., Kans. Acdy. Sc., N.E.A., A.A.U.P. Club: Lions. Hobbies: gardening, photography, electronics.

CHOUINARD, Albert E., hd. dept. of leather engrg., Lowell Textile Inst., Lowell, Mass.; res. Lakeview Ave., Tyngsboro, Mass.
Teacher, res. worker; b. Worcester, Mass., June 2, 1912; s. of Albert Charles and Cora (Allard) Chouinard; ed. Holy Cross Coll., B.S. 1938, M.S. 1939; Clark U., Ph.D. 1946; m. Veronica Estelliam Herbert, Dec. 2, 1949; ch.: Albert Gary, Claudette Marie. 1939-42, frmn. mach. div., Reed-Prentice Corp.; 1942-45, instr. & res. assoc., Clark U.; 1945-49, group leader, res. dept. followed by dir. of prod. dev., Graton & Knight Co.; 1949 to date, hd. dept. of leather engrg., Lowell Textile Inst. 5 pats. in fld. of leather; syn. of derivatives of aliphatic amines & amino acids; study of the formation of anils & certain rearrangements. Mem.: A.C.S., Am. Leather Chemists' Assn., Am. Leather Belting Assn. (tech. advisor to textile div.), Hobbies: photography, traveling.

CHRISTENSEN, Bernard Victor, dean, Coll. of Pharm., Ohio State U., Columbus, O.; res. 2230 Abington Rd., Columbus.
Pharm. educ.; b. Westfield, Wis., Apr. 15, 1885; s. of Gunder and Wilhelmina (Detert) Christensen; ed. U. of Wis., Ph.B. 1917; M.S. 1925; Ph.D. 1927; mem.: Rho Chi; Sigma Xi; m. Maude M. Scott, 1911; ch.: Phyllis (Christensen) Ogan; and Scott (dec.); 1905-06, tchr. rural schls. Marquette Co., Wis.; 1906-08 princ., State Graded Schl., Modena, Wis.; 1909-11 princ., H.S., Prentice, Wis.; 1911-13 princ. H.S., Friendship, Wis.; 1913-16, princ., H.S. Baldwin, Wis.; 1917-19 supt. of pub. schls. Arcadia, Wis.; 1919-23 supt. of pub. schls. Augusta, Wis.; 1924-27 instr. in pharm., U. of Wis.; 1927-39 prof. of pharmacognosy and pharmacology, Coll. of Phar., U. of Fla. 1933-39 dir. Schl. of Phar, U. of Fla.; 1939 to date, Coll. of Pharm., Ohio State U. Chmn. Sub-Comm. on Volatile Oils, U.S.P. Revision Comm. Author: "Some Drug Plants of Fla.," Dept. of Agri., 1929; "Collection of Medicinal Plants," Fla. Dept. of Agric., 1930; "Medicinal Plants of Fla.", Fla. Dept. of Agric. 1939; "Collection and Cultivation of Medicinal Plants of Fla.," 1940. Mem.: A. Pharm.A. (pres. 1941-42); Am. Assoc. of Colls. of Pharm., (pres. 1949-50); Am. Council on Pharm. Educ.; Ohio State Pharm. Assoc.; Central Ohio Acad. of Pharm.; Adv. Comm. of Pharm. Survey; Am. Council on Pharm. Educ. Am. Found. for Pharm. Educ.; U.S.P. Revision Comm. Mem. Bd. of Dirs. Am. Found. for Pharm. Educ. 1943-48.

CHRISTENSEN, Bert E., prof. of chem., Ore. State Coll., Corvallis, Ore.; res. 337 N. 23rd, Corvallis.
Prof. of chem.; b. Duluth, Minn., Oct. 20, 1904; s of Olaf B. and Lena S. Christensen; ed. B.S., Wash. State, 1927; Ph.D., U. of Wash., 1932; mem.: Sigma Phi Sigma; m. Emelyn Burke, 1932; ch.: Gerald R., Robert L., Joyce E. Res. chem., Atmospheric Nitrogen, 1927-28; instr. to prof., Ore. State Coll., 1931 to date. Krishell Labs. Inc. (pres.). Chem. of heterocyclic cmpds.; quantitative org. microanal.; tracer chem. Mem.: A.C.S., Sigma Xi, A.A.U.P. Clubs: Toastmasters Internatl., Triad. Hobbies: camping, fishing.

CHRISTENSEN, Carl J(oseph), dean, Coll. of Mines & Mineral Industries, U. of Utah, Salt Lake City 1, Utah; res. 1291 Third Ave., Salt Lake City 3.
Physical chem.; b. Provo, Utah, Apr. 3, 1901; s. of Chresten Carl and Ellen S. (Jorgensen) Christensen; ed. Brigham Young U., B.S. 1923; U. of Wis., M.S. 1925; U. of Calif., Ph.D. 1929; mem.: Sigma Xi, Theta Tau, Tau Beta Pi, Sigma Pi Sigma, Theta Alpha Phi; m. Alberta Huish, Sept. 3, 1924; ch.: Mary Ellen, Roberta Mae, Carl Huish, James Huish. Instr. in chem., Brigham Young U., 1923-24; asst. in chem., U. of Wis., 1924-25; instr. in chem. & physics, Brigham Young U., 1925-27; res. engr., Farnsworth Television, 1927-28; mem. of tech. staff, Bell Telephone Labs., 1929-46; instr., C.C.N.Y. (evening) 1930-47; dean, Coll. of Mines & Mineral Industries, U. of Utah, 1946 to date. Res. & dev. of microphone carbon, elec. resistors, semi conductors, ceramic insulators, piezo-elec. crystals, magnetic metals. Mem.: A.C.S., A.Phys.S., A.I.M.E., A.S.M., Am. Ceramic Soc., Am. Crystallographic Assn. Mem. of gen. bd. of Sunday Schl. of the Church of Jesus Christ of Latter-day Saints (Mormon). Hobbies: gardening, music. Officer: Intermountain Grain Storage Co. (dir.).

CHRISTENSEN, Chester W., gen. sales mgr., Monsanto Chem. Co., 920 Brown St., Akron O.; res. 524 Woodside Dr., Akron.
Exec.; b. Akron, O., Oct. 27, 1899; s. of Eugene F. and Clara Christensen; ed. U. of Akron, B.S. in chem.; mem.: Lambda Chi Alpha; m. Lois G., Dec. 30, 1930; ch.: Chester W., Jr., Edward E. Held position with Monsanto Chem. Co., since they purchased Rubber Serv. Lab. Co. in 1930; started with Rubber Serv. Lab. in 1922.

CHRISTIAN, Camillus, secy.-treas. Child Pulp Colors, Inc., 43-53 Summit St., Bklyn., N.Y.; res. Saddle River, N.J.
Exec.; b. Lynchburg, Va., May 6, 1892; s. of Davis and Elizabeth (Nutter) Christian; ed. Va. Military Inst., B S., class 1914; mem.: Kappa Alpha, Southern; m. Joyce Holt, Sept. 17, 1915.

CHRISTISON, Hugh, chem., Wm. Whitman Co. Inc., Arlington Div.
Chem.; b. Lawrence, Mass., 1883; ed. Lowell Textile Schl.

CHRISTMAN, Adam Arthur, prof. biol. chem., U. of Mich., Room 235, W. Med. Bldg., Ann Arbor, Mich.; res. 1613 Shadford Rd.
Tchr.; b. Shannon, Ill.; s. of Adam and Elizabeth Christman; ed. B.S. Grinell Coll. 1917; M.S. U. of Ill., 1920; Ph.D. 1922; mem.: Alpha Chi Sigma; Gamma Alpha; m. Mary Josephine Stevens, Aug. 25, 1923; ch.: Robert Adam, Mary Jean. Chem., Hercules Powder Co. 1917-18; instr. U. of Mich., 1922-25; asst. prof. 1925-30; assoc. prof. 1930-45; prof. 1945 to date.

CHRISTMANN, Ludwig J., dir. of basic nit. lab., Am. Cyanamid Co., 1937 W. Main St., Stamford, Conn.; res. 9 Center Knolls, Bronxville, N.Y.
Chem.; b. N.Y. City, Jan. 30, 1895; s. of Jacob and Karolina (Ihrig) Christmann; ed. Columbia U., B.S., 1917; Columbia U., M.A., 1918; Berlin U., Ph.D., 1924. m. Louise Wenz, Nov. 1922. Jay Shiefelin and Co , chem. Dec. 1918-June 1919; Grasselli Dyestuff, res. chem. June 1919-Nov. 1922; Am. Cyanamid Co., res. chem. March 1925-March 1933; dir. of min. dressing March 1933-Dec. 1941, dir. of basic nit. lab. Dec. 1941 to present. Patents on ore dressing, insecticides and organ. chems., conv. of ammonia into higher priced organ. nit. prods., wk. on "dicy," guanidines and melamine. Mem.: A.C.S., A.I.C. Club: Chemists'.

CHURCH, Howard, wks. mgr., Kaiser Alum. and Chem. Co., Box 1031, Baton Rouge, La.; res. 3564 Sherwood.
Chem. engr.; b. Alexandria, Neb., May 30, 1910; s. of Arthur and Mabel Church; ed. U. of Neb., B.S., 1930-35; m. Denise Paige, 1934; smelter test engr., chem., Nevada Cons. Copper Corp., McGill, Nev.; chem., Std. Oil of Calif., Richmond, Calif.; gen. supt., Permanente Metals Corp., Permanente, Calif.; wks. mgr., Kaiser Alum. and Chem. Co., Baton Rouge, La. Research: oper. and dev. of carbotherm. magnes. process, exp. in alum. process. Mem.: A.C.S., A.I.M.M.E., Soc. for Advance. of Mgmt. Hobbies: ham radio, photography.

CHURCHILL, John Wilbur, asst. dir. chem. res., Mathieson Chem. Corp., Niagara Falls, N.Y., res. 125 Northwood Dr., Kenmore 17, N.Y.
Chem., b. Hillsdale, Pa., July 20, 1912; s. of John Stanley and Maude S. Churchill; ed. U. of Akron, B.S. 1936; Oberlin Coll., Scholarship, 1936-37, A.M. 1937; Purdue U. 1937-41, fellow, 1938-40, Ph.D. 1944; mem.: Phi Delta Theta; m. Elsie Lou Gregory, June 29, 1940; ch.: Martha Dale, Gregory John, Barbara Jo. Asst. dept. chem., Purdue U. 1937-38, 1941; Mathieson Alkali Wks., Inc., fellow Purdue, 1938-40; res. chem. Mathieson, 1941-49; asst. dir. chem. res. 1949 to date. Res. in syntheses of monomers, polymers, distr. prods. chlorination reactions, oxida. of hexadecane, patents on tetrachloroethylene, azeotropic distillation, pentachlorostyrene, dichlorostyrene; mem.: A.A.A.S., A.C.S., Sigma Xi, Phi Lambda Upsilon. Hobbies: golf, mathematics.

CHURCHWARD, Philip Edson, chem., U.S. Bur. Mines; res. 555 Ave. G., Boulder City, Nev.
Chem.; b. Dawson, Yukon Territory, Canada, Oct. 1, 1904; s. of Guy S. and Edna Mae Churchward; ed. U. of Wash., B.S. 1928; M.S. 1936; m. Ruth E. Lawless, 1930. Chem., Crown Willamette Paper Co., Camas, Wash., 1928-34; teach. Grays Harbor Jr. Coll., Aberdeen, Wash. 1936-37; tech., U.S. Engrs. (War Dept.) Los Angeles, Nov. 1937-Jan. 1939; chem., anal., U.S. Bur. Mines, Boulder City, Nev. 1939-40; chem. res. & dev., 1941 to date. Assisted in dev. of proc. for electrowinning manganese; mem.: A.C.S. Hobbies: photography, mt. climbing.

CIBELLA, Ross C., tech. librn., co-ed. publ., dir. tech. personnel, Hagen Corp., Pittsburgh, Pa.; Box 10, R.D. 2, Verona, Pa.
Engr. chem.; b. Rochester, N.Y., Sept. 20, 1911; s. of John S. and Grace Castiliogni Cibella; ed. Alfred U., B.S. 1934; Fenn Coll., bus. admn. 1935; Western Res. U., Lib. Sc. 1936; mem.: Kappa Psi Upsilon, Phi Psi Omega (hon.); m. Marjorie A. Sharp, Jan. 15, 1938; ch.: Richard Sharp, James Halbert. Cleveland Pub. Lib. 1934-36, lib. asst., Titanium Pigment Corp., 1936-37, tech. librn.; Hagan Corp. and subs., Hall Labs., Inc., Calgon, Inc. 1937 to date, tech. librn., co-ed. publs., dir. tech. personnel. Appl. of microfilm chem. res. (papers, lect.); author: "Trade Names Index," 1941; "Dir. of Microfilm Sources," 1941; mem.: Spec. Libs. Assn.; A.C.S., Pitts. Person. Assn.; Dir. Downtown Y.M.C.A. (Pitts.), secy. bd. 1948 to date; dir. Jr. C.C., pres. 1947-48. Clubs: Chem. (N.Y.); Pitts. Lib., pres. 1949-50; Rosedale (Penn. Twp.) Civic, pres. 1949-50. Hobbies: photography, gardening, golf, public speaking.

CIBORSKI, John Michael, chf. metallurgist, Natl. Lead Co., 105 York St., Brooklyn 1, N.Y.; res. 10 Vale Dr., Mountain Lakes, N.J.
Metallurgy; b. Brooklyn, N.Y., Dec. 2, 1915; s. of John and Helen Ciborski; ed. Purdue U., B.S. Ch.E. 1939; Harvard U., M.S. 1940; m. Gula Keesling, Sept. 1, 1940; ch.: Helen, Michael. Westinghouse Mfg., 1940; Dow Chem., 1941; Purdue U., 1942; Natl. Lead Co., 1943; U.S.N.R., 1944-46; Natl. Lead Co. 1946 to date. Mem.: A.I.M.E., A.S.M. Club: Harvard. Hobby: music.

CISLAK, Francis E., dir. of res., Reilly Tar & Chem. Corp., Indianapolis 4, Ind.; res. 5331 N. Kenwood, Indianapolis 8.
Chem.; ed. B.S., M.S., U. of Chicago; Ph.D., Northwestern U. Mem.: A.C.S., A.I.Ch.E., Chem. Soc. (London), S.C.I., Am. Wood Preservers Assn.

CLAASSEN, Ralph I., gen. supt., Hiram Walker & Sons, Inc., Peoria, Ill.; res. 101 N. Kickapoo Terrace, Peoria.
Chem. engr.; b. Sibley, Iowa, Jan. 23, 1908; ed. U. of Iowa, B.S., Ch.E. 1931, M.S. Ch.E. 1932, Ph.D. 1934; mem.: Theta Tau, Tau Beta Pi, Sigma Xi, Phi Lambda Upsilon; m. Viola Neuman, Aug. 20, 1935; ch.: Betty Ann, Judy Marie. Joined Hiram Walker & Sons, Inc., 1934, & became asst. tech. dir.; entered active duty, U.S.A., 1st Lt., C.W.S., Feb. 1942; inact. duty as Maj. in Chem. Warfare, Sept. 1945; gen. supt., Hiram Walker & Sons, Oct. 1945 to date. Award: Legion of Merit for wk. done during act. duty in U.S.A. Author sev. tech. publs. on distillery & distillery oper. Mem.: A.I.Ch.E., A.C.S., A.S.M.E., Reg. Prof. Engr. Ill. Club: Creve Coeur.

CLAFLIN, Albert W., pres. Claflin Co.; pres., R.I. College of Pharmacy & Allied Scs., 40 Mathewson St. & 235 Benefit St.; res. 180 Medway St., Providence, R.I.
Exec. med. supply; pres. R.I. College of Pharmacy & Allied Scs. hd. chem. dept.; b. Jan. 31, 1885, Providence; s. of Arthur W. and Alice (Howard) Claflin; ed. U. Schl., later merged with Moses Brown Schl.; Brown U., 1906 Ph.B., 1907 Sc.M.; R.I. Coll. Phar. 1909 Ph.G.; 1910 Ph.C., 1912 Phar- D.; Prov. Coll. 1950 LL.D.; mem.: Beta Theta Pi, Phi Beta Kappa (hon.), Kappa Psi; m. Harriet Ames Fuller, Feb. 23, 1918; ch.: Elizabeth Fuller, Robert Christopher, George Arthur, William Howard. Various positions, finally pres., treas.,

Geo. L. Claflin Co. to 1940; pres., treas. Claflin Co., 1940 to date; at coll., successively, since 1912 asst. instr., asst. prof., full prof., dept. chem., hd. chem. dept., at present; taught org. chem. for 35 consec. classes; successively trustee, v.p., pres., chrmn. bd. (1937); to date; deputy state gas conslt. in Civilian Def. during W.W. II; dir. R.I. Elec. Protective Co.; co-author: "Tests for War Gases," co-instr. of classes for "gas officers" in the state. Contrib. to sc. and tech. jls.; mem. R.. Pharm. Assn., A.Ph.A.; delegate to Decennial Convention, U.S. Pharmacopoei, rev. 1930-40-50. Clubs: R.I. Philatelic Soc., Am. Philatelic Soc., Wedgewood (Boston, Mass.), v.p. 1950, Pottery & Porcelain (R.I.), R.I. Hist. Soc. Hobbies: stamps, historical pottery, Wedgewood ware, books pertaining to above but not for themselves, occasional lecturer on above.

CLANCY, John J., chem. engr., 30 Memorial Dr., Cambridge 42, Mass., res. 50 Cedar Lane, Westwood, Mass.
Chem. engr.; b. Millis, Mass., Aug. 3, 1918; s. of Martin F. and Jane G. Clancy; ed. Northeastern U. 1941, B.S. chem. eng., M.I.T., Grad. Schl. (part time) 1941-43; m. Ursula Austin, Sept. 11, 1948; ch.: Diane Austin. Arthur D. Little, Inc., lab. asst. prior to 1941; Jr. chem. eng. 1941-44; sr. chem. eng. 1944-45; proj. leader 1946 to date; mem.: A.I.Ch.E., A.C.S., Tau Beta Pi. Hobbies: skiing, hunting, fishing.

CLAPPER, Thomas Wayne, prod. mgr. Am. Cyanamid Co., Calco Chem. Div., Bound Brook, N.J.; res. Spring Run, Martinsville, N.J.
Chem; b. McKean, Pa., Oct. 15, 1915; s. of Thomas H. and Magdalene (Sterrett) Clapper; ed. St. Vincent Coll., B.S., 1937; Pa. State Coll., M.S., 1938 and Ph.D., 1942; mem.: Alpha Chi Sigma; m. Anna Anderson, Aug. 2, 1941; ch.: Thomas H., IV, Robert A. 1941-43 res. chem. Calco Div., Am. Cyanamid Co., Jan. to July 1943 res. chem. Panel Chem. Co., July 1943 res. chem. Calco Chem. Div., Jan. 1, 1944-Feb. 2, 1945 asst. chf. chem. Phar. Dept., Calco Chem. Div., Feb. 2, 1945-Apr. 2, 1948 chf. chem. Phar. Dept., Calco Chem. Div., Apr. 2, 1948 to present prod. mgr. Phar. Dept., Calco Chem. Div. Research: process dev. wk. on Sulfadiazine and other Sulfa drugs, res. wk. on organ. arsen. and antimony cmpds. Mem.: A.C.S., Sigma Xi, Phi Lambda Upsilon. Hobbies: gardening, agriculture.

CLARK, Berton Stanley, dir. res., Am. Can Co., res. divs., Maywood, Ill., res. 413 Div. St., Oak Park, Ill.
Chem.; b. No. Russell, N.Y., Sept. 26, 1888; s. of Leland Dewitt and Flora (Clark) Clark; ed. 1911 B.S., St. Lawrence U., Canton, N.Y.; 1927 Sc.D.; mem.: Sigma Alpha Epsilon; m. Alice Morrell, Oct. 11, 1916. Gen. Chem. Co., asst. chem., L.I., N.Y., 1911-12; wks. chem., Camden, N.J., 1912-15; Am. Can Co., res. chem., N.Y. Lab. 1915-19; asst. mgr., Maywood Lab. 1916-26; mgr. res., Pac. Div., San Francisco, 1926-41; "on loan" Natl. Canners Assn., San Francisco, res. dir., 1926-27; assoc. dir., Am. Can Co., res. div. 1942-44; dir. res. 1944 to date. Res. in dev. corrosion resist. tin plate; dev. hydrogen evolution test used steel ind. determ. perfm. tin plate for cans, W.W. II, serv. chrmn. Tech. Comm., Can Mfrs. Inst. conduct exprs., adv. War Prod. Bd. on matters tin conservation; numerous contribs. improve food prods., metl., fibre containers in which they are packed; conslt. wk. Dept. Agri. on utiliz. surplus farm prods., conslt. wk. Armed Servs., probl. relating to food, container procurement. Contrib. extens. to sc. and tech. jls.; mem.: conslt. Off. Price Adm., chmn. bd., Assns. Food & Container Inst.; chmn. Natl. Res. Council, adv. bd., Q.M. res. & dev. comm., packing, packaging, preservation; Natl. Res. Council, adv. bd., Q.M. Res. & Dev.; Dept. Def. Munitions Bd., Packaging Ind. Adv. Comm.; Nutrition Foundation, Food Inds. Adv. Comm., councilor I.F.T., comm. on Liaison Dept. Army, Comm. Military Serv. of Food Tech., (sub.-comm. I.F.T.-Army Liaison comm.); v. chrmn. Chicago sect., I.F.T.; Res. Adv. Council, Natl. Canners Assn.; res. comm. Can Mfgrs. Inst.; Food Tech. Council, Ill. Inst. Tech.; Sc. Adv. Comm., N.C.A., Western Bur., 1937-44; delegate, Nutrition Conf. for Def. 1941; Ind. Res. Inst., Inc.; Q.M. Assn.; A.C.S., I.F.T., Am. Pub. Health Assn., A.A.A.S., Am. Inst. Physics; Farm Chermurgic Council, Calif. Dairy Inds. Assn., Citrus Prods. Res. Council; Wartime activity—chrmn. Tech. Comm., Can Mfgrs. Inst., conslt. to Q.M. Gen. Clubs: Old Guard Soc., Oak Park (Oak Park, Ill), Commonwealth (San Francisco). Hobbies: books, bridge.

CLARK, Carroll A., v.p., gen. mgr., McLaughlin Gormley King Co., Minneapolis 14, Minn.; res. 5024 Bruce Ave., Minneapolis 10.
Chem. engr.; b. Duluth, Minn., Oct. 7, 1906; s. of Wayne A. and Maude F. Clark; ed. U. of Minn., B. Chem. Engr. 1929; M.S. 1930; mem.: Alpha Chi Sigma; m. Virginia Purser, 1931; ch.: Wayne A. 1931 Procter & Gamble Co., chem. engr.; 1932 McLaughlin Gormley King Co., frmn.; 1935 to date factory mgr., gen. mgr., v.p.; mem.: A.C.S.; hobby: photography.

CLARK, Charles Cicero, dir. chem. res., Mathieson Chem. Corp., Niagara Falls, N.Y.; res., 117 Paramount Pkwy., Kenmore 17, N.Y.
Research chem.; b. Columbus, Ohio, January 15, 1902; s. of Chas. C. and Harriet A. Clark; ed. Ohio State U., 1924, B.Ch.E.; 1929, M.A.; 1931, Ph.D.; mem.: Sigma Xi, Tau Beta Pi, Phi Lambda Upsilon, Pi Mu Epsilon, Alpha Chi Sigma; m. Mary Oberdorfer, June 5, 1926; ch.: Nancy J., Daniel C. 1924-28, Pure Oil Co., resident chem.; 1928-31, Ohio St. U., teaching asst.; 1931-34, Procter & Gamble Co., res. chem.; 1934-37, du Pont Rayon Co., res. chem.; 1937—. Mathieson Alkali Wks., res. chem., supvr. plastics; 1949, Mathieson Chem. Corp., asst. dir. chem. res. Dichlorostyrene synthetic rubber. Chlorination and amination processes of hydrocarbons. Fat and oil modifiers. Synthetic detergents, insecticides and fungicides. Action of alkalies on carbohydrates. Mem.: A.C.S., Alpha Chi Sigma, Niagara Frontier Professional Chapter, Treasurer Western N.Y. Section of A.C.S.; mem.: U. Club of Buffalo (inact.), Lasalle Yacht Club. Hobbies: cards, dancing, traveling, good shows, swimming, hiking, organization work, maintenance and repair of house and yard, gardening, etc., ping-pong.

CLARK, Cyril Backus, dir. of pat. dept., Am. Cyanamid Co., 1937 W. Main St., Stamford, Conn.; res. 32 Walbrooke Rd., Scarsdale, N.Y.
Chem. pat. expert; b. N. Russell, N.Y., June 19, 1887; s. of Cyrus F. and Jennie (Backus) Clark; ed. Canton, N.Y. H.S.; B.S. St. Lawrence U. 1908, M.S. 1912; mem.: Sigma Alpha Epsilon; m. Mabel Marine, Aug. 25, 1927; ch.: Patricia (Clark) Henstenburg, C. Edmund. Gen. Chem. Co., res. chem., 1910-29; Am. Cyanamid Co., pat. expert 1930-34, dir. pat. dept. 1935 to date. Clubs: Scarsdale Golf, Chemists' of N.Y. Mem.: A.C.S., A.I.Ch.E. Hobby: travel.

CLARK, Donald E., Kelco Co., 530 Broadway, San Diego, Calif.; res. 4774 Norma Dr.
Chem. engr.; b. Palo Alto, Calif.; s. of A.B. and G.B. Clark; ed. Stamford U., A.B. 1925; Chem. Engr. 1926; mem.: Alpha Chi Sigma; m. Lila Cunningham, 1930; ch.: Aldon E., Margaret E., Garut B. Chem., Celite Co., 1926-28; chem. engr., Stand. Oil Co. of Calif. 1928; supt. mills, Johns-

Manville, 1929-31; supt., tech. dir., gen. mgr., Kelco Co., 1932 to date; mem.: Sigma Xi, Phi Lambda Upsilon. Clubs: San Diego Country, Cuyamaca, Rotary.

CLARK, Earl F., sales mgr., Cowles Chem. Co., 7016 Euclid Ave., Cleveland, O.; res. 14702 Superior Rd.
Sales mgr.; b. Litchfield, Conn., Aug. 12, 1899; s. of Fred W. and Elizabeth Clark; ed. U. of Mich.; m. Frieda T. Tremmel, Apr. 29, 1940; ch.: Frank, Richard. Mem.: F.A.M. (past master, Lockport No. 73). Clubs: Chem. Salesmen's (Cleveland). Hobby: gardening.

CLARK, Ezekial Louis, chem. engr., sec. chf., U.S. Bur. of Mines, 4800 Forbes St., Pitts. 13, Pa.; res. 1438 Severn St., Pitts. 17.
Chem. engr.; b. Gomel, Russia, June 29, 1912; s. of Louis E. and Pauline (Rapport) Clark; ed. Northeastern U., Boston, Mass., B.S.Ch.E. with high hon., 1937; mem.: Sigma Kappa Psi; m. Freida Cohen, June 29, 1933; ch.: Alvin M., Charlotte S. 1938-40, jr. chem., Mass. Dept. Public Health, Boston, Mass.; 1940-43, engr., Stone & Webster Engrg. Corp., Boston, Mass.; 1943-45, sr. process engr., Cities Serv. Refining Corp., Lake Charles, La.; 1945 to date, sec. chf., chem. engr., U.S. Bur. of Mines, Pitts., Pa. Res. in pet. refining, syn. fuels & chem. from coal; publ. papers on hydrogenation of coal, high pressure equipt. design & syn. gas prod. for the Fischer-Tropsch process. Mem.: A.C.S.

CLARK, Frank M(arshall), div. engr., G.E. Co., Schenectady, N.Y.; res. 901 Karenwald Lane.
Chem., engr.; b. June 28, 1895, Peekskill, N.Y.; s. of Alexander A. and Louisa Otte Clark; ed. B.S., Wesleyan U., (highest hons.), M.S. (Chem.) 1918; Princeton U., 1920-22 spec. studies; mem.: Phi Beta Kappa, Delta Upsilon; m. Kate Lilburn, Apr. 10, 1920; ch.: Donald L., Lillian L. Instr., Wesleyan U., 1918-19; chem. warfare res., Am. U. 1919; instr. Allegheny Coll., 1919-20; instr. Princeton U. 1920-22; instr. Lafayette Coll. 1922-23; sect. engr., G.E. Co., Pittsfield, Mass. 1923-48; asst. dir. of lab., G.E. Co., 1940-48; staff asst. to mgr., engr., G. E. Co., Schenectady, N.Y. 1946-49; conslt. on insulation, 1946-49; div. engr., 1949 to date. Holder of 113 U.S. patents on elec. insulation; inventor of pyranol-non imflammable insulation for transformers, cap.; contrib. extens. to sc. and tech. jls.; mem.: A.C.S., A.Phys.S., A.I.E.E., A.S.T.M., E.S. Three times awarded Coffin M. by G.E. Co. for merit. inventions; chmn tech. comm. of A.I.E.E., A.S.T.M., former dir., exec. comm. E.S. Hobbies: cartoon collection, study. Am. rep. on Internatl. Elect. Comm. 1949.

CLARK, Fred Gassner, leader, color group, physics div., Bakelite Div., Union Carbide & Carbon Corp., Bound Brook, N.J.; res. 401 N. Chestnut St., Westfield, N.J.
Chem. engr.; b. Phila., Pa., Apr. 12, 1918; s. of Fred H. and Christine G. Clark; ed. U. of Pa., B.S. in Ch.E. 1940; m. Josephine Merrill, Mar. 17, 1945; ch.: Nancy, Robert Merrill, David Hutchison. Natl. Carbon Co., Aug., 1940-Sept., 1941, dev. engr.; Bakelite Div., Union Carbide & Carbon, Sept., 1941 to date. In chg. of color wk. for all plastics made by Bakelite Div., incl. studies of colorants, color measurement, & weathering of plastics. Mem.: Alpha Chi Sigma, Sigma Tau, A.C.S., A.I.C., A.A.T.C.C., Inter-Soc. Color Council. Hobbies: mountain climbing, New Hampshire, Boy Scouts of Am., color photography, raising children.

CLARK, George Robert, chf., div. of cosmetics, Federal Security Agency, Food & Drug Adm., Wash. 25, D.C.; res. 106 Jesup Lane, Bethesda, Md.
Chem.; b. Longmont, Colo., Sept. 5, 1910; s. of Henry T. and Kathryn (Shafer) Clark; ed. B.A., 1934, M.A. 1936, U. of Colo.; Ph.D. 1947, Georgetown U.; m. Mabel L. Donley, Aug. 1940. U.S. Food & Drug Adm., 1937 to date. Publ. in anal. of dyestuffs & cosmetics. Mem.: Sigma Xi, A.C.S., A.O.A.C. Hobbies: photography, electronics.

CLARK, Guy Wendell, tech. dir., Lederle Labs., Div. Am. Cyanamid, Pearl River, N.Y.; res. 5330 Wild Horse Valley Rd., Napa, Calif.
Biochem., pharmacol.; b. Keene, N.H., May 25, 1887; s. of George W. Lucas and Carrie R. (Nichols) Clark; ed. A.B. (chem.), Colo. Coll., 1912; A.M., 1914; Ph.D. (biochem.), U. of Calif., 1918; Sc.D. (hon.), Colo. Coll., 1947; mem.: Beta Theta Pi; m. Cora M. Zellhoefer; June 14, 1912; ch.: Robert W. (dec.), Janet M., Thorburn R. Instr. of chem., Colo. Coll., 1912-16; chf. chem., Western Meat Co., So. San Francisco, 1918-19; chem., Cutter Biolog. Labs., Berkeley, Calif., 1919; instr. of pharmacol. 1919-23, U. of Calif. Medical Schl.; asst. prof. pharmacol., 1923-27; pharmacol. & dir. pharm. sec., Lederle Labs., Pearl River, N.Y. 1927-40; tech. dir., 1940 to date. Special conslt. to chf. of medical supplies div., U.N.R.R.A., 1944-45. Mineral metabolism studies of adult man, 1923-24; dev. of parenteral liver extract for pernicious anemia; 35 papers appearing in sc. literature, 1914-50. Mem.: A.S.Biol.C., S.E.B.M., Sigma Xi. Hobby: gardening.

CLARK, Harry Murray, asst. prof. of chem., San Jose State Coll., San Jose, Calif.; res. 1039 Cherry Ave., San Jose.
Teacher of chem.; b. St. Paul, Minn., Mar. 19, 1916; s. of Harry S. and Margery M. Clark; ed. Bradley U., 1932-34; U. of Ill., 1934-40 B.S., Ph.D.; m. Ruth Sommer, Mar. 25, 1937; ch.: Alan R., Stephen R., Linda Irene. Keystone Steel & Wire Co., 1940-46, 1940-44 chem., 1944-46 fuel engr.; 1946 to date, San Jose State Coll. Grad. res. on a new type of mass spectrograph, to be used with surface ionization studies. Mem.: Sigma Xi, Phi Kappa Phi.

CLARK, Henry B., district mgr., Diamond Alkali Co., 122 E. 42nd St., N.Y. 17, N.Y.; res. 49 Woodbine Ave., Larchmont, N.Y.
Chem. sales; b. Tenafly, N.J., Dec. 8, 1905; ed. U. of Mich., 1927, chem. engrg.; mem.: Delta Phi; m. Marjorie Wilcox, Apr. 18, 1930; ch.: Peter Dean, Henry B. Jr. Barrett Nephews & Co., 1927-32, asst. plant mgr.; Henry B. Clark Associates, 1932-34; George Chem. Co., 1934-36, sales rep.; Diamond Alkali Co., 1946-48, Boston district mgr., 1948 to date, N.Y.-Boston district mgr. Mem.: A.A.T.C.C. Clubs: Chemists', U. of Mich. Club, Chemical Club of New England.

CLARK, Howard S(elby), chem., Ill. State Geological Survey, and dir. of Clark Microanalytical Lab., 409 W. Illinois, Urbana, Ill.
Chem. (org. microchem. anal.); b. Portsmouth, Ohio, Aug. 29, 1906; s. of Marvin C. and Gertrude S. Clark; ed. The Ohio State U., B.A. 1937; mem.: Sigma Chi, Alpha Chi Sigma, Phi Lambda Upsilon; m. Josephine Dawson, Aug. 31, 1940; ch.: William M., Judith Ann, Howard Robert. College to Merck & Co. Inc., Rahway, N.J. (asst. microanal., research), 1939-43; Ill. State Geolog. Survey, 1943-cont.; 1947, cont. and concurrent; dir. and sole owner, Clark Microanalytical Lab., Clark Lab. Supply, Urbana, Ill.; specialist in org. microchem. anal.; res., anal. of org. compds. containing fluorine. Mem.: A.C.S., A.A.A.S., Ill. Acad. of Sci., Phi Lambda Upsilon, Alpha Chi Sigma.

CLARK, James d'Argaville, res. & dev. engr., P.O. Box 996, Longview, Wash.; res. 2125 Louisiana St., Longview.

Conslt.; b. Beith, Ayrshire, Scotland; s. of James, M.D. and Martha Paterson (Tod) Clark; ed. U. of Capetown, B.Sc. (inter.); U. of London, B.Sc. eng.; Inst. of Paper Chem., Ph.D.; m. Agnes Marion Losee, Apr. 26, 1930. 1922-23, apprentice, Hendon Paper Wks. Co. Ltd., Sunderland, England; 1923-25, asst. elec. engr., Edw. Lloyd, Ltd., Sittingbourne, Kent 1925-26, Sir Robert Blair Fellow, U.S. & Canada; 1926-30, chf. chem., Bowater's Paper Mills Ltd., Gravesend, Kent; 1930-32, dev. engr., Mead Corp., Chillicothe, Ohio; 1932-39, engrg. & tech. mgr., Scott Paper Co., Chester, Pa.; 1939-42, res. assoc., Inst. of Paper Chem., Appelton, Wis.; 1942-46, Lt. Col., QM Corps, U.S.A.; 1946 to date, conslt. in pulp, paper & board mfg. Designed the stand. U.S., Canadian & Brit. pulp evaluation equipt. & other pulp & paper test. apparatus & methods. Chapter on "Beating & Hydration of Paper Fibers" in Ott; "Cellulose & Cellulose Derivatives" Intersc. N.Y. 1943; Mem.: T.A.P.P.I. (Gen. chmn. testing div.; mem. U.S., Canada, Gt. Britain, Australia). Hobby: fly fishing.

CLARK, John Landon, dyes & chem. export dept., Calco Chem. Div., Am. Cyanamid Co., 30 Rockefeller Plaza, N.Y.C.; res. 316 E. Main St., Somerville, N.J.
Export sales, aniline dyes; b. Ithaca, N.Y., July 10, 1898; s. of John Anson and Kate S. Clark; ed. De Pauw U., B.A.; mem.: Sigma Chi; m. Elsie Deblon, Oct., 1927. 1926-31 Natl. Aniline & Chem. Co., asst. to mgr. European off. at Brussels, Belgium; 1934 to date Calco Chem. Div., Am. Cyanamid Co., Bound Brook, N.J., export sales mgr.

CLARK, Joseph B., Jr., prod. res. supvr., Stanolind Oil and Gas Co., Tulsa, Okla.; res. 2132 S. Yorktown.
Chem. engr.; b. Paris, Tex., Sept. 1, 1909; s. of Joseph B. and Grace (Norwood) Clark; ed. Tex. A and M Coll., B.S., 1931; m. Dee Rue Parsons, Nov. 12, 1938; ch.: Cynthia, Judith. 1931-37, tech. and supvr. cap., Stanolind Oil and Gas Co., Tulsa, Okla., prod. res. supvr., 1937 to present. Research: "hydrafrac," contrib. art. T.P. No. 2510, A.I.M.E. Mem.: A.C.S., A.I.M.E., A.P.I. Hobbies: photography, fishing, home shop crafts.

CLARK, LeRoy Vincent, plant mgr., Am. Cyanamid Co., P.O. Box 270, New Castle, Pa.; res. 203 E. Garfield Ave.
Org. chem., reg. chem. engr.; b. Harlansburg, Pa., July 2, 1902; s. of M. Luther and Augusta (Vincent) Clark; ed. Grove City Coll., B.S. (hon.); W.Va. U.; McGill U.; U. of Pittsburgh; m. Winsome Robinson, July 23, 1933; ch.: Barbara Ann, Sara Winsome. W.Va. U., Asst., 1925-26; Demonstrator, McGill U., 1926-27; chem., Grasselli Powder Co., 1927-28; E.I. du Pont de Nemours and Co., 1929; spec. investig., W. Cartridge Co., 1930; asst. physical chem., U.S. Bureau of Mines, 1930-34: fellow, Mellon Inst., 1934-36; res. explosives eng., dept. explosives, Am. Cyanamid and Chem. Corp., 1936-41; asst. dir. res., Am. Cyanamid and Chem. Corp., New Castle, Pa., 1941-47; plant mgr., Am. Cyanamid Co., 1947 to present. Research: high explosives; propell. powdrs.; liq. oxygen explosives; subsqueous explosions; low temp. effect on detonator perf.; detonants; primers; detonators; nitrocellul.; plast., corrosion of metals. Mem.: A.C.S., A.I.C., A.I.Ch.E., A.A.A.S. (N. Y. Acad.). Registered Chem. Eng.

CLARK, Louis Francis, engr., Filtrol Corp., 2657 Short St., Los Angeles 23, Calif.; res. 515 S. Hudson Ave., Pasadena 5, Calif.
Engr.; b. Lowell, Mich., Dec. 14, 1891; ed. E.M., Colo. Schl. Mines, 1914; Columbia, 1925-26; m. Marjorie M. Calder, 1923 (dec.); m. Mary L. Hamrick, 1940; ch.: Louis F. Clark, Jr., now in U.S.A.F. Jr. mining engr., U.S. Bur. Mines, Pa., 1914-15; chem., E.I. du Pont de Nemours & Co, Del., 1915-16; chf. chem., Andes Copper Co., Chile 1917-23; Cerro de Pasco Corp., N.J., 1923-25; metallurgist, British Corp., France, 1927-30; A.O. Smith Corp., Wis., 1930-32; chem., Globe Knitting Co., Mich., 1932-35; metallurg., Kalunite Co., Utah, 1935-36; engr., Filtrol Corp., 1936 to date. Res. in oxidation of iron in sulphate solutions; recovery of oxidized copper by flotation; recovery of alumina from acid solutions at high temp. & pressure. Mem.: A.I.Ch.E., A.C.S.

CLARK, Melvin E., sales mgr., Wyandotte Chems. Corp., Wyandotte, Mich.; res. 22115 Hickory La., Grosse Ile, Mich.
Chem. engr.; b. Ord, Neb., Oct. 2, 1916; s. of A.B. and Ruth J. Clark; ed. Frederick, Colo. H.S., U. of Colo., B.S.; mem.: Alpha Chi Sigma, Pi Mu Epsilon, Tau Beta Pi, Omega Chi Epsilon; m. Virginia Mae Hiller, Sept. 16, 1938; ch.: John Robert, Walter Clayton, Dale Eugene, Merry Sue. July, 1937-Feb.,1941, Chem. and Met. Eng., N.Y. City, asst. edit.; Feb., 1941-Aug., 1941, Mich. Alkali Co., N.Y. City, mkt. res. mgr., Aug., 1941-Feb., 1944, W.P.B., Washington, D.C., chf. prog. branch, Chem. Bur.; Feb. 1944, Wyandotte Chems. Corp., Wyandotte, Mich., dir. of mkt. res., March, 1947, sales mgr., hvy. alk., Jan., 1950 to present, mgr., alk. and chlor. sales. Pub. num. papers. Mem.: A.C.S., A.I.Ch.E., Armed Frcs. Ch. Assn., Chem. Mkt. Res. Assn. (Exec. and Plann. Comm.). Clubs: Detroit Sales Exec., Chemists', (N.Y.), Grosse Ile Golf and Country, Downriver Tech.

CLARK, Paul Enoch, chem. and tech. writer, Johns Hopkins U., Applied Physics Lab., Silver Spring, Md.; res. 10107 McKenney Ave., Silver Spring.
Chem., chem. educator, tech. writer; b. Cambridge, Ohio, Nov. 24, 1905; s. of George B. and Jennie B. Clark; ed. B.A., magna cum laude, Muskingum Coll. 1927; M.Sc., Ohio State U., 1931, Ph.D. 1938; m. Mildred Griffith, Aug. 16, 1941; ch.: Kenneth Paul, Stephen Carl (dec.). Instr. chem., 1927-31, asst. prof. chem. 1931-38, assoc. prof. chem. 1938-42, Muskingum Coll.; prof. chem., chmn. Div. Natl. Sc., Muskingum Coll., 1942-43; prof. chem., hd. chem. dept., Washington & Jefferson Coll. 1943-49; chem. and tech. writer, Johns Hopkins U., Applied Physics Lab., 1949 to date; Armstrong Cork Co., chem. res., part-time, 1944-46; abstractor for Chem. Abstracts, part-time, 1945 to date. Mem.: A.C.S., Sigma Xi, Phi Lambda Upsilon. Hobbies: music, sports.

CLARK, Ralph A., v.p., J.T. Baker Chemical Co., Phillipsburg, N.J.; res. Belvidere Rd., Phillipsburg Rt. 2, N.J.
Exec.; b. Meadville, Pa., June 15, 1901; s. of David M. and Blanch Cushman Clark; ed. Allegheny Coll., B.S., 1924; mem.: Delta Tau Delta, Alpha Chi Sigma; m. Sara McQuiston, Apr. 10, 1926; ch.: David J., Sara Ann. Clubs: Chemists' (N.Y.), Northampton Country, Rotary, National Sales Executives.

CLARK, Samuel Friend, prof. chem., dept. chem., U. Miss., Univ., Miss.; res. Box 316.
Coll. prof.; b. Danville, Ky., Jan. 16, 1914; s. of Friend E. and Emma Hanna Clark; ed. W.Va. U., A.B. 1930; M.S. 1937; Johns Hopkins U., grad. study, no degree; U. N.C., Ph.D. 1939; mem.: Sigma Xi, Phi Beta Kappa, Phi Lambda Upsilon, Phi Kappa Psi; m. Anne Follansbee, May 4, 1946. Res. chem., proc. dev. lab., carbide, carbon chems. div., Union Carbide and Carbon Corp., 1939-42, So. Charleston, W.Va.; group leader, proc. dev. lab., carbide, carbon chems. div., Union Carbide and Carbon Corp., 1942-46; assoc.

prof. chem., dept. chem., U. Miss., 1946-48; prof. chem., hd. organ. div., dept. chem., 1948 to date; mem.: A.C.S.

CLARK, W(arren) Davis, asst. gen. mgr., Grasselli Chems. Dept., E.I. du Pont de Nemours & Co., 1007 Market St., Wilmington 98, Del.; res. Rogers Lane, Wallingford, Pa.
Chem. engr.; b. Gilmore, Nebr., Oct. 17, 1896; s. of George Warren and Alice Clark; ed. B.S. Chem. Engr., Swarthmore Coll. 1917; mem.: Delta Upsilon, Sigma Xi; m. Celia Hodges, June 21, 1921; ch.: Richard Barton. Explosives dept., E.I. du Pont de Nemours & Co. 1917-42; Grasselli Chems. Dept., 1942 to date. Clubs: Wilmington Country, Racquet (Phila.), Rose Tree Fox Hunting, Seaview Country (Absecon, N.J.). Hobbies: golf, hunting.

CLARK, Wesley M., chem., Am. Distilling Co.; res. Mill Valley, Calif.
Fermentolog. chem.; b. Waitsberg, Wash., June 17, 1901; s. of Charles P. and Anna M. Clark; ed. U. of Wash., Seattle, Wash., B.S., Ph.D.; mem.: Phi Lambda Upsilon, Phi Sigma, Sigma Xi; m. Bertha C. Brown, June 25, 1930; ch.: Helen Alice, Leigh Bruce. High schl. & principal 3 yrs.; I.F. Laucks, Inc., Seattle, Wash., 1 yr., anal. chem.; Stand. Oil Co. of Calif., chem., 3 yrs.; Columbia Inc., chem., 5 yrs.; Am. Distilling Co., fermentologist, 10 yrs. Chem. wk. on the dissociation of staphylococcus aureus; this problem led to definite est. of nature of this phenomenon in S. aureus organism; contrib. to the chem. of yeasts. Mem.: A.C.S., S.A.B. Hobby: music.

CLARK, William Mansfield, DeLamar prof. of physiolog. chem., Johns Hopkins Schl. of Medicine, 710 N. Washington St., Baltimore 5, Md.; res. The Gardens, 40 St. & Stony Run Lane, Baltimore 10.
Biochem.; b. Tivoli, N.Y., Aug. 17, 1884; s. of James Starr and Caroline (Hopson) Clark; ed. Hotchkiss Schl., 1903; Williams Coll. A.B. 1907, M.A. 1908, hon. Sc.D. 1935; Johns Hopkins U., Ph.D. 1910, fellow 1909-10; hon. Sc.D., U. of Pa., 1940; mem.: Alpha Zeta Alpha, Gargoyle, Phi Beta Kappa, Sigma Xi; m. Rose Willard Goddard, Sept. 14, 1910; ch.: Harriet Allen (Clark) Gladding, Miriam Goddard. Asst. in chem., Williams Coll., 1907-08; asst. chem., U.S. Fishery Comm., Woods Hole, 1907-09; chem., Bur. of Dairy Ind., U.S. Dept. of Agric., 1910-20; prof. of chem., Hygienic Lab., U.S.P.H.S., 1920-27; DeLamar prof. of physiolog. chem., Schl. of Medicine, Johns Hopkins U., 1927 to date; conslt. to Office of Sc. Res. & Dev., 1941-45; chmn., div. chem. & chem. tech., Natl. Res. Council 1941-46; mem. edit. bd., Journal of Biolog. Chem. 1933 to date. Chem. of cheese; bacterial metabolism; acid-base equilibria; oxidation-reduction equilibria; metalloporphyrins. Author: "The Determination of Hydrogen Ions" 1st. edit. 1920, 2nd edit. 1922, 3rd edit. 1928; "Topics in Physical Chem." 1948. Mem.: Natl. Acad. of Sc.; Council, N.A.S., 1940-46; A.A.A.S., A.C.S., A.S.Biol.C. (pres. 1933, 1934); Am. Soc. of Bacteriology (pres. 1933); Am. Philosophical Soc. Awards: William H. Nichols M., N.Y. Sec., A.C.S. 1936; Borden Award, A.C.S., 1944; Alumni Award, Hotchkiss Schl; Presidential Certificate of Merit, 1948. Clubs: Elkridge, 14 W. Hamilton St. Club. Hobbies: golf, gardening.

CLARKE, Beverly L., dir. of chem. control, Merck & Co. Inc., Rahway, N.J.; res. 4 Parmley Pl., Summit, N.J.
Chem.; b. Nashville, Tenn., Sept. 30, 1900; s. of Thomas H. and Ida (Clyde) Clarke; ed. B.S. in chem., cum laude, Geo. Wash. U. 1921; M.A. 1923, Ph.D. 1924, Columbia U.; mem.: Sigma Phi Epsilon, Phi Lambda Upsilon; m. Ruth Johnston, Sept. 3, 1930; ch.: Thomas Beverly, James Johnston. Tech. asst. to U.S. Com. Attache, Paris & London, 1922; Am.-Scandinavian Foundation Fellow to Sweden, 1921-22; instr. in chem., C.C. N.Y., 1923-24; res. fellow, Carnegie Inst. of Wash., 1924-25; N.R.C. fellow, Stanford U., Calif., 1925-27; res. chem., Bell Telephone Labs. Inc., N.Y.C., 1927-45; dir. of chem. control, Merck & Co. Inc., Rahway, N.J., 1945 to date; Conslt. to U.S. Dept. of State, 1942-45; conslt. to U.S. Dept. of Defense 1948 to date. Dev. chem. of rare earths; pioneered dev. of elec. & instrumental meths. of chem. anal.; applic. of anal. chem. to elec. & chem. mfg. ind. Author: "The Romance of Reality" 1927; "Marvels of Modern Chem." 1932; "The Doctor Looks at Murder" 1937. Mem.: A.C.S., A.A.A.S., A.S.T.M., Am. Soc. Qual. Control, Am. Stat. Assn., Soc. Chem. Ind., Sigma Xi, Am. Phar. Assn., N.Y. Acad. Sc., Microchem. Soc., Award: Army-Navy Cert. of Appreciation 1948. Am. Arbitration Assn. (panel mem.). Clubs: Chemists' (N.Y.), Canoe Brook Country (Summit, N.J.). Hobbies: golf, stamp collecting.

CLARKE, Laurence Rhodes, factory mgr., 270 Pleasant St., Watertown, Mass.; res. 34 Prospect Pk., Newtonville, Mass.
Chem. engr.; b. Boston, Mass., Apr. 8, 1904; s. of William A. and Alice Rhodes Clarke; ed. Sch. Engr., Northeastern U., B.Ch.E.; m. Lillian R. Hooper, June 30, 1931; ch.: Laurence R., Jr., Roger H., William H., Harry C. 1923-27 anal. chem., River Works, Gen. Elec. Co.; 1927-29 chf. chem., Clifton Mfgr. Co., Boston, Mass.; 1929-30 asst. supt.; 1930-32 chf. chem., Haartz Mason Grower Co., Watertown, Mass.; 1932-42 supt.; 1942 to date factory mgr. Holder of patent 2367005. Mem.: A.C.S. (rubber div.); A.C.S.; A.S.T.M., (sub-comm.), Boston Rubber Group (past chmn.); Group 7 Committee of Rubber Mfgrs. Assoc.; mem. exec. council Alumni Assoc. (Northeastern U.); Personnel Mgrs. (Boston); Clubs: Lions (Watertown, past. pres.), Personnel Mgrs., Boston Chamber of Commerce. Hobby: color movie photography.

CLAUSEN, Theodore Irving, gen. supt., Oronite Chemical Co., 824 Whitney Bldg., New Orleans, La.; res. 3015 Metairie Rd.
Chem.; b. Racine, Wisc., May 29, 1907; s. of Peter Christian and Mimi Elizabeth Clausen; ed. Lawrence Coll., Appleton, Wisc., 1925-26; U. of Calif., B.S., 1927-30; mem.: Alpha Chi Sigma; m. Barbara Jane Provost, Nov. 23, 1935; ch.: Catherine Jane, Theodore James. 1930-46, res. chem., Std. Oil Co. of Calif. and Calif. Res. Corp., 1946-47, supvr., chem. appls. lab., 1947-48, tech. asst. to mgr., chem. res.; April, 1949 to date, gen. supt., Oronite Chem. Co., New Orleans, La. Research: res., dev. and tech. serv. in ref. of lub. oils and mfg. of lub. oil addtvs. Mem.: A.C.S. Clubs: Interntnl. Hse. (New Orleans), Petroleum (New Orleans).

CLAUSS, Nathan Wagner, dept. hd., carbide & carbon chem. div., Union Carbide & Carbon Corp., S. Charleston, W.Va.; res. 512 Superior Ave., S. Charleston.
Chem. engr.; b. Jackson, Mich., Aug. 22, 1913; s. of Henry W. and A. Louise Clauss; ed. Jackson Jr. Coll., U. of Mich., B.S. in chem. eng., 1941; m. Virginia C. Beaton, June 28, 1941; ch.: Jeffrey B., William B. 1935-37, agric. chem., McLaughlin-Ward & Co., Jackson, Mich.; 1937-39, lab. supvr., Goodyear Tire & Rubber Co., Jackson, Mich.; 1941 to date, dept. hd., Carbide & Carbon Chem. Div., Union Carbide & Carbon Corp., S. Charleston. Mem.: A.I.Ch.E. Club: University. Hobby: sports.

CLAXTON, Edmund, dir. of res., Armstrong Cork Co., Lancaster, Pa.; res. 1116 Wheatland Ave., Lancaster, Pa.

Dir. of res.; b. Bay Head, N.J., July 21, 1897; s. of Robert B. and Henriette A.J. (van Stralen) Claxton; ed. priv. schls. in Phila. and Switzerland; Ch.E. from Lehigh U., 1921; mem.: Delta Tau Delta; Sigma Xi; m. Margaret Crawford, Dec. 29, 1923; ch.: Edmund Van S., Cornelia C. Joined Armstrong Cork Co. Feb. 13, 1922; elected mem. of bd. Mar. 20, 1935. Mem.: A.C.S., S.C.I., Newcomen Soc., A.A.A.S. Trustee, Blind Assoc., Lancaster Country Day Schl., Y.W.C.A., Lancaster, Pa. Club: Hamilton (Lancaster, Pa.).

CLAY, Harris Aubrey, sr. chem. engr., res. & dev. dept., Phillips Pet. Co., Box 968, Phillips, Tex.; res. Box 982, Phillips.

Chem. engr.; b. Hartley, Tex., Dec. 28, 1911; s. of John David and Alberta Clay; ed. U. of Tulsa, B.S. in chem. 1933; Columbia U. Ch.E. 1939; mem.: Theta Tau; m. Violette Mills, June 17, 1948. Phillips Pet. Co., res. & dev. dept., Sept. 1939 to date in flwg. positions: Sept., 1939-Oct., 1939, jr. chem. engr., pilot plant operator; Oct., 1939-Aug., 1942, engrg. assistance in operation of new plants; Sept., 1942-Jan., 1946, supvr. Burbank, Okla., pilot plant; Feb., 1946-Nov., 1946, liaison bet. refining dept. & res. & dev. dept.; Nov., 1946 to date, sr. chem. engr., supvr., staff process engrg. group. Mem.: Panhandle Chem. Engrg. Club; A.I.Ch.E.; A.C.S.; Electrochem. Soc. Hobby: photography.

CLEAVES, Harold Edwin, chf., Natl. Bur. Stands., Washington, D.C.; res. 3004 Lee Hgwy., Arlington, Va.

Metal.; b. Mt. Vernon, Wash., May 1, 1888; s. of Frederick D. and Leila (Dodge) Cleaves; ed. U. of Wash., B.S.; mem.: Phi Lambda Upsilon; m. Marie Kolbe, July 3, 1926; ch.: Carol Marie. Chem., Natl. Bur. Stands., 1912-16; res. chem., Chem. Prods. Co., 1916-17; chf. chem., Wash. Steel and Ordnance Co., 1917-18; res. chem., Metal and Thermit Corp., 1918; chf. chem., Charleston Chem. Co., 1919-22; chf. chem., Northwest Magnesite Co., 1922-30; metal., Natl. Bur. Stands., 1930-46, chf. chem. metal. sect., 1946 to present. Res: prep. of pure metals, metal. of uranium and tungsten. Co-author: "The Metal-Iron," 1935. Mem.: A.C.S., A.I.M.E., A.S.M., A.A.A.S. Hobbies: golf, fishing.

CLELAND, James Edwin, tech. dir., Union Starch & Refining Co., Granite City, Ill.; res. 1619 Pontoon Rd., Nameoki, Ill.

Chem.; b. Regina, Sask., Canada; s. of B.J. and Alice Muriel (Kierstead) Cleland; ed. 1931, B.Sc. Dalhousie U., Halifax, N.S.; 1937, S.M., Imp. Inst. Sc. & Tech., London, Eng.; m. Mary Clare Garten, Jan. 2, 1931; ch.: James Edwin, Jr. Engr., Mersey Paper Co., Liverpool, N.S., 1931-33; asst. chf. chem., Acadia Sugar Ref. Co., Halifax, N.S., 1933-38; Union Starch & Ref. Co., Granite City, Ill., res. chem. 1938-43, res. dir., exec. comm. 1943-47, plant supt. 1947-49, tech. dir., exec. comm. 1949 to date. Resident agent, Ill.: Union Starch & Ref. Co., Union Sales Corp., Granite City, Alton & Eastern Railroad. Meths. of anal. & tables on starch hydrolysates; caramel color res. Mem.: A.C.S., I.F.T. Hobbies: golf, gardening, photography.

CLEMENTE, Amando, prof. and hd., dept. of chem., U. of the Philippines, Diliman, Quezon City; res. U. of the Philippines, Diliman, Quezon City, Phil.

Chem. and chem. engr.; b. Pulilan, Bulacan, Oct. 25, 1891; s. of Sinforoso and Mermenegilda Santos Clemente; ed. A.B., 1914, M.S., 1917, U. of the Philippines, Ph.D., 1920, U. of Chicago; mem.: Rizal Center; m. Anunciacion Villaruz, Feb. 10, 1924; ch.: Aida, Vincente, Alicia. Instr. in chem., 1917-20, U. of the Philippines; asst. professor of chem., 1921-24, U. of the Philippines, assoc. prof. of chem., 1925-30, U. of Phil., prof. of chem., 1930, U. of Phil.; asst. chem., part-time, 1921-26, Bur. of Sc.; physicist, part-time, 1923-26; 1927-29 Phil. General Hospital; dean, 1926-27, Cebu Junior Coll., U. of the Philippines. Not. wk.: activation of adsorbent charcoals; adsorption of gases and solutes by activated charcoals. U. of the Philippines Consumer's Co-operative Assoc., pres., U.P. Credit Union, pres., Chemical Corporation of the Philippines, pres., Chemical Specialties Corporation, dir. Author: "Principles of Chemistry," Macaraig Publishing Co., Manila, 1948, "Laboratory Manual for Principles of Chemistry," Macaraig Publishing Co., Manila, 1948. Mem.: A.C.S., A.A.A.S., Acad. of Sc. (New York), Chem. Soc. of the Philippines, Philippine Inst. of Chem. Engineers, National Research Council of the Philippines, Sigma Xi, Sigma Pi Sigma, Phi Kappa Phi. Chmn., Div. of Engineering and Ind. Research, Natl. Research Council of the Philippines. Club: Faculty (U. of the Philippines). Hobby: home gardening.

CLEVELAND, Theodore Keirstead. v.p., res., dev., Phila. Quartz Co. of Calif., 6th & Grayson Sts., Berkeley 10, Calif., res. 729 Arlington Ave., Berkeley 7.

Chem., exect.; b. Alma, New Brunswick, Canada, Sept. 17, 1901; s. of Judson Arthur and Ella Jane Cleveland; ed. Acadia U. B.Sc. 1922; Yale U., Ph.D. 1925; mem.: Alpha Chi Sigma, Sigma Xi, m. Maud Hord, Aug. 16, 1930; ch: Evelyn Janet, David Hord. June, 1925-Dec., 1925, res. chem., Rohm & Haas Co., Bristol, Pa.; Feb., 1926-Mar., 1929 asst. dir. res. U.G.I. Co., Phila.; Mar.,1929-Jan., 1930 res. chem., Phila. Quartz Co.; Jan., 1930-Mar., 1935 tech. sales serv.; Mar., 1935 to date v.p., res. & dev., Phila. Quartz Co. of Calif. Patents for cleaning preparation; bonding layers of plywood, removing sulfur from gases; mem.: A.C.S., A.A.A.S., A.Cer.S., Franklin Inst., A.S.T.M., A.I.Ch.E.; pres. Berkeley Community Welfare Comm., Keith Art Assn. Hobbies: Boy Scouts, stamp collecting.

CLEVENGER, C.M., tech. rep., Rohm & Haas Co., 222 W. Wash. Sq., Phila. 5, Pa.; res. 3747 D Herbert Ave., Pennsauken 8, N.J.

Chem.; b. Columbus, O., July 28, 1920; s. of Clarence Cleveland and Mary Alice (Barnes) Clevenger; ed. Capital U., 1937-39; Ohio State U., 1939-41; B.Sc. 1941; mem. BAT; m. Lena Frances Snell, Jan. 18, 1946. Res. chem. with du Pont Rayon Tech. Div., Buffalo, N.Y. and Waynesboro, Va., 1941-46, except from June to Dec., 1944, when he was with du Pont Explosives Dept., TNX Div., Oak Ridge, Tenn. and Hanford; res. chem. Staple Dev. Dept., Amer. Viscose Corp., (Nitro, W.Va.), 1946-47; sr. res. chem. U.S. Finishing Co., Sterling, Ct., 1947-49; 1949 to date tech. rep. Textile Chems. Dept., Rohm & Haas Co., Phila., Pa.; res. in rayon and cellulose chem.; textile dyeing and finishing. Mem.: A.C.S., A.A.T.C.C. Hobbies: golf, swimming, music.

CLIFF, Ivan Spaulding, tech. conslt., Shell Oil Co., Wood River, Ill.; res. 315 State St., Edwardsville, Ill.

Pet. tech.; b. Lake City, Minn., Aug. 11, 1898; s. of Menzie and May (Spaulding) Cliff; ed. Carleton Coll., B.A. (magna cum laude), 1926; M.I.T., Ph.D., 1933; mem.: Alpha Chi Sigma, Phi Beta Kappa; m. Mary Lynn Stevenson, Dec. 29, 1934; ch.: Ivan Spaulding, Jr., Menzie Thomas, May Murphy. Asst. in chem., Carleton Coll., 1925-26; asst. instr. in org. chem., M.I.T., 1926-33; res. chem., Shell Oil Co., Houston, Tex., 1933-43, sr.

tech., Wood River, Ill., 1943-46, tech. conslt., 1946 to present. Research: therm. and catalytic cracking of pet. Mem.: A.C.S., A.I.C., reg. profnl. chem. eng. Clubs: Lions (Edwardsville, pres. 1949-50). Hobbies: boy scouting, gardening.

CLIFFORD, Albert Mitchell, asst. mgr. of res., Goodyear Tire & Rubber Co., Akron, Ohio; res. 226 Adeline Dr., Stow, Ohio.
Org. res. chem.; b. Wellington, Ohio, Sept. 7, 1898; s. of Paul C. and Elsie L. (Mitchell) Clifford; ed. Wellington H.S. 1916; Ohio Wesleyan U., Delaware, Ohio, B.A., cum laude, 1922; Ohio State U., M.A. 1924, Ph.D. 1926; mem.: Delta Alpha Pi, Gamma Alpha; m. Ruth Elinor Dilley, Sept. 19, 1925; ch.: Charles Paul, Eleanor Jean, Mary Jane, Amy Houghton. 1926 to date, res. chem., Goodyear Tire & Rubber Co., Akron, Ohio, hd. org. res. div. 1928, asst. mgr. of res. 1943 to date; conslt., Dept. of Com., Tech. Ind. Intelligence Comm., rubber team to Germany, 1945; mgr. res. & dev. sec., Office of Rubber Reserve, R.F.C. 1947. Res. in org. syn., rubber accelerators, age resisters, syn. resins, syn. rubbers & plastics. Publ. & tech. papers in above flds. & U.S. pats. on org. chem., their syn. & uses; Mem.: A.C.S. (rubber div.), Sigma Xi, Phi Beta Kappa, Phi Lambda Upsilon. Clubs: Men's Garden Club of Am. (Akron), North Am. Lily Soc. Hobbies: horticulture, hunting.

CLINTON, Raymond O., assoc. mem. Sterling-Winthrop Res. Inst., Rensselaer, N.Y.; res. Morners Rd., R.D. 1, Rensselaer.
Res. chem.; b. Burbank, Calif., Apr. 12, 1918; s. of Otto M. and Maude (Burnett) Clinton; ed. Calif. Inst. of Tech., B.S. 1940; U. of Calif. at Los Angeles, M.S. 1941; Ph.D. 1943; mem.: Phi Lambda Upsilon; Sigma Xi; m. Leslie B. Wallen, Sept. 19, 1938; ch.: Raymond M., Robert W. 1935-38 jr. chem., C.F. Ten Eyck & Co., Inc., 1938-40 res. asst., Calif. Inst. of Tech.; 1940 chem., Union Oil Co.; 1940-41 Black Diamond Oil Co. fel. in chem., U. of Calif. (Los Angeles); 1941-42 instr. org. chem., Marymount Coll.; 1941-43 res. fel. Natl. Def. Res. Com.; 1943-46 sr. res. chem. Winthrop Chem. Co.; 1946-47 sr. res. chem. Gasparcolor, Inc.; 1947 to date assoc. mem. Sterling-Winthrop Res. Inst.; res. in chemistry of plant pigments; local anesthetics; analgesics; antitubercular drugs; steroids. Mem.: A.C.S., N.Y.Acad.Sc., Albany Inst. of Hist. and Arts. Hobbies: photography, amateur radio.

CLIPPINGER, Donald (Roop), chmn. dept. of chem., Ohio U.; res. 14 N. May Ave., Athens, Ohio.
Prof. of chem.; b. Dayton, Ohio, Jan. 14, 1905; s. of Walter G. and Sara (Roop) Clippinger; ed. B.S., Otterbein Coll., 1925; M.S. 1926, Ph.D. 1936, Ohio State; mem.: Gamma Alpha; m. Florence Vance, Aug. 30, 1927; ch.: Richard, Miriam, William, Donald (dec.). 1926-28, asst. prof. chem., Otterbein Coll.; Ohio U.: 1928-36, asst. prof. chem.; 1936-42, assoc. prof. chem.; 1942 to date, prof. of chem.; 1947 to date, chmn. dept. of chem. Electrometric anal. with polarized eletrodes. Author: "Lab. Program for Gen. Chem." 1946; "Manual for Quantitative Anal." 1948. Mem.: A.C.S., Ohio Acad. of Sc., Sigma Xi, Phi Lambda Upsilon. Pres., Athens City Bd. of Ed. Hobbies: fishing, gardens.

CLOANINGER, Bruce Dayvault, hd. Dept. Fertilizer Inspec. & Anal., The Clemson A. & M. Coll. of S.C., Drawer 392, Clemson, S.C.; res. 161 Pendleton Rd., Clemson.
Hd. of Dept.; b. Statesville, N.C., Oct. 29, 1909; s. of De Witt Palmer and Mary (Dayvault) Cloaninger; ed. Horrel Hill Grammar Schl., Lower Richland H.S., Lykesland, S.C.; Clemson Coll.; mem.: Alpha Zeta, Blue Key, Sabre Club (Scabbard & Blade); m. Mary Mitchum, Dec. 22, 1936; ch.: Harriette Rebecca, Mary Bruce. H.S. tchr 1 yr.; land use survey 1 yr.; asst. County Agric. Agent 2 yrs.; present position with The Clemson A. & M. Coll. of S.C. since 1937 with excep. of 4 yr. period dur. W.W. II. Author of Annual Fertilizer Inspection and Anal. Bulletin in Nov. of each yr. since Nov., 1938. Mem.: Assoc. of Amer. Fert. Control Officials, sec.-treas. Assoc. of Southern Agric. Workers, Assoc. of Southern Feed and Fertilizer Control Officials. On Clemson Coll. Y. M.C.A. advisory bd. Club: Rotary (pres.).

CLOKE, John Benjamin, hd., dept. of chem., prof. of org. chem., Rensselaer Polytech. Inst.; res. 5 Seymour Ct., Troy, N.Y.
Prof.; b. Hoosick, N.Y., Oct. 31, 1897; s. of John and Sarah (Murphy) Cloke; ed. Albany Coll. of Pharmacy, Ph.G. 1917; Rensselaer Polytech. Inst. 1917-19; Syracuse U. B.S. 1925; U. of Chicago, Ph.D. 1931; m. Mary Elizabeth Hagan, 1927; ch.: Elizabeth Ruth, Sandra Hale, Asst. in chem., Rensselaer Polytech. Inst. 1918-19, instr. 1919-26, asst. prof. 1926-31, prof. of org. chem. 1931 to date, hd. dept. of chem. 1949 to date. Heterocyclic nitrogen & oxygen cmpds., imines. nitriles, cyclopropyl & cyclobutyl cmpds.; physico-org. chem. Books (mimeographed) on gen., syn., & gen. org. chem. Mem.: A.C.S., A.A.A.S., Am. Soc. for Engr. Ed.

CLOSS, J. O'Neill, exec. secy., Am. Phar. Mfrs. Assn., 500 Fifth Ave., N.Y. 18, N.Y.; res. New Lebanon, N.Y.
Exec. secy.; b. St. Louis, Mo., Sept. 30, 1901; s. of Edward and Marie O'Neill Closs; ed B.S. Chem. Engr., Wash. Univ. (St. Louis) 1923; M.S. Chem., U. Wisc. 1934; Ph.D. Chem. 1928; U. Berlin, Germany, 1929-31; mem.: Alpha Chi Sigma, Sigma Xi, Phi Lambda Upsilon, Pi Kappa Alpha; m. Dorothy K. Dowling, Sept. 9, 1933. Instr. U. Wis., 1928-29; res. asst. Wash. Univ. 1932-33; chem. Mallinckrodt Chem. Wks., 1933-35; chf. chem., v.p., The Tilden Co. 1935-50; exec. secy. Am. Phar. Mfrs. Assn. 1950 to date. Mem.: A. C.S., A.A.A.S., A.Phar. Mfrs. Assn. Dir., The Tilden Co.

CLOWES, George Henry Alexander, dir. emeritus, Lilly Research Labs., Indianapolis 6, Ind.
Res. dir. (emeritus); b. Ipswich, Suffolk, England, Aug. 27, 1877; ed. Gottingen, Ph.D., 1899; m. Edith Whitehill Hinkel, June, 1910; ch.: 2 sons. C.W.S.; formerly dir. res. & now dir. emer., Lilly Res. Labs., Eli Lilly & Co., Indianapolis, Ind. Mem. of var. sc. societies.

COAKLEY, Cornelius C., plant mgr., National Aniline Div., Allied Chem. and Dye Corp., Buffalo, N.Y.; res. 115 Admiral Rd.
Chem. engr.; b. Bklyn., N.Y., Jan. 8, 1896; s. of George H. and Kate (Cooper) Coakley; ed. M.I.T., S.B., 1917; m. Claudia Haight, Aug 29, 1918; ch.: Frances Cooper. Res., oper., maint. power, engr., adm. mgemnt., entire career with Allied Chem. and Dye Corp., Natl. Aniline Div. Mem.: A.C.S., A.I.Ch.E.

COATES, Ellis Webb, chem. engr. (conslt.), Sharples Lab., 88 Broad St., Boston 10, Mass.; res. 37 Huckins Ave., Squantum, Mass.
Chem. engr. conslt.; b. Vixen, La., Dec. 2, 1899; s. of Joseph Pollard and Ida Louisa (Traylor) Coates; ed. La. State U., B.S. in Ch.E.; m. Laura Leona Steele, 1923; ch.: Ellis W. Jr., Geraldine Camille. With U.S.I. Alcohol Co., New Orleans, La., asst. chem. 1924-26; Fed. Prods. Co., Cincinnati, chf. chem., 1926-29; chf. distiller The Rossville Co. of Lawrenceburg, Ind. thru 1929; transferred to New Orleans Div. of Rossville Com-

mercial Alcohol Corp. affiliated with Amer. Solvents & Chem. Corp. in chg. of three operating plants until Jan., 1933; chf. chem. U.S. Indust. Alcohol (New Orleans) and The Natl. Brewing Co. of New Orleans 1933-36; plant supt. Readville Distilleries, Inc., Readville, Mass., 1936-39; sr. business partner, Sharples Lab., Boston, Mass., 1939 to date. Mem.: A.C.S., A.I.Ch.E. Hobbies: fld. sports with interest in small arms firing; athletic sports in general; instructing foreign grps. in Amer. meths. and in Amer. sports.

COBB, Emerson Gillmore, chmn., dept. chem., College of the Pacific; res. 632 Lexington Ave., Stockton, Calif.
Instr.; b. Slaughters, Ky.; s. of Jess and Sara Jane (Ramsey) Cobb; ed. Union Coll., A.B., 1928; U. of Ky., M.S., 1931; U. of N.C., Ph.D., 1941; mem.: Phi Kappa Phi; m. Edith Cheap, May 25, 1929; ch.: John Emerson, Benjamin. 1928-40, instr. scs., Ky. H.S.; 1940-42, asst. prof. chem., La. Polytech. Inst.; 1942-48, prof. chem., Dakota Wesleyan U.; 1944-45, spec. chem. invstgr., Pratt and Whitney Aircraft; 1948 to present, chmn., dept. chem., Coll. of the Pacific. Res: const. of Tannins, coloring matters derived from iosmeric hydrocyacetophen., prop. m-hydroxyacetophen., prot. coating for int. pts. aircrft. engs. Author: "Worthwhile Science," 1945; "Health and Science," 1946. Mem.: A.C.S. Clubs: Kiwanis. Hobbies: woodworking, hunting, fishing.

COBB, R.M. Karapetoff, res. dir., Lowe Paper Co., Ridgefield, N.J.; res. 39 Claremont Ave., New York 27, N.Y.
Indust. chem. res.; d. of Albert W. and Betsy S. Cobb; ed. Tufts Coll., B.S. in chem. 1922 (magna cum laude); final honors in chem.; M.I.T., M.S. 1923; mem.: Alpha Omicron Pi, Phi Beta Kappa; m. Nov. 25, 1936, Valadimir Karapetoff. 1923 res. asst., Res. Lab. Applied Chem., M.I.T.; 1924 res. chem., Larkin Co. Inc., Buffalo, N.Y.; 1925 res. chem., Hunt-Rankin Leather Co., Peabody, Mass.; 1931 lithographic fellow, Natl. Bur. of Stds., Wash., D.C.; 1933 conslt., paper sizing, Nopco Chem. Co., Harrison, N.J.; 1926 to date res. dir. Lowe Paper Co., Ridgefield, N.J.; notable wk.: dev. contact angle theory of paper sizing; author of some 20 pubs. on appl. of colloid chem. to indust. probs.; dev. many specialty paper coatings, incl. packaging for GRS rubber during war. Author of "Casein for Paper Coating," T.A.P.P.I. Adhesives Mono. (in press 1950). Mem.: A.C.S., T.A.P.P.I., Soc. of Rheology, A.S. Phys., N.Y. Acad. Scs. Club: Appalachian Mt. Hobbies: fishing, photography.

COBURN, Stuart E., chf. chem., Metcalf and Eddy, 1300 Statler Bldg., Boston, Mass.; res. 47 Berlin St., Wollaston, Mass.
Chem.; b. Aug. 8, 1890; s. of Edward B. and Elizabeth (Woodburn) Coburn; ed. Worcester Polytech. Inst., Worcester, Mass.; m. Ruth J. Duckett, Apr. 8, 1914; ch.: Dorothy E., William M., Stuart R. 1913-14, chem., Sewage Treat. Plnt., Worcester, Mass.; 1914 to date, chem., chf. chem., Metcalf and Eddy Conslt. Engr., Boston, Mass. Res: water sewage, written var. papers. Mem.: A.C.S., A.W.W.A., N.E.W.W., B.S.C.E., N.E.S.W.A., P.S.W.A., N.J.S.W.A., V.S.W.A.

COCHRANE, David Duke, v.p. & chf. engr. Godfrey L. Cabot, Inc., 77 Franklin St., Boston 10, Mass.; Managing Director Cabot Carbon Limited, Stanlow, Ellesmere Port, Cheshire, England; res. 95 Rockland St., Canton, Mass.
Exec.; b. Arlington, Vt., Sept. 20, 1902; s. of John I. and Mary R. Cochrane; m. Ruth Chute, Jan. 1, 1927. Educ. Tufts, B.S., 1925. City of Newark, N.J., Comm. of Mass., New Eng. Pub. Serv. Co., engr. 1925-1931. Cabot Carbon Co., engr. 1932-40; Godfrey L. Cabot, Inc., tech. dir. 1940-44, chf. engr. 1944 to date. Presently vice president of Godfrey L. Cabot, Inc., and managing director Cabot Carbon Limited. Mem.: Alpha Tau Omega, A.C.S., State of Texas Registered Prof. Engrs.

COCKE, Emory Logan; v. chmn. of bd. of Expos. Cotton Mills, 601 Trust Co. of Ga. Bldg., Atlanta, Ga.; res. 70 Valley Rd., N.W.
Coop. exec.; b. Senoia, Ga., July 21, 1897; s. of Benj. and Veta (Hunter) Cocke; ed. Marist Coll.; U. of Ga.; m. Frances Floyd, Oct. 18, 1928; ch.: Jane. Sept. 1, 1919, Ashcraft-Wilkinson Co.; 1934, pres., Interstate Mills, Cairo, Ill.; 1936, pres., Suni-Citrus Prods. Co., Haines City, Fla.; 1949, v. chmn. of bd. of Expos. Cotton Mills, Atlanta, Ga. Continues to hold all of the above positions. Planters Prods Co., dir.; Atlanta Child's Home, dir. First Nation Bank, Atlanta, dir. Clubs: Piedmont Driving (Atlanta, Ga.). Hobbies: dogs, horses, hunting, fishing.

COE, John Parks, v.p., gen. mgr., Naugatuck Chem. & Syn. Rubber Divs., U.S. Rubber Co., 1230 Avenue of the Americas, N.Y. 20, N.Y.; res. R.F.D. 1, Woodbridge, New Haven 15, Conn.
Mfg. chem.; b. Rock Falls, Ill., Dec. 15, 1889; s. of Decius Octavius and Emma Elizabeth (Parks) Coe; ed. student U. of Kan.; Washburn Coll., Topeka, Kan., A.B. 1911; M.I.T., B.S. 1913; m. Mary Elizabeth Gleed, June 26, 1913; ch.: Willis Gleed, Mary Elizabeth (Coe) Glasson. Began with U.S. Rubber Co. 1913, at Indianapolis tire plant, 1913-14; Gen. Labs., N.Y.C., 1914-26; engaged in dev. of gas masks for Army & Navy, Gen. Labs., Naugatuck & Providence plants, 1917-18; in chg. of tire dev. & other prod. activities, Gen. Labs., 1919-26; organized the dev. dept., Detroit, Mich., 1927-30; asst. to pres., Naugatuck Chem. Co., N.Y., 1930; factory mgr., Naugatuck. Conn., 1931-36; gen. sales mgr., 1936-39; gen. mgr. Naugatuck Chem. Div. 1939 to date, also syn. rubber div. 1942 to date; gen. mgr., Kankee Ordnance Wks., 1945; elected v.p. U.S. Rubber Co., 1945; v.p., Naugatuck Chem. Inc., Canada, 1941-43; incorporator Naugatuck Savings Bank; v.p., Dispersions Process, Inc.; past pres., Rubber Reclaimers Assn. Inc. Tire design, gas masks, gen. rubber mfg., chem. mfg. Mem.: A.C.S. (past pres. N.Y. Rubber Group), A.I.Ch.E., A.A.A.S., Com. Chem. Dev. Assn. Club: Lotos (N.Y.). Hobbies: fishing, horses, farming.

COE, Mayne Reid, photochemist as related to oil-bearing foods, retired; res. Box 228, Jupiter, Fla.
Chem.; b. Hartford, Conn., Jan. 10, 1888; s. of Charles H. and Emma S. Coe; ed. Geo. Washington U., B.S. and M.S. in Chem., 1914 and 1927 respec.; m. Jean M., Aug. 25, 1913; ch.: Mayne Reid, Paul Montague, Adelaide Emma (Coe) Foster. Asst. engr. of tests, 1908-18, Bur. Eng. and Printing; asst. chem., 1919-31, U.S. Dept. of Agr.; assoc. chem. 1931-41; photochem. 1941-44, same dept.; food tech. 1944-45, War Dept.; photochem., 1945-48, U.S. Dept. Agr.; retired June 30, 1948; at present in tourist bus., South Seas Beach Hotel, Riviera Beach, Fla., Route No. 1. (Bought hotel on ocean at North Juno near Jupiter, Fla.).

COE, Wesley S., asst. to factory mgr., Naugatuck Chem. Div., U.S. Rubber Co., Naugatuck, Conn.; res. 20 Dayton Rd.
Chem. engr.; b. Mt. Pleasant, Ia., May 1, 1912; s. of James R. and Laura E. Coe; ed. Ia. Wesleyan Coll., B.S. (summa cum laude), 1933; U. Ill., Ph.D. 1936; mem.: Alpha Chi Sigma; m. Hazel R. Zimmerman, Aug. 25, 1934; ch.: Jean, David, Majorie, Arthur. 1936-37 Gen. Labs. Div., U.S. Rubber Co., compd. res.; 1937-40 Naugatuck Chem. Div., U.S. Rubber Co., reclaimed rubber dev.;

1940-49 mgr. chem. proc. dev.; 1950 to date asst. to factory mgr. Res. in proc. dev. on many chems., GR-S synthetic rubber; mem.: A.C.S. (past chmn., New Haven Sec.); A.I.Ch.E.; Phi Beta Kappa, Phi Lambda Upsilon, Phi Kappa Phi, Sigma Xi; dir. Naugatuck Y.M.C.A. Club: Y's Men's. Hobbies: gardening, woodworking.

COFFER, Lynn Wallace, plant control chem., Climax Molybdenum Co. of Pa., Langeloth, Pa.; res. 501 Fifth Ave., Langeloth.
Chem. res.; b. Smithland, Livingston City., Ky., June 13, 1911; s. of James O. and Pearl (Nelson) Coffer; ed. Grade and High Schl., Glendale, Ariz., Phoenix Jr. Coll., 1929-31; U. of Ariz., B.S. 1933; M.S. 1935; Michigan State Coll., 1935-36; U. of Pittsburgh, 1946—present (part-time); mem.: Delta Sigma Lambda, Phi Lambda Upsilon, Sigma Xi, Sigma Pi Sigma; m. Clarice Pearl Knapp, June 19, 1937; ch.: Shirley Anne, Dorothy Ellen, George Wallace, John Gordon. 1935-36, Mich. State Coll., grad. asst.; 1936-40, Climax Molybdenum Co. of Michigan, res. chem.; 1940 to date, Climax Molybdenum Co. of Pa., Langeloth, Pa., plnt: control chem. Printing ink pigments, pure metals, alloys, silicides and chem. cmpds. of molybdenum, tungsten, chromium and vanadium by thermite and powder metallurgy. Mem.: A.I.Ch.E., Am. Ceramic Soc., Reg. Chem. Engr., State of Pa. Hobbies: photog.

COFFMAN, Donald Drake, res. supvr., du Pont Exp. Sta., Wilmington, Del.; Brinton Bridge Rd., W. Chester, R.D. 5, Penn.
Chem.; b. Sidney, O., Sept. 14, 1905; s. of Leroy Malone and Lula (Washburn) Coffman; ed. public schools, Davenport, Iowa; U. of Ill., B.S. (hon.), 1927; U. of Wisc., M.S., 1928; U. of Ill., Ph.D., 1930; mem.: Gamma Alpha, Alpha Chi Sigma; m. Comly Shallcross, Sept. 13, 1935; ch.: Elizabeth, Donald, Jr. Asst. org. chem., U. of Wis., 1927-28; res. chem., du Pont Co., chem. dept., 1930-37, res. supvr., 1937 to present. **Res:** metal alk., nylon, org. flour. cmpds. **Mem.: Phi** Lambda Upsilon, Sigma Xi.

COGHILL, Robert DeWolf, dir. of res., Abbott Labs., N. Chicago, Ill.; res. 701 Prospect Ave., Lake Bluff.
Chem.; b. Providence, R.I., Oct. 5, 1901; s. of George Ellett and Muriel (Anderson) Coghill; ed. U. of Kans., A.B. 1921; M.S. 1922; Yale U. Ph.D. 1924; mem.: Alpha Chi Sigma, Gamma Alpha; m. 1st. Margaret Butcher, 1925; m. 2nd. Caroline Arnold, 1936; m. 3rd. Marjorie Moburg, 1947; Ch.: William Sheridan, Mary Anne, Jane Griswold, George Ellett. 1924-26 Natl. Tuberculosis Assoc. Res. Fellow, Yale U.; 1926-28, instr. chem. Yale U.; 1928-29 asst. prof. chem. same coll.; 1939-45 chf. Fermentation Div. Northern Regional Res. Lab. U.S.D.A. Peoria, Ill.; 1945-46 assoc. dir. res., 1946 to date dir. res. Abbott Labs.; res. chem. of immunological reaction, industrial fermentations, penicillin, pharmaceuts. Contrib. sev. arts. to sc. jls. Mem.: A.C.S.; chmn. Peoria and New Haven Sections of A.C.S.; S. A.B., A.S.Biol.C., N.Y.Acad.Sc., Sigma Xi. Citation for Distinguished Serv., Univ. of Kansas, 1947; President's M. of Merit, 1948; Midwest Award, 1949. Clubs: Cosmos (Washington, D.C.), Chicago Chemists'. Hobbies: ornthology, trout fishing.

COHANE, Arthur J., ptnr., Leberco Labs., 123 Hawthorne St., Roselle Pk., N.J.; res. 253 Elmwood Ave., Maplewood, N.J.
Biol., chem.; b. N.Y. City, Jan. 1, 1917; s. of Sol and Minnie Cohane; ed. N.Y.U., B.A., M.S.; m. Margot Adler, Oct. 30, 1949. Tech., Exp. Biol., Am. Mus. of Nat. Hstry., N.Y.; tech., dept. biol., Wash. Sq. Coll., N.Y.U., asst. biol., Wash. Sq. Coll.; ptnr., Leberco Labs. Res.: phar. and cosmet. firms. War Service: capt., San. Corp., W.W. II. Mem.: A.A.A.S., S.A.B., A.C.C.C.E., A.P.A., A.A.P.H. Hobbies: woodwork, leather handicraft, nature study.

COHEN, Gustav Emanuel, assoc. prof. chem. (ret.), Pa. State College, State Coll., Pa.; 711 W. Fairmont Ave.
Ret.; b. N.Y. City, Jan. 19, 1880; s. of Herman and Mary (Auerbach) Cohen; ed. Pa. State Coll., B.S., 1907; M.S., 1925; mem.: Phi Lambda Upsilon, Phi Kappa Phi, Delta Upsilon; m. Nell Barber, June 15, 1922; ch.: George H., Mary K. 1907-13, asst. chf. chem., Alum. Ore Co., East St. Louis, Ill.; 1913-22, chf. chem., asst. mgr., Mineral Prods. Corp., Alunite, Utah; 1922-47, assoc. prof. chem., Pa. State Coll.; 1947—present, retired. Res: dev. process for extract. of potass. salts from alunite. Mem.: A.C.S.

COHEN, Joseph Horace, gen. mgr., Atlantic Gelatin Div. Gen. Foods Corp., Woburn, Mass.; res. 178 Dudley St., Brookline, Mass.
Exec.; b. Birz, Kovno, Lithuania, 1890; s. of Morris and Ida (Chaitt) Cohen; ed. Boston English H.S.; M.I.T., B.S. in chem. engrg. 1913; m. Rose Stone, July 16, 1916; ch.: Joseph Horace Jr., Ira, Nancy. Chem., Am. Glue Co., 1913-19; founder, Atlantic Gelatin Co., 1919; v.p. treas., gen. mgr. 1919-30; v.p. and gen. mgr. Atlantic Gelatin Co., Inc. subsidiary of General Foods Corp., 1930-43; Pres. 1944-47; Gen. Mgr. Atlantic Gelatin, Div. Gen. Foods Corp., 1947 to date. Coauthor: "A study of Gelatin Viscosity & Related Problems," Ind. Engr. & Chem. 1927; "Food Gelatin Values Relative to Concentrations," Ind. Chem. 1929; mem.: Gelatin Res. Soc. of Am. (pres.). Pres., Temple Israel, Boston, Mass.; trustee, Beth Israel Hosp., Boston, Mass. Clubs: University, Belmont Country, New Century, Chemists' (N.Y.), Standard (Chicago).

COHEN, Morris U., res. dir., Balco Res. Labs., 580 Market St., Newark, N.J.; res. 2028 Mermaid Ave., Bklyn, N.Y.
Physical chem.; b. N.Y. City, Jan. 18, 1910; s. of Julius and Celia Cohen; ed. City Coll. of N.Y., B.S., 1930; Columbia U., M.S., 1932; Ph.D., 1935; mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon; m. Irene Raiman, May 28, 1934; ch.: Richard and Charles. Instr., City Coll., of N.Y., dept. chem., 1930-1940; instr., Bklyn. Coll., grad. school, 1939-40; res. dir., Tech. Res. Labs., 1940-42; res. dir., Gussack Machine Prods. Co., 1942-45; res. dir., Balco Res. Labs., 1946 to date. (pres.). Res: x-ray diff. studies, dev. new matl. and processes for elec. pts. and equip., utra sonic res. Mem.: A.C.S., A.Cer.S., A.S.T.M.

COHEN, Samuel J., v.p., tech. & res. dir., Hardesty Chem. Co., 41 E. 42nd St., N.Y. 17, N.Y.; res. Stoneybrook Rd., Westport, Conn.
Chem. engr.; b. N.Y.C., Mar. 24, 1895; s. of Rudolph and Freda Cohen; ed. U. of Mich., Ann Arbor, Mich., B.S. chem. engrg.; m. Jean Eleanor Goldstein, June 8, 1920; ch.: Robert Selden, Marion Lucille. Pioneered large scale mfg. processes & commercial dev. of acetamide, clorinated paraffin, first com'l process & prod. of sebacic acid, capryl alcohol & sebacate plasticizers & other plasticizers; dev. mfg. & uses of chlorinated paraffin for extreme pressure lubricants, fire retardant, cutting oils, com'l process for amino acetic acid. Mem.: A.I.C., A.I.Ch.E., A.C.S., S.C.I. Clubs: Chemists', Michigan. Hobbies: handball, chess.

COHN, Edwin Joseph, Higgins U. Prof., dir., U. Lab. Physical Chem. & chmn., dept. biophys. chem., Harvard U., 25 Shattuck St., Boston 15, Mass.; res. 183 Brattle St., Cambridge 38, Mass.

Prof.; b. N.Y.C., Dec. 17, 1892; s. of Abraham and Maimie Einstein Cohn; ed. stud. Amherst Coll. 1910-13; B.S. U. Chicago, 1914; Ph.D. 1917; grad. stud. Harvard, 1915-17; M.A. (hon.), 1943; D.S. (hon.) Amherst, 1944; D.S. (hon.) Columbia 1945; D.S. (hon.) Harvard 1945; M.D. (hon.) Geneva, 1946; Berne 1947; m. Marianne Brettauer, decd., July 30, 1917, (2nd) Rebekah Robinson Higginson, June 15, 1948; ch.: Edwin J., Jr., Afred B., Nat. Res. council fellow chem., 1919-22; stud. Carlsberg Lab., Copenhagen, Cambridge, Eng.; asst. prof. biol. chem., Harvard, 1922-28; assoc. prof. 1928-35; prof. biol. chem., hd. dept. phys. chem., Harvard Med. Schl., 1935-49; chmn., Div. Med. Sc., Harvard, 1936-49; Higgins U. Prof., Harvard, 1949 to date; dir., U. Lab. Physical Chem., related to Medicine and Public Health, 1949 to date; chmn., dept. biophysical chem., 1950 to date. Serv. 1st. Lt. Sanitary Corps., U. S.A., 1918-19; hon. conslt. Med. Dept. Navy 1942 to date; Resp. investigator certain blood derivatives for Comm. Med. Res. OSRD; mem. sub. comm. Blood Subs., N.R.C., 1941-46; comm. Blood & Blood Derivat. N.R.C. 1948 to date; panel on Hematol. of U.S.P.H.S., 1946 to date; comm. on blood, blood derivatives of Am. Nat. Red Cross, 1946-50; adv. conslt. Pres. Am. Natl. Red Cross on matters relating to blood prog. 1950; Alvarenga Prize, Coll. Phys. of Phila. 1942; Passano Award for disting. serv. Am. Clin. Med. 1945; John Scott M., Phila. 1946; John Phillips Mem. M., Am. Coll. Phys. 1946; M. Sc., Free U. Brussels, 1947; Theodore William Richards M., A.C.S. 1948; M. Merit, U.S. Gov. 1948; Silliman Lecturer Yale, 1946; Am.-Swiss Found. lecturer, 1947; Belgian Am. Ed. Found. lecturer 1947; Julius Stieglitz Mem. Lecturer, A.C.S., 1949; (fellow) A.A.A.S., Am. Acdy. Arts & Sc., N.Y. Acdy. Sc., Natl. Acdy. Sc., A. Phil. S., A.C.S., A.S Biol. C., A. Phys. S., Sigma Xi, Natl. Acdy. Med. (France); Contrib. extens. to sc. and tech. jls. Co-author: "Proteins, Amino Acids, Peptides," 1943; author: Res. in Med. Sc., March of Medicine, 1946; clubs: Harvard (Boston), St. Botolph (Boston); hobby: tennis.

COHN, Essie White, prof. chem., U. of Denver, Denver, Colo.; res. 2142 S. U.
Edr.; b. Pittsburgh, Pa., Mar. 23, 1902; d. of Morris and Lena (Gorfinkel) White; ed. U. of Denver, A.B., 1922, A.M., 1923; U. of Chicago, Ph.D., 1936; mem.: Sigma Kappa; m. Byron E. Cohn, June 10, 1926. 1923-31, instr. chem., U. of Denver, 1931-36, asst. prof. chem., 1936-40, assoc. prof. chem.; 1941-43, visit. prof. biochem., Geo. Wash. U., Schl. of Med., Washington, D.C.; 1943-present, prof. chem., U. of Denver. Author: "San. Chem.," 1935, "Gen. Chem. Lab. Man.," 1946; Contrib. extens. to sc. jls. Mem.: Sigma Xi, Iota Sigma Pi (natl. pres. 1948-51), Acad. Sc. (Colo., Wyo., exec. secy., ed. of jls. 1936-41), A.C.S., (fellow), A.A.A.S. Clubs: Mortar Board. Hobbies: hiking, writing.

COITH, Herbert Spencer, assoc. chem. dir., Procter and Gamble, M.A.R. Bldg., Ivorydale, O.; res. 667 Reilly Rd., Wyoming, O.
Chem.; b. Bloomington, Ill., Dec. 31, 1893; s. of Robert and Helen (Bremmerman) Coith; Kans. State Coll., B.S., 1915; Ohio State, M.S., 1916, Ph.D., 1918; m. Mary C. LaHuis, Aug. 31, 1917; Ch.: Christine, Robert. 1918-19, chem., Barrett Co.; 1919-22, chem., Sears Roebuck and Co.; 1922-date, chem., Procter and Gamble. Res: res. soaps, syn. deter. and short. Author: "So You Want to be a Chemist." Mem.: A.C.S. Club: Wyoming Golf. Hobby: golf.

COLBERT, Charles Francis, Jr., pres., gen. mgr., Pitts. Metal. Co., Inc., 3801 Highland Ave., Niagara Falls, N.Y.; res. Shore Acres Farm, River Rd., Youngstown, N.Y.
Pres., gen. mgr.; b. Pitts., Pa.; ed. Cathedral Schl., Ill., Shurtleff Coll., Alton, Ill.; m. Marie Louise Benford, 1911, dec. 1931; (2nd) Naomi Rosemary Schneider, 1942; ch.: Jane Elizabeth Scott, Dorothy Benford Irwin, Richard Gary (Commander, U.S.N.), Margaret Louise Strayer, Patricia Anne Robinson, Charles Francis, III. Began in coal, coke, iron, alloys bus. 1908; pres., gen. mgr., dir., mem. exec. comm., Pitts. Metal Co., Inc.; clubs: Metropolitan (N.Y.), Duquesne, (Pitts.), Buffalo, Buffalo Country, Niagara Falls Country, Carolina Yacht, (Charleston, S.C.), Youngstown (N.Y.) Yacht, Royal Canadian Yacht (Toronto, Ont.).

COLBERT, James Canfield, prof. of chem., chmn. Premedical Advisory Comm., Faculty Exchange, U. of Okla., Norman, Okla.; res. 535 E. Boyd, Norman, Okla.
Prof. of chem.; b. Canfield, Ark., Sept. 2, 1899; s. of Canfield and Alice C. (Creswell) Colbert; ed. B.S. in chem., U. of Ark., 1921; M.S. 1923; Ph.D. 1925, U. of Iowa; m. Margaret Bates, Sept. 10, 1922; ch.: Thomas Alfred. Grad. asst. 3 yrs., U. of Iowa, res. asst., 1 yr.; U. of Okla., asst. prof. Sept. 1925, assoc. prof. 1935, full prof. 1944; in chg. of Premedical Program in addition to teaching & res., Jan. 1946. Directed about 25 theses all concerned with the hydroxyiphenyls; publ. wk. in Journal of A.C.S. Author: "Experiments & Problems for Coll. Chem." 1st edit. 1928, now in 4th edit. publ. 1948; "Identification of the Common Metals & Non-Metals" 1st edit. 1929, 2nd 1934; 'Properties & Numerical Relationships of the Common Elements & Cmpds." 1st edit. 1930, 2nd 1934, 3rd 1940, 4th 1948; "A Shorter Course in Org. Chem." 1931, 1942; "Lab. Technique of Org. Chem." 1933, 1942; all by Appleton-Century-Crofts of N.Y. Mem.: A.C.S., Sigma Xi (pres. at Okla., 1944), Phi Lambda Upsilon (charter at Iowa), Alpha Epsilon Delta (premedical), Alpha Chi Sigma (professional in chem.) faculty advisor 1942-46. Club: Faculty (U. of Okla.). Hobbies: weather, gardening, touring.

COLBURN, Allan Philip, provost, U. of Del., Newark, Del.; res. 49 Winslow Rd., Newark, Del.
Chem. engr. and educator; b. Madison, Wis., June 8, 1904; s. of Willis P. and Jane G. Colburn; ed. Marquette U., 1922-24; U. of Wis., 1924-29; B.S. in Ch.E. 1926 (with high honors); M.S. 1927; Ph.D. 1929; mem.: Sigma Phi Epsilon, Tau Beta Pi, Phi Lambda Upsilon, Sigma Xi; m. Evelyn A. Safford, Nov. 21, 1931; ch.: Judith, Willis, Carolyn. 1929-38 res. chem. engr., E. I. du Pont de Nemours & Co.; 1938 to date, U. of Del., successively prof. of chem. engr., advisor on res., acting pres., provost; res. on heat transmission and distillation. Mem.: A.C.S., A.I.Ch.E., A. S. Mech. E., A.A.A.S., Am. Assoc. Engr. Educ., Newcomen Soc.; res. Walker Award (1936) Prof. Progress Award (1948) from A.I.Ch.E. Dir., Del. Chapt., A.R.C. Hobbies: sketching, ice skating.

COLBURN, William, pres., Colburn Labs. Inc., 732 S. Federal St., Chicago, Ill.; res. 5401 University Ave., Chicago.
Exec.; b. Chicago, Ill., Oct. 28, 1915; s. of Louis and Anna Colburn; ed. B.S., U. of Chicago 1935 Phi Beta Kappa, Ph.D. 1938 Sigma Xi; m. Virginia S., 1939; ch.: Stephen, James, John. Chicago City Jr. Coll., instr. 1939-43; Deavitt Labs. Inc., chf. chem., 1939-45; Ninol Labs., res. dir., 1943-45; Colburn Labs., pres., 1945 to date; Roosevelt Coll., lecturer part time, 1947-50. Specialty—surface active agents. Co-author: "Physical Sc. Made Easy" with T. G. Phillips, 1948. Mem.: A.C.S., A.A.A.S., A.O.C.S., A.S.T.M., Am. Assn. Spectographers, Ill. Acad. Sc., Soc. Cosmetic Chem. Hobby: photomicrography.

COLCORD, Bradford C(laude), pres., Woodward Iron Co., Woodward, Ala.; res. 4227 Altamont Rd., Birmingham.
Pres.; b. Instanter, Pa., Mar. 14, 1897; s. of Dr. A. W. and Eva Bradford Colcord; ed. U. of Mich., B.S. in M.E.; mem.: Kappa Sigma; m. Elizabeth Phillips, Dec. 29, 1923; ch.: Nancy A., Bradford Phillips. Supt. blast furnaces, Crucible Steel Co., Midland, Pa., 1926-30; supt. blast furnaces, St. Louis Gas & Coke Corp., Granite City, Ill., 1930-33; supt. blast furnaces, Sloss-Sheffield Steel & Iron Co., Birmingham, Ala. 1933-35; supt. blast furnaces, Woodward Iron Co., Woodward, Ala. 1935-36; asst. gen. supt., Natl. Tube Co., McKeesport, Pa. 1936-39; gen. supt., 1939-42; asst. v.p., operations, Natl. Tube Co., Pittsburgh, Pa. 1942-46; gen. supt. Natl. Tube Co., Lorain, Ohio, 1946-48; pres., Woodward Iron Co., Woodward, Ala. 1948 to date. Assoc. Inds. Ala. (dir.); mem. Bd. Govs., Ala. Min. Inst.; Engrs. (Birmingham); mem.: A.I.S.I., A.I.S.E., East. States Blast Furn. Coke Oven Assn., A.I.M.M.E., N.A.M.; dir. Community Chest (Birmingham), Jefferson Co. Coordinating Council of Social Forces (Birmingham), Am. Red Cross, Jefferson Co., Ala.; clubs: Rotary (Birmingham), Mountain Brook, Birmingham Country, Union (Cleveland, Ohio), Duquesne, (Pittsburgh).

COLE, Barzillai L., pres., gen. mgr., Cole Chem. Co., 3721 Laclede Ave., St. Louis 8, Mo.
Exec.; s. of Charles and Adeline (Blackwell) Cole; ed. U. of Maryland, Dept. of Phar., D. Phar. Honors: Dr. William Simon gold medal for highest average in chem.; also gold medal for high average in all studies; m. Frances L.; ch.: Margaret. Pres. of Cole Chem. Co. since founding. Mem.: A.C.S., Am. Drug Mfrs. Assoc. Dir. of Y.M.C.A. Clubs: University of Missouri, Everglades (Palm Beach, Fla.) Hobby: tennis.

COLE, Harry L(ewis), assoc. prof. of chem., Dept. of Chem., State Coll. of Washington; res. 214 Columbia Ave., Pullman, Wash.
Assoc. prof. of chem.; b. Winchester, Kans., Aug. 8, 1889; s. of Clark G. and Mary Ann (Wood) Cole; ed. U.S. Schl. of Military Aeronautics (U. of Calif.) 1918; Kans. State Coll. of Agri. and Appl. Sc., B.S. 1912, M.S. 1927; Colorado Agri. Coll., summer, 1923; U. of Colorado, summers 1938 and 1940; m. Ida Carrie Conard, Sept. 11, 1917; ch.: Harry L., Jr., Wallis Wood, Golden Conard. 1912 mgr. New Business Dept., Eureka Light & Power Co., Eureka, Kans.; 1913-16 sc. tchr., hd. sc. dept. Belvidere (Ill.) H.S.; 1917 asst. principal, same schl.; 1917 instr. chem., 1919-32 asst. prof., 1932 to date assoc. prof., all State Coll. of Washington; asst. State Chem., 1919; war serv: Mexican Border 1916; W.W. I 1918; W.W. II July, 1941 to Feb., 1947, dur. which time commanded Perason Fld., Washington, exec. March Sub. Depot, March Fld., Calif.; commanded 34th Air Depot Grp. in Africa, Sicily, Italy, Germany; commanded Air Force General Depot, Pisa, Italy, 1944; research wk.: surface tension studies in relation to anaesthetic activity; relation between bacterial decomposition in lge. intestine and phys. well being; studies on galacturonic acid; prod. of xylose from native wheat straws. Dir. Public Employes Credit Union. Author: "A Laboratory Manual for Gen. Inorg. Chem.," 1922. "A Brief Lab. Manual in Chem. for Non-Science Majors," 1925. "A Lecture Outline with Lab. Manual for Students in Phys. Chem." 1930. Mem.: A.C.S., A.I.C., A.A.A.S., Northwest Sc. Assoc., Assoc. Engrs of Spokane; Natl. Geographic Soc., Phi Lambda Upsilon, Alpha Chi Sigma. Club: Am. Legion. Hobbies: singing, aviation and the military.

COLE, James Webb, Jr., assoc. prof. of chem., Cobb Chem. Lab., U. of Va.; res. 506 Valley Rd., Charlottesville, Va.
Teacher, res. worker, conslt. in chem.; b. Norfolk, Va., July 22, 1910; s. of James Webb and Mabel (Stephenson) Cole; ed. elementary & high schls., Norfolk, Va.; B.S. chem. 1932, M.S. 1934, Ph.D. chem. 1936, U. of Va.; Alpha Chi Sigma Hon. Award 1932; mem.: Delta Sigma Phi; m. Katherine P. Smith, Aug. 23, 1936; ch.: James Webb III, William Marshall. Philip Francis du Pont Res. Fellow, U. of Va., 1935-36; res. chem., Expt. Station, du Pont Co., Wilmington, Del., June 1936-Sept. 1938; asst. prof. of chem., U. of Va., 1938-46, assoc. prof. 1946 to date; part time investigator N.D.R.C. & conslt. O.S.R.D., 1941-45; instr. E.S.M.D.T. 1941-42. Res. in thermodynamics of inorg. substances, catalysis & adsorption phenomena, gas anal. (particularly traces of carbon monoxide & org. fluorides), syn. & structure studies of complex inorg. & organo-metallic cmpds.; officer in professional organizations. Cole Chem. Co. Inc., St. Louis, Mo. (dir.). Co-author: "Introduction to Chem." with G. L. Carter, U. of Va. Press 1940; "Lab. Course in Gen. Chem." with G. L. Carter, D. Van Nostrand Co., 1939, 1948. Mem.: Alpha Chi Sigma, Sigma Xi, A.C.S. (held var. offs: in Va. Sec., up to chmn. 1943-44, & councilor 1946-48), A.I.C. (fellow), Va. Acad. of Sc. (chmn. Chem. Sect. 1947-48), A.A.A.S., S.A.S.I. Mem. exec. comm., Local Council, Boy Scouts of Am. Clubs: Farmington Country, Colonnade. Hobbies: music, home repair.

COLE, O(tis) D(emmitt), asst. dir. chem. & physical res. labs., Firestone Tire & Rubber Co., Akron, Ohio; res. 970 Dover Ave., Akron 20.
Res. chem.-rubber chem.; b. Rising City, Nebr., Apr. 24, 1906; s. of Demmitt C. and Maude (Lott) Cole; ed. Nebr. Wesleyan U., B.A., 1927; U. of Akron, M.Sc. rubber chem. 1928; Iowa State Coll., Ph.D. plant chem. 1931; mem.: Phi Kappa Tau; m. Sara Raudabaugh, Sept. 13, 1931; ch.: Susan Joanne, Joseph Demmitt. 1927-28, Firestone Fellow, U. of Akron; 1928-31, teaching asst., Iowa State Coll.; 1931-33, org. chem. res., Firestone Tire & Rubber Co., compounding res. 1933-38; latex & crude rubber res., plantations Liberia, W. Africa, 1938-41; hd. res. compounding div. 1941-45; asst. dir. res. 1945 to date. Rubber chem. res., accelerators for vulcanization, vulcanization of rubber, reinforcement of rubber, crude rubber & latex prod., rubber compounding. Mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Phi Kappa Phi, A.C.S., A.I.C. (fellow). Clubs: Coventry Lodge No. 665 F.&A.M.; Akron Chapter No. 209 R.A.M.; Akron Council No. 80, R.&S.M. Hobbies: photography, gardening, reading.

COLE, Robert Hugh, chmn. dept. of chem., assoc. prof. of chem., Metcalf Res. Lab., Brown U., Providence 12, R.I.; res. 64 Keene St., Providence.
Chem.; b. Oberlin, Ohio, Oct. 26, 1914; s. of Charles N. and Mabel S. Cole; ed. A.B., Oberlin, 1935 summa cum laude; A.M. 1936, Ph.D. 1940, Harvard, Phi Beta Kappa, Sigma Xi; m. Elisabeth French, Apr. 24, 1943. 1938-40, instr. & tutor in physics, Harvard; 1940-45, res. supvr., N.D.R.C. Explosives Res., Woods Hole, Mass.; 1945-47, assoc. prof. physics, U. of Mo.; Brown U., assoc. prof. chem. 1947 to date, chmn. dept. chem., 1949 to date. Author: "Underwater Explosions," Princeton, 1947. Mem.: A.C.S., Am. Physical Soc. (fellow).

COLE, Sandford Stoddard, asst. mgr. of res., titanium div., Natl. Lead Co., South Amboy, N.J.; res. 114 Spring St., Metuchen.
Prof. engr.; b. Cuba, N.Y., Nov. 24, 1900; s. of John B. and Inez (Basssett) Cole; ed. Alfred U., B.S. 1923, M.Sc. 1933, Prof. Cer. Eng. 1950, Pa. State Coll., Ph.D. 1934; mem.: Sigma Xi, Keramos, Phi Kappa Phi, Kappa Psi Upsilon; m. Fran-

ces Halderman, July 11, 1925; ch.: Sandford S. III, David L., Stephen H. 1923-32 fellow, Koppers Co., Fellowship, Mellon Inst., Pittsburgh, Pa.; 1934 to date res. chem., res. supvr., asst. mgr. res., Natl. Lead Co. Work in conversion anatase to rutile, high titanium slags, smelting titaniferous ores. silica refractories, solid phase reactions. Mem.: A.C.S., Am. Ceram. Soc. Fellow, Inst. Ceram. Engr., A.I.M.M.E. Hobbies: gem collecting, travel.

COLEFAX, Peter, pres., Am. Potash & Chem. Corp., 3030 W. Sixth St., Los Angeles 54, Calif.; res. 325 S. Hudson Ave., Los Angeles 5. Bus. exec.; b. London, England, Mar. 22, 1903 (naturalized); s. of Arthur and Sibyl (Halsey) Colefax; ed. Eton Coll., 1916-20; M.A., Oxford U., 1921-24; m. Sonia Savin, Dec. 19, 1930; ch.: Micky. N.Y. Times, 1924-25; Edward B. Smith & Co. (now Smith, Barney & Co.), N.Y., 1925-29; Am. rep., Guinness Mahon & Co., London, England, 1929-32; Cyrus J. Lawrence & Sons, N.Y.C., 1932-34; Am. Potash & Chem. Corp., N.Y.C., 1934-45; Los Angeles, Calif. since 1945; dir. since 1935; secy. & treas., 1935-41; v.p., secy. & treas., 1941-44; v.p. & secy. 1944-45; exec. v.p. & secy., 1945-46; exec. v.p., 1946-47; pres., 1947 to date. Three Elephant Borax Co., pres., dir. Dir., Am. Potash Inst., Wash., D.C. Clubs: Union League (N.Y.), California (Los Angeles).

COLEMAN, George Hopkins, dean, Inst. of Textile Tech., Charlottesville, Va.; res. 1511 Rugby Ave., Charlottesville. Dean of grad. schl., prof. of chem.; b. Evansville, Wis., Oct. 5, 1891; s. of John Emory and Mary Louise Coleman; ed. Spring Arbor Seminary, Spring Arbor, Mich.; Greenville Coll., Ill., A.B. 1915 cum laude; U. of Ill., M.S. 1919, Ph.D. 1921; m. Leah Estelle Rose, Aug. 27, 1927; ch.: Robert Vincent, Joseph Emory, George Lawrence. 1915-17, instr., A.M. Chesbrough Acdy., N. Chili, N.Y.; 1928-29, Guggenheim Fellow in France & Germany; 1921-46, State U. of Iowa, positions as follows in order: 1921-24 instr., 1924-28 asst. prof., 1928-29 assoc. prof., 1930-46 prof. of chem.; 1946 to date, dean, Inst. of Textile Tech., Charlottesville, Va. Publ. in sc. jls., pats. Co-author: "Lab. Manual of Org. Chem.," Coleman, Wawzonek & Buckles, Prentice-Hall, Sept. 1949. Mem.: A.C.S., Va. Acad. of Sc., A.A.T.C.C., A.A.A.S., Phi Beta Kappa, Phi Lambda Upsilon, Sigma Xi, Alpha Chi Sigma, Gamma Alpha, Natl. Council of Textile Schl. Deans, Conference of Deans of Southern Grad. Schls., Natl. Farm & Chemurgic Council, Guggenheim Fellow, 1928-29. Award: Cert. of Appreciation War Dept. & Navy Dept. 1948. Trustee, Va. Sec. of A.C.S. Club: Rotary. Hobbies: hunting, photography.

COLEMAN, George William, chf. metallurg. and chem., Parker Mfg. Co., 149 Washington St., Worcester, Mass.; res. Boston Rd., Southborough, Mass. Chem., metallurg.; b. Watertown, Mass., July 4, 1900; s. of William P. and Julia A. (Lucey) Coleman; ed. Tufts Coll., B.S. 1923, M.I.T., M.S. 1937; Temple Bar Coll., Sc.D. 1939; m. Sophia M. Stankievtz, July 15, 1944; ch.: Emily. 1923-33 res. chem. and metallurg., Waltham Watch Co.; 1935-37 res. assoc. M.I.T.; 1938 to date chf. metallurg. and chem., Parker Mfg. Co., Worcester; 1940 to date dir. Snell Mfg. Co., Fiskdale, Mass.; res. in hair springs, carbonyls, electroplating. Mem.: A.I.C. (fellow); A.A.A.S. (fellow); A.C.S., A.I.M.M.E., A.S.M. Hobbies: mineralogy, gun collecting.

COLEMAN, Gerald Hawley, asst. res. dir. of org. lab., The Dow Chem. Co., Midland, Mich.; res. 11335 W. Sarle Rd., Freeland, Mich. Org. res. chem.; b. Cleveland, Ohio, 1898; s. of John Richard and Kate Louise Coleman; ed. Ohio State U., A.B. 1922; U. of Ill., M.Sc. 1926, Ph.D. 1928; mem.: Sigma Xi, Phi Lambda Upsilon, Sigma Phi Epsilon; m. Claudia L.; ch.: Richard L. 1928 org. res. chem., 1929-30 pat. res. chem., 1931 to date org. res. chem. and asst. dir. of org. res. lab., all with The Dow Chem. Co.; res. action of chemicals vs. B. leprae (Thesis); about 150 pats. in org. chem., insecticides, plasticizers, etc. Mem.: A.C.S., A.I.C., A.A.A.S. Hobbies: oil painting, gardening.

COLEMAN, John Hamilton, chf., div. chem. engrg., dept. of dev., Norwich Phar. Co., Norwich, N.Y. Org. chem.; b. Saginaw, Mich., June 21, 1916; s. of Frank H. and Mary E. Coleman; ed. Carroll Coll., Waukeska, Wis., B.A. 1938; Mich. St. Coll., M.A. 1941; mem.: Pioneer (Carroll Coll.), Alpha Chi Sigma (Mich. St.); m. Lillian Eaton, Oct. 4, 1947. Rock Co. Sugar Co., Jonesville, Wis., sugar chem. season 1938; Lakeside Labs., Inc., Milwaukee, Wis., res. chem. 1941-42; Norwich Phar. Co., Norwich, N.Y., 1942 to date, chf., div. chem. engrg., dept. of dev. res. Hobbies: hunting, fishing, stamp collecting.

COLEMAN, Joseph Johnston, chf. engr., Burgess Battery Co., Freeport, Ill.; res. 304 N. Chicago Ave., Freeport, Ill. Engr.; b. Boulder, Colo., Sept. 14, 1907; s. of F. C. and N. M. Coleman; ed. U. of Colorado, A.B. 1931 (cum laude), M.A. 1932, Ph.D. 1936; mem.: Alpha Chi Sigma; m. Celia Curran, May 24, 1947. 1936-40 res. phys. and chem., 1940 to date chf. engr. Burgess Battery Co. Publs. in Jls. of Chem. Phys. and Trans. of the Electrochem. Soc. of thermodynamics, photography, and dry batteries. Mem.: Sigma Xi, A. Phys. S., E.S., A.S.P.E. Hobby: poker.

COLEMAN, Robert Boisseau, Jr., gen. res. engr., Southern Cement Co., 608 Protective Life Bldg., Birmingham, Ala.; res. 821 17th Pl. S.W., Birmingham. Chem. engr.; b. Birmingham, Ala., Mar. 15, 1916; s. of Robert B. and Jessie (Wheeler) Coleman; ed. B.S. N.C. State Coll. 1939, grad. stud. U. of Ala., M.I.T., U. of Cincinnati, Birmingham Schl. of Law; sports ed., coll. paper, class secy., dean's list; mem.: Pi Kappa Alpha, Sigma Delta Kappa; m. Mary Bardick, Sept. 23, 1941; ch.: Robert Boisseau III, Mary Virginia. Res. engr., Amer. Cast Iron Pipe Co., 1940-41; train. super., super. acid dept., Kankakee Ordnance Wks., du Pont, 1941-43; sr. metallurgical engr., Kings Mills, Ordnance Wks., Remington Arms Div. 1943-44; chem. engr., Ammonia dept., du Pont, 1944-46; asst. to prod. supt., Industrial Rayon, Covington, 1946-48; chem. engr., Southern Res. Inst., 1948-50; gen. res. engr., Southern Cement Co., 1950 to date. Partner of Coleman Bros. Res.: high plas. limes, lt. wt. aggregates, aggregate-alkali expansion, carbon prods. from coke. Mem.: A.C.S., A.I.Ch.E., A.C.I. Clubs: Junior Chamber of Commerce, M.I.T. Alumni, Law Luncheon, Pi Kappa Alpha. Registered Professional Engineer.

COLEMAN, Russell, pres., The Natl. Fertilizer Assoc., 616 Continental Bldg., Washington 5, D.C.; res. 20 E. Woodbine St., Chevy Chase, Md. Corp. exec.; b. Montpelier, Miss., Dec. 23, 1913; ed. Miss. State Coll., B.S. 1936, M.S. 1937; U. of Wis., Ph.D. 1941; mem.: Alpha Zeta; m. Laura Burrous, Aug. 18, 1937; ch.: Peggy, Susan, Clayton. 1937-40 asst. agronomist, 1940-46 assoc. agronomist, Miss. State Coll.; 1946-47 assoc. dir., 1947-48 dir., Miss. Agr. Experiment Station; 1948 to date pres., The Natl. Fertilizer Assoc. Author of arts. in sc. mags. Mem.: Am. Soc. of Agronomy; Soil Sc. Club: Cosmos (Washington).

COLEMAN, Stewart P., dir. Stand. Oil Co. (N.J.), 30 Rockefeller Plaza, N.Y. 20, N.Y.; res. Cedarhurst, N.Y.
Pet. Exec.; b. Corpus Christi, Texas, June 22, 1899; s. of Charles Edwin and Margaret Gill Coleman; ed. Rice Inst., B.S. 1920; M.I.T., M.S. 1921; Dr.S. 1930; m. Jane Cochran, Nov. 5, 1930; ch.: Nancy Jane, Margaret Stewart. Humble Oil & Ref. Co., Houston, lab. asst. to mgr., tech. sev. & dev. dept.; Stand. Oil Co. (N.J.), mfg. rep. on Coordination comm. to dir. Author: Chapt. "Physical & Chem. Properties of Pet. and Its Prods.," "Elements of the Pet. Indust," 1940 (A.I.M.M.E.); mem.: A.I.Ch.E., A.A.A.S., A.P.I. Clubs: Univ., River, Rockaway Hunting. Dir., Stand. Oil Co. (N.J.), Arabian Am. Oil Co., Trans-Arabian Pipe Line Co.

COLEMAN, William B., pres., W. B. Coleman Co., 9th & Rising Sun Ave., Phila., Pa.; res. 6635 McCallum St.
Metal. chem.; b. Oct. 26, 1887, Phila., Pa.; s. of William H. and Martha Beecher Coleman; ed. Hill Schl., U. of Pa. with spec. course, M.I.T.; mem.: Alpha Chi Rho; m. Ursula J. Teslik, Nov. 15, 1930. Res. Chem., Midvale Steel Co., Phila., 1911; chg. iron & brass foundries, supt. of all open hearth furnaces, 1912-15; Phila. Supt. Shell Steel Mfg., Midvale plant, Coatesville, 1916-17; 1918, chf. conslt. Gun Steel Melting Ordn. Dept., Wash., Gen. supt. Tacony Ordn. Corp., a plant mfgr. guns; 1919-21 Gen. Supt. Tacony Steel, Phila.; 1922 to date owner of conslt., pract., labs. for metal., chem. wk. Res. in wk. on melt. of steel in open hearth furnaces, testing metal., chem. problems, all phases of use of water in power generation, corrosion; mem.: A.S.M. (past pres.); Am. Found. Soc. (past dir.); A.C.S., A.I.M.M.E., Natl. Assn. Corrosion Engrs., Am. Council of Comm. Labs., Am. Dairy Science Assn., Franklin Inst. and S.A.E. Hobbies: photography, travel.

COLES, Harold William, dir., Quartermaster R. & D. Gen. Labs., Chem. Labs. Sect., Phila. Q. M. Depot, 2800 S. 20th St., Phila. 45, Pa.; res. 1510 Sunny Hill Lane, Havertown.
Res. chem.; b. East Liverpool, Ohio, July 25, 1898; s. of William Gratz and Gertrude (Agner) Coles; ed. E. Liverpool H.S.; Syracuse U., B.S. in chem. 1923 (cum laude); Iowa State Coll., Ames, Iowa, M. S. in bact., 1926; Ph.D. in chem. 1927 same coll.; mem.: Assoc. of College Cosmopolitan Clubs; m. Esther Catherine Ohrbeck, June 18, 1927; ch.: Virginia Mary, Elinor Gertrude, Marjorie Ann. 1925-27 instr. in chem., Iowa State Coll.; 1927-33 res. org. chem., Eli Lilly & Co., Indianapolis, Ind.; 1933-42 indust. fellow, Mellon Inst. of Indust. Res., Pittsburgh, Pa.; 1942-48 hd. Plastics and Org. Lab., Bausch & Lomb Optical Co., Rochester, N.Y. Author or co-author of 45 papers in varous jls.; patents in the field of medicinal chem., carbohydrate chem., and the recovery of by-prods. from fermentation wastes. Mem.: A.C.S., A.A.A.S., Optical Soc. of Amer., A. Phys. S., Sigma Xi, Quartermaster Assoc., N.Y. Acad. of Sc. Phi Lambda Upsilon, Gamma Sigma Delta, Alpha Chi Sigma, Natl. Geographic Soc., Am. Pharmaceut. Assoc. Clubs: N.Y. Chemists', Phila. Quartermaster Officers. Hobby: stamp collecting.

COLES, Henry L., prof., hd. dept. chem. & chem. engr., Mich. Coll. Mining and Tech., Houghton, Mich.
Coll. dept. hd.; b. Sept. 25, 1891, Springfield, Ohio; s. of George Keifer and Estella Printz Coles; ed. Ohio St. U., 1912-31; B.Sc., Ph.D.; Rose Polytech. Inst., Ch.E. 1915; two yrs. grad. wk. Columbia U.; m. Louise G. Hoerner Apr. 25, 1920. Rose Polytech. Inst., asst. prof. chem. engr. 1913-17; Procter and Gamble, res. engr. 1917-18; C.W.S. 1918-19; Niles Bement Pond Co., chf. metal. 1920-22; Columbia U., lecturer chem. engr. 1920-22; Mosler Safe & Vault Co., res. engr., v. p., 1922-35; U. Detroit, prof., hd. dept. chem. engrs., 1932-35; U. Colo., prof., hd. dept. chem. engrs., 1936-38; U. Ala. prof., hd. dept. metal. & chem. engr., 1938-40; Mich. Coll. Mining &Tech., hd. dept. chem. & chem. engr. 1940 to date. Res. on glycerine, new refractories, zirconium ozide, carbide, silicate for crucibles, tungsten carbide, nickle refractories for safe & vault ind., alloys zirconium corrosion resist., silicon zr. deoxid. for steel. 14 U.S. patents on refractories and alloys. Contrib. to sc. and tech. jls.; mem.: ,Sigma Xi, A.C.S., A.I.Ch.E. Club: Rotary. Hobbies: swimming, fishing.

COLES, James Stacy, exec. off., dept of chem., Brown U., Providence 12, R.I.; res. Ferry Rd., Bristol, R.I.
Assoc. prof. chem.; b. Mansfield, Pa., June 3, 1913; s. of Edwin S. and Emavieve Rose Coles; ed. State Teachers Coll., Mansfield, Pa., 1934 B. S. in Sec. Ed.; Columbia U., A.B. 1936; A.M. 1939; Ph.D. 1941; m. Martha Louise Reed, June 18, 1938; ch.: Ann Stacy, James Reed, Christopher. 1936-41 instr. in chem., City Coll., C.C.N.Y.; 1941-43 instr. and asst. prof. of chem., Middlebury Coll., Vermont; 1943-46 res. assoc., grp. ldr. supvr., Underwater Explosives Res. Lab., Woods Hole Oceanographic Inst., Mass.; 1946-49 asst. prof. chem.; 1949 to date assoc. prof. chem.; 1948 to date exec. off. Dept. of Chem., Brown U.; res. in structure of starch by phys. methods, underwater explosives, chem. education. Mem.: A.C.S., A.A.A.S., Sigma Xi, Phi Lambda Upsilon, New England Assoc. of Chem. Tchrs.; res. The President's Certificate of Merit, U.S.N. Bur. of Ordn. Dev. Award. Clubs: University (Providence), Walker's Island Yacht. Hobbies: music, sailing.

COLIN, Philip Gordon, dir. pilot plant dept., Merck & Co., Inc., Rahway, N.J.; res. 629 Elm St., Westfield, N.J.
Chem. engr.; b. Balt., Md., Dec. 16, 1902; s. of Alvin E. and Rose Gordon Colin; ed. B.S. Chem. Engr. (cum laude) 1923; B.S. E.E. 1925; Ph.D. (Chem.) 1927 U. of Wash.; duPont Fellowship 1924-26; mem.: (hon.) Sigma Xi,Tau Beta Pi, Phi Lambda Upsilon; m. Alice Bertha von Pressentin, May 21, 1932; ch.: Diane Gordon, Carol von Pressentin. Teach. fellow, U. Wash., 1923-24; du Pont Fellowship, U. Wash., 1924-26; res. assoc., Rockefeller Inst. Med. Res. 1926-27; res. chem. engr. Tidewater Assoc. Oil Co., Bayonne, N.J. 1927-30; supvr. automotive lab., 1930-31; supvr. res. lab., 1931-41; hd. chem. engr. res. lab., Merck & Co., Rahway, N.J., 1941-44; asst. dir. res., dir. pilot plant dept., 1944 to date; mem.: A.C.S., A. I.Ch.E., reg. patent agt., (U.S. Patent Off.) No. 16,487. Hobbies: photography, music, sports.

COLLETT, Armand Rene, prof. chem., asst. Dean of Coll. Arts & Scs., W.Va. U., Morgantown, W.Va.; res. 806 Des Moines Ave., Morgantown.
Educator; b. Hartford City, Ind., Feb. 3, 1895; s. of August and Eugenie (Loriaux) Collett; ed. A.B., W.Va. U., 1918; Ph.D. Chem., Yale U., 1923; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Gamma Alpha; m. Dorothy May Atwood, Aug. 7, 1922; ch.: Dorothy May, Armand Joseph, Florence Marie. Yale U., instr. chem., 1923-24; W.Va. U., instr., 1924-26; asst. prof., 1926-31; assoc. prof., 1931-39; prof., 1939 to date; hd. chem. dept., 1948-49; asst. dean, 1949 to date. Contrib. extens. to sc. and tech. jls.; co-author: "Exp. Procedures in Gen. Chem." 1938; mem.: Sigma Xi, A.C.S., E.S., A.A.A.S., W.Va. Acdy. Sc., N.E.A.; natl. councillor, Boy Scouts of Am.

COLLIER, R. Wade, text. chem., Southern Res. Inst., Birmingham, Ala.; res. 789 Euclid Circle, Birmingham, Ala.

Res. sci.; b. Fayetteville, N.C., Aug. 24, 1921; s. of William T. and Martha (Wade) Collier; ed. B.S. Chem. Engr., 1942, N.C. State Coll., Raleigh, N.C.; m. Martha Frances Jones, Aug. 27, 1949. 1938-42, coll. student; 1942-46 served with U.S.A. Air Forces as res. off. at Air Materiel Command, Wright Fld., Ohio; specialties: non ferrous metals, aircraft fuel and lubricants, breathing oxygen; 1946 to date, Southern Res. Inst., org. chems., textile sizes; notable wk.: investigations in the fld. of warp sizing of cotton yarns. Mem.: A.C.S., A.A.T.C.C., Ala. Acad. of Scs.

COLLIER, Simon, dir. of qual. control, Johns-Manville Corp., 22 E. 40th St., New York 16, N.Y.; res. 222 Centre Ave., New Rochelle.

Chem.; b. June 1, 1894; s. of Abraham and Winifred Collier; ed. Worcester Polytech. Inst., B.S. in chem. 1916; m. Ida Collier, 1919; ch.: Vera. 1916-17 rubber chem., Boston Belting Co., Roxbury Crossing, Mass.; 1917-18 asst. chem. in rubber at the Natl. Bur. of Stds., Washington, D.C.; 1918-19 rubber work, Boston Belting Co.; 1919-23 asoc. chem. in chg. rubber work, Natl. Bur. of Stds., Washington, D.C.; 1923-36 mgr. of inspec., and control dept., Johns-Manville Corp., Waukegan, Ill.; 1936-46 staff mgr. of inspec. and control dept., 1946 to date dir. of qual. control, Johns-Manville Corp., N.Y.C.; contrib. many papers on dev. of meths. for the anal. of rubber goods. Author: "Methods of Anal. of Rubber Goods," Natl. Bur. of Stds. Mem.: A.S.T.M., Am. Soc. for Qual. Control, A.C.S., A.I.C. Dir. on Bd. of the Amer. Soc. for Testing Matls. Club: Chemists'.

COLLINGNON, Edward Charles, S.M., prof. of chem., hd. of dept., St. Mary's U., San Antonio 1, Texas; res. same.

Prof. of chem.; b. Chicago, Ill., Nov. 5, 1904; s. of Charles and Clara Collignon; ed. U. of Dayton, B.S. 1926; Catholic U. of Amer., M.S. 1933; U. of Chicago, summer 1942. 1926-30 chem. tchr. McBride H.S., St. Louis, Mo.; 1930-31 at St. Mary's Acad., San Antonio, Texas; 1933 to date prof., and hd. of dept. of chem., same coll. Work in study of activity coefficients of hydrochloric acid in dilute solutions of sodium sulfate. Collab.: "Fundamentals of Org. Chem." (Degering), 1937. Mem.: A.C.S., San Antonio Sect. of A.C.S. (secy.); A.A.A.S. Hobby: fishing.

COLLINS, William Ralph, v.p., gen. mgr., Dow Corning Corp., P. O. Box 592, Midland, Mich.; res. 1105 W. Park Dr., Midland.

Chem. engr.; b. Cleveland, Ohio, Nov. 8, 1893; s. of Michael A. and Jean Winton MacKechnie; ed. M.S. chem. engrg., Case Inst. of Tech. 1916; hon. Doctor of Sc., 1946; m. Helen Dudash, Sept. 5, 1916; ch.: Mrs. Herbert D. Kilner, Wallace J., Mrs. David Skeggs. Chem. engr., Dow Chem. Co., June 1916-48; v.p., gen. mgr., Dow Corning Corp., Feb. 1943 to date (dir.). Pats. on calcium & magnesium chloride & epsom salt processes; dev. cellulose prods. dept., Dow Chem. Co.; organized Com. production & sale of silicones by Dow Corning Corp. Mem.: A.C.S., A.I.Ch.E. Clubs: Midland Kiwanis, Saginaw Valley Torch. Hobby: gardening.

COLSON, Henry Clifford, asst. dir. of biolog. res., G.W. Carnrick Co., 20 Mt. Pleasant Ave., Newark, N.J.; res. 556 Summer Ave., Newark, N.J.

Chem.; b. Abington, Mass., Nov. 18, 1885; s. of Henry C. and Harriet L. Colson; ed. M.I.T., S.B., 1910; widower. 1910-13 asst. to Prof. S.C. Prescott, M.I.T. and Boston Biochem. Lab.; 1913-14 chem. in chg. Milk Inspec. Labs., City of Providence, R.I.; 1914-16 Sanitary Chem., U.S. Pub. Health Serv.; 1916-20 res. chem. Sharpe & Dohme, Baltimore, Md.; 1920-22 pharmaceut. chem., Hynson, Westcott & Dunning, (Md.); 1922-23 priv. business, pharmaceuticals; 1923-25 assoc. bacteriol., Bur. of Chem., Dept. Agri.; 1925 to date asst. dir., Biolog. Labs., G. W. Carnrick Co., Newark, N.J. Mem.; N.Y. Acad. Scs.; A.C.S.; A.Phar.S.; A.A. A.S. Hon. secy. of M.I.T. Club: M.I.T. Club of Northern N.J.

COLSON, Max Elwood, plant mgr., Reynolds Works, Atlas Powder Co., Tamaqua, Pa.; res. Hometown R.D. No. 2, Tamaqua.

Chem. engr.; b. Joplin, Mo., Apr. 29, 1910; s. of L. E. and Vida Mae Colson; ed. U. of Kansas, B.Ch.E., 1935; mem.: Kappa Sigma, Sigma Tau; m. Christine Marsh, June 22, 1938; ch.: Carolyn Ann; 1935 chem.; 1938 asst. powd. supv.; 1940 powd. supv.; 1942 acid supv.; 1948 asst. mgr.; 1949 to date plant mgr. Atlas Powder Co. Mem.: A.C.S. Clubs: Chamber of Commerce (dir.); Rotary; chmn. local chapt. Amer. Heart Assoc. Hobbies: all sports, photography, Boy Scout work.

COLTON, H(enry) Seymour, pres., The Special Chems. Co. and The Cosma Labs. Co., 1545 E. 18th St., Cleveland 14, Ohio; res. 16000 Aldersyde Dr., Shaker Heights, O.

Exec., chem. engr.; b. Calumet, Mich., Feb. 24, 1901; s. of H.S. and Helen (Williston) Colton; ed. B.S., M.I.T., 1921; mem.: Sigma Chi; m. Ruth Watters, Oct. 6, 1923; ch.: Anne Gale, Gary Seymour, Evan Thomas, Marion Babcock. N.J. Zinc Co., 1922-25; Tubize Artif. Silk Co., 1925-27; du Pont Co., asst. tech. dir., Krebs Pigment 1927-35; Grasselli Chem. Co., indus. chem. div., mgr. 1927-35; priv. conslt. 1935; to date pres. The Special Chemicals Co. Holds 12 pats. Mem.: A.C.S., A.I.Ch.E., A.A.A.S. Club: University. Treas. and dir. of The Merritt Prods. Co., The Macco Chem. Co. Hobbies: var. games, travel.

COLVER, Charles William, prof. org. chem., Kansas State Coll., Manhattan, Kans.; res. 1635 Fairchild Ave., Manhattan, Kansas.

Prof. org. chem.; b. Missouri Valley, Iowa, Feb. 28, 1885; s. of Joseph Wright and Abbie (Palmer) Colver; ed. U. of Idaho, B.S. 1909; M.S. 1911; U. of Ill., Ph.D. 1919; mem.: Phi Delta Theta; m. Catharine Sinclair, Dec. 22, 1909; ch.: Margaret Louise, Catharine Helen, William Sinclair. 1909-18 asst. chem. Idaho Exp. Sta. and asst. prof. agri. chem. U. of Idaho; 1919, asst. chem. prof. org. chem., assoc. prof. org. chem., 1950 prof. org. chem. Kansas State Coll. Author: "Lab. Manual Elementary Org. Chem." Mem.: Sigma Xi, Phi Lambda Upsilon, Gamma Delta. Hobbies: golf, photography.

COMINGS, Edward Walter, prof. of chem. engr., 105 E. Chem. Bldg., U. of Ill., Urbana, Ill.; res. 1500 N. McKinley Ave., Champaign, Ill.

Chem. engr.; b. Phillipsburg, N.J., Feb. 24, 1908; s. of Robert Morrow and Nellie (Breen) Comings; ed. U. of Ill., B.S. in Chem. Engr. 1930 (with highest honors); Bronze tablet (upper 3% of class) Mass. Inst. Tech., Sc.D. 1934; mem.: Tau Kappa Epsilon, Alpha Chi Sigma; m. Jean F. Rice, Nov. 17, 1931; ch.: Gordon Robert, David Edward, Miriam Louise. 1931-33 asst. M.I.T.; 1933-35 chem. engr. The Texas Co., Beacon, N. Y.; 1935-36 asst. prof. chem. engr. North Carolina State Coll., Raleigh; 1936-43 asst. prof. chem. engr.; 1943-47 assoc. prof.; 1947 to date prof. U. of Ill.; official investigator for Off. Sci. Res. and Dev. 1940-43; asst. dir. Munitions Dev. Lab. at U. of Ill. 1943-45. Some 30 tech. papers on res. in chem. engr. subjects: drying, liquid extraction, fluid flow, high pressure measurements, etc. Contrib. chapt. on Filtration to "The Applications of

Chem. Engr." by Harry McCormack, ed., D. van Nostrand Co. 1940. Mem.: A.C.S., A.I.Ch.E.; rec. "Certificate of Appreciation" for O.S.R.D. work. Clubs: University, Urbana. Hobby: gardening.

COMPTON, Walter Ames, v.p. in chg. of Medical and Res. Div., Miles Labs., Inc., Elkart, Ind.; res. 2225 Greenleaf Blvd., Elkhart.
Physician; b. Elkhart, Ind., Apr. 22, 1911; s. of Herman A. and Grace (Cooper) Compton; ed. Princeton U., A.B. 1933; Harvard U., M.D. 1937; m. Phoebe Emerson, June 22, 1935; ch.: Cynthia, Joan, Phoebe, Walter Ames, Gordon. 1938 Intern, Billings Hosp.; 1939-42 med. and res. dir. Miles Labs., Inc. Elkhart, Ind.; since 1946 v.p. in chg. of Med. and Res. Div., same co.; v.p. Ames Co., Inc., since 1940; mem.: bd. of dirs. Sumner Chem. Co., Inc. since 1947. Served in Med. Corps of A.U.S. 1942-46. Mem.: A.M.A., Indiana State Med. Assoc., Elkhart Co. Med. Soc., A.A.A.S. Mem. of the Exec. Comm. of The Institute for the Study of Analgesic and Sedative Drugs; mem. of bd. of govs. of The Natl. Vitamin Foundation; Presbyterian Ch. (session).

CONANT, James Bryant, pres., Harvard U., Mass. Hall, Cambridge, Mass.; res. 17 Quincy St., Cambridge.
Educator; b. Dorchester, Mass., Mar. 26, 1893; s. of James Scott and Jennett Orr (Bryant) Conant; ed. Harvard A.B. 1913; Ph.D. 1916; Phi Beta Kappa, Sigma Xi, Alpha Chi Sigma; m. Grace Thayer Richards, Apr. 17, 1921; ch.: James Richards, Theodore Richards. Harvard: instr. in chem. 1916-17; asst. prof. 1919-25; assoc. prof. 1925-27; prof. 1927-29; Sheldon Emery prof. of org. chem. 1929-33, chmn. chem. dept. 1931-33; pres. 1933 to date; visiting lecturer, U. of Calif., 1924; res. assoc., Calif. Inst. of Tech., 1927; Sachs lecturer, Teachers Coll., 1945; Terry lecturer, Yale, 1946. Author: "Org. Chem." 1928; revised edit. 1936; "The Chem. of Org. Cmpds." 1933; revised edit. 1939 and 1947; "Our Fighting Faith" 1942; revised ed. 1944; "On Understanding Sc." 1947; "Education in a Divided World," 1948; co-author: "Practical Chem." with N. H. Black, 1920; revised ed. 1927; "Fundamentals of Chemistry" with A. H. Blatt, 1950; edit. Vols. II, IX Org. Syn. Mem.: A.C.S., Am. Acad. Arts & Sc. Am. Philos. Soc., Natl. Acad. of Sc., Mass. Hist. Soc., Royal Soc. (England), Royal Soc. Edinburgh), Chem. Soc. (England). Clubs: Tavern, Harvard, Algonquin (Boston) Century, Chemists, Harvard, University (N.Y.), Cosmos (Wash.) Athenaeum (London).

CONARY, Robert E., supvr., chems. res. dept., The Texas Co., Beacon Labs., Beacon, N.Y.; res. 29 Teller Ave., Beacon.
Chem.; b. Minneapolis, Minn., Aug. 14, 1913; s. of Arthur H. and Florence E. Conary; ed. U. of Minn. B.Ch.E. (with distinc.) 1934; U. of Wisconsin Ph.D. 1938; mem.: Alpha Chi Sigma; m. Jean Haemmerlein, Sept. 9, 1939; ch.: Susan J., Marcia A., Stephen R.; 1934-37 tchg. asst. in chem., U. of Wis.; 1937-38 U. Fellow, U. of Wis.; 1938-42 res. chem.; 1942-43 asst. supvr. Chems. Res. Dept.; 1945 to date supvr. Chems. Res. Dept., The Texas Co., Beacon Labs., Beacon, N.Y.; res. on prod. of lubricants, fuels and chems. from petroleum; res. on thiophene and its derivatives. Mem.: A.I.Ch.E.; A.I.C. (fellow); A.C.S., A.A.A.S.; Sigma Xi, Tau Beta Pi, Phi Lambda Upsilon, Gamma Alpha. Hobbies: music, book collecting.

CONCANNON, C.C., chf., chem. div., Bur. of Foreign & Domestic Com., Wash. 25, D.C.; res. 1200 16th St., N.W., Wash. 6, D.C.
Govt.; b. Boston, Mass., Mar. 13, 1889; s. of John S. and Gertrude (Kavanagh) Concannon; ed. Harvard, A.B., 1911. Has held present position & title since 1922. Wk. in fostering, promoting & dev. U.S. chem. com. & indus. at home & abroad. Has contrib. many titles, arts. & speeches in chem. com. & indus. Mem.: A.I.C., A.C.S., Soc. for the Advancement of Management, Am. Marketing Assn. Clubs: Metropolitan, University, Congressional Country, Harvard (Wash., D.C.), Harvard (N.Y.), Chemists' (N.Y.), Harvard (Boston).

CONDON, Edward Uhler, dir. Natl. Bur. of Stds., Washington 25, D.C.; res. 3535 Van Ness St., Washington 8.
Physicist; b. Alamogordo, N.M., Mar.,2, 1902; s. of William E. and Caroline U. Condon; ed. U. of Calif., A.B. 1924, Ph.D. 1926; U. of Delhi (India), D.Sc. (hon.) 1950; m. Emilie Honzik, Nov. 9, 1922; ch.: Caroline Marie, Paul Edward, Joseph Henry. 1928-37 assoc. prof. of phys. Princeton U., execpt for 1929-30, as prof. of phys. U. of Minn.; 1937-45 assoc. dir. Westinghouse Res. Labs.; dir. Natl. Bur. of Stds., 1945 to date; res. in theory of intensity in band spectra, known as Franck-Condon principle; theory of radioactivity; theory of optical rotatory power. Co-author (with P.M. Morse) "Quantum Mechanics," 1929; (with G.H. Shortley) "The Theory of Atomic Spectra" 1935. Mem.: A.Phys.S. (past pres. 1946); Natl. Acad. of Scs.; A.A.A.S.; A.Phil.S.; Washington Acad. of Scs. Club: Cosmos (Wash.).

CONE, Leon James, Jr., container div. sales mgr., Dewey & Almy Chemical Co., 62 Whittemore Ave., Cambridge 40, Mass.; res. 39 Cedar Ave., Arlington, Mass.
Tech. sales; b. Ironwood, Mich., Feb. 20, 1921; s. of L.J. Cone, Sr., and Minnie H. Cone; ed. Dartmouth Coll., grad. 1941, B.S.; mem.: S.A.E.; m. Eleanor Baldwin, Oct. 11, 1941; ch.: Gregory Norton, Sherril Lee. A.E. Staley Mfg. Co., Special Prods. Sales, Decatur, Ill., July, 1941 to Feb., 1943. Dewey & Almy Chemical Co., Container Division Sales, Cambridge, Mass., Aug., 1946 to date. Mem.: Inst. of Food Technology. Hobbies: sailing, swimming, photography.

CONKLE, Fred A., sales mgr., S.L. Abbot Co., 800 S. Sante Fe, Los Angeles 21, Calif.; res. 505 No. St. Andrews Pl., Los Angeles 4.
Sales mgr.; b. Indianapolis, Ind., Nov. 30, 1896; s. of Anson B. and Mary E. Dobson Conkle; ed. U. Ind., 1920, A.B.; 1 yr. Sorbonne U., Paris, France; mem.: Sigma Chi; m. Mary Louise Neal, June 16, 1920; ch.: Fred A., Jr. Adv. mgr., Noblesville Daily Ledger, 1920-23, Noblesville Ind.; sales engr., N.E. Mach. Co., Boston, Mass. 1923-29; sales mgr., Lewis Shepard Co., Watertown, Mass., 1929-31; own bus., 1931-39; sales mgr., Wm. Lynn Chem. Co., Indianapolis, 1939-43; mgr. distr. sales, Wyandotte Chem. Co., Wyandotte, Mich., 1944-46; sales mgr., S.L. Abbot Co., Los Angeles, Calif. 1946 to date. Res. mostly in market. Contrib. to sc. and tech. jls. Clubs: Columbia, (Indianapolis, Ind.); Jonathan (Los Angeles). Hobbies: gardening, music.

CONKLIN, Albert Edward, tech. dir., personnel dir., C.A. Reed Co., Williamsport 62, Pa.; res. 1324 Mansel Ave., Williamsport 9.
Chem. engr.; b. Elmira, N.Y., Jan. 20, 1904; s. of Paul F. and Clara (Watson) Conklin; ed. Bucknell U., B.S. in Ch.E., 1926; Ch.E. 1936; mem.: Kappa Gamma; m. Gertrude Ahgreen, May 30, 1929; ch.: Albert E. Jr. 1926-29 res. chem. du Pont Rayon Co., Buffalo, N.Y.; 1929-30 res. chem. Champion Fiber Co., Canton, N.C.; 1930-31 res. chem. engr. Dennison Mfg. Co., Framingham, Mass.; 1931 to date chem., chf. chem. C.A. Reed Co., Williamsport, Pa.; res. paper converting, adhesives, dyeing creping. Mem.:

T.A.P.P.I., Am. Management Assoc., A.I.C., P.E. of Penn., Penn. Chem. Soc. Clubs: Wheel Inn, Young Men's Republican. Hobbies: woodworking, gardening.

CONKLIN, Frederick Roscoe, asst. wks. mgr., Tenn. Eastman Corp., Kingsport, Tenn.; res. 1308 Linville St.
Chem.; b. Everett, Wash., July 2, 1903; s. of Loten Roscoe and Emily Witts Conklin; ed. B.S., Ore. St. Coll. 1928; Ph.D., Yale U. 1931; mem.: Sigma Tau, Tau Beta Pi, Phi Lambda Upsilon, Sigma Xi, Alpha Chi Sigma, Phi Kappa Phi; m. Helen Tobias, Sept., 1930; ch.: Barbara Louise, Elizabeth Beryl, Frederick James, Martha Helen. July 1, 1931-Jan. 1, 1932, res. chem., Tenn. Eastman Corp.; Jan. 1, 1932-34, supt. plastics dept.; Jan. 1, 1934-July 19, 1941, supt., cellulose acetate div.; July 19, 1941-June 14, 1942, gen. supt., plant operations, Holston Ordnance Wks.; Jan. 10, 1943-June 1, 1947 wks. mgr., Clinton Engr. Wks.; June 1, 1947 to date asst. wks. mgr., Tenn. Eastman Corp. Res. in mfg. in fields of cellulose esters, ester plastics, plasticizers, organic acids, anhydrides, synthetic fibers.

CONN, John Byron, mem. of Physical and Inorg. Chem. Res., Merck & Co. Inc., Rahway, N.J.; res. 2417 Allwood Rd., Westfield, N.J.
Res. physical chem.; b. Point Marion, Pa., June 19, 1910; s. of J. Loman and Elizabeth (Redlingshafer) Conn; ed. W.Va. U., A.B. 1932; Ph.D. 1937; mem.: Phi Lambda Upsilon, Phi Beta Kappa, Sigma Xi; m. Saramae Woodford, Aug. 23, 1941. Grad. asst., W.Va. U., 1932-36; instr., org. chem., Marshall Coll., Huntington, W.Va., 1936-37; res. asst. to Prof. G.B. Kistiakowsky, Harvard U., 1937-40; on physical and inorganic chemical res. staff, Merck & Co. Inc., 1940 to date; res. in heats of hydrogenation, halogenation, and hydrolysis of organic cmpds.; heats of denaturation of proteins; chem. of vitamin B12 Mem.: A.C.S., A.A.A.S. Hobbies: gardening, ornithology, music.

CONN, John Ferguson, hd. dept. of chem., John B. Stetson U.; res. 121 W. Wisconsin, Deland, Fla.
Teacher; b. Frankln, Ky., Mar. 13, 1899; s. of Notley Thompson and Ella Belle (Ferguson) Conn; ed. Georgetown Coll., Ky., B.S. 1920; U. of Chicago, M.S. 1924; U. of Pitts., Ph.D. 1926; mem.: Gamma Sigma Epsilon, Phi Lambda Upsilon; m. Morton R. Welborn, Jan. 1, 1921; ch.: John Morton. Instr. in chem., Georgetown Coll., 1920-21, prof. of sc. & math., Southwest Baptist Coll., 1921-23; grad. asst. in org. chem., U. of Pitts., 1923-26; prof. of chem. & biology, Judson Coll., 1926-29; hd. dept. of chem., John B. Stetson U., 1929 to date. Ph.D. thesis: electrolytic oxidation of p.Bromotoluene & o.Nitrotoluene in nitric acid solution; 30 yrs. teaching in church related schls. Mem.: A.C.S., Fla. Acad. of Sc. Past chmn., v. chmn., secy., Fla. Sec., A.C.S.; past secy. (8 yrs.), State Basic Sc. Bd. Clubs: Kiwanis (past pres., lt. governor); Internatl. Comm. on Attendance; Internatl. Comm. on Club Programs. Hobbies: golf, fishing, woodworking (inlay pictures).

CONN, William Robson, lab. hd., Rohm & Haas Co. Inc., 5000 Richmond St., Phila., Pa.; res. Perkasie, Pa., R.D. 2.
Chem.; b. Cannington, Ontario, Canada, Mar. 10, 1911; s. of James R. and Edna (Millions) Conn; ed. B.A. 1932, Queen's U., Kingston, Can.; M.A. 1933 same U.; Ph.D. 1936 N.Y.U., University Hts., N.Y.C.; m. Anna Ruth Purcell, July 1, 1939; ch.: Marilyn, Bruce. 1936-48 chem., Rohm & Haas Co.; 1948 to date lab. hd. same co. Mem.: A.C.S.

CONNELL, Arthur J., v.p., engr., E.B. Badger & Sons Co., 75 Pitts St., Boston, Mass.; res. 53 Yale St., Winchester, Mass.
Chem. engr.; ed. M.I.T., B.S. 1927; M.S. 1928; mem.: Phi Kappa, Alpha Chi Sigma; m. Mary Wilson, June, 1944. 1928 chem. engr., E.B. Badger & Sons Co.; 1944 asst. chf. engr.; 1947 chf. engr.; 1949 to date v.p. Mem.: A.I.Ch.E., A.C.S. Clubs: Chem. (N.Y.), Winchester Country. Hoby: golf.

CONNER, James Thomas, Jr., entomologist, Taylor Chem. Co., Aberdeen, N.C.; res. Aberdeen, N.C.
Entomologist; b. Ripley, Miss., Dec. 9, 1916; s. of James Thomas and Golden (Arnold) Conner; ed. Miss. State Coll.; m. Gladys Mae Bentley, Oct. 14, 1939; ch.: James Thomas III. 1938-42 U.S.D.A., B.E. & P.Q., tobacco insect res.; 1942-45 U.S.A.; 1945-49 N.C. Agri. Ext. Ser., Extension Ent.; 1949 to date entomologist, Taylor Chem. Co. Mem.: A.A.A.S., A.A.E.E., N.C.A.S., A.S.A., Elisha Mitchell Sc. Soc., Texas Ent. Soc.; military decorations include silver and bronze stars. Clubs: Lions; A.F. & A.M. Hobbies: golf, hunting, fishing, flying, philately.

CONNER, Lester Carlton, dir. of res., Bryant Chem. Corp., Hingham, Mass.; res. 99 Fresh Pond Pkwy., Cambridge 38, Mass.
Chem. engr.; b. Malden, Mass., Aug. 23, 1894; s. of George and Emily K. (Wallace) Conner; ed. M.I.T., class of 1918, S.B.; m. Frances Ellen Rand, June 24, 1925; ch.: Lester Carlton Jr. 1918-19, control chem., Atlas Powder Co., Tamaqua, Pa. & Perryville, Md.; 1918-19, plant res. chem., Barrett Co., Phila., Pa.; 1919-20, asst. instr., M.I.T., dept. chem., Cambridge, Mass.; 1920-26, owned & operated Anal. & Res. Lab., Boson, Mass.; 1926-27, chf. chem., Dextro Prods. Co., Buffalo, N.Y.; 1927-30, owned & operated Adhesive Mfg. Co., Buffalo, N.Y.; 1931-40, res. chem. engr., Pacific Mills, Lawrence, Mass.; 1940-50, chf. chem., Masury Young Co., Boston, Mass.; 1950 to date, dir. of res., Bryant Chem. Co., Hingham, Mass. U.S. Pat. 1,716,623, L.C. Conner Resins from Black Liquor from Pulp Mfr. Mem.: A.C.S., A.A.T.C.C., N.E. Paint & Varn. Prod. Club. Club: Masonic Fraternity 32 deg. Hobbies: photography, woodworking, model sailing yachts.

CONNER, Robert Thomas, tech. asst. to dir., Res. Labs., Smith, Kline & French Labs., 1530 Spring Garden St., Phila. 1, Pa.; res. 424 Williams Rd., Wynnewood, Pa.
Chem.; b. Lisbon, N.H., Oct. 2, 1910; s. of Richard Bliss and Harriet (Utton) Conner; ed. U. of Vt., B.S. 1932; Columbia U., Ph.D. 1936, Ellis Fellow; mem.: Phi Mu Delta; m. Dorothy Binner, Aug. 10, 1940; ch.: Jane Binner. Instr. in chem., Columbia U., 1936-39; hd., div. of biochem., Central Res. Labs., Gen. Food Corp., 1939-45; tech. dir., William R. Warner Co., 1945-46; v.p., res. dev., Harrower Lab. Inc., 1946-49; tech. asst. to dir., Res. Labs., Smith, Kline & French Labs., 1950 to date. Vitamin assay method, dev. of pharmaceutical prods., endocrinology. Mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Epsilon, A.C.S., A.A.A.S., N. Y. Acad. of Sc., Soc. of Am. Bact., A.I.C. (fellow). Hobbies: photography, orchid culture, tennis.

CONNOR, John Thomas, secy. and counsel, Merck & Co., Inc., Rahway, N.J.; res. 11 Linden Pl., Summit.
Lawyer; b. Syracuse, N.Y., Nov. 3, 1914; s. of Michael J. and Mary V. (Sullivan) Connor; ed. Syracuse U., A.B. (magna cum laude) 1936; Harvard U., LL.B. 1939; mem.: Phi Beta Kappa, Phi Kappa Psi, Phi Kappa Phi; m. Mary O'Boyle, June 22, 1940; ch.: John Thomas, Jr., Geoffrey

Michael, Lisa F. 1939-42 assoc. Cravath, de Gersdorff, Swaine & Wood, N.Y.C.; 1942-44 atty. and gen. couns., Off. of Sc. Res. and Dev., Washington, D.C.; 1944-45 U.S. Marine Corps, 2nd Lt. and 1st Lt. in U.S. and Pacific; 1945-46 counsel, Off. of Naval Res., Washington, D.C.; 1946-47 spec. asst. to Sec. of Navy Forrestal; 1947 to date with Merck & Co. Mem. of comm. on plans for mobilizing science, res. and dev. bd., Washington, 1948-50; mem. also of Amer. Bar Assoc., Assoc. of the Bar of the City of N.Y., N.Y. State Bar Assoc.; awarded Presidential Certificate of Merit, 1948. Clubs: Harvard (N.Y.C.), Morris Co. Golf. Hobbies: reading, golf.

CONNOR, Ralph Alexander, v.p. in chg. of res., Rohm & Haas Co., 5000 Richmond St., Phila. 37, Pa.; res. 234 N. Bent Rd., Wyncote. Pa.
Chem.; b. Newton, Ill., July 12, 1907; s. of Stephen A. and Minnie (Ross) Connor; ed. U. of Ill., 1925-29, B.S. chem.; U. of Wis., 1929-32, Ph. D. org. chem.; mem.: Theta Chi, Alpha Chi Sigma; m. Margaret Raef, Sept. 1, 1931; ch.: Stephen Ross. Assoc. dir. of res., Rohm & Haas Co.; Office of Sc. Res. & Dev.: div. chf., sec. chf., tech. aide; U. of Pa., asst. prof., assoc. prof. of chem. Catalytic hydrogenation, sulfur chem., active methylene cmpds. Author: "Brief Course in Org. Chem." Mem.: A.C.S., Chem. Soc. of London, Sigma Xi, Phi Lambda Upsilon, Phi Eta Sigma. Awards: M. for Merit, King's M. for Service. Clubs: Down Town, Manufacturers Country.

CONOVER, Frederic LeRoy, prof. of chem., Vanderbilt U., Nashville 4, Tenn.; res. Vanderbilt U. Campus, Nashville.
Chem.; b. Madison, Wis., July 28, 1892; s. of Frederic King and Grace (Clark) Conover; ed. B.A., U. of Wis., 1915, Ph.D. 1923; mem.: Alpha Chi Sigma, Gamma Alpha, Scabbard & Blade; m. Alene Gray Wharton, June 25, 1938. Instr. in chem., Pa. State Coll., 1917; U.S.A., 1st Lt., Capt., Engrs., Major, C.W.S., 1917-19, partic. in Somme, St. Mihiel & Meuse-Argonne offensives; asst. prof. chem., Vanderbilt U., 1923-27, assoc. prof. 1927-44, prof. of chem., 1944 to date. Extens. ac. for. serv., C.W.S., U.S.A., W.W. I; res. officer, C.W.S., many yrs.; Tenn. State Gas Conslt. & Dir. Defense Schls., W.W. II; consulting chem.; service at Oak Ridge Natl. Lab. Mem.: A.C.S., Tenn. Acdy. of Sc., Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon. Clubs: University, Belle Meade Golf & Country, Nashville Gun. Hobbies: shooting, fishing.

CONQUEST, Victor, gen. mgr., res. div., Armour and Co., U.S. Yards, Chicago 9, Ill., res. 10317 S. Bell Ave., Chicago, 43.
Chem.; b. Kans., Feb. 7, 1896.

CONRAD, Frank Heussy, prof. of chem. engrg., Schl. of Mines & Metallurgy, U. of Mo., Rolla, Mo.; res. 1106 Rolla St., Rolla.
Chem. engr.; b. Seattle, Wash., July 9, 1902; s. of Frank G. and Lucinda A. Conrad; ed. U. of Wash., B.S. in Ch.E. 1923, Ph.D. 1934; mem.: Theta Xi, Phi Lambda Upsilon, Alpha Chi Sigma, Scabbard & Blade; m. Mercedes E. Wason, July 1, 1925; ch.: David Andrew, Ruth Mercedes. Chem., Northwest Testing Labs., Seattle, Wash., 1923-25, mgr. 1925-29; teaching fellow, U. of Wash., 1929-31; assoc. in chem. engrg. 1931-32; teaching fellow 1932-34; chem., Stand. Oil. Co. of Calif., Richmond, Calif., 1934-36; asst. prof., Mo. Schl. of Mines & Met., 1936-37, assoc. prof., 1937-42; Capt., U.S.A., July 1942-Feb. 1946; prof., Mo. Schl. Mines & Met., 1947 to date. Num. publ. in tech. jls. Mem.: A.I.Ch.E., A.C.S., Am. Soc. Engrg. Ed., Sigma Xi, Reg. Engr. State of Mo., Mo. Soc. of Prof. Engrs., Major Arty. U.S.A.R. Club: Lions (Rolla).

CONROY, Peter J(oseph), prof. of pharmaceutical chem., hd. of dept., College of Pharmacy, Fordham U., 190th St. & Bathgate Ave., 58, N.Y.; res. 410 Scarsdale Rd., Crestwood, Tuckahoe 7, N.Y.
Chem. prof.; b. Watervliet, N.Y., Oct. 26, 1894; s. of William P. and Mary E. Birmingham Conroy; ed. 1917, Ph.G., Coll. Pharmacy, Fordham U. (Alumni Medal-highest average in all subjects); 1926, B.S., Fordham Coll. 1927, M.S. 1929, Ph.D. Fordham Univ. 1940, M.A. Columbia U., 1921-23, N.Y.U. & Bellevue Med. Coll.; mem.: Omega Upsilon Phi (med.), Alpha Zeta (phar.) (hon.); m. Marguerite E. Schoenstadt, May 13, 1919; ch.: Marguerite E. Fordham U. 1919-21, student asst., biol.; N.Y.U. & Bellevue Med. 1922-23, student asst., pharmacology; Fordham Coll. & Schl. Ed. 1924-27, instr. chem. & gen. sc.; Fordham U. Coll. Pharmacy 1927— asst. prof., assoc. prof., prof. chem., hd. of dept. Fordham U. Schl. Ed., gen. sc. physiol. & hygiene; gen. chem., 1926-46; asst. prof. phar., 1929-30, N.Y. Med. Coll. Licensed Pharmacist, Conn. 1913, New York 1917. Pharmaceutical Editor, Chain Store Age, Druggists Ed. 1942-47, monthly arts. and News Survey, relative to sc. side of phar. Mem.: A.A.A.S. (fellow), A.I.C., fellow Am. Geograph. Soc., member, A.C.S., Acdy. Sc. (N.Y.), A.Ph.A. (Natl.), A.Ph.A. (N.Y. branch), N.Y. State Phar. Assoc., Westchester Phar. Assoc. (hon. life member), Medal "Bene Merenti de Universitate Fordhamensi" (20 yr. service). Club: Knights of Columbus (Stamford, Conn.). Hobbies: gardening, travel.

CONVERSE, Willard B(axter), asst. to res. dir., M. W. Kellogg Co., 225 Broadway, N.Y. 7. N.Y.; res. 81 Concord Ave., Glen Rock, N.J.
Chem.; b. Eugene, Ore., Mar. 27, 1906; s. of Charles W. (dec.) and Delia J. (Baxter) Converse; ed. public schls. in Ore. & Calif.; Stanford U., A.B. 1934, M.A. chem. 1935; mem.: Alpha Chi Sigma, Phi Lambda Upsilon; m. Loretta Wardlaw, June 9, 1928; ch.: Glenn L. 1935-38, Shell Dev. Co., Emeryville, Calif., res. chem.; 1938-42, Shell Dev. Co., Emeryville & San Francisco, asst. to res. dir.; 1942-47, Gen. Aniline & Film Corp., Easton, Pa., asst. to res. dir.; 1947 to date, M. W. Kellogg Co., N.Y.C., asst. to res. dir. Mem.: A.C.S., A.A.A.S. Hobby: photography.

CONWAY, Alvin Charles, pharmacologist, Irwin Neisler & Co., 410 N. Morgan St., Decatur, Ill.; res. 240 S. College St., Decatur.
Pharmacologist; b. Chicago, Ill., Jan. 5, 1922; s. of John C. and Rosella P. Conway; ed. U. of Chicago, 1939-42, 1946-48, B.S., M.S.; mem.: Phi Kappa Sigma, Nu Sigma Nu, Sigma Xi; m. Patricia Boal, Sept. 28, 1948. Res. asst., U. of Chicago (NOSRD contract); res. chem., Swift & Co., res. labs.; res. pharmacologist, Irwin Neisler & Co. Mem.: A.A.A.S., Sigma Xi.

CONWELL, John William, tech. co-ordinator, staple dev. plant, Am. Viscose Corp., Nitro, W. Va.; res. 1931 Benedict Circle, St. Albans, W. Va.
Chem. engr.; b. Council Bluffs, Iowa, Dec. 26, 1910; s. of Eugene C. and Cora M. (Powell) Conwell; ed. B.S. in chem. engrg. 1932; M.S. in chem. engrg. 1934, Iowa State Coll., Ames, Iowa; doctorate studies, Polytech. Inst. of Bklyn., Bklyn., N.Y., 1939-46, complete except for res.; m. Bessie Mae Plexco, Aug. 31, 1940; ch.: John W. Jr., Jene Wesley. Grad. asst., Chem. Com. Testing, Engr. Expt. Station, Iowa State Coll., Ames, Iowa, 1932-34; supvr., Expt. Lab., Tide Water Associated Oil Co., Drumright, Okla., 1935-39; process engr., engrg. dept., Tide Water Associated Oil Co., Bayonne, N.J., 1939-46; sr. res. chem. engr., staple process dept., Am. Viscose Corp., Nitro, W. Va., 1946-49; tech. co-ordinator 1949 to date. "Correlating Viscosity & Vapor Pressure of Liquids" D. F. Othmer & J. W. Conwell, Ind.

Engr. Chem. 37 1112, 1945. Mem.: A.I.Ch.E., A.C.S., Sigma Xi, Phi Lambda Upsilon, Registered Engr. W. Va. Hobbies: investment management, contests.

COOK, Elmer William, European tech. rep., Cyanamid Prods. Ltd., Brettenham House, Lancaster Place, London, W.C. 2, England; res. 804 Keyes House, Dolphin Sq., London, S.W. 1.
Chem.; b. Buckner, Ark., Aug. 25, 1909; s. of Charles Ira and Ethel Lilla Cook; ed. U. Ark., B.S. Chem. Engr. 1930; Ohio St. U., M.S. 1931; Ph.D. 1933; mem.: Gamma Alpha, Phi Lambda Upsilon, Sigma Xi, Alpha Chi Sigma, Tau Beta Pi; divorced Jan. 31, 1949; ch.: Diana Carol, Robert Collyer. Com. Solvents Corp., asst. to res. dir.; Merck & Co. 1933-36 res. chem. org.; Tidewater Oil Co. 1936-40 res. chem. org.; Am. Cyanamid Co. 1940-42, group leader, tech. serv. dept.; 1942-46 group leader, res. dept.; 1946-49 asst. chem. dir.; 1949 to date European tech. rep. Res. in electrochem., carbohydrates, vitamins, antioxidants, rubber, pet. chems. Mem.: A.C.S., A.I.C. Club: Chem. (N.Y.) Hobby: tennis.

COOK, Elton Straus, dean of res., and res. prof. and hd. Div. of Chem. and Biochem., Institutum Divi Thomae, 1840 Madison Rd., Cincinnati, O.; res. 6503 Park Lane, Cincinnati 27.
Res. dir. and prof.; b. Oberlin, O., Dec. 24, 1909; s. of Edward M. and Bertha E. (Straus) Cook; ed. Oberlin, B.A. (summa cum laude), 1930; Yale, Ph.D., 1933; mem.: Phi Beta Kappa, Sigma Xi.; m. Elizabeth Luck, June 1, 1935; ch.: Edward M., David C. 1930-33 asst. in chem.; 1933-34 post-doctorate fellow, Yale; 1934-37 hd, Div. of Org. Prod., Wm. S. Merrell Co.; 1937 to date res. prof. and hd. Div. Chem. and Biochem.; asst. dir. 1943-45; Dean of Res., Institutum Divi Thomae, 1946 to date; conslt. W.P.B., 1942; chmn. and org., Gibson Island Res. Conference on Chem. Growth Promoters, A.A.A.S., 1942; res. synthesis and pharmacology of local anesthetics; mechanism of drug action in terms of metabolism and enzymes; cellular metabolism and cancer; has written many tech. papers. Mem.: A.A.A.S., A.C.S., Hist. of Sc. Soc., A. Phar. A., Soc. for Exper. Biol. and Med., N.Y. Acad. of Sc., Am. Assoc. for Cancer Res., Biochem. Soc. (England); fellow, Am. Inst. of Chem. and Chem. Soc. of London. Club: Yale (Cincinnati). Hobby: music.

COOK, Gerhard Albert, hd. of Oxidation Res. Div., Lab. of the Linde Air Prods. Co., Tonawanda, N.Y.; res. 246 Roycroft Blvd., Buffalo 21, N.Y.
Res. chem.; b. Berea, Kentucky, May 2, 1907; s. of E. Albert and Ida (Brode) Cook; ed. Marietta (Ohio) Coll. 1924-26; B.S.Ed. (with high distinc.) U. of Mich., Ann Arbor, 1928, M.S. 1933; Ph.D. in chem. 1935; mem.: Phi Beta Kappa, Phi Kappa Phi, Phi Lambda Upsilon, Sigma Xi honor socs.; m. Lura Harriet Lincoln, June 19, 1935; ch.: Alan L., Stephen A., Michael B., Philip J. 1927-28 lect. asst. in org. chem. U. of Mich.; 1928-31 tchr. of chem., Dearborn H.S., Dearborn, Mich.; 1931-32 tchg. asst. in chem., Johns Hopkins U., Baltimore, Md.; 1932-35 tchg. fel. and lect. asst. U. of Mich.; 1935-37 instr. in chem. Case Inst. of Tech., Cleveland, Ohio; 1937-47 res. chem.; 1947 to date div. hd. Lab. of the Linde Air Prods. Co., Tonawanda, N.Y.; res. in reaction kinetics, photochemistry, chem. oxidation reactions, hydrogen peroxide and ozone. Mem.: A.C.S., secy. of the Western N.Y. Sect., A.C.S., 1948 to date. Hobbies: music, hiking in the mountains, tennis, canoeing.

COOK, Graham, res. project leader, Carbide & Carbon Chem. Div., South Charleston, W. Va.; res. 811 Montrose Dr., S. Charleston.
Res. chem.; b. Yoakum, Tex., Oct. 28, 1900; s. of John W. and Winnie (Graham) Cook; ed. Baylor U., B.A., 1922; Vanderbilt U. M.S. 1924; Columbia U., Ph.D. 1928; mem.: Acacia; m. Marcella Watkins, June 21, 1929; ch.: Robert, John, David. 1922-23, chem. instr., high schl., Lockhart, Tex.; 1924-25, prof. of chem., Hendrix Coll., Conway Ark.; 1928-29, instr. in chem., Columbia U., N.Y.C.; 1929-42, hd. dept. chem., Albright Coll., Reading, Pa.; 1942-46, res. adm. Manhattan Project, N.Y.C.; 1942 to date, res. adm., Carbide & Carbon Chem. Div., S. Charleston, W. Va. Adm. wk. in S.A.M. Labs., Manhattan Project, N.Y. Mem.: A.C.S. Sigma Xi, Phi Lambda Upsilon. Clubs: Kanawha Country, University. Hobbies: golf, radio-electronics.

COOK, Melvin A., prof. of metallurgy, U. of Utah, 211 Mines Bldg., Salt Lake City, Utah; res. 919 S. 12th E., Salt Lake City.
Coll. prof.; b. Garden City, Utah, Oct. 10, 1911; s. of Alonzo L. and Maude (Osmond) Cook; ed. B.A. chem., U. of Utah, 1933; M.A. physical chem. 1934; Ph.D. physical chem., Yale U., 1937, Loomis fellow; m. Wanda Garfield, June 19, 1935; ch.: Barbara Jean, Melvin Garfield, Virginia, Merrill Alonzo, Krehl Osmond. Res. chem., Eastern Lab. du Pont Co., 1937-47, conslt. 1947 to date; conslt. & expert witness, Texas City Comm. 1948-49; conslt., Union Pacific R.R. & Western Assn. of R.R. Execs. 1948 to date; prof. of metallurgy, U. of Utah, 1947 to date. Thermodynamics of solut., quantum theory of detonations, adsorption of gases on solids, mechanism of flotation, adsorption of free acids on solids, pats. on explosives. Mem.: A.C.S. (chmn. elect, Northwestern Utah Sec.), A.A.A.S., Am. Inst. Metallurgical Engrs. (mem. of Natl. Comm. on Ed. 1948 to date), SigmaXi. Hobbies: music, sports.

COOK, Walter A(ndrew), prof. of chem., hd. chem., hd. chem. dept., U. of Akron, Akron 4, Ohio; res. 493 S. Firestone Blvd., Akron 19.
Univ. prof.; b. Hamilton, Ohio, June 15, 1896; s. of Dr. Edw. and Emma Cook (dec.); ed. U. of Cincinnati, B.A., M.A., Ph.D.; post grad. study at N.Y.U. (summer 1939); Cornell U. (summer 1940); U. of New Mexico (summer 1948); m. Kathryn T. Hartkoff, July 16, 1929. 1922-26 instr. chem., U. of Cincinnati; 1926-27 instr. chem. U. of Akron; 1927-33 asst. prof. of chem., 1933 to date prof. and hd. of dept., U. of Akron; res. in Chem. Warfare Serv. dur. W.W. II; publications in the field of org. chem. Mem.: A.C.S., A.A.U.P., A.A.A.S. (fellow); A.I.C. (fellow): Sigma Xi.

COOKE, George Watson, tech. sales rep., Rohm & Haas Co., Resinous Prods. Div., 310 Southland Bldg. Annex, Dallas, Tex.; res. 4208 Loma Alto Dr., Dallas, Texas.
Tech. sales rep.; b. Syracuse, N.Y., Sept. 16, 1890; ed. Case Schl. Appl. Sci., B.S. Chem. Eng., 1912. With Glidden Varnish Co., 1912-14; Arco Co., 1914-16; Chas. R. Long, Jr., Co. 1916-21; Kuehule, Inc., 1921-24; F. A. Stresen Reuter, Inc., 1924-28; Sun Oil Co., 1928-29; Resinous Prods. & Chem. Co. from 1929; tech. sales rep., Resinous Prods. Div. of Rohm & Haas Co. to date. Pvt. to 2d Lt., Ord., Dept., U.S.A., 1917-19. Mem.: F. & A.M., Scottish Rite, Shrine, A.C.S., Fed. Paint & Varn. Prods. (natl. pres., 1923-24). Clubs: Medinah (Chicago); Medinah Country.

COOKE, Lloyd Miller, group leader, Visking Corp., 6733 W. 65 St., Chicago 38, Ill.; res. Wolf Rd., R.F.D. 1, LaGrange, Ill.
Res. chem.; b. LaSalle, Ill., June 7, 1916; s. of William W. and Anna M. Cooke; ed. B.S., high hon., U. of Wis. 1937; Ph.D., summa cum laude, McGill U., 1941; mem.: Alpha Phi Alpha; m. Dorothy I. Lathe, Nov. 3, 1944. Lecturer, McGill U., 1941-42; sec. leader, Corn Prods. Refining Co., 1942-47; group leader, Visking Corp., 1947 to date. Some ten articles on chem. of wood & several pats. on starch chem. Co-author: Kerr's "Chem. & Ind. of Starch" 1944. Mem.: A.C.S. (Chicago

sec., dir. 1946-50, secy. 1950-51). Trustee (chmn. of bd. 1950-51) Chicago Chem. Library Foundation. Club: Chicago Chemists'. Hobbies: gardening, golf, flying.

COOKE, Theodore Frederic, asst. dir. Application Res. Dept., Amer. Cyanamid Co., Calco Chem. Div., Bound Brook, N.J.; res. Mount Horeb Rd., Martinsville.
Res. chem.; b. Pittsfield, Mass., Jan. 28, 1913; s. of Theodore Frederic and Mabel L. Cooke; ed. U. of Mass., Amherst, 1930-34, B.S. in chem.; grad. cum laude, elected to Phi Kappa Phi; Yale, 1934-37, Ph.D. phys. chem.; elected to Sigma Xi; mem.: Alpha Sigma Phi; m. Virginia B. Hegamyer, Sept. 28, 1940; ch.: Caroline June, Theodore F. III, Nancy Louise. 1937-40 res. chem. Std. Oil Dev. Co.; 1940-42 res. chem. Calco Chem. Div., Amer. Cyanamid Co.; 1942-45 dir. Matls. Lab., Engr. Bd., War Dept.; 1945-50 asst. dir. Phys. Chem. Res.; at present, 1950, asst. dir. Appl. Res. Dept., Calco Chem. Div., Amer. Cyanamid Co.; res. on pigments, textile finishes, dyes, spectrophotometric measurements of the colors of nature in both the visual and infrared regions of spectrum and meths. of duplicating these colors with camouflage paints. Author of sev. sc. arts. and inventor of sev. pats. Mem.: A.I.C., A.C.S., A.A.T.C.C. Deacon of Bound Brook, N.J. Congregational Ch. Club: Martinsville, N.J. Community (v.p.). Hobbies: gardening, golf, skiing, fishing, bridge.

COOL, Raymond Dean, prof. of chem., Madison Coll., Harrisonburg, Va.; res. Harrisonburg.
Prof. of chem.; b. Winchester, Va., Mar. 14, 1902; s. of Newton David and Daisy A. (Cline) Cool; ed. Bridgewater Coll., B.Sc. hon. grad. 1922; M.Sc. 1926, Ph.D. 1928 U. of Va.; Cornell, summer 1929, N.Y.U., summer 1939; mem.: Phi Lambda Upsilon, Sigma Xi. Teaching Fellow in analytical chem., U. of Va., 1925-27; du Pont Research Fellow in chem.; U. of Va., 1927-28, instr. of chem., U. of Nevada, 1928-29; istr. of chem., U. of Oregon, 1929-30. Res. assoc. in chem., U. of Pa. Medical Schl., 1930-34; instr., asst. prof. of chem., U. of Akron, 1934-41; asst. prof. of chem., U. of Okla., 1941-46 asst. prof. of chem., W.Va. U., 1946; prof. of chem., Madison Coll., 1946 to date. Kinetics of transitions in polymorphic solids; volumetric meths. for nitrates; distribution coefficients in gas-liquid phases, micromethods for iodine, micromethods for rarer metals. Mem.: A.C.S., A.A.A.S. (fellow), Va. Acad. of Sc., Natl. Sc. Teachers Assn., New England Assn. of Chem. Teachers. Hobby: mineralogy.

COOLEY, Albert Marvin, hd. Chem. Engrg. Dept., U. of No. Dakota; res. 405 Cambridge St., Grand Forks, N. Dak.
Chem. engr.; b. Clarence, Mo., July 26, 1908; s. of Albert Marvin and Margaret Cooley; ed. Montana State Coll., B.S. Chem. Engrg., 1930; U. of No. Dakota, M.S. Chem. Engrg. 1931; mem.: Kappa Sigma, Alpha Chi Sigma; m. Margaret Fosmark, 1939; ch.: Albert Marvin, Stephen Alex. 1932-34 res. chem., C.F. Burgess Labs.; 1934-35 res. asst., 1935-36 instr. in Ch.E.; 1936-42 asst. prof. Ch.E.; 1942-46 assoc. prof. Ch.E., 1946 to date prof. Ch.E., U. of No. Dakota; res. in drying and beneficiation of lignite food tech. Mem.: A.C.S., A.I.Ch.E., Natl. Soc. Prof. Engrs., A.I.M.M.E., Sigma Xi. Clubs: Grand Forks Country, Elks. Hobbies: golf, gardening.

COOLEY, Maxwell L., co-ordinator of feed prods. contr., Gen. Mills, Inc., 1081 21st Ave., S.E., Minneapolis, Minn.; res. 4355 Vernon Ave.
Chem.; b. Toledo, Ohio, Sept. 13, 1911; s. of Peter J. and Anna B. Cooley; ed. 1935 B.Sc. U. of Toledo; 1940 M.S.; mem.: Sigma Delta Rho; m. Lucille C. Lorenzen, Apr. 11, 1936; ch.: David M., Diane M. 1936-39 chem., Gen. Mills, Inc., Larrowe Div., Rossford, Ohio; 1939-50 chf. chem.; 1950 to date co-ordinator of feed prods. contr., Minneapolis, Minn. 1949-50 mem. Methds. Comm. for A.A.C.C.; 1950—Referee for Assn. Off. Agri. Chem. (collaborative study on Vitamin A. in mixed feeds); Contrib. extens. to sc. and tech. jls.; mem.: A.C.S., A.A.C.C., Assn. Vitamin Chem., I.F.T. (Great Lakes Sect.). Clubs: General Mills Men's Y.M.C.A. Hobbies: music, fishing, swimming, ice skating.

COOLEY, Warren Kenneth, pres., Caled Prods. Co., Inc.; 4200 Bladensburg Rd., Brentwood, Md.; res. R.F.D. Brookeville, Md.
Chem.; exec.; b. Lawrence, Mass., Dec. 11, 1901; s. of Fred A. and Sarah K. (Ryder) Cooley; ed. Bradford-Durfee Textile Schl.; m. Florence K. Kingery, Sept. 20, 1924; ch.: Evelyn L., Lois M., Jeanne M., Myrna L. 1921-22 instr. chem. Bradford-Durfee Text. Schl., Fall River, Mass.; 1922-23 chem., The Texas Co., Prov. R.I.; 1923-28 chf. chem., Dextra Prods., Buffalo, N.Y.; 1928-29 chem. instr. Natl. Inst. Cleaning & Dyeing, Silver Spring, Md.; 1929-33 prin. and dir. res. same co.; 1933 to date pres. Caled Prods. Co., Inc., Brentwood, Md. Author: "Practical Sc. for the Drycleaning Industry," 1930. Mem.: N.Y. Acad. Sc., A.A.T.C.C., Natl. Farm Chem. Council, A.O.C.S., Am. Geog. Soc., N.Y. Geo. Graph. etc. Clubs: Capital Yacht (Wash., D.C.), Pelican Yacht (Ft. Pierce, Fla.) Hobby: yachting.

COOLIDGE, Winthrop Knowlton, pres., dir., Chicago Copper & Chem. Co., Blue Is., Ill.; res. 219 E. Lake Shore Dr., Chicago, Ill.
Exec.; b. Chicago, Ill., Nov. 14, 1901; s. of Winthrop and Marie (Knowlton) Coolidge; ed. M.I.T. 1923, S.B. in chem. engrg.; mem.: Delta Kappa Epsilon; m. Laetitia B. Kelly, July 20, 1935; ch.: Laetitia, Deborah Jean, Olga Elizabeth, Dexter, Carol Marie. Var. positions with Chicago Copper & Chem. Co. continuously 1927 to date. Clubs: Saddle & Cycle, Economic (Chicago).

COONEY, Robert Clair, supvr. in org. res., H. Kohnstamm & Co., 87 Park Pl., N.Y. 7, N.Y.; res. 5101 39th Ave., L.I.C. 4, N.Y.
Res. chem.; b. Ashtabula, Ohio, Feb. 8, 1913; s. of Clair L. and Mabel E. Cooney; ed. 1930-34, Union Coll., Schenectady, B.S. in chem., Steinmetz Scholarship, Fuller Chem. Prize; 1935-38, Evening Session Bklyn Polytech. Inst., M.S. in chem., 1938-43, Ph.D. in chem.; mem.: Delta Upsilon; m. Helen E. Smith, June 25, 1938; ch.: Stephen R., Susan F. 1930, Gen. Elec. Co., res. labs., lab. asst.; 1934-44, H. Kohnstamm & Co., res. chem., 1944 to date, supvr. in org. res.; 1944 to date, Evening Session Bklyn. Polytech. Inst., instr. in chem. microscopy. B.S. Thesis: Effect pH on setting time of silicic acid gels; M.S. Thesis: Preparation new series tertiary alcohols; Ph.D. Thesis: Preparation homophthalic acid & certain phthalyl & homophtohalyl cyclic hydrazides; abstract of Ph.D. dissertation publ. in Jl. A.C.S. 66, 1237, 1944. Mem.: A.C.S., A.I.C. (fellow), Sigma Xi, A.A.A.S. Hobbies: Boy Scouting (Cubmaster Cub Pack 366 of Queens).

COONLEY, Lewis Selkirk, prof. of chem. engrg., hd. dept. of chem. engrg., Rensselaer Polytech. Inst., Troy, N.Y.; res. Brunswick Rd., Troy, N.Y.
Teacher, adm.; b. Delmar, N.Y., Apr. 6, 1903; s. of Charles and Elizabeth (Selkirk) Coonley; ed. Slingerlands Grade; Albany H.S.; Renss. Poly Inst., Ch.E., Dr.Ch.E.; M.I.T., M.S.; mem.: Phi Kappa Alpha; m. Dorothy F. Decker, Aug. 17, 1935; ch.: Leah Ann, Lewis S. Jr. Renss. Poly. Inst., instr. 1924-26, 1927-32, asst. prof. 1932-38, assoc. prof. 1938-43, prof., hd. 1943 to

date. Mem.: A.C.S., A.I.Ch.E. (assoc.), A.A.A.S., A.S.E.E., S.C.I., Sigma Xi, Phi Lambda Upsilon, Am. Ord. Assn. Clubs: Troy, Rotary (Troy). Hobbies: bowling, handball, gardening.

COONS, Kenneth William, hd., dept. of chem. engrg., U. of Ala.; res. 2901 E. 15th., Tuscaloosa, Ala.
Chem. engr.; b. Dodge City, Kans., Aug. 27, 1904; s. of William Olin and Flora (Swan) Coons; ed. U. of Ala., A.B. 1928, B.S. 1929., Columbia U., Ph.D. 1932; (Bakelite Fellow at Columbia); mem.: Delta Sigma Phi, Tau Beta Pi, Sigma Xi, Alpha Epsilon Delta, Gamma Sigma Epsilon; m. Hortense Vennie Duncan, Sept. 16, 1931; ch.: William Duncan, Frederic Kenneth. 1931 chem., Bakelite Corp.; 1932-35 chem. engr. Natl. Aniline & Chem. Corp.; 1935 to date with U. of Ala., 1935-36 instr., 1936-38 asst. prof., 1938-43 assoc. prof., 1941-43 act. hd. of dept., 1943 to date prof. and hd. of dept.; res. in dev of processes for refining "Tallol." Dir. Natl. Southern Prods. Corp.; v.p. and dir. Warrior Asphalt Corp. Author: "Surface Active Agents," (Chem. Pub. Co., 1945). Mem.: A.C.S., A.I.Ch.E. Hobbies: power boating, photography, music.

COOPE, G. F., pres., Potash Co. of Am., Box 31, Carlsbad, New Mexico; res. Box 59, Rt. 1.
Mining engr.; b. N.Y.C., July 5, 1893; s. of Herbert and Catherine MacDougall Coope; ed. Columbia U. Schl. Mines, E.M.; mem.: Zeta Psi; m. Jessica Lewis, Dec. 8, 1917; ch.: G.F., Jr., Peter M., Robert L.

COOPER, Albert Hudiburgh, prof. and hd., dept. of chem. engineering, Bucknell U., Lewisburg, Pa.; res. Lewisburg, Pa.
Chem. engrg.; b. Knoxville, Tenn., Nov. 6, 1906; s. of John H. and Rubie W. Cooper; ed. B.S. in Ch.E., U. of Tenn., 1929; M.S. in Ch.E., U. of Tenn. 1930; Ph.D., Mich. State Coll. 1933; mem.: Alpha Chi Sigma; m. Louise Kaderly, Feb. 20, 1930. 1925-26, Aluminum Co. of Amer., chem. engr.; 1929, Chem. & Metallurgical Engrg., Editorial Staff; 1930, E. I. du Pont de Nemours & Co., chem. engr.; 1931-33, Mich. State Coll., instr. in chem. engrg.; 1935-37, North Caroline State Coll., asst. prof. of chem. engrg.; 1937-42, Virginia Polytechnic Inst., assoc. prof. of chem. engrg; 1940-44, C.W.S., chem. engr., and capt. in U.S. Army; 1945, U.S. Industrial Chemicals, Inc., chem. engr.; 1945-46, U. of Denver, hd. dept. of chem. engrg.; 1946 to present, Bucknell U., hd. dept. of chem. engrg. and chmn., Bucknell Research Council, tech. dir., Pilot Engineering Co. Mem.: A.C.S., A.I.Ch.E., Am. Soc. of Mech. Eng., The Electrochem. Soc., A.A.A.S., A.A.U.P., Am. Soc. for Eng. Educ., Amer. Management Assoc.

COOPER, Charles Milton, dir., engr. res. lab., E.I. du Pont de Nemours & Co., Exp. Sta., Wilmington, Del.; res. R.D. 3, Newark, Del.
Chem. engr.; b. Minneapolis, Minn., June 27, 1900; s. of Charles Paine and Juliet Brooks Cooper; ed. Rutland High Schl., Rutland, Vt. 1916; M.I.T., B.S. 1925; mem.: Alpha Chi Sigma; m. Marrian Clark Grogan, June 21, 1930; ch.: Ruth Mary, Ellen Vermont. 1919-21 toolroom boy to asst. supvr., mach. shop, F. R. Patch Mfg. Co., Rutland, Vt.; 1925-28 chem. engr. res., M.I.T., res. lab. appl. chem.; 1928-36 M.I.T. field sta. dir., sch. chem. engr. practice; 1936 to date E. I. du Pont de Nemours & Co., 1936-40 proc. improv., Belle Plant; 1940-42 chg. chem. engr. res., engr. dept., 1942-45 on loan to U. of Chicago, atomic bomb project, 1945 to date dir. engr. res. lab., engr. dept. Res. in fields of flow of fluids, mass tranfer, expl. limits at high pressures; mem.: A.C.S., A.I.Ch.E., A.S.E.E., Tau Beta Pi, Alpha Chi Sigma. Club: Lions. Hobbies: sailing, fishing, photography, tinkering.

COOPER, Frank Bradford, tech. dir., Wyeth, Inc., 8100 McCormick Blvd., Evanston, Ill.; res. 1002 Hinman Ave., Evanston.
Chem.; b. Suffern, N.Y., 1893; s. of George S. and Mary Ella Cooper; ed. Bklyn. Polytech. Inst., 1914-15; Columbia, 1915-17, 1919-20, B.Sc.; Ohio State, 1930-34, M.Sc.; Grove City Coll., D.Sc. (hon.), 1941; mem.: Beta Theta Pi; m. Sarah Francis Brown, 1925. Chem., Grasselli Chem. Co., 1917-18; res. chem., Trudeau Foundation 1922-34; res. chem., Inst. of Pathol., Western Pa. Hosp., 1934-41; dir. of res. & control, Zemmen Co., 1941-42; tech. dir., Wyeth, Inc., 1943 to date. Res. in tuberculosis, res. on sulfonamides & their applications, control & dev. of phars. Co-author: "Sulfanilamide Therapy of Bacterial Infections," 1938. Mem.: S.E.B.M. Hobbies: work with hand tools, wood & metal projects.

COOPER, Joseph Harry, res. group leader, E. I. du Pont de Nemours & Co., Pigments Dept., 256 Vanderpool St., Newark 5, N.J.; res. 242 Dorer Ave., Hillside 5, N.J.
Chem.; b. Rochester, Minn., Mar. 11, 1913; s. of Harry J. and Sophia (Gildin) Cooper; ed. U. of Alberta, Canada, B.Sc., magna cum laude, 1934; U. of Chicago; Ph.D., 1937; m. Anne Gofsky, Oct. 10, 1937; ch: Barbara, Harriet. 1937-41, E. I. du Pont de Nemours & Co., Pigments Dept., res. chem., 1941-45 group leader; 1945-48, Paraffine Cos., Emeryville, Calif., res. mgr.; 1949 to date, E. I. du Pont de Nemours & Co., Pigments Dept., group leader. Chem. & applications of pigments. Mem.: A.C.S., A.A.A.S., Sigma Xi. Hobbies: gardening, reading.

COOPER, William Charles, supt. Phthalic Anhydride Plant, Empire Chem. Co., Pittsburgh Coke & Chem. Co., Neville Is., Pittsburgh 25, Pa.; res. 559 Middletown Rd., Coraopolis, Pa.
Chem.; b. Pocatello, Idaho, Oct. 21, 1900; s. of W. C. and Isabella J. Cooper; ed. Pomona Coll., Calif., A.B. 1921; Harvard U. A.M. 1922, Ph.D. 1929; mem.: Kappa Delta (local) Pomona Coll., Alpha Chi Sigma, Carbon Club, Harvard; m. Lillian Coleman, July 14, 1921; ch.: Donald W., John C. 1924-27 res. chem. Rockefeller Inst.; 1927-29 and 1936-44 dev. engr. Barrett Div., Allied Chem. & Dye Corp.; 1929-33 chf. chem., Electroblacks, Inc., Calif.; 1944 to date supt. Phthalic Anhydride Plant, Pittsburgh Coke & Chem. Co.; res. atomic weight of germanium (doctorate); vapor pressure of hydrated crystal, high temperature decomposition of hydrocarbon oils, vapor phase catalytic hydrogenation, vapor phase catalytic oxidation of hydrocarbons; contrib. arts. to sev. sc. jls. Mem.: A.C.S., Chemists' Club of Pittsburgh. Hobbies: fishing, gardening.

COPE, Arthur Clay, hd. dept. of chem., M.I.T., Cambridge 39, Mass.; res. 210 Clifton St., Belmont 78, Mass.
Prof. org. chem.; b. Dunreith, Ind., June 27, 1909; s. of Everett C. and Jennie (Compton) Cope; ed. B.S., Butler U., 1929; Ph.D., U. of Wis., 1932; mem.: Sigma Nu, Phi Kappa Phi, Alpha Chi Sigma, Sigma Xi, Gamma Alpha; m. Bernice A., Aug. 22, 1930. 1932-34, Natl. Res. Fellow, Harvard U.; 1934-41, assoc., assoc. prof. chem., Bryn Mawr Coll.; 1941-44, assoc. prof. chem., Columbia U.; 1942-45, tech. aide & section chf., Div. 9, O.S.R.D., Wash., D.C.; 1945 to date, prof. org. chem. & hd. dept. of chem., M.I.T. Synthetic org. chem., synthesis of unsaturated esters, condensation reactions, molecular rearrangements, barbituric acids, amino alcohols, cyclic polyolefins. Author: "Organic Syntheses," Vol. 30. Mem.: Natl.

Acdy. of Scs., A.C.S., Amer. Acdy. Arts & Scs., A.A.A.S.

COPE, John Lovell, exec. v.p., Reliance Fertilizer Co., Savannah, Ga.; res. Isle of Hope, Rt. 6. Fertilizer mfr.; b. Savannah, Ga., Mar. 27, 1903; s. of Robert Sidney and Mary Lovell Cope; ed. 1922 Blair Acdy., Blairstown, N.J.; B.S. Eng. Ga. Tech. 1927; mem.: Pi Kappa Alpha; m. Kathryn Parish, Apr. 29, 1930; ch.: Jean Parish, Joan Parish, John L., Jr. Reliance Fertz. Co. 1927 to date, mfg. dept., shipping clerk, progr. thru mfg. frmn., chem. contr., accounting, sales, v.p., dir. Res. in nutrition of acid-soil plants. Clubs: Bd. Stewards, Savannah Yacht & Country, Am. Camellia Soc.

COPE, Ralph Pearce, emeritus prof. analyt. chem.; res. College Station, Pullman, Wash. Tchr.; b. Hanoverton, O., July 12, 1885; s. of John A. and Emma H. Cope; ed. U. Chicago, 1909; Ill. Wesleyan, B.S., 1910; State Coll., Wash., M.S., 1919; mem.: Sigma Alpha Epsilon, Phi Lambda Upsilon, Alpha Chi Sigma; m. Mary Deems, Aug. 7, 1913; ch.: Mrs. Dorothy Lee Hutchinson. Hd. dept. sc., Western Union Coll., 1910-11; assoc. prof. chem., Wash. State Coll., 1911, continuing until retirement; currently prof. emeritus. Pres., Pullman Savings & Loan Assn. Mem.: A.C.S., A.A.A.S. (fellow), Masonic Order (Dist. Deputy, 1935). Club: Kiwanis. Hobby: gardening.

COPELAND, Lammot du Pont, secy., E.I. du Pont de Nemours & Co., 8042 du Pont Bldg., Wilmington, Del.; res. Greenville, Del. Secy.; b. New Castle, Del., May 19, 1905; s. of Charles Copeland (dec.) and Louisa du Pont Copeland (dec.); ed. Harvard Engrg. Schl., B.S. Indus. Chem., 1928; m. Pamela Cunningham, Feb. 1, 1930; ch.: Lammot, Jr., Louisa d'A., Gerret Van S. 1929-35 chem., 1936-39 market anal., 1939-41 asst. to Gen. Sales Mgr., Finishes Div., 1941-46 Dev. Dept., Tech. Investigator, 1947 to date secy. E. I. du Pont de Nemours & Co. Dir. and v.p. Christiana Securities Co.; dir. and v.p. Del. Realty & Inv. Co.; dir. Gen. Motors Corps., Wilmington Trust Co., Canadian Industries Limited, Terminal Warehouses Limited. Mem.: A.C.S. Trustee or dir.: Wilmington Inst.; Wilmington Soc. of Fine Arts; Del. Safety Council; Family Society; Longwood Foundation. Clubs: Wilmington, Wilmington Country, Harvard (N.Y.), University (N.Y.), Links (N.Y.), Maidstone (E. Hampton), Amabellish Fish & Game, Tuscarora. Hobbies: fishing, flying, horticulture.

COPELAND, Lewis Covell, chf. chem. sect., res., N.J. Zinc Co., Palmerton, Pa.; res. Residence Pk. Res. chem.; b. Northampton, Mass., Mar. 25, 1901; s. of Elmer Humphrey and Anna Covell Copeland; ed. Williams Coll., A.B. 1924; M.A. 1925; Johns Hopkins U., Ph.D. 1928; mem.: Phi Gamma Delta, Sigma Xi, Phi Beta Kappa; m. Katherine Frances Pitcher, June 21, 1930; ch.: Ann Covell, Katherine Pitcher. Natl. Res. fellow, Harvard U. 1928-30; N.J. Zinc Co. of Pa. 1930 to date. Res. in heats formation of molecular gases, preparation, proc. pigments, electrochem. studies; mem.: A.C.S., Sigma Xi, Phi Beta Kappa; former chmn. Carbon Co. chapt. A.R.C.; present chmn. Blood Prog. Clubs: Blue Ridge Country, Palmerton Ski Patrol, Natl. Ski Patrolmen. Hobbies: skiing, swimming, Red Cross wk.

COPENHAVER, John William, assoc. dir., Petroleum & Chemical Research Laboratory, M.W. Kellogg Co., Foot of Denforth Ave., Jersey City, N.J.; res. 46 Wellington Ave., Short Hills, N.J. Org. chem.; b. Tazewell, Va., Oct. 27, 1910; s. of Rufus P. and India Virginia Copenhaver; ed. B.S., Emory & Henry Coll., M.S., U. of West Va., Ph.D., U. of Ill.; mem.: Gamma Alpha; m. Ruth Marie Van Winkle, July 3, 1940; ch.: John W., Jr., Mary India, Kathryn Hart. 1934-36, res. chem., Socony-Vacuum Oil Co.; 1936-43, res. chem., Rohm-Haas Co.; 1943-46, group leader., General Aniline and Film Corp.; 1946-49, sec. ldr., General Aniline and Film Corp.; 1949-50, res. chem., M. W. Kellogg Co.; 1950 to present, assoc. dir., M. W. Kellogg Co. Not. wk.: pats. in flds. of leather chem., org. synthesis, acetylene and vinyl ether reactions. Author: "Acetylene & Carbon Monoxide Chemistry," 1949. Mem.: Sigma Xi, Phi Lambda Upsilon, Kappa Phi Kappa, A.C.S.

COPLEY, Duncan MacDonald, chf. chem., The Norwich Pharmacal Co., and Eaton Labs., Inc., 13-27 Eaton Ave., Norwich, N.Y.; res. 5 Francis Ave., Norwich. Chem.; b. Bainbridge, N.Y., Nov. 2, 1896; s. of Duncan Herbert and Sarah (Banks) Copely; ed. Colgate U., 1918, B.S.; mem.: Phi Delta Theta; m. Margaret Elizabeth Armstrong, Apr. 28, 1918; ch.: Duncan MacDonald, Jr. 1919-21 chem., 1921-39 chf. analyst The Norwich Co.; 1939 to date chf. chem., The Norwich Pharmacal Co.; 1945 susidiary Eaton Labs., Inc., elected a dir. of The Norwich Pharmacal Co. Nov. 2, 1945; active for sev. yrs. in the tech. aspects of the work of the U.S. Pharmacopoeia, the Natl. Formulary, the Combined Pharmaceutical Contact Committee and the Amer. Drug Mfrs. Assoc.; numerous researches and committee publications. Mem.: Phi Beta Kappa, Alpha Chi Sigma, A.C.S., A. Phar. A. On Advisory Bd. Chenango County Chapt., Amer. Red Cross. Clubs: Chemists', Rotary Internat. Hobbies: color photography, fishing.

COPPOC, William Joseph, asst. dir. res., The Texas Co., P.O. Box 509, Beacon, N.Y.; res. 19 High St., Beacon. Petr. chem.; b. Cumberland, Iowa, July 14, 1913; s. of James S. and Winifred (Fowler) Coppoc; ed. Ottawa U., Ottawa, Kans., B.Sc. (cum laude); Rice Inst., Houston, Tex., M.A., Ph.D. 1939; mem.: Phi Lambda Upsilon, Sigma Xi, Alpha Psi Omega; m. Eleanor L. Lister, July 2, 1939; ch.: Teresa Anne, William Edmund. 1937, anal. chem. Natl. Lead Co., Titanium Div.; 1939-44 res. chem. The Texas Co.; 1944-47 asst. to asst. chf. chem.; 1947-48 act. supvr., grease res.; 1948-49 asst. to asst. chf. chem., 1949 to date asst. dir. of res., all in The Texas Co. Mem.: A.C.S., A.I.C., A.A.A.S. Hobbies: music, sports.

COPSON, Harry Rollason, sec. hd. in chg. of corrosion res., Res. Lab., Intl. Nickel Co., Bayonne, N.J.; res. 124 Makatom Dr., Cranford, N.J. Electrochem., corrosion, metallurgy; b. East Hampton, Mass., July 8, 1908; s. of Ernest H. and Elsie K. Copson; ed. B.S., U. of Mass., 1929, Ph.D., 1932, Yale U. (Phys. chem.); mem.: Phi Kappa Phi, Sigma Xi; m. Kathleen Vogt, Sept. 9, 1939; ch.: Lois C., Barbara R., David K. Res. chem., Conn. State Water Conn., 1929-30; chf. chem., Apothecaries Hall Co., Waterbury, Conn., 1933-34; res. chem. and later in chg. of corrosion group, Intl. Nickel Co., 1934 to present. Chmn. A.A.A.S. Gordon Res. Conference on Corrosion, 1949; recipient of 19th Charles B. Dudley Medal of Am. Soc. Test. Mat. Co-author of "Corrosion Handbook," 1948. Mem.: A.C.S., Electrochem. Soc., A.I.Ch.E., Natl. Assoc. of Corrosion Engineers. Hobbies: gardening, duplicate bridge.

COPSON, Raymond Leslie, dir. res., Mutual Chem. Co. of Am., 1348 Block St., Baltimore, Md.; res. 913 Kingston Rd., Baltimore 12. Chem., chem. engr.; b. Easthampton, Mass., Oct.

28, 1904; s. of Ernest H. and Elsie (Kendall) Copson; ed. Worcester Polytech. Inst., Worcester, Mass., B.S., 1925; M.S., 1927; Yale U. (Sheffield Sc. Schl.), New Haven, Conn., Ph.D., 1931; mem.: Lambda Chi Alpha; m. Evelyn E. Walton, May 28, 1932; ch.: Evelyn Leslie, Raymond Walton. 1925-27, Worcester Polytech. Inst., grad. asst.; 1927-29, M.I.T., res. assoc.; 1929-31, Yale U., instr. chem. engrg.; 1931-33, Socony-Vacuum Corp., chem. engr.; 1933-45, T.V.A., chf. res. & engrg.; 1945-49, Rumford Chem. Wks., dir res.; 1949 to date, Mutual Chem. Co. of Am., dir. res. Author of several papers on phosphates & fertilizers. Mem.: Tau Beta Pi, Sigma Xi. Club: Chemists' (N.Y.). Hobbies: woodworking, photography, golf.

CORBIN, Milford H., pres., Std. Varnish Works-Toch Bros. Inc., 2600 Richmond Ter., Staten Island 3, N.Y.; res. 6 W. 77th St., N.Y. 24.
Exec.; b. Cincinnati, O., Sept. 27, 1902; s. of Henry (dec.) and Nettie May Corbin (dec.); ed. Lehigh U., Chem.E., 1925; mem.: Pi Lambda Phi; m. Miriam Eshner (dec.) 1932; ch.: Richard. 1927-29 dir. res. Electro Chem. Engraving Co.; 1929-32 dir. Lacquer Lab. Ault & Wiborg Corp., Div. Interchem. Corp.; 1932-37 dir. res. Arco Co.; 1937-49 v.p. and dir. res., 1949 to date pres. Std. Varnish Works-Toch Bros. Inc.; res. protective coating industry. Mem. of bd. Metal Litho Co. Pub. "Electrodeposition of Non-Metallic Matls.," 1929, and "Appl. of Finishing Matls. on Zinc," 1933, and others. Mem.: A.I.C. (fellow); A.C.S., A.S.T.M., Chemists' Club, Sales Exec. Club, Advertising Club, Natl. Paint, Varnish, Lacquer Assoc., Industrial Finishes Steering Comm. and Industrial Finishes Adv. Bd. Hobby: golf.

CORBITT, Hugh Blake, scientific dir. of control, Winthrop-Stearns, Inc., 33 Riverside Ave., Rensselaer, N.Y.; res. Rider's Mills, N.Y.
Chem.; b. Fairfield, Ia., Mar. 16, 1889; s. of Chas H. Corbitt and C. Adaline (Mitchell) Corbitt; ed. B.S., U. of Wash., 1913, A.M. 1921, Ph.D., 1925, Columbia; m. Elsa M. Becker, Aug. 29, 1925; ch.: Joseph. Chem., Classen Chem. Co., 1911-12; U.S. P.H. Service 1913-20; bacteriologist, H. A. Metz Labs. 1920-26; chem. Winthrop Chem. Co., 1926-48; chem., Winthrop-Stearns, Inc. 1948 to present. Sgt. Med. Dept., U.S. Army, 1918-19. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S., Soc. Am. Bacteriolog., A.I.C. (Fellow), A.A.A.S. (Fellow). Hobbies: farming, fishing, floriculture.

CORCORAN, William Harrison, dir. of tech. dev., Cutter Labs., 4th & Parker Sts., Berkeley 10, Calif.; res. 55 Franciscan Way, Berkeley 7.
Chem. engr.; b. Los Angeles, Calif., Mar. 11, 1920; s. of W. H. Corcoran (dec.), O. E. Heffelfinger and Mrs. O. E. Heffelfingers; ed. B.S. in applied chem., 1941, Calif. Inst. of Tech., Pasadena, M.S. 1942 chem. engrg., Ph.D. in chem. engrg. with minor in mech. engrg., 1948; m. Martha N. Corcoran, Nov. 7, 1942; ch.: Sally Kay and William Owen. Chem. engr., Cutter Labs., June-Sept. 1941, chem. engr., June-Oct. 1942; design engr., res. supvr., Office of Sc. Res. & Dev., N.D.R.C. Div., 3 Sec. L., Oct. 1942-Mar. 1946; N.R.C. Predoctoral Fellow, Mar. 1946-June 1948; dir. of tech. dev., Cutter Labs., June 1948 to date. Processing of propellants, interior ballistics of rockets, heat transfer, thermodynamics. Papers publ. in Chem. Engrg. Progress & Ind. Eng. Chem. Mem.: Tau Beta Pi, Sigma Xi, A.C.S., A.I.Ch.E., A.S.M.E., Prof. Engr. State of Calif. Awards: Naval Ordnance Dev., Army-Navy Cert. of Appreciation. Hobbies: golf, badminton.

CORDINER, Ralph Jarron, exec. v.p., Gen. Elec. Co., 570 Lexington Ave., N.Y. 22, N.Y., res. Lakewood Dr., Stamford, Conn.
Exec.; b. Walla Walla, Wash., Mar. 20, 1900; s. of George M. and Mary Jarron Cordiner; ed. Whitman Coll., Walla Walla, Wash., 1922, B.S., LL.D.; mem.: Phi Delta Theta, Delta Sigma Rho; m. Gwyneth Annette Lewis, June 24, 1925; ch.: Jean Marie Dougherty, Patricia Jarron, Nancy Lee, Sallianne. 1922 Pacific Pr. & Lt. Co., Portland, Ore., comm. dist. mgr.; 1922 Edison G.E. Co.; 1927 Edison G.E. Co., Seattle, Wash., northwest mgr.; 1930 Edison G.E. Co., San Francisco, Calif., Pacific Coast Div. mgr.; 1932 Gen. Elec. Co., Bridgeport, Conn., mgr., heating device sect.; 1934 asst. mgr. appliance sales; 1935 mgr. radio div.; 1936 asst. mgr. app. & merchandise dept.; 1938 mgr., app. & merchandise dept.; 1939 Schick, Inc., Stamford, Conn., pres.; 1942 War Prod. Bd., Wash., D.C., dir. gen. chg. Prod. schdlg.; 1943, vice chmn.—June 30, 1943; 1943 Gen. Elec. Co., N.Y., asst. to pres.; 1945 v.p., asst. to pres.; 1949 exec. v.p. Hotpoint Inc., Chicago, Ill., dir.; Gen. Elec. Supply Corp., Bridgeport, Conn., dir.; Gen. Elec. Credit Corp., N.Y., dir.; Internatl. Gen. Elec. Co., N.Y., dir. Clubs: Woodway Country (Stamford, Conn.), University (N.Y.C.), Mohawk (Schenectady), Elec. Mfrs. Hobby: golf.

CORELL, Edwin John, asst. plant supt., Columia Chem. Div., Pitts. Plate Glass Co., Barberton, Ohio; res. 567 Wooster Rd., N.
Chem. engr.; b. Winslow Park, Ohio, Mar. 6, 1913; s. of John and Lillie Corell; ed. Ohio St. U., Columbus, Ohio; mem. Tau Beta Pi (hon. engr.); m. Marjorie Mae Corell, Aug. 14, 1937; ch.: Jean, Jack. 1934, Columbia Chem. Div., Pittsburgh Plate Glass Co., wked. by hr. operator for 1 yr., salary on dev., engr. wk.; shift. frmn., asst. supt. soda ash area; asst. plant supt., July 1947 to date; v.p. Mill Hall Clay Prods., Mill Hall, Pa., Altoona Brick Corp., Altoona, Pa. Mem.: A.I.Ch.E., Prof. Engr. Soc. (Ohio); pres., Barberton Community Chest. Clubs: Foreman's (Columbia Chem.), Athletic Assn. Hobbies: fishing, hunting, golfing.

CORKUM, Howard David, dir. res., Am. Thread Co., Willimantic, Conn.; res. 333 Prospect St., Willimantic.
Chem. & physical investigation; b. Leominster, Mass., Sept. 28, 1893; s. of David Freeman and Melora (Bowen) Corkum; ed. Brown U., Ph.B.; mem.: Phi Gamma Delta; m. Helen Cleveland Richardson, Oct. 3, 1922. 1917-19, Sayles Finishing Co., R I., chf. chem., supt.; 1919-22, E.I. du Pont de Nemours & Co., Inc., Del. & Phila., tech. man, dyestuff lab.; 1922-23, John Farnum Co., Pa., chem. engr.; 1923-36, Amoskeag Mfg. Co., N.H., chf. chem , supt. dyeing & finishing; 1936-41, Wauregan Quinebaug Co., Conn., agent; 1941-43, Goodall Worsted Co., Me., gen. supt.; 1943 to date, Am. Thread Co., dir. res. Mem.: A.C.S., A.A.T.C.C., Textile Res. Inst. Clubs: Rotary Internatl., 32nd deg. Mason, N.Y. Phi Gamma Delta. Hobbies: farming, woodworking, dogs.

CORLEY, Ralph Conner, prof. biochem., dept. chem., Purdue U.; res. 123 Dehart St., West Lafayette, Ind.
U. prof.; b. June 5, 1901; s. of Dr. Horner S. and Edith Conner Corley; ed. U. of Ill., A.B. 1921; A.M. 1922; Ph.D. 1924; mem.: Phi Lambda Upsilon, Omega Beta Pi, Phi Beta Kappa, Sigma Xi, Gamma Pi Upsilon; m. Helen Marie Bull, Dec. 25, 1924; ch.: Ralph Canner, Jr., Sherrill Mercer, Edith Miles. Tulane U., instr., asst. prof., 1924-30; Purdue U., assoc. prof., 1930-34; prof. biochem. 1934 to date; supvr. dept. budget, 1940 to date. Res. on enzyme, intermediary metabolism of amino acids, sugars. Mem.: A.C.S., A.S.Biol.C., Soc. Exp. Biol., Med., A.A.A.S., Ind. Acdy. Sc.,

Ind. Chem. Soc. Hobbies: photography, fly rod fishing.

CORNEIL, Hampton Gaskill, res. sect. hd., Humble Oil & Ref. Co., Baytown, Texas; res. 1910 Fla. St.
Chem. engr.; b. St. Joseph, Mo., Feb. 11, 1914; s. of Alonzo N. and Mary E. Corneil; ed. Okla. U., B.S. Chem. Engr.; m. Pauline Anderson, Feb. 1, 1941; ch.: Paul Hampton, Mary Elizabeth. Humble Oil & Ref. Co., 1936 to date, jr. chem., asst. res. chem., res. chem., sr. res. chem., res. sect. hd. Res. in catalytic cracking, ismerization, fuels quality. Mem.: A.I.Ch.E., A.C.S., Tau Beta Pi, Sigma Tau, Alpha Chi Sigma, Sigma Xi (assoc.); v. chmn. bd. stewarts, St. Mark's Meth. Ch. (Baytown). Club: Knife and Fork. Hobby: gardening.

CORNELL, George Naumann, chf. chem. engr., A. E. Staley Mfg. Co., Decatur, Ill.; res. Southside Country Club, Decatur, Ill.
Chem. engr.; b. New York City, Sept. 30, 1914; s. of George A. and Marie Charlotte Cornell; ed. B. Chem., 1935, Ph.D., 1939, Cornell U.; mem.: Alpha Chi Sigma; m. Virginia Marvene Luke, Sept. 15, 1941; ch.: Catherine Ann, Thomas George. Chem. engr., A. E. Staley Mfg. Co., 1940-45; chf. chem. engr. A. E. Staley, 1945 to present. Mem.: A.I.Ch.E., Am. Soc. for Quality Control, The Quartermaster Assoc. Club: Southside Country. Hobbies: golf, bowling, model railroading.

CORNFORTH, Robert Mayo, mgr., Sales dept., Houdry Proc. Corp., 1528 Walnut St., Phila. 2, Pa.; res. S. Aberdeen Ave., Wayne, Pa.
Chem. engr.; b. Nashville, Tenn., Sept. 3, 1914; s. of Charles W. and Gertrude Mayo Cornforth; ed. U. of Tenn., B.S. Chem. Engr. 1936; M.I.T., M.S. Chem. Engr. 1937; Northwestern U., M.B.A. 1941; mem.: Sigma Chi, Tau Beta Pi, Phi Kappa Phi, Beta Gamma Sigma; m. Vivian Gies, Apr. 14, 1939; ch.: Robert M., Jr., Mary Carolyn, Catherine Ann. 1933, Alum. Co. Am., draftsman; 1933-36, T.V.A., chem. engr. aide; 1937-42, Stand. Oil Co. (Ind.), chem. engr.; 1942-45, Lt. Col., Corps. Engrs., U.S.A.; 1945 to date, Houdry Proc. Corp., mgr., Sales dept., U.S. Patent, Conversion of Hydrocarbons. Mem.: A.I.Ch.E., A.P.I. Clubs: Reserve Officers. Assn., Military Order of the World Wars.

CORNTHWAITE, William Robert, mgr., vinyl prods. div., electrochem. dept., E. I. du Pont de Nemours and Co., Inc., Wilmington, Del., res. 5 Blue Rock Rd.
Chem.; b. Elwood, Ind., Nov. 5, 1902; s. of Arthur B. and Nellie Randall Cornthwaite; ed. De Pauw U., A.B. 1923; Ohio St. U., M.A. 1925; Ph.D. 1927; mem.: Sigma Xi, Alpha Tau Omega, Alpha Chi Sigma, Gamma Alpha; m. Henrietta H. Ruffin, Dec. 21, 1929; ch.: Mary Levering, Jean Randall. Prof. chem., U. of Richmond, 1927-36; res. chem., electrochems. dept., E. I. du Pont 1936-45; mgr. vinyl prods. div., 1945 to date. Mem.: A.C.S., A.A.A.S. Club: Niagara.

CORNWELL, Ralph T. K., dir. res., Sylvania Div., Amer. Viscose Corp., Marcus Hook, Pa.; res. 117 Airdale Rd., Rosemont, Pa.
Res. chem.; b. Northumberland, Pa., Feb. 10, 1898; s. of Isaac and Amy J. (Kline) Cornwell; ed. Cornell U., B.Chem., Ph.D.; also at Munich, Germany, Graz, Austria; mem.: Sigma Xi, Gamma Alpha, Alpha Chi Sigma, Phi Kappa Phi, Phi Lambda Upsilon; m. Sylvia Wilde, Oct. 29, 1929; 1921-26, instr. org. chem., Cornell U.; 1927-29, asst. prof., org. chem., U. of Pittsburgh; 1929-30, sr. microanal. Natl. Inst. of Health; 1930-46, dir. of res. Sylvania Ind. Corp.; 1946 to date, dir. res. Sylvania Div., Amer. Viscose Corp. Dir. Sylvania Indus. Corp., 1944-46. Res. org. synth., quant. org. microanal; cellophane; cellulose derivatives; lacquers and protective coatings; industrial res.; holds 35 pats. Contrib. Chapt. XV. "Res. in Industry," C. C. Furness, Ed. (Industrial Res. Inst.) Mem.: A.C.S., A.I.C., Soc. Chem. Ind. Clubs: University (Phila.), Chemists' (N.Y.C.), Cornell (N.Y.C.). Hobbies: music, gardening.

CORRUCCINI, Robert Joe, chg., pyrometry lab., Natl. Bur. of Stand., Wash., D.C.; res. 5516 Glenwood Rd., Bethesda 14, Md.
Physical chem.; b. Fremont, Nebr., Sept. 7, 1917; s. of Roberta and Katherine (Linton) Corruccini; ed. Reed Coll. B.A. 1938; Oregon State Coll. M.A. 1940; U. of Ill. Ph.D. 1942; m. Mildred Witham, Aug. 23, 1941; ch.: Linton Reid, Jo Ann, Robert Spencer. 1940-42, N.D.R.C. res. fellow, U. of Ill.; 1942-44, instr. in chem., Oregon State Coll.; 1944 to date, chem., Natl. Bur. of Stand. Mem.: A.C.S., Sigma Xi.

CORSON, Ben Bennett, sr. fellow, Mellon Inst. Ind. Res., Pittsburgh, Pa.; res. 4433 Schenley Farms Terrace, Pittsburgh 13.
Chem.; b. Bridgton, Maine, Aug. 12, 1896; s. of Walter Danville and Louella Eva Corson; ed. Harvard, A.B., M.A., Ph.D.; mem.: Alpha Chi Sigma, Sigma Xi; m. Suzanne Eugenie Rolland, June 15, 1931; ch.: John Tugman. Harvard U., teach. asst. 1922-25; Middlebury Coll., Vt., lecturer, asst. prof., assoc. prof. 1925-30; Harvard U., res. assoc., 1930-31; Universal Oil Prods. Co., Chicago, 1931-39; Mellon Inst., 1939 to date. Contrib. extens. to sc. and tech. jls. Mem. A.C.S., Pitts. Chem. Club.

CORSON, Philip Langdon, pres., G. & W. H. Corson, Plymouth Meeting, Pa.
Exec., b. Plymouth Meeting, Pa., Oct. 31, 1898; s. of Walter H. and Katherine Corson; ed. Haverford Coll., B.A. (major chem.) 1919; m. Helen Payson, Jan. 30, 1930. 1919 gen. wks. at plant, G. & W. H. Corson; 1921 supt.; 1925 gen. mgr.; 1928 v.p.; 1933 to date pres.

CORTELYOU, Warren Pratt, prof. of chem., Roosevelt Coll., 430 S. Michigan, Chicago 5, Ill.; res. 145 Custer Ave., Evanston, Ill.
Chem. prof.; b. Oblong, Ill., Mar. 28, 1908; s. of William Clark and Estella (Kirtland) Cortelyou; ed. U. of Cincinnati, U. of Ill., B.S. in chem. with honors, U. of Ia., Ph.D. in chem. and education; mem.: Delta Sigma Phi; m. Ethaline Hartge, Apr. 18, 1930; ch.: Estella Marie. 1929-36, asst. prof. of chem., N.Y. State Coll. of Ceramics; 1937-38, prof. of physical sc., Frances Shimer Junior Coll.; 1939-40, res. anal. chem., Tubize Chatillon Rayon Corp., 1940-41, asst. physical chem., U.S. Bur. of Mines; 1941-45, asst. prof. of chem., Valparaiso U.; 1945 to date, assoc. prof., prof. since 1946, and hd. of the dept., Roosevelt Coll. With E. H. Cortelyou, organized a system of "National Cooperative Undergraduate Chemical Research." Co-author "Quantitive Analysis," (with M. J. Rice) a revision of "Popoff's Quantitative Analysis," 1935. Mem.: A.C.S., A.A.U.P., Phi Lamda Upsilon, Phi Delta Kappa, A.A.A.S., Acdy. of Sc. (Illinois). Hobby: public opinion polling.

CORWIN, Alsoph Henry, prof. of chem., dept. of chem., The Johns Hopkins U., Baltimore 18, Md.; res. 2903 Overland Ave., Baltimore 14.
Prof. of chem.; b. Marietta, O., Jan. 11, 1908; s. of Clifford E(gbert) Corwin and Elizabeth Gillet Stimson Corwin; ed. A.B., Marietta Coll., 1928, Ph.D., 1932, Harvard U.; mem.: Phi Beta Kappa, Sigma Xi, Delta Upsilon, Phi Lambda Upsilon, Alpha Chi Sigma; m. Irene Marguerite Davis, Aug. 6, 1938. Positions held at The Johns Hopkins U.: Assoc. in chem., 1932-39, assoc. prof.

1939-44 prof. since 1944; chmn., dept. of chem., 1944-47. Official investigator Natl. Defense Res. Comm., 1942-45; conslt. to C.W.S., 1944; official investigator, 1945-50; conslt. Metrology Div., Natl. Bur. of Standards, 1948-50, conslt. Chem. Warfare Service, 1949—. Contributions to the chem. of pyrrole pigments related to chlorophyll and hemoglobin, studies on antidotes to heavy metal poisoning especially lead and cadmium, chem. of proteins, microanalytical techniques. Author: "The Chemistry of the Porphyrins." A review of the literature for Gilman's "Advanced Treatise on Organic Chemistry." John Wiley and Sons, Inc., New York, N.Y., 1943. Chapter on "The Chemistry of Pyrrole and Its Derivatives" for Vol. 1, "Heterocyclic Compounds," edited by R.C. Elderfield, John Wiley and Sons, Inc.; New York, N.Y., 1950. Mem.: A.C.S. Director-at-Large, Armed Forces Chem. Assoc., 1949-50. Club: The Johns Hopkins.

CORWIN, James F., prof., chmn. chem. dept., Antioch Coll., Yellow Springs, O.; res. Neff House, Yellow Springs, O.
Chem., conslt., teacher; b. Blanchester, O., Oct. 31, 1907; s. of William G. and Edna Betts Corwin; ed. A.B., A.M., 1932 and 1934, Ohio U., Ph.D., Ohio State U.; m. Gladys Irene Wiseman Brown in 1931; ch.: Elizabeth Gayer Corwin. Wheeling Steel Corp., 1928-30; Portsmouth High School, Portsmouth, O., 1934-40; Ohio State U., 1940; Antioch Coll., 1941 to present; res. conslt., Verney Labs., Yellow Springs, O., 1944 to present; visiting lecturer, USAF Inst. of Tech., Wright Field, Dayton, O., 1948-50. Published numerous articles in chem. education and anal. chem. Mem.: Am. Soc. of Metals, A.C.S. (Chmn., Dayton Section, A.A.A.S., Acad. of Sc. (Fellow—Ohio), Reg. Prof. Engineer, Ohio. Club: Engineers, Dayton, Ohio. Hobby: gardening.

CORY, Horace Vanderveer, asst. dir. agric. chems. div., Am. Cyanamid Co., 30 Rockefeller Pl., N.Y. 20; res. 143 Woodland Rd., Madison, N.J.
Exec.; b. Newark, N.J., Nov. 30, 1891; s. of John Clarence and Sarah (Vanderveer) Cory; ed. Rutgers U., B.Sc. 1915; mem.: Chi Psi; m. Katharine Bowen, July 6, 1918; ch.: John Cortlyou, Sarah (Mrs. Henderson Gaylord Riggs). 1915-16 with N.J. Agric. Exper. Sta.; 1916-17 with U. of Del. Agric. Exper. Sta.; 1919-21 with Agros Corp.; 1921-22 with Albert Dickinson Co.; from 1922 to date with Am. Cyanamid Co. Club: University (N.Y.C.). Hobbies: fishing, hunting.

CORYAT, Cecil H., v.p., dir., Stein, Hall & Co., Inc., 285 Madison Ave., N.Y., N.Y.

CORYELL, Charles DuBois, prof. chem., M.I.T., Cambridge 39, Mass.; res. 27 Independence Ave , Lexington 73, Mass.
Chem. (res., teach.); b. Los Angeles, Calif., Feb. 21, 1912; s. of William Harlan and Florence Elizabeth Cook Coryell; ed. B.S., Calif. Inst. Tech., 1932; Ph.D., 1935; Am.-German Exch. fellow, Technische Hochschule, München, 1933-34; m. Grace Mary Seeley, Dec. 2, 1937; ch.: Julie Esther. Res. assoc., Calif. Inst. Tech., 1935-37; instr., Deep Springs Jr. Coll., Deep Springs, Calif., part-time, 1937-39; mem. staff, U. Calif., Los Angeles, instr. chem., 1938-40; asst. prof., 1940-44; assoc. prof., 1944-45; on leave, 1942-45; chf., fission prods. sect., Metal. Lab., U. Chicago, 1942-43; chf., fission prods. sect., Clinton Labs., Oak Ridge, Tenn., 1943-46; prof. chem., M.I.T., 1946 to date. Res. in magnetochem. studies of hemog. derivatives, radiochem. of the fission prods., nuclear chem. Co-author: "Radiochem. Studies: The Fission Prods." Mem.: Tau Beta Pi, Phi Lambda Upsilon, Sigma Xi, A.C.S., A.Phys.S., A.A.A.S., Am. Acdy. Arts & Sc., Société de Chimie Physique (Paris), Un. World Fed., Fed. of Am. Sc.; Bd. of Incs. of Utopia Coll., Eureka, Kans., alternate mem. bd., Williams-Waterman Fund. Res. Corp., N.Y. Hobbies: garden, friends.

COSTELLO, Dr. Christopher Hollet, dir. res., & contr., Columbus Pharmacal Co., Columbus, Ohio; res. 8449 Riverside Dr., Powell, Ohio.
Chem., pharm.; b. Newfoundland, Jan. 19, 1913; s. of William H. and Elizabeth Costello; ed. Northeastern U., Mass. Coll. Pharm., Harvard Grad. Sch., B.S., Ph.C., M.S., Ph.D.; mem.: Kappa Psi, Rho Chi; m. Marjorie Embrough, Mar. 17, 1946; ch.: Judith Ann. Fellow, Materia Medica, Mass. Coll. Pharm., 1936-38; chf. chem., Pinkham Med. Co., Lynn, Mass. 1938-49; instr. chem., Mass. Coll. Pharm., 1946-49; 1st Lt., Chem. Warfare Serv. 1943-46; dir. res. & contr., Columbus Pharm. Co., 1949 to date. Res. in chem., pharm. of vegetable drugs, determ. uterine sedative principle in Piscilin, separated female sex horm., estriol, from licorice root, several projects on gynecological drugs. Author: "A New Look at Botanicals," 1949. Mem.: APhar.A., A.C.S., A.A.A.S. (fellow), Farm Chemurgic Council, Assn. Harvard Chem., Columbus Acdy. Pharm. Hobbies: firearms, carpentry, camping, fishing.

COTHRAN, John C(leveland), prof. of chem., chmn. sc. & mathematics div., U. of Minnesota, Duluth Branch, Duluth, Minn.; res. 512 N. 19th Ave. E., Duluth 5.
Prof. of chem.; b. near Ransomville, N.Y., Nov. 16, 1885; s. of Daniel VanValsen and Emma Silsby Cothran; ed. Lockport H.S., Lockport, N.Y., A.B., Cornell U., 1908, Ph. D., 1931; m. Evelyn Belle Cochran, Nov. 8, 1910; ch.: Raymond John. Chem. asst., Cornell U., 1908-10; chem. General Electric Co., Harrison, N.J., 1910-11; chem., Albany Lubricating Co., N.Y.C., 1911-12; treasurer and plant engr., Cochran Box & Mfg. Co., Lockport, N.Y., 1912-25; chem. asst., Cornell U. 1927-31; grad. student, Cornell, 1925-31; acting hd., chem. dept. Bethany Coll., Bethany, W.Va., 1931-32; resident doctor, Cornell U., 1932-33; hd. physical sc., Duluth State Teachers Coll., Duluth, Minn., 1933-45; prof. of chem. chmn. sc. & math. div., 1945-47; on leave Visiting Prof. of chem., Elmira Coll., Elmira, N.Y., 1945-46; prof of chem. chmn. Sc. & Math. div., U. of Minn. 1947 to date. Est. dept. of chem., and dept. of physics in Duluth State Teachers Coll. which later became the Duluth Branch of the U. of Minn. Thesis res. on ammonium trinitride and tetrazole. Mem.: A.A.A.S. (fellow), A.I.C. (fellow), Am.Geog. Soc. of N.Y. (fellow), A.C.S., Am. Assn. Physics Teachers, Am. Math. Soc., Math. Assn. of America, A.A.U.P., N.Y. Acad. of Sci., Minn. Acad. of Sci., Minn. Ed. Assn., Rocks and Minerals Assn., Duluth Engineers Club. Clubs: Duluth Engineers, Northern Nut Growers Assn., Baptist Men's Club. Hobbies: minerals, agates, nuts, music.

COTTER, Harold F., asst. prof. pulp and paper chem., Schl. of Chem., U. of Alabama; res. 52 Highlands, Tuscaloosa, Ala.
Univ. tchr.; b. Boston, Nov. 17, 1902; s. of William J. and Helen (McGrath) Cotter; ed. M.I.T., S.B. 1923, M.S. 1924; m. Helen M. Maher, July 14, 1930; ch.: Francis M., David J. 1924-25 apprentice, Penobscot Chem. Fiber Co.; 1925-35 engr., Internat. Paper Co. (Bur. of Tests); 1936-38 engr. Sturtevant Engrs.; 1938 to date asst. prof. U. of Ala. Mem.: T.A.P.P.I., Tau Beta Pi, Gamma Sigma Epsilon.

COTTLE, Delmer Leroy, res. chem., Esso Res. Center, Stand. Oil Dev. Co., Linden, N.J.; res. 702 Abbott St., Highland Park, N.J.
Res. chem., org. chem.; b. Portsmouth, Ohio, Oct.

17, 1902; s. of Edward and Fanny Davis Cottle; ed. B.A., Marietta Coll. 1926; M.S. Ohio St. U., 1929, Ph.D. 1930; mem.: Lambda Chi Alpha; m. Elizabeth Stanton, Aug. 16, 1930; ch.: Joan Diana, Edward Stanton. 1926-27 jr. inspt., jr. chem., U. S. Food, Drug & Insecticide Admn., Balt., Md.; 1930-44 asst. prof., assoc. prof., Rutgers U., New Brunswick, N.J.; 1945 to date res. chem., Stand. Oil Dev. Co. Teaching in org. chem., pet. chems., res. in reaction of olefine oxides, halohydrins with Grighard Reagent; prep. of antimalarial intermediates; var. offices in N.J. Sec. A.C.S.; also mem. A.I.C., Sigma Xi, Phi Lambda Upsilon, A.A.A.S. Hobbies: minor interests in houseplants, woodworking, sports.

COTTON, Robert H(enry), dir. of res., Holly Sugar Corp., Colorado Springs, Colo.; res. 2030 N. Nevada Ave., Colorado Springs, Colo.
Res. chem.; b. Newton, Mass., Nov. 17, 1914; s. of Leonard Miller and Helen L. Cotton; ed. Bowdoin Coll., B.S. (with honors) 1937; M.I.T., S.M. 1939; Penn. State, Ph.D. 1944; mem.: Zeta Psi, Sigma Psi; m. Mildred Woodward Smith, Jan. 1, 1948; ch.: Leonard Wright, Dorothy (the latter by previous marriage). 1938 Std. Oil Dev. Co. fellow at M.I.T.; 1939 chem. Insulation Res. Sect., Gen. Electric Co.; 1940-43 grad. asst. in plant nutrition, Penn. State; 1943-45 instr. and asst. prof. human nutrition res. same Coll.; 1945-47 dir. Plymouth, Fla. div. Natl. Res. Corp.; 1947-48 supervisory chem. (prof.) U. of Fla. Citrus Expt. Sta.; 1948 to date dir. of res. Holly Sugar Corp.; 1949 to date hon. secy. M.I.T. for Colorado Springs; res. in new anal. techs. in leaf anal. as guide to plant nutrition, helped dev. first com. successful frozen orange juice concentrate, studies of sugar losses in stored beets, beet sugar tech.; sev. inventions in food tech. Contrib. chapt. on Beet Storage to book by McGinnis "Beet Sugar Tech." Reinhold, 1950; contrib. ed. "The Chemical Formulary." Mem.: A.C.S., Amer. Soc. Sugar Beet Tech., Amer. Soc. Plant Physiol., Amer. Soc. Hort. Sci., fellow A.I.C., Inst. Food Tech. Mem. also of Industry Advisory Bd., Sugar Res. Foundation and of Beet Processors Com., U.S.D.A. Western Regional Res. Lab. Hobbies: woodworking, fishing, gardening, general reading.

COTTON, William J., conslt. chem., chem. engr., W.J. Cotton Labs., 3530 W. Fairmont Ave., Milwaukee 9, Wis.; res. 1329 Orchard Ave., Racine, Wis.
Conslt. chem., chem. engr.; b. Bailundu, Portuguese Angola, West Central Africa, Apr. 21, 1890; s. of American born missionaries; ed. Ripon Coll., Ripon, Wis., B.A., 1910; U. of Wis., 1910-13, M.S., 1912, majoring in chem. and chem. engrg.; dur. first 2 yrs. of grad. wk. was night chem. for Northern Water Softener Co., Madison, Wis.; m. Belva Louise Ronne, Aug. 3, 1918; ch.: 1 son, 1 dau. 1913-14, res. chem., R.R. Donnelley & Sons, Chicago, Ill.; 1914-16, assoc. prof. chem., Butler Coll., Indianapolis; 1916-19, chf. chem. examiner, U.S. Civil Service Commis., Washington, D.C.; 1919-34, grp. ldr., Res. Dept., Natl. Aniline & Chem. Co., Buffalo, N.Y.; 1934-40, grp. ldr., Res. Dept., Monsanto Chem. Co., St. Louis, Mo.; 1940-Jan. 1, 1947, res. dir. Pa. Coal Prods. Co., Petrolia, Pa. (on Dec. 28, 1946 the Co. was sold to the Koppers Co.), resigned Jan. 1, 1947; 1947 to date has had own business as conslt. chem., chem. engr.; 1948-49, dur. academic yr. served as Special Lecturer of Industrial Chem. at Allegheny Coll., Meadville, Pa. Holder of 20 issued U.S. pats.; 5 U.S. pat. appls. currently on file; 20 foreign pat. appls. on file; contrib. 11 tech. papers to var. tech. and sc. jls. Res. on org. intermediates. Mem.: A.C.S. (chmn. Western N.Y. sec. 1934-35), Engrg. Soc. of Milwaukee, Amer. Electroplating Soc., A.I.C. (chmn. Niagara Chapt., 1932-34), Amer. Interprofessional Inst. Clubs: Chemists' (Chicago), City (Milwaukee), Chemists' (N.Y.C.), Masonic Naval Lodge No. 14 (Wash., D.C.). Hobbies: detective stories, motoring.

COUCH, James F., prin. chem., Eastern Regional Res. Lab., U.S. Dept. Agri., Phila. 18, Pa.; res. 128 Lismore Ave., Glenside, Pa.
Res. chem.; b. Somerville, Mass., Oct. 22, 1888; s. of Joseph Daniel and Ellen M. (Cary) Couch; ed. Harvard U., A.B., 1913; American U., A.M., 1923, Ph.D. 1926; Sc.D. (hon.) Phila. Coll. of Pharmacy and Sc., 1948; mem.: Chi Psi Omega; m. Mildred L. Angell, Sept. 19, 1914; ch.: James, Jr., Joseph, Cecilia. 1913-17 industrial chemistry; 1917 to date with U.S. Dept. of Agri.; res. chem. constituents of plants; chem. of tobacco; medical applications of rutin; milk sickness; cyanide poisoning. Mem.: A.C.S., A.I.C., A.A.A.S., N.Y. Acad. of Sci., Penn. Acad. Sci., Franklin Inst., History of Agri. Soc. Rec. Distinguished Service M., U.S. Dept. Agri., 1947. Club: Kiwanis. Hobbies: gardening, philosophy.

COULL, James, prof. and hd. chem. engrg. dept., U. of Pittsburgh, Pittsburgh, Pa.; res. 317 Fieldbrook Dr., Pittsburgh 34.
Prof. and conslt., b. Aberdeen, Scotland, Apr. 29, 1898; s. of James F. and Elizabeth Brown (Molyneux) Coull; ed. U. of Aberdeen, Scotland, B.Sc. (1924); M.I.T. (1924-25); Columbia U., Ph.D. (1933); mem.: Phi Lambda Upsilon, Sigma Xi, Sigma Tau; m. Margaret A. MacLean; ch.: James M., Peggie M., Bruce M. With Food Labs., tech. asst. Dr. J.F. Tocher, Aberdeen, Scot., 1919-24; Tide Water Associated Oil Co., chem. engr., 1925-27; Cooper Union, N.Y., instr. chem. engr., 1927-32; asst. prof. chem. engr., 1932-39; U. of Pittsburgh, prof. and hd. Chem. Engrg. Dept., 1939 to date; res. in kinetics, thermodynamics and distillation (40 pub. arts.); legal and commercial conslt. wk. Author: "Thermodynamic Principles with Appl. to Chem. Engrg.," (with Kuo Tsung Yu (in prep.). Mem.: A.C.S., A.I.Ch.E., A.S. of Engr. Educ. Club: Faculty (U. of Pittsburgh). Hobbies: music, literature.

COULTER, Victor Aldine, dean of the Coll. of Liberal Arts and prof. of chem., Box 642, University, Miss.; res. 906 University Ave., Oxford, Miss.
Tchr. of chem. and Univ. admin.; b. Newton, N.C., July 15, 1892; s. of John Summey and Sarah Sophronia (Herman) Coulter; ed. U. of N.C., B.S. 1913; M.S. 1914; Ph.D. 1916; Phi Beta Kappa, 1912; student, Cambridge, England, 1919; Columbia U., N.Y.C., summer, 1927; mem.: Alpha Chi Sigma; m. Margaret McLean, Aug. 16, 1926. Instr. in chem., U. of N.C., 1916-17; res. chem., Armstrong Cork Co., 1917; asst. prof. of chem., 1920-25; assoc. prof. 1925-26; prof. of physical chem., 1926-27; prof. of chem., 1947 to date; chmn. Dept. of Chem., 1946-47; dean, College of Liberal Arts, 1936 to date. Mem.: A.C.S., Miss. Acdy. of Sc., Southern Assoc. of Sc. and Industry. Hobbies: photography, boating, fishing, shopwork.

COUTLÉE, Douglas Wakefield, advertising conslt., 45 Oak Ave., Larchmont, N.Y.; edit., "The Merck Report," 161 Avenue of the Americas, N.Y. 13, N.Y.; res. 45 Oak Ave., Larchmont.
Advertising conslt.; b. Waddington, N.Y., June 7, 1894; s. of George Henry and Hattie (Graves) Coutlée; ed. N.Y. public schls. & Waddington, N.Y., High Schl.; m. Marie Victoria Kettell, July 1, 1916; ch.: Douglas Wakefield Jr., Muriel Jeanne (Coutlée) Hodel, Robert Kettell. George Batten Co., adv. agency, N.Y.C., copy & art staff, 1910-14; Munsey Magazines, N.Y.C., asst. class. adv. mgr., 1914-15; Popular Sc. Monthly, N.Y.C., class. adv. mgr., 1915-20; free-lance writer, 1921-22;

Ruthrauff & Ryan, adv. agency, N.Y.C., copy writer, 1922-23; Charles C. Green Adv. Agency, N.Y.C., bus. mgr., 1924-27; Plough, Inc., Memphis, Tenn., adv. dir., 1927-30; E.R. Squibb & Sons, N.Y.C., adv. mgr., 1930-33; Merck & Co., Inc., N.Y.C., dir. of adv. 1933-49; edit., "The Merck Report," 1933 to date; advertising conslt., 1949 to date. In addition to directing the advertising of vitamins, sulfonamides, antibiotics, & other prods. for Merck & Co., Inc., from 1933-49, served as edit., "The Merck Report" 1933 to date, & also directed the prod. & distribution of the Sixth & Seventh Edits. of "The Merck Manual" & the Fifth Edit. of "The Merck Index." Author of numerous articles in magazines, newspapers, trade & prof. publ.; wrote & directed a number of radio programs. Co-ordinator of The Advertising Council's "Fight Tuberculosis" campaign in co-operation with the Natl. Tuberculosis Assn. & the U.S. Public Health Serv. Clubs: past pres., Phar. Advertising Club, N.Y.; past mem. bd. of trustees, House Magazine Inst., N.Y.; served as comm. chmn. Assn. of Natl. Advertisers, Direct Mail Advertising Assn., etc.; past pres., Controlled Circulation Audit, Inc., N.Y.C. Hobbies: fishing, photography.

COWAN, John Charles, hd. oil and protein div., Northern Regional Res. Lab., Peoria, Ill.; res. 1904 N. Univ. St., Peoria, Ill.
Res. chem.; b. Danville, Ill., Oct. 25, 1911; s. of Charles and Ella Cowan; ed. U. of Colo.; U. of Ill., A.B.; Ph.D. mem.: Sigma Xi, Alpha Chi Sigma, Sigma Chi, Phi Lambda Upsilon; m. Lucile Chenoweth, Aug. 20, 1938; ch.: Karen, Colleen. 1935-38 asst. in chem., U. of Ill.; 1938-39 spec. du Pont Post Doctorate Res. Fellow, U. of Ill.; 1939-40 instr. in org. chem., DePauw U., Greencastle, Ind.; 1940 to date res. chem., Northern Regional Res. Lab., Peoria, Ill.; res. on soybeans including improved drying oils, rubber replacements, new chems., flavor stability, metallic inactivators, and anti-oxidants. Mem.: A.C.S., A.O.C.S., Soybean Res. Council; Superior Serv. Award from Dept. of Agri., May, 1948. Hobbies: square dance calling, wood carving.

COWELL, John Robert, Jr., mgr. of industrial sales and asst. treasurer, The Woodville Lime Prods. Co., 2140 Jefferson Ave., Toledo 2, O.; res. 2450 W. Central Ave., Toledo 6.
Exec. (manufacture of dolomite and dolomitic lime); b. Toledo, O., July 14, 1898; s. of John Robert and Lena Kate Cowell; ed. Syracuse U.; mem.: Sigma Alpha Epsilon; m. Kathryn Nusser, Oct. 16, 1935. Production mgr., McCarthy Drill & Tool Co., Toledo. O.; 2nd lieut., U.S. Field Artillery; production mgr., Owens Staple-Tied Brush Co., Toledo, O.; gen. mgr., Felton United Brush Co., Toledo, O., sales mgr., C.F. Medaris Co., Toledo, O.; plant mgr., Automat Molding & Folding Co., Toledo, O.; asst. treas. & mgr. of Ind. Sales, The Woodville Lime Products Co., Toledo, O. Mem.: The American Ceramic Soc. Clubs: Inverness (Toledo, O.), Sanford C. Collins Lodge No. 396 F.A.M., Toledo Bridge Club and American Contract Bridge League. Hobbies: boating, contract bridge.

COWGILL, George R(aymond), prof. of nutrition, Yale U., Yale Nutrition Lab., 333 Cedar St., New Haven 11, Conn.; res. 70 Brookside Ave., Hamden 14, Conn.
Teacher in nutritional biochem. to grad. & medical students in Yale, res. in same fld.; b. St. Paul, Minn., Feb. 8, 1893; s. of Rev. Frank B. and Ida Lillian (Hall) Cowgill; ed. B.A., Stanford U., 1916; Ph.D., Yale, 1921; Sc.D. hon., U. Southern Calif., 1947; mem.: Alpha Sigma Phi, Phi Chi, Phi Beta Kappa, Sigma Xi; m. Alice May Fesler, Sept. 7, 1922; ch.: Barbara Jean (Cowgill) Perrins. Teaching asst. in physiol. & histol. at Stanford 1916-17; on leave for military serv. 1917-19; asst. in physiolog. chem., Yale, 1920-21, instr. 1921-25, asst. prof. 1925-31, assoc. prof. 1931-44, apptd. to new chair as prof. of nutrition, 1944 to date. Num. papers report. res. in gastro-intestinal physiol. & nutrition publ. alone & with students & colleagues. Author: "Vitamin B. Requirement of Man," Yale Press, 1934. Award: Mead Johnson Vitamin B. Complex Res. in 1942 thru Am. Inst. of Nutrition. Mem.: A.A.A.S. (fellow), N.Y. Acad. of Sc. (fellow), A.P.H.A. (fellow), I.F.T. (fellow), Am. Physiolog. Soc., Am. Soc. of Biolog. Chemists, Am. Inst. of Nutritution (past treas.), Am. Soc. Tropical Med., S.E.B.M. Award: Annual Scientific of Grocery Mfrs. of Am., Nov., 1948. Clubs: Graduates (New Haven), Faculty (New Haven), Yale Club of N.Y.C.

COWLES, Edwin, pres., The Cowles Chem. Co., Cleveland, O. and The Cowles Co., Cayuga, N.Y.; res. Cayuga, N.Y.
Engr., exec.; b. Willoughby, O., Feb. 29, 1892; s. of Lewis H. and Sarah F. (Hutchinson) Cowles; ed. Cornell U., M.E.; mem.: Zeta Psi; m. Catherine Bradley. The Cowles Chem. Co. in var. capacities since 1916; pres. since 1941; Cowles Co., since its incorporation in 1935, pres. Inventor of pulpers, dispersing equipment & other processing equipment used in the paper and chem. industries. Mem.: T.A.P.P.I. Clubs: Union (Cleveland, O.); Owasco Country (Auburn, N.Y.); Cornell (N.Y.C.); University (Syracuse, N.Y.). Hobby: boating.

COWLING, (Enoch) Hale, hd. anal. res. lab., Am. Viscose Corp., Marcus Hook, Pa.; res. 107 Ridley Dr., Chester, Pa.
Chem.; b. Clarksville, Pa., June 26, 1910; s. of Ira E. and Flora M. Cowling; ed. DePauw U., A.B., 1932; U. Mich., M.S. 1934; Ph.D. 1940; m. Phyllis Jean Auld, Aug. 16, 1935; ch.: Richard Lloyd, Dorothy Jean. Res. assoc., Mich. St. Exp. Sta. 1939-41; res. chem., Am. Viscose Corp. 1941 to date. Author: "Depolymer. of Cellulose in Viscose Prod. Ind. Eng. Chem. 34 607-612 (1942); "Determinat. of Small Amts. of Zinc in Plants," Ind. Eng. Chem., Anal. Ed. 13 145-9 (1941); U.S. Patent 2397338 Viscose Filaments, Fibers; mem.: Sigma Xi, A.A.A.S., A.C.S. Hobbies: photography, woodworking, gardening.

COWPERTHWAITE, Irving A., chf. engr., Thompson Wire Co., 41 Mildred Ave., Mattapan 26, Mass.; res. 10 Willoughby Rd., Milton 87, Mass.
Chf. engr.; b. Worcester, Mass., Oct. 28, 1904; s. of Allan L. and Edith E. Cowperthwaite; ed. B.S.; M.I.T., 1926; Ph.D., Columbia U., 1931; m. Fae Irene Poore, June 10, 1931. Fellow, Rockefeller Inst. for Med. Research, 1926-28; asst., Rockefeller Inst. for Medical Res., 1928-30; instr., of chem., Columbia U., 1930 through 1937; chf. engr., Thompson Wire Co., 1937 to present. Res. and publications in the fld. of the thermodynamics of aqueous solutions of electrolytes, including determinations of transference numbers E.M.F. galvanic cells and electrometric titrations. Mem.: A.C.S., Am. Soc. for Metals, A.A.A.S., A.I.C. (fellow). Trustee, Mass. Baptist Home. Hobby: photography.

COX, Dr. Alvin J(oseph), Sr., conslt. chem. engr., chem., 1118 Emerson St., Palo Alto, Calif.
Conslt.; b. Lawrence, Kans., June 14, 1875; s. of Benjamin and Mary Morris Cox; ed. A.B. Chem., Leland Stanford Jr. U.; M.A. Chem., L.S.J.U. 1902; Ph.D. U. Breslaw, Germany, 1904; grad. stud. Heidelberg, Leipsic (Ostwald's Lab.), summer, 1902; m. Mary Amelia Barnett, Mar. 21,

1906; ch.: Dr. Alvin J., Jr., Mary Cox Beckh, Annis Adelle Kocher. Asst., instr., chem. 1898-1908; conslt. chem. Calif. Fish Comm. 1905-06; physical chem., chf. sect., Bur. of Sc., Manila, P.I., 1906-10; act. prof., hd. dept. chem., U. Montana, 190910; chf., chem. lab., Bur. Sc., Manila 1910-12; asst. dir. or act. dir. 1911-13; dir. Bur. Sc. 1914-19; conslt. chem. engr., chem., 1920-31; chf. Bur. Chem., St. Calif., dept. agri. 1932-45; Emeritus, chf. Bur. Chem. 1945 to date; ed. Philippine Jl. of Sc., Manila, 1912-19; mem.: Philippine Food Comm., comms. on supplies, govt. motor transp., geographical names, etc. Lic. prof. engr. chem. engr., Calif.; mem. Ed. Adv. Bd., of Agri. Chems. Contrib. extens. to sc. and tech. jls.; mem.: Phi Beta Kappa, Sigma Xi. Hobby: agriculture.

COX, Edwin, v.p., Virginia-Carolina Chem. Corp., Richmond, Va.; res. Holly Hill Farm, Aylett, Va.
Chem., chem. engr.; b. Richmond, Va., Sept. 20, 1902; s. of Edwin P. and Sallie Bland (Clarke) Cox; ed. Va. Military Inst., 1920, B.S. chem. eng., M.S. chem.; m. Virginia Bagby De Mott, May 19, 1927; ch.: Edwin. Virginia-Carolina Chem. Corp., 1920 to date except for war serv.; 1940-46, U.S.A., retired as Brig. Gen. Tobacco By-Prods. & Chem. Corp. (dir., secy.). Mem.: A.I.Ch.E., A.C.S., A.I.C., Va. Acad. Sc. Awards: Legion of Merit, Bronze Star, Commendation Ribbon with Cluster. Dir., Valentine Museum, Richmond, Va.; dir., Va. Inst. Sc. Res.; warden, South Farnham Parish. Clubs: Commonwealth (Richmond), Chemists' (N.Y.).

COX, Fred W(ard), Jr., asst. dir., Engineering Experiment Station, Ga. Inst. of Tech., Atlanta, Ga.; res. 269 5th St., N.W., Atlanta, Ga.
Res. chem. and administrator; b. Atlanta, Ga., Dec. 10, 1914; s. of Fred W. and Ava Lou Quinn Cox; ed. B.S. Ch.E., Ga. Inst. of Tech., 1936, 1st in class, Phi Kappa Phi scholarship cup, Ph.D., Org. Chem., U. of Wisconsin, 1939, Procter and Gamble Fellow 1938-39; mem.: Delta Tau Delta, Gamma Alpha, Omicron Delta Kappa, Phi Eta Sigma; m. Carla Muth, June 20, 1939; ch.: Carla Judith, Fred W. III. Res. asst., Rohm and Haas, Phila., summer 1938; res. chem. and group ldr. Goodyear Tire & Rubber Co., Akron, O., 1939-45; hd. applied chem. div., Southern Res. Inst., Birmingham, Ala., 1945-49; Engineering Experiment Station, Ga. Inst. of Tech., asst. dir., of same 1949 to date. Res. in flds. of vinyl resins, rubber derivatives, stabilizers for plastics, applied org. chem., paints and varnishes, coatings, tobacco chem., physical-org. chem., (four tech. papers and 11 pats.); res. administration. Mem.: Tau Beta Pi, Phi Kappa Phi, Sigma Xi, Alpha Chi Sigma, A. C.S., Am Electroplaters Soc., Southern Paint and Varnish Production Club, A.A.A.S., South. Assoc. of Sc. Industry. Club: Ga. Tech. Faculty. Hobbies: photography, model making.

COX, Gilbert L., mgr., Empire State Sec., dev. & res. div., Internatl. Nickel Co., Inc., 45 Exchange St., Rochester 14, N.Y.; res. 103 Branford Rd., Rochester 18.
Metallurgist, met. & chem. engr.; b. Bristersburg, Va., Mar. 2, 1906; s. of Eppa S. and Carrie L. Cox; ed. 1928, Va. Poly. Inst., Blacksburg, Va., B.S. with hon., Phi Kappa Phi; 1930, M.I.T., Cambridge, Mass., S.M.; m. Jeanne H. Cox; ch.: Shirley V., Lee R. M.I.T., 1928-31, res. asst., assoc. app. chem.; Internatl. Nickel Co., 1931-34, res. lab., res. engr., 1934-41, dev. & res. div., dev. engr.; U.S.A., Ord. Dept., 1941-44, ex. off. res. dept., Watertown Arsenal, 1944-45, chf., cannon dev. branch, off. ch. of ord., Wash., D.C.; mgr., Empire State Sec., dev. & res. div., Internatl. Nickel Co., 1946 to date. Discovered mechanism of corrosion of zinc; assisted in dev. of spec. alloys of nickel; numerous publ. in chem. journals. Mem.: A.C.S., A.I.Ch.E., A.S.M., A.I.M.E., A.F.S., A. A.A.S., Am. Ord. Assn., A.W.S., Roch. Eng. Soc.; In "Who's Who in Engrg.," "Am. Men of Sc." Award: Legion of Merit (U.S.A.). Mem. exec. comm. A.S.M. Roch. Chap.; Comd'g. Officer, 1656 O.R. Res. & Dev. Unit (U.S.A. Reserve). Clubs: Rochester, Res. Off. Assn. Hobbies: golf, hunting, fishing.

COYLE, Theodore G(eorge), v.p., United Chromium, Inc., 100 E. 42 St., N.Y. 17, N.Y.; res. 27 Lochmoor Blvd., Grosse Pointe Shores 30, Mich.
Electrochem, engr.; b. Boston, Mass., Dec. 15, 1901; s. of James M. and Agnes M. Eisner Coyle; ed. 1925 B.S., M.I.T.; m. M. Alice Fitzgerald, 1927; ch.: Richard H., Alice S., Mary H., Kathleen S. 1925 to date, United Chromium, Inc., its predecessor cos., res. chem., serv. engr., tech. dir., v.p. V.p., dir., United Chromium, Ltd. Contrib. extens. to sc. and tech. jls.; mem.: A.S.T.M., S.A.E., A.E.S., Natl. Corrosion Engrs.; Proctor Award, A.E.S. 1944. Clubs: Chem., Recess (Detr.), Economic (Detr.).

CRABTREE, John Ickeringill, asst. supt. Eastman Kodak Co., Kodak Park, Rochester 4, N.Y.; res. 26 Broadway, Rochester 7.
Res. engr.; b. Clayton le-Moors, Lancashire, Eng., Mar. 27, 1891; s. of John and Ann (Fish) Crabtree; ed. Accrington (Secondary), England, 1901 to 1907; Victoria U. (England), 1907-13; B.Sc. honors in chem., 1912, M.Sc. 1913. F.R.I.C. 1914. 1913-16 res. chem., 1916-38 hd. of Dept. of Motion Picture Film Dev.; 1916 to date hd. of Dept. of Photographic Chem.; 1929 to date asst. supt. and chf. photographic chem. Co-author (with G.E. Matthews) "Photographic Chems. and Solutions," Amer. Photographic Pub. Co., Boston, Mass., 1939; trans. Herstellung photographscher Losungen und Behandlung photographis cher Chemikalien" (The Handling and Mixing of photographic Chems. and Solutions," W. Knapp, Halle, Germany, 1929; " Le Developpement des Films Cinematographidues" (The Dev. of Motion Picture Film), P. Montel, Paris, France, 1925. Awarded Progress M. of French Photographic Soc. 1924; Henderson Award of Royal Photographic Soc., 1944; Journal Award of Soc. of Motion Picture and Television Engrs., 1944. Mem.: A.C.S., Opt.S.A., Oval Table Soc., Acad. of Motion Picture Arts and Scs., Kodak Camera Club (hon. member); fellow of Royal Inst. of Chem. of Gr. Brit. and Ireland, Royal Photographic Soc., Soc. of Motion Picture & Television Engrs., A.A.A.S., Photographic Soc. of Amer. Club: University (Rochester). Hobby: farming.

CRAGOE, Edward Jethro, prof. chem., Baker U.; res. Baldwin City, Kans.
Educator; b. Oakfield, Wis., Aug. 1, 1889; s. of Thomas J. and Mary E. Cornell Cragoe; ed. Ripon Coll., A.B. 1910; U. Mich. 1912; U. Wis. A.M. 1915; m. Genevieve M. Dopp, Aug. 2, 1916; ch.: Edward Jethro, Jr., Mary Margaret, William Cornell, Catherine Clare. Teach. sc. & coach Crystal Falls, Mich. High Sch., 1910-13; teach, sc. & coach, Petoskey, Mich. 1913-14; Dearfield-Schields, Ill. 1915-16; prof. chem. & geology, Tulsa U. 1916-18; prof. chem. Baker U. 1918 to date; mem.: Am. Assn. Pet. Geol., Kans. Acdy. Sc., A.C.S.; 1st Meth. Ch. (Baldwin); Club: Rotary. Hobbies: civic affairs, gardening, stamps.

CRAIG, Hugh, ed., "Oil, Paint and Drug Reporter," 30 Church St., New York 7, N.Y.
Journalist; b. Hollidaysburg, Pa., Mar. 24, 1881; s. of James Henry and Victoria Regina Craig; 1897 horse wrangler and farmhand; 1898 apprenticed in pharmacy; 1899 read law; 1904 reg. in

phar.; 1906 asst. ed., "The Druggists' Circular"; 1914 ed., N.A.R.D. Journal; 1918 with Nyal Co.; 1921 manag. ed. "Oil, Paint and Drug Reporter," and ed. 1942 to date. V.p. and dir. Schnell Pub. Co., Inc. Mem.: A.A.A.S. (fellow); A.A.T.C.C., A.Ph.A., A.S.T.M., Chem. Inst. of Canada (assoc.). Club: Chemists' (N.Y.). Hobbies: fishing, field botany.

CRAIG, William Moore, prof. of chem., Texas Technological Coll., Lubbock, Tex.; res. 2321 18th St., Lubbock, Texas.
Prof. of chem.; b. West Texas, Aug. 11, 1888; s. of H.C. and Emma (Jack) Craig; ed. A.B., Southwestern U., 1906; A.M., 1907; M.A., U. of Texas, 1916; Ph.D., Harvard U., 1927; mem.: Alpha Chi Sigma; m. Elizabeth Cox, Aug. 30, 1927; ch.: Elizabeth Knox, William M., Jr. Tchr., High Schls., Texas, 1908-14; instr. in chem., Rice Inst., 1922-25; prof. of chem., Texas Technological Coll., Lubbock, Tex., 1926 to date. Res. in atomic weight of gallium (present Internat'l. Std.); purification of gallium and its compds.; density and melting point of gallium; Salt Lakes and deposits in West Texas; National Symposium on Spectrography, Dec., 1941 (at Natl. meeting of A.A.A.S.); Quantitative Spectrographic Analysis. Mem.: Sigma Xi, A.C.S., Optical Soc. of Amer.; fellow, A.A.A.S. (pres. of Southwestern Div. 1941); fellow, Texas Acdy. of Sc., v.p., 1942. Club: Kiwanis International.

CRAMER, Archie Barrett, chf. chem., 3501 W. 48th Pl., Chicago 32, Ill.; res. 1126 Hyde Pk. Blvd., Chicago 15.
Chem.; b. Winnipeg, Canada, 1909; s. of Phillip Barrett and Anne Cramer; ed. B.S., 1934, Manitoba; 1935, M.S., Manitoba; 1939, Ph.D., McGill, 1939; m. Frema Gertrude (Silberman), 1935; ch.: Launa Rochelle, Miriam Naomi. 1939-41, res. asst., Carnegie Inst.; 1941-45, chem., group ldr., Miner Labs.; 1945 to date, chf. chem., F.&F. Labs. Mem.: A.C.S., A.I.C., A.A.A.S., Am. Inst. Food Tech., Am. Assoc. Candy Tech., Chicago Chem. Club. Dir. Chicago Section A.C.S., National Councillor A.C.S.

CRAMER, Howard Irving. dir. of dev., Sharples Chems. Inc., 123 S. Broad St., Phila. 9, Pa.; res. 15 Golf View Rd., Ardmore, Pa.
Chem.; b. Akron, Ohio, Sept. 21, 1904; s. of Irving Henry and Florence May Cramer; ed. U. of Akron, B.S. 1926; U. of Wis., M.S. 1928; U. of Wis., Ph.D. 1929; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi; m. Josephine Brown, June 21, 1930; ch.: Joanne, Catherine, Stanton Howard. Goodyear Tire & Rubber Co., res. chem. 1929-33; U. of Akron, asst. prof. in chg. of Course in Rubber Chem., 1933-41; Sharples Chems. Inc., Dev. Dept., 1941-44; dir. of dev., same co., 1944 to date secy. and dir., Sharples-Continental Corp. Res. and pubs. in fld. of catalytic hydrogenation of org. compds. at high pressures; secy. of Div. of Rubber Chem., A.C.S., 1938-46; chmn. of Div. of Rubber Chem., A.C.S., 1948-49. Mem.: A.C.S., A.I.Ch.E., S.C.I., Inst. of Rubber Indust. (Gr. Britain), Indust. Res. Inst. (company representative). Clubs: Midday (Phila.); Wisconsin Alumni of Philadelphia (chmn. 1949-50). Hobbies: gardening, fishing.

CRANE, Edward M., res. chem., Kodak Res. Labs., Rochester 4, N.Y.; res. 21 Ellington Rd., Rochester 16 (temporary address).
Res. chem.; b. Brattleboro, Vt., 1920; s. of Ephraim H. and Mary Elizabeth (Mastin) Crane; ed. Dartmouth Coll., A.B. 1942; Harvard U., A.M. 1943; Ph.D. 1949; m. Sarah W. Perry, May 13, 1944; ch.: Susan P., Peter M., Norman H. Tchg. fellow, Harvard U., 1942-44; chem. and supvr., Spec. Engr. Detachment, Manhattan Distr. C.E., A.U.S. (Oak Ridge), 1944-46; priv. asst., (to R.B. Woodward) Harvard, 1947-48; res. chem., Eastman Kodak Co., 1949 to date. Dir., The Vermont Printing Co., Brattleboro, Vt. Mem.: A.C.S. Club: Dartmouth (Rochester). Hobbies: photography, music.

CRANE, Evan J., Editor of "Chemical Abstracts," Chemistry Bldg., Ohio State U., Columbus 10, O.; res. 1788 Coventry Rd., Upper Arlington, Columbus 12.
Editor; b. Columbus, O., Feb. 14, 1889; s. of George Winfield and Minnie Alfretta Blair; ed. B.A., 1911, Ohio State U., honorary D.Sc., 1938; mem.: Alpha Tau Omega, Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, Lambda Sigma; m. Marie Eugenia Grant, Sept. 30, 1914; m. Helen Rachel Game, Aug. 10, 1943; ch.: Grant, Martha (Crane) Lyon. Assoc. Editor of "Chemical Abstracts" 1911-14; editor, 1915 to date. Editor of 10-year Indexes to "Chemical Abstracts." Co-author with Austin M. Patterson, 1927, "A Guide to the Literature of Chemistry." Mem.: A.C.S., A.A.A.S., Academy of Sciences (New York). Rec'd. Chem. Industry Medal awarded by the Soc. of Chem. Industry (London) in 1937. Clubs: Faculty (Ohio State U.), Kit-Kat, Rotary, Athletic (Columbus, O.). Hobby: reading.

CRANE, Roland G(age), metallurgist. Amer. Smelting and Ref. Co., Barber, N.J.; res. 660 West Ave., Sewaren, N.J.
Metallurg. engr.; b. Addison, Vt., June 28, 1901; s. of Albert S. and Anna G. Crane; ed. U. of Vermont, B.S. 1922; mem.: Alpha Tau Omega; m. May I. Riner, July 12, 1930; ch.: Nancy Ann. 1922-23 surveyor and sampler, Witherbee Sherman Mining Co., Mineville, N.Y.; 1923-25 chem., 1926 to date res. metallurgist, Amer. Smelting & Refining Co.; res. and dev. in non-ferrous field; holds sev. pats. Mem.: A.I.M.E. and sev. clubs. Hobbies: gardening, fishing.

CRASS, Maurice Frederick, Jr., secy. Manufacturing Chemists Assoc., Inc., and Chem. Alliance, Inc., 246 Woodward Bldg., Washington 5, D.C.; res. 115 Glenrose St., Kensington, Md.
Chem. engr.; b. Cleveland, O., Nov. 26, 1903; s. of Maurice F. Sr., and Emma (Reid) Crass; ed. Case Inst. of Tech., B.S. (metall. engr.) 1926; M.S. (chem. engr.) 1930; mem.: Phi Kappa Psi, Tau Beta Pi, Sigma Xi, Theta Tau; m. Mary Elizabeth Kroeger, Dec. 26, 1932; ch.: Maurice F. III, Mary Katherine. Asst. to Gen. Supt., Goodyear Tire & Rubber Co.; instr. in chem. engrg., Case Inst. of Tech.; chf. chem. Palmer Match Co.; asst. secy. Manufacturing Chem. Assoc. Inc., and secy. since 1949. Has pub. 10 arts., match industry; 8 arts. chem. industry—statistics, economics and transportation. Author: "Chemical Facts and Figures," 1st Ed. 1940, 2nd Ed. 1946. Mem.: A.C.S. Elder, Presbyterian Ch. Clubs: Cosmos (Wash. D.C.), Chemists' (N.Y.). Hobbies: gardening, fishing, stamps.

CRAWFORD, Bryce Low, Jr., prof. of phys. chem., U. of Minn., Minneapolis 14, Minn.; res. 1545 Branston St., St. Paul 8.
Prof.; b. New Orleans, La., Nov. 27, 1914; ed. Stanford, A.B. 1934, A.M. 1935; Ph.D. 1937; Natl. Res. Fellow, Harvard, 1937-39; mem.: Alpha Chi Sigma; m. Ruth Raney, 1940; ch.: Bryce III, Craig Llewellyn. 1939-40 instr. in chem. Yale; 1940-43 asst. prof., 1943-46 assoc. prof., 1946 to date prof. U. of Minn.; res. in molecular dynamics and molecular spectra. Mem.: A.C.S., Opt. Soc. Am.; Sigma Xi, Phi Beta Kappa, A.A.A.S., Alpha Chi Sigma, Phi Lambda Upsilon. Pres. with Cert. of Merit for war res. under N.D.R.C. Div. 3, 1942-45. Club: Campus.

CRAWFORD, Chester Charles, mgr., chem. prods. div., Phillips Petroleum Co., 3rd and Keeler Sts., Bartlesville, Okla.; res. 1420 Delaware St. Bartlesville.
Businessman, fld. of chem. sales and dev.; b. Conway, Ark., Sept. 14, 1910; s. of Rufus Walker and Jessie Mae (Shreve) Crawford; ed. Arkansas Coll., A.B. 1933; Emory U., M.S. 1934; Yale U., Ph.D. 1937; mem.: Sigma Xi, Gamma Alpha; m. Ethel Robertson, June, 1936; ch.: Charles Dale, Rufus Walker, Kent Stewart. 1937-43 res. chem. Shell Dev. Co., Emeryville, Calif.; 1943 to date various spots in chem. sales and dev., Phillips Petroleum Co.; 1948-50 v.p. and sales mgr. Phillips Chem. Co.; 1947 to date pres. Drilling Specialties Co. Holds sev. pats. in fields of aviation gasoline manufacture, chemicals prod. etc. Mem.: A.C.S. Hobbies: flying, photography, gardening.

CRAWFORD, H(elen) Marjorie, prof. of chem., Vassar Coll., Poughkeepsie, N.Y.; res. same.
Prof. of chem.; b. Dunkinsville, O., Mar. 25, 1899; d. of Treber C., M.D. and Stella (Treber) Crawford; ed. Miami U., Oxford, O., A.B. 1920; Iowa State Coll., M.S. 1922; U. of Minn., Ph.D. 1927; mem.: Iota Sigma Pi, Sigma Xi; 1920-22 grad. asst. in chem., Iowa State Coll.; 1922-23 inst. chem., Oregon Agri. Coll.; 1923-27 grad. asst. chem., U. of Minn.; 1927 to date at Vassar Coll. Contrib. many arts. to Jl. of A.C.S. Mem.: A.C.S., A.A.A.S., A.A.U.P. Natl. Secy., Iota Sigma Pi, 1942-48. Hobbies: U.S. stamps, genealogy.

CRAWFORD, N. Russell, pres., Dow Chem. of Canada, Ltd., (subsidiary of The Dow Chem. Co.), 204 Richmond St., W. Toronto 1, Canada; res. The Claridge, 1. Claredon Avenue, Toronto 5.
Exec.; b. Grand Rapids, Mich., Sept. 2, 1891; s. of Frank and Amanda (Noble) Crawford; ed. U. of Mich., 1913-15; mem.: Delta Upsilon; m. Lottie Eddy Shearer, Sept. 16, 1925; ch.: Charles Bruce, Judith Ann. Statistician, Industrial Wks. (locomotive cranes) Bay City, Mich., 1919-22; dir. of Sales, same, 1922-28; self employed 1929-33; v.p. and gen. mgr., Dowell Inc., Tulsa, Okla., (subsidiary of The Dow Chem. Co.), 1934 41; gen. mgr., Los Angeles Styrene Plant, The Dow Chem. Co., 1942-45; pres., Dow Chemical of Canada, Ltd. (subsidiary of The Dow Chem. Co.), 1946 to date. Dow Chemical of Canada, Ltd. (dir. and pres.), Dowell, Inc. (dir. and v.p.). Clubs: California (Los Angeles), Mount Royal (Montreal), Toronto Club, Toronto Golf Club, York Club, The Hunt, Rosedale Golf, Empire, Canadian Club (all of Toronto). Hobbies: woodworking, photography.

CRAWFORD, Richard A., dir. rubber res., B.F. Goodrich Res. Center, Brecksville, Ohio; res. 459 Briarwood Dr., Akron, Ohio.
Chem.; b. Logan, Ohio, May 15, 1900; s. of Andrew and Agnes Crawford; ed. Ohio State U., A.B., 1921; M.Sc., 1922; Ph.D., 1924; mem.: Phi Beta Kappa, Sigma Chi, Phi Lambda Upsilon; m. Katherine Kirn, July 19, 1930; ch.: Richard W., Andrew G. Res. chem. B.F. Goodrich, 1924-28; tire compounder, 1928; mgr. cement dept., 1928-29; unit hd. res., 1930-43; mem. office rubber dir., 1943; tech. coordinator, 1944-46; dir. rubber res., 1946 to date. Mem.: A.C.S., A.I.Ch.E. Clubs: Fairlawn Country, Executives.

CRAWFORD, T. Stephen, dean of engrg., Rhode Island State Coll., Bliss Hall; res. 18 Campus Ave., Kingston, R.I.
Dean of engrg., prof. of chem. engrg.; b. Linton, Northumberland, England, Jan. 14, 1900; s. of John and Sarah Jane Crawford; ed. W.Va. U., Morgantown, W.Va., 1921-25, B.S., 1925-27 M.S.Ch.E.; Columbia U., N.Y., 1928-31, Ph.D.; mem.: Phi Kappa Tau, Phi Kappa Phi, Sigma Xi, Phi Lambda Upsilon; m. Charlotte S. Grayson, Apr. 1930; ch.: Phyllis Lenore. Asst. in chem. engrg., Columbia U., 1929-31; chem. engr., Socony-Vacuum Oil Co., N.Y., 1931-36; assoc. prof. of chem. engrg., 1936-39, R.I. State Coll., prof. & hd. of chem. engrg. 1939-45, acting dean of engrg. 1945-47, hd. chem. engrg. & dean of engrg., dir. of Engrg. Expt. Station 1947-48, dean of engrg. & dir. of Engrg. Expt. Station, 1948 to date. Author: "A Study of the Cracking of the Tar Vapors & of the Gas from the Low-Temp. Carbonization of Coal" (Gas-Age Record, Vol. 68, Nos. 5, 6, 7, Aug. 1931). Mem.: A.I.Ch.E., A.C.S., Am. Soc. for Engrg. Ed., Natl. Soc. of Prof. Engrs., Providence Engrg. Soc. Clubs: Tavern Hall (Kingston, R.I.), Lions. Hobby: church organist.

CREASY, Col. William Murlin, chf. res. and engrg. div., Office Chf., Chem. Corps, Dept. of Army, Chem. Corps, Gravelly Pt., Va.; res. Bldg. No. 254, Army Chem. Center, Md.
Officer—U.S. Army; b. Wilmington, N.C., Apr. 26, 1905; s. of William M. and Gertrude Bagby Creasy; ed. B.S., U.S. Military Acad., 1926, M.S., M.I.T., 1936, Air Corps Primary Flying School—1926, Chemical Warfare School—1930, Command and General Staff School—1940, Army-Navy Staff College—1944, National War College—1948; m. Lillian Cone, Aug. 3, 1932; ch.: Joyce Woosley (step-daughter). Commissioned Army officer since grad. from U.S. Mil. Acad. in 1926, with follow. major assignments: June, 1933-June, 1934, asst. to tech. dir., Edgewood Arsenal, Md.; chf., engr. div., Edgewood Arsenal, Md., Aug., 1936-Sept., 1939; asst. tech. dir., Edgewood Arsenal, Md., Jan., 1941-Nov., 1941; deputy commander and chf. of prod., Pine Bluff Arsenal, Nov., 1941-May, 1943; chf. inspection div., C.W.S., June, 1943-Oct., 1943; chf. of strategic planning staff, China-Burma-India Theatre, Mar., 1944-Apr., 1945; deputy commander, services of supply, China Theatre, May, 1945-Dec., 1945; sr. logistics advisor, U.S. Military Mission to China, Dec., 1945-Aug., 1946; deputy dir. for res. & dev., War Dept. General Staff, Aug., 1946-May, 1948; dir. of res. & dev., Chem. Corps, Dept. of Army, May, 1948 to present. Written nums. classified mil. arts., papers and documents. Mem.: A.I.Ch.E., A.C.S., A.A.A.S., Chem. Engrs. Club (Washington), Reg. Prof. Eng. (Md.), Alternate mem. of Pres. of United States' scientific res. bd. Num. mil. decor. inc. Distinguished Service M., Legion of Merit, Bronze Star M. and foreign decor. Member of four (4) major committees of the Res. & Dev. Bd., National Military Establishment. Clubs: Army-Navy, (Washington, D.C.). Hobby: golf.

CREELMAN, George D., dir. res., The M.A. Hanna Co., 1300 Leader Bldg., Cleveland 14, Ohio; res. 2984 Essex Road, Cleveland Hts. 18, Ohio.
Chem. Engr.; b. Winsted, Conn., Nov. 18, 1908; s. of George W. and Helen (Douglas) Creelman; ed. Harvard, A.B. Physics, 1931; m. Marjorie Broer, June 29, 1932; ch.: Douglas, Stewart, Katherine. 1931-32, lab. asst., M.W. Kellogg Co., N.J.; 1933-36, operating dept., Kellogg Co., N.Y.; 1937, process engr.; 1937-42, patent advisor; process engr., 1942; 1943-44, res. engr. Monsanto Chem. Co., Mo.; Ill. Inst. Tech., admin. asst., Inst. Gas Tech., 1944-45; 1946-to date, res. dir., M.A. Hanna Co., Cleveland, O. Dir. of Disco Company. Civilian with U.S.A. A.A., A.C.S., Fel. Inst. Chem.; A.P.I., A.I.M.M.E., Gas Assn., Harvard Club of Cleveland, Chemists' Club, New York. Hobby: photography.

CREMERS, Norbert J. (Bert), v.p., M.A. Div., Wyandotte Chems. Corp., Wyandotte, Mich.; res. 415 Burns Dr., Detr. 14, Mich.

Executive; b. St. Cloud, Minn., August 13, 1903; s. of Anthony J. and Elizabeth (Lehner) Cremers; ed. Northwestern Coll. of Law; priv. tutoring, home study courses; m. Margaret Martin, Nov. 6, 1948; ch.: Barbara Ann, Norbert Willson, Margaret Maryl. Craddock Adv. Agency; serv. mgr., Multicolor Sales Co.; R.E. Agt. (Fla.) sales rep., J.T. Stanley Co.; sales mgr., Merchants Chem. (then affil. with Mich. Alk. Co.) Co., mgr. of distrn., dir. sales, Wyandotte Chems. Corp., v.p. M.A. Div. Mem. Army & Navy Munition Bd., alkali chlorine comm. Clubs: Chem. (N.Y.), Upton, Detroit Athletic, Detr. Sales Execs., Economic (Detroit), The Detroit Club, Beach Grove Golf & Country. Hobby: golf.

CRETCHER, Leonard Harrison, asst. dir., Mellon Inst. of Industrial Research, 4400 5th Ave. (Mellon Inst.), Pittsburgh 13, Pa.; res. Dithridge Apartments, Dithridge St., Pittsburgh 13. Chem.; b. DeGraff, O., July 25, 1888; s. of Harry Donelly and Nancy Black Cretcher; ed. A.B., 1912, U. of Mich., Yale U., Ph.D., 1916; mem.: Phi Lambda Upsilon; m. Frances Hickok, July 10, 1920. U. of Tenn., instr.; Rockefeller Inst. of Medical Research, 1916-18; Captain (C.W.S.) W. W.I.; National Aniline and Chemical Co., 1919-22; Mellon Inst., sr. Fellow, Dept. of Research in pure chem., 1922, hd., dept. of res. in pure chem., 1926; asst. dir., 1931 to present. Res. in hydroxyethyl apocupreine. (pneumonic drug). Author: many books sc. subjects, esp. quinine and hydroxyethyl apocupreine. "Journal for Organic Chemists," Bd. of Editors. Mem.: A.A.A.S. (fellow), A.C.S. (Pittsburgh Award, 1944), Am. Soc. of Biol. Chemists. Officer: faculty, U. of Pittsburgh. Clubs: Authors' (Pittsburgh), University. Hobby: books.

CRETNEY, Robert Wesley, supt., Thermatomic Carbon Co., Sterlington, La.; res. 1707 N. 6th St., Monroe, La.
Supt. of plant for prod. of carbon by thermal decompo. of nat. gas; b. Ridgeway, Wis., Oct. 30, 1898; s. of Thomas Grant and Elizabeth (Arthur) Cretney; ed. U. of Wis., B.S. 1921 in chem. engrg.; m. Beatrice Shear, Oct. 17, 1923; ch.: Wesley Myron, Beatrice Ann, Mary Elizabeth. 1921, cadet gas engr., Western United Gas & Elec. Co., Aurora, Ill.; 1922 constr. engr., same co. but at DuQuoin, Ill.; 1923-45 chem. engr., 1945 to date supt. Thermatomic Carbon Co., Sterlington, La. Mem.: A.I.Ch.E., A.O.A. On bd. of govs. G.B. Cooley Sanatorium; mem. bd. of deacs., The Presbyterian Church of Monroe, La. Grand Master-The Grand Lodge of the State of La., Free and Accepted Masons; Mem.: The Lotus Club (Monroe, La.). Hobby: camellia culture.

CREWSON, George G., chf. engr., Buffalo Electro-Chem. Co., Inc., Station B, Buffalo 7, N.Y.; res. 45 Coolidge Dr., Buffalo (Snyder) 21, N.Y.
Chf. engr.; b. Steubenville, O., June 21, 1887; s. of Grant and Effie (Fisher) Crewson; ed. West Va. U., B.S. M.E.; m. Ada Moon, Sept. 3, 1913; ch.: Allan, Grant, Charles, Effie, Harriet. 1910-12 exper. engr. Eastern Steel Co.; 1912-17, exper. engr. Raesser & Hasslacher Chem. Co.; 1917-21, dev. engr. E.I. du Pont de Nemours; 1921-22, plant mgr. Quigley Co.; 1922-24, proj. engr. Natl. Aniline Chem. Co.; 1924-43, self employed; 1943 to date with Buffalo Electro-Chemical Co.; res. in modernization of processing electrolytic caustic manufacture of hydrogen peroxide and other chemicals; conslt. to chf. of C.W.S. 1943 and Indus. Survey, Germany, 1945. Mem.: A.S.M.E., A.C.S., A.I.Ch.E., E.S., Prof. Engr. Soc. Club: Chemists' (N.Y.). Hobby: photography.

CRISPELL, John P(hillip), tech. asst., Govt. liaison dept., chem. control div., Merck & Co., Inc., Rahway, N.J.; res. 5 Molly Pitcher Court, Red Bank, N.J.
Chem.; b. Wilkes-Barre, Pa., Apr. 23, 1917; s. of Clarence B. and Ethel Crispell; ed. Pa. State Coll., B.S. agribiolchem., June, 1939; U. of Vt., M.S. physiolog. chem., June, 1941; m. Mabel Corinne Clark, June 30, 1941; ch.: Corinne Anne, Judith Ellen, Thomas Walter. Grad. fellow, U. of Vt., Sept., 1939-June, 1941; commissioned officer, 2nd Lt. to Major, C.W.S., A.U.S., July 1, 1941-Feb. 23, 1946; Centaur Div., Sterling Drug, Inc., Feb. 25, 1946-Jan., 1949, asst. chf. chem., then control dir.; Merck & Co., Inc., Feb., 1949 to date, tech. asst. Abstractor, Biol. and Org. Chem. Sections Chemical Abstracts, 1947 to date. Res. toxicity of sulfapyridine; serv. during war yrs. as exec. officer for dept. in C.W.S. Tech. Command, Edgewood Arsenal & for dept. in Special Projects Div., Camp Detrick, Md. Mem.: A.C.S., A.A.A.S., Major, U.S.A.R. Cml.C. Decor.: Am. Defense Serv. M., Am. Campaign M., W.W. II Victory M. Club: Penn. State Alumni Assn. Hobbies: woodworking, photography.

CRITTENDEN, Eugene Dwight, chf. res., The Solvay Process Div., Allied Chem. & Dye Corp., Hopewell, Va.; res. 1762 E. Blvd., Petersburg, Va.
Res. chem.; b. Saline, Mich., May 1, 1898; s. of Allen Dwight and Ella Roxana (Cobb) Crittenden; ed. A.B., Mich. St. Normal Coll., 1919; A.M. Columbia U., 1921; Ph.D. 1922; m. Meltina E. Feldkamp, June 24, 1920; ch.: Eugene Dwight, David Gray. Instr. Columbia U., 1921-23; asst. chem., Fixed Nitrogen Res. Labs., Wash., D.C. 1923-26; res. chem. Atmospheric Nitrogen Corp., Syracuse, N.Y., 1926-31; asst. chf. res. Atmospheric Nitrogen Corp., Solvay Proc. Co., Syracuse, N.Y., Hopewell, Va. 1931-45; chf. res. Solvay Proc. Div., 1945 to date. Res. in Cataly., nitro. fixation; mem.: A.C.S., A.I.C., Phi Lambda Upsilon, Sigma Xi. Hobbies: motor boating, stamp collecting, gardening.

CROCE, Michele, mgr. planning and dev., Certain-teed Prods. Corp., 1230 W. Jackson Blvd., Chicago, Ill.; res. 1210 Central St., Evanston.
Chem.; b. Panni-Foggia, Italy, Feb. 22, 1888; s. of Carl and Matilde Croce; ed. grammar sch., Italy; Worcester Polytech.; U. of Ill., B.S. in chem.; mem.: Cosmopolitan Club; m. Emilienne Gagné, Aug. 11, 1941; ch.: Carl, Elaine. 1913-14, chem., Armour & Co., Chicago; 1914-16, chem. Amer. Tar Prods.; 1916 to date chem., chf. chem., mgr. planning and dev., Certain-teed Prods. Corp.

CROCKER, Ernest C(harlton), sr. chem., Arthur D. Little, Inc., 30 Memorial Dr., Cambridge 42, Mass; res. 40 Lincoln St., Belmont 78, Mass.
Biol. chem.; b. Boston, Mass., June 11, 1888; s. of Joseph Samuel and Margaret M. (Charlton) Crocker; ed. M.I.T., B.S. 1914; m. Frieda Wienold, Dec. 30, 1918; ch.: Ernest Charlton, Jr., Allen C. 1914-15 chem. Columbia Plate Glass Co.; 1915-19 chem., Geo. J. Kelly Co., Lynn, Mass.; 1920-22 res. assoc., Res. Lab. Appl. Chem., M.I.T.; 1922 chem., Dewey & Almy Chem. Co.; 1922 to date chem., Arthur D. Little, Inc.; res. in dev. of system of odor classification; pioneer work on flavor and its determination, and on its description by taste panels. Author: "Flavor," 1945, McGraw-Hill Co. Mem.: A.C.S., Inst. of Food Techs., S.C.C., Wine and Food Soc., Amer. Arbitration Assoc.; (past chmn. of N.E. Sections of A.C.S. and Inst. of Food Techs.). Hobbies: botany, gardening, good eating.

CROCKFORD, Horace Downs, prof. of chem., dept. of chem., U. of N.C., Chapel Hill, N.C.; res. Country Club Rd., Chapel Hill.

Chem. prof.; b. Phila., Pa., Oct. 22, 1898; s. of Harry Ross and Louisa Leutz Crockford; ed. B. S. North Carolina State Coll., Raleigh, N.C., 1920, M.S., U. of N.C., Chapel Hill, N.C., 1923, Ph.D., U. of N.C., 1926; mem.: Alpha Chi Sigma; m. Helen Delamar in 1922; ch.: Edith Louisa, Helen Amanda. Gen. plant wk., F.S. Royster Guano Co., 1920-21; part-time instr., U. of N.C., 1921-26; asst. prof., U. of N.C., 1926-31; assoc. prof., U. of N.C., 1931-39; prof. of chem., U. of N.C., 1929 to present date; summer employment, U.S. Naval Research Lab., 1930-38; U.S. Navy, rank of commander, 1942-45. Res.: electrochem. of aqueous solutions of hydrochloric acid and sulfuric acid in mixed solvents, phase rule studies in aqueous soluts. Thirty sc. papers, princip. in Jl. of Physical Chem. and the Jl. of the A.C.S.: "Fundamentals of Physical Chemistry for Premedical Students," pub. Apr., 1950, co-author: Samuel B. Knight, pub. by John Wiley and Sons. Mem.: A.C.S., Sigma Xi, Naval Inst. Hobbies: gardening, celestial navigation.

CROCKIN, Jerome Monroe, sr. engr., Blaw-Knox Div., P.O. Box 1198, Pittsburgh, Pa.; res. 4628 Bayard St., Pittsburgh 13.
Chem. (process) engr.; b. Portsmouth, Va., 1911; s. of Nathan and Hattie Crockin; ed. Va. Poly. Inst., B.S., Ch.E., 1931; M.I.T. 1931-32; Va. Poly. Inst., M.S. 1941. 1932-35 lab. asst. Hercules Powder Co.; 1935-38 chem., Solvay Process Co.; 1938-39 phys. fel., 1939-40 Ch.E. fel., 1940-41 instr., Va. Poly. Inst.; summer, 1940, mech. engr. draftsman, Wiley & Wilson, Conslt. Engrs.; 1941-42 assoc. prof. Ch.E., Mich. Coll. Min. & Tech.; 1942 to date equipment designer, assoc. process engr., sr. (proj.) engr., Blaw-Knox Div. Mem.: Phi Lambda Upsilon, A.I.Ch.E., A.C.S., N.S.P.E.

CROMWELL, Norman H(enry), prof. of chem., dept. of chem., U. of Nebraska, Lincoln, Nebr.; res. 1135 South 19th St., Lincoln.
Chem. teacher; b. Terre Haute, Ind., Nov. 22, 1913; s. of Henry and Ethyl L. Harkleroade Cromwell; ed. B.S. in chem. engrg. with honors, Rose Polytechnic Inst., 1935, Ph.D., Org. chem., U. of Minnesota, 1939; mem.: Alpha Tau Omega, Alpha Chi Sigma, Gamma Alpha; m. Mary K. Niccum, June 22, 1939. Dev. engr., Commercial Solvents Corp., Terre Haute, Ind., summer, 1935; res. chem., Union Oil Co., Wilmington, Calif., summers 1938-39; instr. in chem., U. of Nebraska, 1939-42; asst. prof., 1942-45; assoc. prof., 1945-48; prof. 1948 to date. Res. in theoretical org. chem., amino carbonyl cmpds., ethylene imines, stereo chem., adsorption spectra, and drugs. Conslt. in the field. Mem.: A.C.S., A.A.A.S., Sigma Xi, Guggenheim Fellow, and Fulbright Research Scholar, 1950-51, U. College, London. Hobby: photography.

CRONK, John Newton, mgr. sales promotion div., Com. Solvents Corp., 17 E. 42nd St., N.Y. 17, N.Y.; res. 44 Lawrence Rd., Scarsdale, N.Y.
Adv.; b. San Francisco, Calif., Apr. 25, 1906; s. of Frank S. and Ruby (Lovinggood) Cronk; ed. Colo. Coll., A.B. 1928; mem.: Phi Delta Theta, Alpha Kappa Psi; m. Marian Truby, Sept. 27, 1928; ch.: David John. 1929-43, Denver Equip. Co., Denver, Colo., adv. dir.; 1943-45, Com. Solvents Corp., Terre Haute, Ind., adv. mgr., 1945 to date, N.Y.C., mgr. sales promot.

CROOKER, Harold Nason, plant mgr., Manhattan Soap Co., Inc., Bristol, Pa.; res. No. Radcliffe St., R.D. 1, Bristol, Pa.
Chem. engr., b. Fairmont, Minn., Oct. 24, 1896; s. of Albion Goodhue and Jennie Alice Nason Crooker; ed. B.A., Carleton Coll., 1918, 2 yrs Post Grad., U. of Minnesota; mem.: Phi Lambda Upsilon; m. Frances M. Dahmen, Sept. 26, 1925; C.W.S., W.W. I, 1918; asst. instr., U. of Minn. (schl. of chem.), 1920-21; training to division supvr., Procter & Gamble, Cincinnati, O., 1921-28; asst. supt. to plant supt., Colgate Palmolive Peet Co., Jersey City, N.J. 1928-44; plant mgr., Manhattan Soap Co., Inc., Bristol, Pa., 1944 to date. Res. in num. depts. of P. & G., and C.P.P. Co. Mem.: Amer. Oil Chemists' Soc. Dir. Bristol Y.M.C.A., Past Pres., Bristol Chamber of Commerce. Club: Rotary. Hobbies: golf, bowling.

CROOKSHANK, H(erman) R(obert), animal nutritionist and biochem., Animal Husbandry Div., Bur. of Animal Industry, U.S. Dept. of Agriculture, Pan Tech Farms, Box 1558, Amarillo, Texas; res. Pan Tech Farms, Rt. 2, Panhandle, Texas.
Res. biochem.; b. Linneus, Linn County, Mo., June 7, 1916; s. of Luther V. and Julia Marie Kirk Crookshank; ed. B.S. Northeast Missouri State Teachers Coll., 1938, M.S., 1940, Ph.D., 1942, in Biochem., State U. of Iowa; m. Grace Bernice Scoggin, Sept. 6, 1946. Graduate asst., State U. of Iowa, 1938-42; nutrition officer, Army of U.S., June, 1942-Jan., 1946; instr. in biochem., Medical Coll. of Alabama, Jan., 1946-Jan., 1949; asst. exec. sec., Amer. Inst. of Biol. Sciences & Division Biol. and Agric. Natl. Research Council, Jan., 1949-Nov., 1949; animal nutritionist & biochem., Animal Husbandry Div., Bur. of Animal Industry, U.S. Dept. of Agriculture, Nov., 1949 to date. Res. in protein metabolism, clinical chem. Mem.: A.C.S., Amer. Inst. of Chemists (fellow), A.A. A.S., Am. Inst. of Biol. Sc., Sigma Xi, Phi Lambda Upsilon, Soc. of Amer. Bacteriologists, Acad. of Sc. (Alabama). Club: Argyle Country (Washington, D.C.). Hobbies: sports, music.

CROSBY, Robert Howell, Jr., v.p. in chg. of Louisiana operations, Crosby Chemicals, Inc., Box 32, DeRidder, Louisiana; res. Bon Ami Rd., DeRidder, Louisiana.
Chem. engr.; b. Picayune, Miss., Oct. 5, 1920; s. of Robert Howell and Ethel V. Crosby; ed. B.S., M.I.T., 1942; mem.: Theta Delta Chi; m. Elizabeth H. Hendricks, June 4, 1944; ch.: Virginia Elizabeth, Margaret Lillian. U.S. Army, June, 1942 to Nov., 1945; v.p. in charge of Louisiana Operations, Crosby Chemicals, Inc., Nov., 1945 to present. Mem.: A.I.Ch.E., A.C.S. Clubs: Coastal Club, Inc., Pioneer Club of Lake Charles, La., Leesville Country. Hobbies: hunting, fishing, golf.

CROSEN, Robert Glenn, dean of faculty, Lafayette Coll., Easton, Pa.; res. 901 McCartney St., Easton.
Schl. admin.; b. Maitland, Mo., s. of John Ulysses and Sarah Elizabeth (Mitchell) Crosen; ed. Tarkio Coll., Tarkio, Mo., B.S. 1923; U. of So. Dakota, M.A. 1925; Columbia U., Ph.D. 1933; mem. Kappa Delta Rho (hon.); m. Alice Gwendolyn Stevenson, Aug. 29, 1925; ch.: Mary Alice, Robert Glenn, Jr., Sarah Elizabeth. 1923-24 asst. in chem., 1924-28 instr. in chem., U. of South Dakota; 1928-29 half-time asst. and instr. (Extens. Dept.) in chem., Columbia; 1929-30 J. Packard Laird Fellow in chem., Columbia; 1931-34 instr. in chem., 1934-38 asst. prof. in chem., 1938, assoc. prof., 1941 acting dean, 1943 dean of coll., 1946 to date dean of faculty, Lafayette Coll. Notable work: dissertation: "The Dev. of a New Spectrographic Meth. of Quantitative Chem. Anal. and its Appl. to the Determ. of Chromium in Certain Human Tumors," 1933; also contrib. sev. arts. to sc. jls. Mem.: Sigma Xi, Phi Lambda Upsilon (chapt. pres. 1930-31); A.C.S., sec.-treas. and vice-chmn., Middle States Assoc. of Deans and Advisers of Men, A. A.U.P., Lehigh Valley Section. On bd. of dirs. Family Serv. Bd. of Easton; v.p. 1946 and pres. 1947, Easton Community Chest Bd. Clubs: Northwest Lodge No. 358 A.F. & A.M. (Missouri),

Faculty Club of Lafayette Coll., Torch Club of Lehigh Valley. Hobby: photography.

CROSS, Raymond B., mgr., catalyst mfg. div., Houdry Proc. Corp., Paulsboro, N.J.; res. 303 W. Mantua Ave., Wenonah, N.J.
Chem. engr.; b. Clintonville, Pa., May 24, 1911; s. of William L. and Dosca (Pierce) Cross; ed. U. of Detroit, 1929-32; Grove City Coll., 1932-34, B.Sc.; mem.: Pan Sophic (local-Grove City Coll.); m. Martha M. Carswell, Nov. 2, 1940; ch.: David L., Julia A. 1934-36 lab. tech., Sun Oil Co., Marcus Hook, Pa.; 1936-40 dev. engr. Houdry Proc. Corp., Marcus Hook, Pa.; 1940-44 chf. chem., same corp. but at Paulsboro, N.J.; 1944-49 plant supt. same corp.; 1949 to present mgr. Catalyst Mfg. Div. same corp.; assisted in dev. of first commercial synth. catalyst for use in cat. cracking of petroleum; assisted in placing in successful operation, first plant for com. mfr. of synth. cat. Hobby: sports.

CROSS, Robert John, Nutritional Res. Associates, Inc., S. Whitley, Ind.; res. 503 Main St., S. Whitley.
Chem. engr.; b. Fresno, Calif., Nov. 7, 1884; s. of Thomas and Elizabeth (McIntosh) Cross; ed. Stanford U., A.B. 1911, A.M. 1920, Sigma Xi; m. Pearl L. Bingham, Jan. 1, 1931; ch.: Donald Robert. Chem., engr., Calif. Prods. Co., 1913-17; fellow Mellon Inst. of Ind. Res., 1917-19; Sperry Flour & Lionel Lennox Fellowships 1920-22; Calif. Almond Growers' Exchange 1923-24; Am. Smelting & Refining Co., 1923-28; S.M.A. Corp., Cleveland, Ohio, 1928-39; Nutritional Res. Associates, S. Whitley, Ind., 1941 to date. Determination of small concentrations of sulphur dioxide in amino acid distrb. of proteins in wheat flours. Mem.: A.I.C. Club: Lions. Hobbies: travel, mechanics.

CROSS, Walter Martin, Jr., pres., Kansas City Testing Lab., 700 Baltimore, Kansas City, Mo.; res. 6405 Wenonga Rd., Kansas City.
Chem., engr.; b. Kansas City, Mo., Jan. 11, 1904; s. of Walter Martin and Anne H. (Forbes) Cross; ed. U. of Kan.; Cornell U.; Mo. U. A.B., chem. major. math. minor; mem.: Sigma Chi; m. Mary Borders, Feb. 5, 1927; ch.: Mallory Forbes, Sarah Carolyn, Ann Borders. Building matls. inspection & various lab. dev., summers & yrs. prior to grad. from coll.; 2 yrs. gen. chem. & engrg. & practical wk. after grad. 1927-29; 1928-31, secy., gen. mgr., Cross Coal-O-Matic Co., mfrs. of small & medium sized under-feed coal stokers; 1932-33, supervisory engr., Butler Mfg. Co., Kansas City, Mo., in stoker dept.; 1933-35, secy.-treas., asst. mgr., Silica Prods. Co., which co. patented various uses for bentonite for oil well drilling, concrete & mixtures, also did wk. on various types of res. for new uses of bentonite; 1936 to date, secy.-treas., Kansas City Testing Lab., Kansas City, Mo., during this period directed operations of lab. as to gen. chem. testing wk. on all kinds of bldg. matls., inspection & construction wk., during period continuously did res. wk. in chg. of the lab. res. & dev. dept. Dev. process for solut. mining potassium chloride from underground formations, also dev. water-proofing cmpds. for paper & the like; dev. pats. on the secondary recovery of oil; dev. many new prods. from base pet., designed & built various pet. refining units, obtained pats. on various types of insecticidal chem. cmpds.; dev. an insecticidal paint to prevent confused flour beedle infestation of freight cars; during period formed Continental Potash Co., 1946, and built first power plant to test the possibility of dissolving potash from its formations in New Mexico by means of circulating brines into wells drilled from the surface, made extens. surveys of potential use of potash in U.S.; during war period, conslt. on many war plants & made surveys of natural gas resources in Panhandle, Texas & Hugaton, Kan. gas flds.; co-operated in prod. of oil from secondary flds. in southeastern Kan.; dev. oil well drilling muds such as Zeogel; dev. pipe line coating & wrapping matls. Cross-O-Matic Co. (secy.-treas.); Mid-Continent Investment Co. (secy.-treas.); Continental Potash Co. (pres.); John Lindas Oil Co. (dir.). Trustee, Mid-West Res. Inst., Kansas City, Mo.; mem.: bd. of dir., U. of Kan. Res. Foundation. Clubs: Kansas City, University, River, Saddle & Sirloin, Riverside (Carlsbad, New Mexico). Hobbies: Airplane flying, aerial navigation, meteorology, gardening.

CROSSLEY, Arthur Webster, treas., Diamond Alkali Co., 300 Union Com. Bldg., Cleveland 14, Ohio; res. 1102 Hereford Rd., Cleveland Heights 12.
Engr., atty.; b. Somerset, Colo., Dec. 16, 1908; s. of George L. and Sara E. (Jowett) Crossley; ed. Franklin Inst., 1928, B.S. Ch.E.; Southeastern U., 1940, L.L.M., B.C.S.; m. Margaret M. Neu, Oct. 15, 1932; ch.: Anne J., Jane E., Susan M. 1928-30, res. dept., Dennison Mfg. Co.; 1930-33, staff engr., Wash. Gas Lt. Co.; 1933-40, engr., chf. engr., dir. public wks., Govt. Dist. of Col.; 1940-48 (except war serv.), asst. gen. mgr., Potomac Elec. Power Co.; 1942-45, Capt. to Col., U.S.A.; Legion of Merit with Oak Leaf Cluster; 1948 to date, treas., Diamond Alkali Co. Exec. secy., D.C. Natl. Foundation Infantile Paralysis, 1940-47. Mem.: Wash. Society of Engrs. Clubs: Army-Navy (Wash., D.C.), Cleveland Athletic, Cleveland Treasurers'.

CROSSLEY, M(oses) L(everock), res. conslt., hon. res. specialist, Bur. Biol. Res., Rutgers U.; res. Plainfield, N.J.
Res. conslt.; b. Saba Island, Dutch West Indies, (Amer. parents), July 3, 1884; s. of John George Everet and Frances Antoinette (Johnson) Crossley; ed. Ph.B., Brown U., 1909; Sc.M., 1910; Ph.D., 1911; m. Elise Emeline McCausland, Jan. 1, 1914; ch.: Evan McCausland. Instr. chem., Brown U., 1909-11; assoc. prof. chem., William Jewell Coll., Liberty, Mo., 1911-13; assoc. prof. chem., Wesleyan U., Middletown, Conn., 1913-14, hd. of dept., 1914-18; chf. chem., Calco Chem. Co., Bound Brook, N.J., 1918-36; res. dir., 1936-39; dir. of res., Calco Chem. Div., Amer. Cyanamid Co., Bound Brook, N.J., 1939-41; a res. dir., Amer. Cyanamid Co., 1941-49; res. conslt., 1949 to date; hon. res. specialist, Bur. Biol. Res., Rutgers U., 1950 to date. Collab. in Chemistry in Industry, 1925; contrib. chapt. to Natl. Res. Council's Annual Survey of Amer. Chem., 1930, 1931; many pubs. on sc. and educational subjects; pats. on intermediates, dyes and medicinals. Mem.: A.I.C. (pres. 1924-26; 1934-36; trustee); A.C.S., S.C.I., A.A.A.S., Soc. Arts and Sciences, of New York, fellow, N.Y. Acdy. Scs., Chemical Soc. (London), Faraday Soc. (London), Plainfield Art Assoc., Sigma Xi, Sigma Nu, Alpha Chi Sigma, pres. of N.Y. Acdy. Scs., 1950; awarded Brown "Bear" 1940; hon. D.Sc., Brown U., 1944; hon. D.Sc. Wesleyan, 1947; Gold Medal, A.I.C., 1947. Clubs: Chemists', Brown U. (N.Y.), Plainfield Nature, East Chop Country, Vineyard Haven Yacht.

CROSWELL, Volney Robbins, Sr., mgr. of safety, Naval Stores Div., Hercules Powder Co., Wilmington, Del.; res. 503 River Rd., Wilmington.
Chem. engr.; b. Streator, Ill., Sept. 10, 1887; s. of Albert Church and Josephine (Robbins) Croswell; ed. U. of Mich., B.Ch.E., 1911; m. Muriel Johns Smith, Oct. 12, 1921; ch.: Volney R. Jr., John A. Corn Prods. Refg. Co., 1911; du Pont Powder Co., then Hercules Powder Co. to date, in lab. wk., dynamite, acid and T.N.T. mfr., in chg. res. and dev. wk. in connec. with plant prob-

lems in Naval Stores Div.; mgr. Mississippi operations; gen. supt. Paper Makers Chem. Div.; now mgr. of safety, Naval Stores Div., Hercules Pwdr. Co. Mem.: A.I.Ch.E., Amer. Soc. Safety Engrs.

CROUT, John Shaw, asst. to dir., Battelle Inst., Columbus, O.; res. 1810 Waltham Rd., Columbus.
Engr.; b. Olney, Ill., July 5, 1899; s. of Norman and Elizabeth Crout; ed. Oregon State Coll., Corvallis, Oregon, B.S. 1923; mem.: Sigma Nu; m. Georgia Jacobs, Sept. 3, 1925; ch.: John Richard, Norman George. 1923-28 with Cities Serv. Co.; 1928-30 with Jantzen Knitting Mills; 1930-35 with Nat. Gas Pipeline Co.; 1936-41 with Interlake Iron Corp.; 1941 to date asst. to dir., Battelle Inst. Mem.: A.C.S., A.I.M.M.E. Trustee, Children's Hosp., Columbus, O. Clubs: Rotary (Columbus), Chamber of Commerce (Columbus).

CROWE, J.R., sales mgr., textile detergents & finishes dept., Procter & Gamble, Gwynne Bldg., Cincinnati 1, O.; res. 204 Elm Ave., Wyoming (15), O.
Textile chem.; b. Lowell, Mass.; s. of Martin J. and Katherine E. Crowe; ed. Lowell Textile Inst., Lowell, Mass. (B.T.C.); mem.: Phi Psi, Tau Epsilon Sigma; m. Agnes Breitfelder, Sept. 26, 1929; ch.: Michelle M., Lois A., Joseph B. Jr., Martin W. Asst. to pres., Kapo-Trio Dye Wks. Paterson, N.J.; dir. laundry & textile research depts., Procter & Gamble. Mem.: A.C.S., Amer. Assn. of Textile Chemists & Colorists. Clubs: Wyoming Golf, Civic Center (Wyoming). Hobbies: golf, music.

CROWELL, Charles Carlos, v.p., Rulane Gas Co., Box 29, Thrift Rd., Charlotte, N.C.; res. 618 N. Aspen St., Lincolnton, N.C.
V.p.; b. Catawba Co., N.C., Feb. 12, 1900; s. of Henry E. and Susie Houser Crowell; ed. Lincolnton, N.C. High Schl., Jr. Rhyne Coll., Hickory, N.C.; m. Mamie Lineberger, Jan. 18, 1922; ch.: Emily Sue, Charles Carlos, Jr., Doris Leigh, Nancy Jane. 1916-17 grocery clerk, Lincolnton, N.C.; 1918-35 hardware clerk; 1936 to date Rulane Gas Co., Charlotte, N.C., v.p., distr. of liquid. pet., gas, appliances. V.p. follow. cos.: Gas & Appliance Dist. Inc.; Charlotte Tank Co.; Palmetto Rulane Co.; Piedmont Rulane Co.; Tenn. Rulane Co.; Rulane Gas Serv.; Rulane Engr. & Serv. Corp.; Carolina Rulane Co.; Port City Rulane Co.; Tobacco Belt Rulane Co.; Morion Rulane Co. Hobbies: fishing, hunting, football.

CROWELL, J(oyce) H(omer), sec. chf., Bur. of Mines, 4800 Forbes St., Pitts., Pa.; res. 317 E. End Ave., Pitts.
Chem. engr., chem.; b. Monroe Co., Iowa, Dec. 8, 1889; s. of David G. and Mary E. Crowell; ed. B.A., Iowa, 1916, M.S. 1919; Ph.D., Columbia, 1930; m. Ivy Langley 1920; ch.: Dorothy A., Charles D. Instr. in chem., 1916-19, State U. of Iowa; res. chem., Natl. Aniline Div., 1919-28; group leader, Selden Div., Am. Cyanamid, 1930-34; sr. res. chem., Natl. Aniline Div., 1934-44; sec. chf., U.S. Bur. of Mines, Pitts., 1944 to date. Dev. wk. on the Fischer-Tropsch process for syn. liquid fuels from hydrogen & carbon monoxide. Mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, Gamma Alpha. Hobbies: music, mathematics.

CROWELL, William Ransom, prof. emeritus, chem. dept., U.C.L.A.; res. 1717 Kelton Ave., Los Angeles 24, Calif.
Prof. emeritus; b. Bernardston, Mass., June 2, 1879; ed. M.I.T., S.B. 1904; Columbia, M.A. 1915, Ph.D. 1916; m. Madeline L. Libert, June 28, 1920; ch.: 1 dau. M.I.T., asst. phys. 1905; Boston Edison Co., 1906-08; Pa. State, instr. phys. 1908; Douglas, Ariz. H.S., principal, 1908-11; Polytech. H.S., 1912-14, 1916-19; U. Calif., asst. prof. chem., 1919-29; assoc. prof., 1929-39; prof., 1939 until retirement. Coast Art., U.S.A. 1918. Res. on osmium and ruthenium. Mem.: A.C.S., Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma. Hobbies: music, hiking.

CROWLEY, Clyde Aubrey, chmn. bd., Graham, Crowley & Assocs., Inc., 341 E. Ohio St., Chicago 11, Ill.; res. 929 Sheridan Rd., Wilmette, Ill.
Res. chem.; b. Ray Co., Mo., June 25, 1902; s. of Claiborn Jackson and Onie Lee (Carter) Crowley; ed. Chicago Tech. Coll., B.S. E.E. 1934; Loyola U. (Chicago), M.S. 1936; Ph.D. 1940; mem.: Lambda Chi Alpha, Alpha Kappa Psi, Tau Kappa Alpha, Lambda Chi Sigma; m. Jeannette Barkuloo, 1927; ch.: Jean Lee, James Thomas. Teach. physics & tech. subjs., Chicago Publ. High Schs.; conslt. engr. 16 yrs.; pres., Tech. Serv. Bur., Inc. 1934 to date; pres. Midcontinent Chems. Corp., 1937 to date; chmn. bd., Graham, Crowley & Assocs., Inc. 1944 to date; pres. Crowley Inman Corp. 1948 to date. Tech. Serv. Bur., Inc. (pres., dir.); Midcontinent Chems. Corp. (pres., dir.); Crowley Inman Corp., (pres., dir.). Wartime Activities (on leave from other duties); U.S. Bur. Mines, spec. conslt. (1t. metls.) 1942-43; Foreign Economic Adm., sc. conslt. (foreign serv., Germany) latter part 1945. Num. patents in photochem., paper process., electrochem.; Contrib. extens. to sc. and tech. jls.; mem.: A.C.S. (local membership comm. 1938, comm. lic. chems. 1938-40); E.S. (natl. chmn. mem. comm. 1939-41, chmn., Chicago Sect. 1937-38; mem. Bd. Dirs. of Natl. Soc. 1941-43; chmn., Electro-organ. Div. 1948-50); Western Soc. Engrs., S.A.E. (local membership comm. 1938, mem. comm. 1941-42), A.I.C. (fellow), Soc. Am. Military Engrs. (Chicago Post), A.C.C.C.E. (mem. bd. dirs. 1940-42; A.S.T.M., Army Ordn. Assn., A.A.A.S., Ill. Soc. Engrs.; v.p., dir. Chicago Tech. Socs. Council, present or past off. of numerous professional, learned socs.; Clubs: Union League (Chicago), Chem. (N.Y.), Cosmos (Wash., D.C.), Chicago Engrs., Chicago Chems., Svithoid Singing (Chicago). Hobbies: golf, photography.

CROWTHER, John Frederick, dir., eastern res. div., Stauffer Chem. Co., Chauncey, N.Y.; res. Old Greenwich, Conn. (384 Sound Beach Ave.).
Res. dir.; b. Osage City, Kans.; s. of Maurice L. and Beatrice L. Crowther; ed. M.I.T., B.S. Chem. Engr. 1932; mem.: Beta Theta Pi, Pi Delta Epsilon, Scabbard & Blade; m. Nancy Parent, 1937; ch.: Beverly Constance, John Jackson, Prudence Parent. Marathon Paper Mills Co., Wausau, Wis., 1932-33 res. chem.; Shell Pet. Corp., Wood River, Ill., St. Louis, Mo., Ark. City, Kans. 1933-36, ref. tech.; M.W. Kellogg Co., N.Y.C., 1936-42 proc. engr., patent solicitor; U.S.A., Capt., Major, C.W.S. Hdqs., 8th Air Force, ETO, 1942-44, Pentagon Bldg.; Hq. 20th A.F. 1945, now Lt. Col. U.S.A.F. Reserve; Stauffer Chem. Co., Chauncey, N.Y., 1945 to date. Reg. to practice as patent agent, 1940; U.S. Patents; Article, "Chem. Engr. Sr. as a Freshman in the Heavy Chem. Indust.," May, 1950 Jl. Engr. Educ. Mem.: A.C.S., A.I. Ch.E. Club: Chem. (N.Y.C.). Hobbies: electronics, outboard boating, fishing.

CROXTON, Frank Cutshaw, asst. dir., Battelle Mem. Inst., Columbus 1, Ohio; res. 1921 Collingswood Rd., Columbus 12.
Chem. res. dir.; b. Wash., D.C., June 26, 1907; s. of Fred C. and Martha Stocks Croxton; ed. Ohio St. U., B.A. 1927; M.A. 1928; Ph.D. 1930; mem.: Delta Chi; m. Mary Louise Remley, Sept. 1, 1930; ch.: Martha Jane, Rebecca. Stand. Oil Co. (Ind.), res. chem. 1930-39; Battelle Mem. Inst. 1939; asst. dir., 1947 to date. Res. in lubricant

ref., cataly. cracking, indust., govern., sponsored chem., chem. engr. res.; mem.: Sigma Xi, Phi Lambda Upsilon. Club: Chem. (N.Y.). Hobbies: gardening, photography, travel.

CRUESS, William Vere, prof. of food tech. & biochem. in expt. station, U. of Calif., 339 Hilgard Hall, Berkeley, Calif.; res. 951 Cragmont Ave., Berkeley.
Teaching, res.; b. San Miguel, Calif., Aug. 9, 1886; s. of W.V. and Lucy M. (Withrow) Cruess; ed. U. of Calif., B.S. 1911; Stanford, Ph.D. 1931; mem.: Sigma Phi; m. Marie Gleason, June 4, 1917. Res. asst. in zymology 1911, asst. prof. 1914, assoc. prof. 1918, prof. of food tech. 1934 to date, U. of Calif. Composition of Calif. grapes; chem. changes during wine making; properties of oxidizing enzymes of fruits & vegetables; chem. of bitter principle of olives; metabolism of sherry yeasts; chem. of olive pickling. Author: "Com. Fruit & Veg. Prods." 1924, revised 1938, 1948; "Principles & Practice of Wine Making" 1934, res. 1948; "Lab. Manual of Fruit Prods." 1925; many university bulletins & journal papers on food res. Mem.: A.C.S., Soc. Am. Bact., I.F.T., Am. Soc. Hort. Sc., Soc. Plant Physiol., Sigma Xi, Phi Lambda Upsilon, Alpha Zeta. Officier du Merite Agricole (France). Club: Faculty (U. of Calif.). Hobbies: farming, fishing, 35 mm. photography.

CRUMPLER, Thomas Bigelow, prof., hd. of chem. dept., Tulane U., New Orleans 18, La.; res. 318A Walnut St., New Orleans 18.
Tchr. of chem.; b. Louisa, Kentucky, July 20, 1909; s. of Thomas Reeves and Elizabeth (Jones) Crumpler; ed. Va. Polytech. Inst., B.S. 1931, M.S. 1932; U. of Va. Ph.D. 1936; mem.: Alpha Chi Sigma; 1936-37 part-time instr., U. of Va.; 1937-40 instr. in chem., 1940-42 asst. prof. of chem.; 1942-43 assoc. prof. of chem., 1943 to date prof. and hd. of dept. of chem., Tulane U.; notable work: publications in natl. chem. jls. on anal. and inorg. chem. Co-author: (with J.H. Yoe), "Chem. Computations and Errors," John Wiley & Sons, 1940. Mem.: A.C.S., Sigma Xi. Vestryman and music chmn. Chris Church Cathedral, New Orleans. Hobbies: high-fidelity sonics; cabinet making.

CRUSE, William Thomas, exec. v.p., The Soc. of The Plastics Ind., Inc., 295 Madison Ave., N.Y. 17.; res. 20 Fifth Ave., New York 17.
Exec. v.p.; b. Helena, Mont., s. of William Joseph and Carolyn (Bennighoff) Cruse; ed. U. of Pa., B.S. in Econ., 1927; m. Marjorie Wright, 1939; 1936-40, sales dir., Celluloid Corp., New York, N.Y.; 1940-41, editor, Modern Plastics Mag., New York, N.Y.; exec. v.p. The Soc. of The Plastics Ind., Inc. 1941 to date. Mem.: Quartermaster Advisory Bd., secy of the John Wesley Hyatt Award. Club: Huntington Crescent (Long Island).

CRYDER, Donald Stevens, hd. dept. chem. engrg., Pa. State Coll., State College, Pa.; res. 721 N. Holmes St., State College.
Tchr.; b. Tyrone, Pa., Nov. 29, 1891; s. of Mahlon and Mary (Cramer) Cryder; ed. Pa. State, B.S., 1920; M.S., 1923; M.S., M.I.T., 1929; D.Sc., 1930; mem.: Sigma Xi, Phi Lambda Upsilon, Sigma Tau, Phi Kappa Phi, Acacia; m. Ruth Strom, June, 1934; ch.: Ralph, Paul Maurice. Pa. State Coll., instr. chem., 1920-23; asst. prof. chem., 1923-30; assoc. prof. chem. engrg., 1930-35; prof. chem. engrg., 1935-48; hd. dept. chem. engrg., 1948 to date. Catalysis, heat transmission, absorption, distillation. Mem.: A.C.S., A.I.Ch.E., A.A.U.P. Club: University (State College). Hobby: fishing.

CUDD, Herschel H(erbert), hd. chem. sc. div., Engr. Experiment Sta., Georgia Inst. of Tech., Atlanta, Ga.; res. 2667 Elwood Dr., N.E., Atlanta.
Res. chem.; b. Memphis, Tex., July 29, 1912; s. of Joseph N. and Mary Lou (Tatum) Cudd; ed. Texas Coll. of Arts and Indus., 1929-33 B.A. (summa cum laude); U. of Texas, M.A. 1936, Ph.D. 1941; mem.: Phi Lambda Upsilon and Sigma Xi; m. Martha Maxine Agan, Aug. 7, 1933; ch.: Martha Joy, Herschel H., Jr. 1933-34 tchr. pub. schls. of Corpus Christi, Tex.; 1934-37 tutor and instr., Dept. of Chem., U. of Tex., 1937-39, Texas Liquor Contr. Bd. chem.; 1939-40 instr. U. of Tex.; 1940-41 chem., Tex. Liquor Contr. Bd.; 1941-42 res. chem. E.I. du Pont de Nemours; 1942-46 supvr. of inorg. res., Internat. Minerals and Chem. Corp.; 1946-50 res. engr., dir. Lantuck Div., West Point Mfg. Co. 1950 hd. chem. Scs. div., Engr. Experiment Sta., Georgia Inst. of Tech.; res. and pubs. (incl. patents) in inorg. chem., high polymers and textiles. Mem.: A.C.S., A.I.Ch.E. Hobbies: sports, gardening.

CULBERTSON, Clyde Gray, dir. biolog. res. div., Lilly Res. Labs., Eli Lilly & Co., Indianapolis 6, Ind.; res. 6060 Park Ave., Indianapolis 20.
Pathologist; b. Vevay, Ind., July 27, 1903; s. of Carl S. and Mary Ann (Gray) Culbertson; ed. Vevay H.S., 1923; Ind. U., B.S. 1928; Ind. U. Schl. of Medicine, M.D. 1931; m. Margaret O'Neil, June 25, 1931. Ind. U. Schl. of Med., inst. pathology, 1931-33, asst. prof. clin. path. 1933-42, prof. clin. path. 1934 to date; Eli Lilly & Co., res. assoc. 1946-48, asst. dir. biol. res. 1948-June, 1949, dir. biol. res. div. 1949 to date; dir. of lab., State Bd. of Health, 1933-46; dir., Blood Donor Serv., Am. Red Cross, 1941-45. Mem.: Alpha Omega Alpha. Award: Distinguished Serv., Jr. Chamber of Com. Club: Athenaeum Turners.

CULBERTSON, James Bernard, prof. of chem., Cornell Coll., Mt. Vernon, Iowa; res. 309 Fifth Ave. S., Mt. Vernon, Iowa.
Tchr. of chem.; b. Vandalia, Mo., Feb. 11, 1892; s. of Albert B. and Elizabeth H. Culbertson; ed. Central Coll. (Mo.), A.B. 1913; U. of Chicago, M.S. 1917, Ph.D. 1927; mem. Sigma Phi Epsilon, Sigma Xi, Phi Beta Kappa (hon.); m. Edith M. Combs, June 28, 1919; ch.: Anne (Mrs. Charles E. Harris); Helen (Mrs. T.R. Anderson). Tchr. high school, Mexico, Mo.; military serv. C.W.S.; instr. in chem. Med. Schl. Emory U., Atlanta, Ga.; Riverside H.S., Milwaukee, Wis.; chem. Morris & Co., Chicago; prof. of Chem. Iowa Wesleyan Coll., Mt. Pleasant, Iowa; prof. of chem. Cornell Coll. Mt. Vernon, Iowa, 1928 to date; res. in relation of structure to hydrolysis rates of ketimines, res. chem. du Pont Co. 1944-45. Mem.: A.C.S., Iowa Acad. of Sc. (pres. 1949-50), A.A.A.S. Club: Lions. Hobbies: gardening, fishing.

CULBERTSON, Julian L., chmn., dept. chem., St. Coll. Wash., Pullman, Wash.; res. 415 Dexter St.
Teach.; b. Vevay, Ind., Oct. 9, 1895; s. of Edgar and Estella (Van Buren) Culbertson; ed. A.B. Hanover Coll. 1917; M.A., Ind. U., 1918; D.Sc., U. Mich., 1933; mem.: Phi Gamma Delta; m. Lucia Cruft, Aug. 25, 1920; ch.: Doris Jean (Mrs. J.L. Bakke), Philip Edgar. Chem., Hercules Powder Co., Nitro, W.Va., 1918-19; instr., St. Coll. Wash., 1920-23; asst. prof., 1923-36; assoc. prof., 1936-40; prof., 1940 to date; visit. prof., Columbia U., N.Y., 1944-45; res. sc., Columbia U., S.A.M. Labs., 1944-45; chmn., dept. chem., St. Coll. Wash. 1947 to date; Res. in colloid, and surface chem., electrochem. Contrib. extens. to sc. and tech. jls. Mem.: Sigma Xi, A.C.S.

CULHANE, Paul J(ohn), patent atty., 7128 du Pont Bldg., Wilmington, Del.; res. 1404 Woodlawn Ave.

Patent atty.; b. Chicago, Ill., June 24, 1899; s. of Martin H. and Bridget Ann (O'Mahony) Culhane; ed. A.B. Loyola, 1920; S.B. M.I.T., 1923; M.S. Northwestern, 1924; Ph.D. 1928; LL.B. Temple 1932; mem.: Alpha Chi Sigma, Phi Lambda Upsilon; m. Helen Prentiss, July 8, 1937; ch.: Paul J., Jr. Res. fellow, asst., instr. Northwestern 1923-27; hd. Intelligence Div. Chem. Dept., du Pont Co., 1928-31; patent sect. chem. dept. 1931-33; patent atty., legal dept. 1933 to date; mem.: Am. Patent Law Assn., Phila. Patent Law Assn., Del. St. Bar Assn., A.C.S.

CULLIGAN, Emmett J., chmn. of the bd., Culligan Zeolite Co., Northbrook, Ill.; res. 3435 Hillhurst Dr., San Bernardino, Calif.
Inventor, author, manuf.; b. Yankton, S.D., Mar. 5, 1893; s. of John and Mary Courtney Culligan; ed. Coll. of St. Thomas, St. Paul, Minn., 1907-13; m. Anna Harrington, Dec. 30, 1919; ch.: Mary Caterina, Catherine Driessen, Thomas Culligan, Anna-Marie Aamodt, Jude Culligan, John Culligan, Gerald Culligan. 1913-20, farmer; 1921-23, Wayne Pump Co., Ft. Wayne, Ind.; 1923, owner Twin City Water Softener Co., St. Paul, Minn.; 1927, owner Ariz. Minerals Corp., Yuma, Ariz.; 1935 to date, founder and owner Culligan Zeolite Co., Northbrook, Ill. Author: "Life Begins with Marriage," 1934; "Water," 1949-50. Knighted: Jan. 17, 1949, Order St. Gregory the Great (Papal).

CUMMINGS, Jack Edward, chf. chem., Central Mills, Inc., Dundridge, Ohio; res. 210 S. College Dr., Bowling Green, O.
Chem.; b. Dunkirk, Ohio, Dec. 25, 1917; s. of James M. and Irene F. Cummings; ed. Defiance Coll., B.S. 1939; Ohio State U. 1939-40 grad. work; Toledo U. 1949 grad. work; mem.: Kappa Sigma Kappa; m. Betty J. Switzer, June 10, 1940; ch.: Linda Lou. 1940-42 chf. chem. Alfalfa Mill; 1942-45 U.S.A.; 1945-47 grain merchant; 1947 to date chf. chem. Central Mills, Inc. Mem.: A.O.A.C., A.O.C.S., Cincinnati Sect., A.A.C.C., Natl. Farm Chemurgic Council, F. & A.M.

CUMMINGS, Leland Wilson Thomas, chf. process engr., Sun Oil Co., 1608 Walnut St., Phila. 3, Pa.; res. 204 Hewett Rd., Wyncote, Pa.
Chem. engr.; b. Syracuse, N.Y., Jan. 1, 1909; s. of Leland Edward and Anna (Jordan) Cummings; ed. M.I.T., S.B. 1926, S.M. 1931, Sc.D. 1933; mem.: Sigma Nu, Beaver Club, Osirus; m. Loretto Jordan, July 3, 1928; ch.: Leland W.T. Jr., Coleman Jordan. Res. asst., dept. chem. engrg., M.I.T. 1928-29, divisional dir. res. lab. app. chem. 1929-33; consltg. chem. engr., Dept. Public Health, Mass. State, 1932-33; chem. engr., Sun Oil Co., 1933-45, chf. process engr. 1945 to date. Thermodynamic properties of hydrocarbons, behavior of hydrocarbon mixtures in critical region, high pressure rectification, catalytic hydrocarbon reactions publ. in Ind. & Eng. Chem. U.S. Pats. Mem.: A.I.Ch.E., Franklin Inst., Am. Pet. Inst., Registered Prof. Engr. State of Pa. Hobbies: bldg. construct. (domestic), horticulture, music.

CUMMINS, Arthur B(enson), mgr., minerals, magnesia, asphalt res., Johns Manville Corp., Manville, N.J.; res. Cedar Crest Rd., Bound Brook, N.J.
Ind. res., chem. engr.; b. Los Angeles, Calif., June 6, 1895; s. of L.C. and Anna Lancaster Cummins; ed. B.Sc. 1920, U. Chicago (dept. hons.); Ph.D. 1926 U. Calif.; mem.: Acadia; m. Teresa H. Holloway, Aug. 14, 1940; ch.: Arthur B., Jr., Edgar John. Asst. chem., U. Calif. 1921-24; chem., chem. engr., Celite Co. 1925-29; mgr., Celite res., Johns-Manville, 1930-43; res. supvr., 1944-48; res. mgr., 1948 to date. Res. in chem. of silicates, non-metallic minerals, diatomite, asbestos, filtration, mineral fillers, heat insul., magnesia, ind. res. Author: "Filtration" in Weissberg, "Technique of Org. Chem."; monography on "Diatomite" (in press); mem.: A.C.S., A.I.Ch.E., A.I.M.E., A.S.T.M., A.A.A.S., Am. Ceramic Soc., Min. Soc. Am. Er.; Club: Chem. (N.Y.). Hobbies: Californiana, diatoms, natural history, books.

CUNNINGHAM, George Lewis, assoc. prof. U. of Cincinnati, U. of Cincin. Applied Sc. Lab.; res. Hotel Metropole, Cincinnati.
Prof. of chem., chem. conslt.; b. Spartanburg, S.C., Aug. 3, 1905; s. of Edward Joseph and Martha Eloise Cunningham; ed. U. of S.C., A.B. (magna cum laude) 1927; U. of Va., Ph.D. 1930; mem.: Alpha Chi Sigma, Sigma Xi. 1930-39 res. chem. Mathieson Alkali Wks., Inc.; 1939-42 mgr. tech. serv. Pittsburgh Plate Glass Co. (Columbia Chem. Div.); 1942 confidential mission to Europe; 1942-43 asst. dir. res. Diamond Alkali Co.; 1943-46 exec. Allied Chem. and Dye Corp.; 1946 to date chem. conslt.; 1947-48 tech. dir. Commonwealth Engr.; 1949 to date assoc. prof. U. of Cincinnati; 1927-30 instr. of chem., U. of Va.; invented many processes relating to alkalies, chlorine, chlorine dioxide, sodium methylate, and related chems. Developed new type storage battery. Worked out process used in huge hypochlorite plant erected during war. Mem.: A.C.S., A.A.A.S. N.Y. Acad. of Sc., A.A.U.P., Va. Acad. of Sc., The Electrons, T.A.P.P.I. Hobbies: books, tennis, hiking, sports.

CUNNINGHAM, John J., dev. engr., U. of Chicago; res. 6046 S. Woodlawn, Chicago, Illinois.
Chem. engr.; b. Kennett, Mo., Jan. 14, 1910; s. of John J. and Marie Jane (Browning) Cunningham; ed. S.E. Mo. State Teachers Coll., 1926-28; Georgia Inst. Tech., 1928-30; mem.: Sigma Nu; m. Marian Rose, Sept. 21, 1935; ch.: Richard John, Ann Mary, Thomas Browning, William Beverly. Held following positions with Monsanto Chemical, St. Louis, Mo., asst. chem.; 1934-42, St. Louis, operating supvr.; 1942-43, Karnack, Texas, operating supt.; 1943-44, Texas City, Texas, Dev. supt; 1944-50, Office of Rubber Reserve, Wash., D.C., res. & dev. div., chf. polymer dev. branch; 1950 to present, U. of Chicago, Chicago, Ill., dev. engr. Mem.: A.I.ChE., A.C.S. Club: Chemical Engineers (Washington, D.C.). Hobbies: golf, bridge.

CUNNINGHAM, Raymond W., dir. phar. res., Lederle Labs. Div., Amer. Cyanamid Co., Pearl River, N.Y.; res. 165 Forest Ave., Pearl River.
Pharmacologist; b. Antelope County, Nebr., Mar. 14, 1903; s. of Everett O. and Virginia A. Cunningham; ed. B.S., U. of Nebr., 1929; M.S., U. of Nebr., 1931; Ph.D., U. of Minn., 1936; scholarship M. (Lehn & Fink) Nebr.; mem.: Phi Sigma (Nebr.; Shevlin Fellow, (Minn.) Pub. Schl. tchr., Antelope County, Nebr., 1921-25; instr. phys., U. of Nebr., 1929-32; instr. phar., Ohio State Med. Schl., 1936-38; instr. and asst. prof. of phar., Temple U. Med. Schl., 1938-43; dir. of phar. res., Lederle Labs. Div., Pearl River, N.Y., 1943 to date; notable wk.: pharmacologic evaluation of new antispasmodics (Artane), analgesics, sedatives, anticonvulsants and antibiotics, (Aureomycin). Contrib. more than 20 sc. arts. to sc. jls. Mem.: A.A.A.S., Amer. Soc. for Phar. and Exper. Therapeutics, N.Y. Acad. of Scs. V.p., Bd. of Education, Pearl River, N.Y. Clubs: Sigma Xi, Lions Internatl., Masonic Order. Hobby: flying.

CURLETT, John N., exec. v.p., McCormick & Co., Inc., McCormick Bldg., Baltimore 2, Md.; res. 5313 Springlake Way, Baltimore 12.
Businessman; b. Baltimore, Nov. 28, 1905; s. of Lewis R. and Florence (Balke) Curlett; ed. Baltimore Polytech. Inst.; Johns Hopkins U. (1 yr.); Ohio Wesleyan U. (3 yrs.); grad. Ohio Wesleyan 1928 A.B.; mem.: Phi Gamma Delta; m. Sarah

Neilson, June 18, 1932; ch.: Sally Lou, John N. Jr., Mary Carolyn, Charles Neilson. 1928-30 salesman for local stationery concern; 1930 to date with McCormick & Co., Inc. in all phases of business; 1932 mem. orig. Jr. Bd. of Dirs., a part of Multiple Mgmt.; 1934 hd. flavoring extract and insecticide depts.; elected to sr. bd. 1935, v.p. 1938, exec. v.p. 1950. Dir. Grocery Mfrs. of America, Inc., Food Law Inst.; pres. and mem. bd. of govs. Flavoring Extract Mfrs. Assoc. of U.S. Chmn. of board and director, A. Schilling & Co., Div. of McCormick & Co., Inc.; v.p., dir. McCormick Overseas Trading Co.; dir. Natl. Marine Bank. Member, Committee on Metropolitan Planning, Baltimore Association of Commerce; Chairman, Standing Committee on Commercial Standards for Household Insecticides, U.S. Department of Commerce. Mem.: Bd. of Dirs. Boys' Club of Baltimore; holds membership in Shriners' Hospitals for Crippled Children. Clubs: Phi Gamma Delta (N. Y.C.), Baltimore Country, The Touchdown of Baltimore (mem. bd. of govs.). Hobbies: tennis, golf, bowling.

CURLL, Daniel B. Jr., mgr. agric. div., Commercial Solvents Corp., 17 E. 42 St., N.Y. 17; res. 20 Maher Ave., Greenwich, Conn.
Chem. engr.; b. Asheville, N.C., June 10, 1906; s. of Daniel B. and Lillian (Anthony) Curll; ed. Williams Coll., A.B. 1928; mem.: Theta Delta Chi; m. Priscilla Alden Rawson, June 9, 1933; ch.: Daniel B. III. 1928-31 with du Pont Ammonia Co., Wilmington, Del. and Charleston, W. Va.; 1931-39 with Phila. Quartz Co., Phila., Pa.; 1939-46 with Rumford Chem. Wks., Rumford, R.I.; 1946 to date with Commercial Solvents Corp., New York, N.Y. dir. 1938-39, Amer. Doucil Co.; 1941-46, dir. Rumford Chem. Wks. Mem.: A.C.S., A.I.Ch.E., A. Ceram. Soc., T.R.I. Club: Chemists' (N.Y.).

CURLL, Vincent Anthony, tech. advisor, special chem. dept., Pa. Salt Mfg. Co., 1000 Widener Bldg., Phila. 7, Pa.; res. Summit & Spring Aves., Ft. Washington, Pa.
Chem. engr.; b. Wayne, Pa., Jan. 29, 1913; s. of Daniel B. and Lillian A. Curll; ed. Williams Coll., Williamstown, Mass., grad. 1934, A.B.; mem.: Theta Delta Chi; m. Grace E. Hoyer, Nov. 11, 1939; ch.: Vincent A. Jr., Joyce Anne, Deborah Lee. 1934-38, Gen. Chem. Co., Marcus Hook, Pa., lab. control heavy chem., prod. fine chem. & reagents, res. in heavy chem. prod.; 1938 to date, Pa. Salt Mfg. Co., Phila., Pa., specialist acid-proof cements & corrosion proof paints, liaison between res. & sales, ind. detergents & surface treat. cmpds. Developmental wk. in corrosion proof cements & ind. detergents. Mem.: A.I.Ch.E., A.C. S., Natl. Assn. of Corrosion Engrs., Franklin Inst., A.S.T.M. Hobbies: woodworking, sailing, fishing.

CURME, George Oliver, Jr., v.p. Chems. Res., Union Carbide and Carbon Corp., 30 E. 42nd St., New York 17, N.Y.; res. 135 East 54th St., New York 22, N.Y.
Indus. res. chem.; b. Mt. Vernon, Iowa, Dec. 24, 1888; s. of George O. and Caroline C. (Smith) Curme; ed. Northwestern U., B.S. 1909; D.Sc. (hon.) 1933; grad. student Harvard U., 1909-10; U. of Chicago, Ph.D. 1913; grad. student U. of Berlin, 1913-14; mem.: Sigma Alpha Epsilon; m. Lillian Hale, June 29, 1916; ch.: Katherine Hale (Mrs. Randolph C. Neely); George O. III, Mary Ellen (Mrs. Charles P. Cooper, Jr.); Florence Louise (Mrs. Richard C. Horton); John Henry. 1914-20 sr. fellow, Mellon Inst. of Indus. Res.; 1920-29 chf. chem., Carbide and Carbon Chems. Corp.; 1929-44 v.p. and dir. of res. same co.; v.p. and dir. 1944, same co.; vice pres., Union Carbide and Carbon Research Laboratories, Inc., 1938-39 v.p. Bakelite Corp., division v.p. 1944; division v.p. Carbide & Carbon Chems., Ltd., 1944; v.p. Chemicals Res., Union Carbide & Carbon Corp. 1948; res. in organic synth. based on natural hydrocarbons. Mem.: Phi Beta Kappa, Sigma Xi; rec. Chandler M., 1933; Perkin M., 1935; Elliott Cresson M., 1936; Natl. Modern Pioneer Award, 1940; Willard Gibbs M., 1944. Mem. also of A. C.S., A.I.Ch.E., A.A.A.S. (fellow); S.C.I., Natl. Acad. of Scs., N.Y. Acad. of Sc. Clubs: Chemists' (N.Y.), University (N.Y.).

CURRAN, Alton Freeman, chmn., bd. dirs., dir., res. & dev., treas., The Curran Corp., So. Canal St., Lawrence, Mass.; res. Meredith, N.H.
Chem.; b. Sept. 10, 1906; s. of Edward T. and Elizabeth F. Curran; ed self educated. Originated GUNK Self-Emulsifying and Self-Scouring solvents, founded The Curran Corp. First to apply self-emulsifying principle to automotive, indust. cleaning. President, chmn. bd., Curran (Canada) Ltd., Montreal P.Q. (Chambly Canton), Canada. Club: Chem. (N.Y.C.); Hobbies: flying, speed boating.

CURRENS, Frederick Hawley, dean of coll., chmn. of grad. comm., hd. of dept. of chem. and phys., Western Ill. State Coll.; res. Macomb, Ill., Western Park.
College dean; b. Carthage, Ill.; s. of James Nathaniel and Josephine (Hawley) Currens; ed. Coe College, Cedar Rapids, Iowa, A.B. 1904, A.M. 1907; U. of Nebraska, Ph.D. 1921; mem.: Phi Delta Kappa; m. Winona Peregrine, Aug. 1, 1905; ch.: James, Martha (Mrs. La Verne King); Ruth (Mrs. William B. Waterman). 1905-08 princ. Corning Acad.; with Inst. Chem. and Physics, Lenox Coll. (Iowa), 1908-09; Bellevue Coll. (Nebr.), 1909-10; U. of Omaha 1910-12; instr. of chem., U. of Nebr., Lincoln, 1912-13; hd. dept. chem. and phys. 1913, Western Ill. State Coll.; also dean of college 1923 and chmn. grad. comm. at Western, 1943 to date. Author: "Brief Chem. Text on Qualitative Anal.," 1924; "Univ. Lab. Man'l. in Elem. Chem.," 1924; joint author, "Gen. Chem. Min. Ser." 1920; "Gen. Chem. for Coll. Stud." 1939. Mem.: Ill. Educ. Assoc.; v.p. Ill. State Acad. of Sc., Pi Gamma Mu, Sigma Zeta. Clubs: Kiwanis Club, pres. Macomb 1931. Hobby: scientific farming.

CURRIE, James N., ret. chem., res. (summer, E. Montpelier, Vt.), 449 E. 16th St., Bklyn.
Ret. chem.; b. Coal City, Owen Co., Indiana; s. of Lawrence and Martha (Mitten) Currie; ed. Indiana U., A.M. 1908, (B.A. 1907), also LL.D. (hon.) 1933; Ph.D. U. of Wis., 1912; m. Martha Bailey, 1918; ch.: Ellen Louise, John B. 1907-09 instr. Indiana U.; 1910 instr. U. of Oregon; 1911, instr. U. of Wisconsin; 1912-17, dairy div., U.S. Dept. Agric.; 1917 to 1946, indus. res. Chas. Pfizer & Co., Bklyn, N.Y.; res. citric acid fermentation by aspergillus Niger. Mem.: A.C.S., assoc. member Natl. Acad. of Sc. On bd. of mgrs. Methodist Hosp., Bklyn., N.Y.

CURRIE, Lauchlin MacLaurin, v.p. in charge of res., Natl. Carbon Div., 30 E. 42 St., N.Y. 17, N.Y. (Union Carbide and Carbon Corp.); res. 648 Shore Acres Dr., Mamaroneck, N.Y.
Chem. engr.; b. Chapel Hill, N.C., Aug. 13, 1898; s. of Daniel J. Currie and Stella H. Currie; ed. Davidson Coll., 1918, Ph.D., Cornell U., 1925, D.Sc., Clarkson College of Tech.; mem.: Sigma Xi, Phi Gamma Delta; m. Ethel S. Jopp, Aug. 11, 1921; ch.: Helen Catherine, Christian MacLaurin. Res. chem., Natl. Carbon Co., Cleveland, O., 1925-29; plant supt., 1929-31; asst. dir. res. 1931-33; dir. Vinylite Div., 1933-41; supt., Bakelite Corp., 1941-42; asso. dir. of War Res., Columbia U., 1943-45; v.p. Natl. Carbon, 1945 to

date. Maj., C.W. Retd. Sectional Editor, "Handbook of Chemistry and Physics." Mem.: A.C.S., A.I.Ch.E., A.S.T.M., Natl. Res. Council. Director, Community Concert Assoc., Dir., Community Chest. Clubs: The Chemists' (New York). Hobbies: sports, music, gardening.

CURRIER, Arnold John, prof. of chem., dept. of chem., Pa. State Coll., State College, Pa.; res. 508 E. Foster Ave., State College.
Coll. prof.; b. Georgetown, N.Y., Dec. 8, 1892; s. of Floyd and Lillian (Priest) Currier; ed. Colgate, A.B. 1915; Pa. State Coll., M.S. 1921; Cornell U., Ph.D. 1923; mem.: Alpha Chi Sigma, Kappa Delta Rho; m. Norma Ida Utter, Dec. 24, 1918; ch.: Arnold John, Jr., Warren Wadsworth, Carolyn Ida, Ellen Edna. H.S. sc. teacher, Albion, N.Y., H.S., 1915-17; H.S. sc. teacher, Hornell, N.Y., H.S., 1917-18; instr. in chem. 1919-23, asst. prof. of chem. 1924-30, assoc. prof. of chem. 1931-48, prof. of chem. 1948 to date, Pa. State Coll. Assisted in dev. of syn. ammonia catalysts, 1918-19. U.S. Ordnance & Gen. Chem. Co.; chmn., div. of chem. ed., A.C.S. 1946; res. on paint driers, pigments. Co-author: "Gen. & Applied Chem." Currier & Rose, 1948; "Experiments in Gen. Chem.-Qualitative Anal." 1st edit. 1929, 9th edit. 1949, Chandlee, Mack & Currier. Mem.: Phi Beta Kappa, Phi Lambda Upsilon, Sigma Xi, Phi Kappa Phi. Hobbies: gardening, motoring, American literary history.

CURRY, James Rowland, Ebenezer Fitch Prof. of Chem. and Chmn. of Dept., Williams Coll., Williamstown, Mass.; res. 226 Main St., Williamstown.
Coll. prof.; b. Wooster, Ohio, Dec. 29, 1903; s. of William and Edna (Smith) Curry; ed. Dartmouth, B.S. 1925; Johns Hopkins, Ph.D. (chem.) 1930; du Pont fellow 1929-30; mem.: Phi Beta Kappa, Sigma Xi, Theta Chi, Gamma Alpha; m. Leota DeVore, July 24, 1939. 1930-32 Kaiser Wilhelm Inst., Berlin; 1930-31 German-Amer. Exch. Fellow; 1933 Tech. Hochschule Darmstadt; 1934-35 res. asst. Columbia; 1935 to date at Williams Coll.; 1943-45 res. assoc. Radio Res. Lab., Harvard; publications on: adsorption, reaction kinetics, band spectroscopy, heavy water, electrochemistry, electronics. Mem.: A.C.S., A.Phys.S., Inst. Rad. Engr. Clubs: Faculty, Williams Club (N. Y.C.). Hobbies: skiing, tennis, photography, organ playing.

CURTIS, Clarence S., sales mgr., The Wilson Labs., 4221 S. Western Blvd., Chicago 9, Ill.; res. 6736 S. Jeffery Ave., Chicago, Ill.
Sales mgr.; b. Northampton, Mass., Sept. 3, 1886; s. of John T. and Catherine Curtis; ed. Cornell U., B.A. 1909; m. Roxie Fell, May 20, 1922; ch.: John Paul. 1909 detail man, Armour & Co.; 1910-18 salesman Abbott Labs.; 1920-25 mgr. Chem. Sales Dept. same firm; 1925 to date sales mgr. Wilson Labs.; one yr. C.W.S. W.W. I; Capt. U.S.A., O.R.C. Mem.: Chicago Drug & Chem. Assoc. (secy. 1923, pres. 1925). Club: South Shore Country. Hobby: golf.

CURTIS, Francis Joseph, v.p. Monsanto Chemical Co., St. Louis 4, Mo.; res. 410 N. Newstead, St. Louis 8.
Chem.; b. Cambridge, Mass., Apr. 22, 1894; s. of James Henry and Mary Ellen (McCarthy) Curtis; ed. A.B. chem. Harvard U., 1915. Merrimac Chemical Co. (subsidiary) and Monsanto Chem. Co., 1915 to date. Serv. in chem. fld.: Jubilee Lecturer, Society of Chem. Ind. 1947. Mem.: S. C.I. (past-chmn. Amer. sec.), A.I.Ch.E. (past-pres.) A.C.S. (past-chmn. Div. of Ind. and Engrg. Chem.). Clubs: Harvard (St. Louis and New York), Racquet (St. Louis), Chemists' (New York), Noonday (St. Louis).

CURTIS, Jack M., chf., sex hormone branch, Div. of Pharmacol., Federal Security Agency, Food & Drug Adm., Wash., D.C.; res. 4608 Brookview Dr., Wash. 16, D.C.
Pharmacologist; b. Colo. Springs, Colo., Nov. 5, 1906; s. of John Mitchell and Hannah Irene (Markley) Curtis; ed. Colo. Coll., B.S. 1929; St. Louis U., Ph.D. 1934; Yale U., NRC Fellow 1935; m. Anita Bertran, Dec. 23, 1933; ch.: Catherine Gray, John M. Jr. Federal Security Agency, Food & Drug Adm., Div. of Pharmacol., pharmacologist, 1935 to date. Res. & num. articles in sc. jls., hormones & endocrinology. Mem.: Assn. for Study of Internal Secretions. Club: Kenwood Golf & Country (Kenwood, Md.).

CURTIS, Russell L., v.p. and gen. mgr., Great Western Div., The Dow Chem. Co., 310 Sansome St., San Francisco 4, Calif.; res. 3415 Pacific Ave., San Francisco.
Exec.; b. Saginaw, Mich., May 25, 1890; s. of Elmore E. and Nellie (Carter) Curtis; ed. Oberlin Acad., Oberlin, O., 1908-09; Oberlin Coll., 1909-13, A.B.; m. Gertrude Edwards, Sept. 15, 1915; ch.: Sally (Curtis) Edwards, James Edwards Curtis. 1913-16 chem., Consumers Power Co., Artificial Gas Plant, Saginaw, Mich.; 1916-17 constr. supt., Consumers Power Co., Artificial Gas Div., Flint, Mich.; 1917-22 supt., Amer. Bromine Co., Midland, Mich.; 1922-39 sales dept., The Dow Chem. Co., Midland, Mich.; 1939 to date gen. mgr., same co. but in San Francisco; 1948 to date dir. same co.; 1949 to date dir. and v.p. same co. Clubs: Bohemian; Cercle De L'Union; Commercial (all in San Francisco, Calif.). Officer: dir. The Dow Chem. Co.; v.p. and gen. mgr. Great Western Div., The Dow Chem. Co.

CURTISS, Franklin M., personnel dir., Mich. Chem. Corp., 500 Bankson St., St. Louis, Mich.; res. 618 E. Wash.
Personnel & safety; b. Pleasantville, Ohio, July 2, 1912; s. of Ernest and Lottie Curtiss; ed. Pleasantville High Schl., Lancaster Bus. Coll.; m. Josephine Wilkinson, Oct. 18, 1940. Mich. Chem. Corp., 15 yrs. serv. on present position—still employed; mem.: A.C.S., Natl. Assn. Personnel Dirs. Clubs: St. Louis Lions, F. & A.M. (32 deg.), Elks, Sportsman, deputy dist. gov., past pres. Lions. Hobbies: fishing, photography.

CURTS, Lloyd Maynard, owner, Curts Folse Labs., 70 Central Ave., Kansas City 18, Kans.; res. 3926 Harrison, Kansas City 4, Mo.
Mfg. chem.; b. Frankfort, Ind., Feb. 2, 1888; s. of Geo. Urias and Laura Josephine (Douglas) Curts; ed. country schls., Clinton Co., Ind.; grad. Otterbein Coll., Westerville, Ohio, 1913, A.B.; m. Ethel Lucille Kephart, June 10, 1915; ch.: Kephart Maynard, George Douglas, Sara Josephine, Calvin Jeffries. 4 yrs. teacher country & grade schls. in Ind. before grad. from coll.; taught chem., York Coll., Nebr., 1913-15; taught chem., K.C. Veterinary Coll., 1915-18; taught gen. sc., Central H.S., Kansas City, 1918-20; became partner with Dr. C.D. Folse in starting the Curts Folse Labs. in 1918. Dev. formulas for sale by Curts Folse Labs. Publ. catalogues for Curts Folse Labs. Mem.: A.C.S. Trustee, Evangelical United Brethren Church. Mem. Chamber of Com. Hobbies: family, fishing.

CURTS, Robert Morison, mgr. of borax sales, Amer. Potash and Chem. Corp., 122 E. 42 St., New York, N.Y.; res. 234 West End Ave., Ridgewood, N.J.
Chem.; b. Paterson, N.J., Oct. 26, 1902; s. of Robert M. and Clara W. Curts; A.B. chem. Cornell U., 1923, A.M. Princeton U., 1924; mem.: Psi Upsilon; m. Virginia D. Frazier, Sept. 30,

1949. Research div., New Jersey Zinc Co., 1924-29; tech. serv. div., New Jersey Zinc Co., 1929-31; Amer. Potash & Chem. Corp., 1931 to date. Mem.: A.C.S., Amer. Ceramic Soc., Soc. of Glass Technology (English), Chem. Salesmen's Asso. Clubs: Chemists' (New York City).

CUSHMAN, Donald S., v.p. in chg. of sales, Innis, Speiden & Co., 117 Liberty St., N.Y. 6, N.Y.; res. 536 Ridgewood Rd., Maplewood, N.J.
Chem. sales; b. Chicago, Ill., Nov. 28, 1906; s. of Dr. Charles R. and Ina S. Cushman; ed. St. Petersburg, H.S.; U. of Fla.; mem.: Sigma Phi Epsilon; m. Evelyn M. King, June 27, 1931; ch.: Carol, Sandra, Kay Ellen, Donald King. Asst. mgr., Smith-Chevrolet Co., Tampa, Fla., 1927-28; asst. mgr., Quad Hall, Cleveland, 1928-32; Sales, Innis, Speiden & Co., Cleveland, 1928, Cleveland mgr. 1933, asst. sales mgr., N.Y. 1942, asst. to pres. 1949, v.p. in chg. of sales, 1950 to date. E.S. Browning Co., San Francisco, (dir.). Mem.: Am. Ceramic Soc. Clubs: Chemists,' Maplewood.

CUTLER, David Roy, pres., Alfred Hale Rubber Co., 26 Spruce St., North Quincy 71, Mass.; res. 76 Margin St., Cohasset, Mass.
Exec.; b. Malden, Mass., Aug. 28, 1910; s. of David Adelbert and Mildred (Williams) Cutler; ed. M.I.T. 1933; mem.: Alpha Tau Omega; m. Marialyce Swain; ch.: Joan Brewster, Jay Swain, Robert David, Patience Anne, David Adelbert (Cutler) II. Chem. & Prod. mgr., Alfred Hale Rubber Co., 1930-33; v.p. and dir., Alfred Hale Rubber Co., 1937-43; pres. and dir. Alfred Hale Rubber Co., 1943 to date; treas. & gen. mgr., Amer. Curatex Corp., Quincy, Mass., 1932-33, conslt., Bigelow-Sanford Carpet Co., New York City, 1933-34; partner, Latex Service Co., Quincy, Mass., 1934; Heveatex Corp., Melrose, Mass., 1934-35; dev. mgr., Kaysam Corp. of Amer., New York City, 1935-36; pres. & dir., Blake Cutler Corp., 1950 to date. Articles in "India Rubber World," pub. 1936. (See "Who's Who in Engineering."). Mem.: A.C.S. Clubs: Chemists' (N.Y.). Cohasset Yacht (Cohasset). Hobby: golf.

CUTLER, Rusling Young, pres., Hood Chem. Co., Inc., 1937 S. Broad St., Phila. 48, Pa.; res. 709 Braeburn Lane, Penn Valley, Marberth, Pa.
Corp. exec.; b. London, Ontario, Canada, Jan. 10, 1893; s. of James Y. and Lilllie L. (Long) Cutler; ed. Westminster Hall, Vancouver B.C., Canada; m. Florence M. Boutwell, June 28, 1919; ch.: Florence Jeanette. Trust officer, Detroit Trust Co., 1918-32; pres., Cutler Hubble Co., Detroit, Mich., 1932-41; pres., Tanglefoot Co., Grand Rapids, Mich., 1941-48; pres., Hood Chem. Co., Inc., 1948 to date.

CYR, Howard Mason, chf. thermal chem. sec., res. div., N.J. Zinc Co., Palmerton, Pa.; res. Palmerton.
Res. chem. engr.; b. Somerville, Mass., July 11, 1896; s. of Frank B. and May (Mason) Cyr; ed. M.I.T., 1918, S.B. in chem. engrg.; m. Elsie Shippy, Sept. 19, 1921; ch.: Howard Jr. C.W.S., gas offense & defense, 1918-19; tech. div. of N.J. Zinc Co., first as chem. then as res. engr., 1919 to date. Pats. & articles on pure zinc, zinc distillation, purification of zinc ores, mfr. & treat. of ZnO; use of Zinc pigments in paper. Author: sec. on "Zinc, Cadmium & Mercury for Gen. Inorg. Chem." edited by Sneed & Maynard, 1950 edit., D. Van Nostrand Co. Mem.: A.C.S. (chmn. Lehigh Valley Sec. 1938-39). Pres., Palmerton Bd. of Trade, 1945-46; dir., v.p., Palmerton Memorial Park Assn. Hobbies: photography, especially colored motion pictures, gardening, travel.

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DABNEY, Robert C., tech. conslt. for rubber, 742 Wellesley Ave., Akron 3, O.; res. same.
Tech. conslt. for rubber; b. Hopkinsville, Ky., May 9, 1892; s. of Frank Winston and Mary (Augusta) Dabney; ed. B.S., M.S. U. of Ky., 1910-16; mem.: A.T.O.; m. Mary Elizabeth Curle, May 31, 1921; ch.: Sara Anne. Tech. Super. Miller Div. B. F. Goodrich, 1917-41; tech. conslt. for W.P.B., 1942-45; tech. conslt. for rubber 1942 to date.

DABNEY, Robert Raymond, plant engr., Potash engr., Potash Co. of Amer., P.O. Box 31, Carlsbad, N.M.; res. same.
Engr.; b. Hilda, Mason County, Tex.; s. of Edgar Robert and Margaret Dabney; ed. U. of Texas, B.A. 1926; B.S. in Ch.E. 1927; M.S. in Ch.E. 1929; mem.: Tau Beta Pi, Phi Lambda Upsilon, Phi Beta Kappa, Sigma Xi; m. Ruth Baxter, Feb. 9, 1946; ch.: Robert Faulkner. San Antonio Pub. Serv. Co., chem., 1929; same co., (Comal Plant), results engr., 1929; same co. and same plant, asst. chf. operating engr., 1929-35; same co. (main office), engr., 1935-46; with Potash Co. of Amer., plant engr., 1946 to date. Mem.: Tex. Soc. for Prof. Engrs., A.S.M.E., A.S.M.M.E. Club: Carlsbad Country. Hobbies: golfing, photography.

DABNEY, William Cecil, pres., Devoe & Raynolds Co., Inc., chmn., Jones-Dabney Co., 223 N. 15th St., P.O. Box 323, Louisville 1, Ky.; res. Upper River Rd., Louisville 7, Ky.
Exec.; b. Louisville, Ky., Nov. 20, 1894; s. of Dr. Samuel Gordon and Louisa Higgins (Allen) Dabney; ed. Louisville Male H. S., U. of Va., 1912-13; m. Florence Joyes, Apr. 20, 1921; ch.: William Cecil, Jr., Watson Barr, Samuel Gordon II, Caroline Joyes. Began career as an order clerk in 1913. Was v.p. and gen. mgr. of Jenkins Graphite Lubricating Co., Louisville, Ky., and Pittsburgh, Pa., in 1916-17; served as 1st Lt., 26th Infantry, 1st. Div., U.S.A., in France during W.W. I; in 1919 was co-founder of Jones-Dabney Varnish Co. (name later changed to Jones Dabney Co.) and served as v.p. until 1939. On June 1, 1938, co. was merged with Devoe & Raynolds Co., when he was elected dir. of latter; from Dec., 1939, until Feb., 1949, served as pres. of Jones-Dabney Co. and exec. v.p., and mem. of Exec. Comm. of Devoe & Raynolds Co.; in Feb., 1949, was elected chmn. of Jones-Dabney Co., and sr. exec. v.p., of Devoe & Raynolds Co. In Feb. 1950, was elected pres. of Devoe & Raynolds Co. First Natl. Bank of Louisville, dir.; The Kentucky Trust Co., Louisville, dir.; First Ky. Fire Ins. Co., Louisville, dir.; First Ky. Co., Louisville, dir.; Commonwealth Life Ins. Co., Louisville, dir. Mem. Natl. Paint, Varnish and Lacquer Assoc. (v.p. for 1949-50. Distinguished Service Cross and Croix de Guerre W.W. I. Member, Bd. of Overseers, U. of Louisville, Mem., Bd. of Trustees, Am. Printing House for the Blind, Louisville. Clubs: The Alibi (Louisville), The Pendennis (Louisville), The Louisville Country. Hobbies: golf, bridge, hunting, fishing.

DADDOW, Wilbur Talbot, supt. stores div., Chambers Wks., E. I. du Pont de Nemours & Co., Penns Grove, N.J.; res. 3207 Fernwood Pl., Wilmington, Del.
Chem.; b. Sherman Co., Neb., Mar. 7, 1906; s. of Alonzo S. and Florence E. Daddow; ed. B.S. Hastings Coll., Hastings, Neb.; M.S., Ph.D., State U. of Iowa, Iowa City; mem., Phi Lambda Upsilon (hon. chem. soc.), Sigma Xi (hon. sci.), Alpha Chi Sigma; m. Grace Murray, Aug. 21, 1928; ch.: Jean Louise, Nancy Kathryn. Res. chem. Jackson Lab., du Pont, 1928-30; prod. super., Chambers Wks., 1930-43; chf. super., Chambers Wks., 1943-46; supt., Stores Div.,

Chambers Wks., 1946 to date. Mem.: A.C.S. (Del. Sec.). Hobbies: philately, horticulture.

DAFFIN, John Baker, bursar-treas. and prof. of physics, Mary Baldwin Coll., Staunton, Va.; res. 14 Tams St., Staunton, Va.
Coll. Adm. and teacher; b. Marianna, Fla., July 25, 1895; s. of Ernest Linwood and Caroline Godfrey (Justiss) Daffin; ed. B.S. Davidson Coll., 1918; M.S. U. of Chicago, 1924, graduate work toward doctorate Johns Hopkins U. 1928-29; mem.: Sigma Alpha Epsilon, Sigma Upsilon, Omicron Delta Kappa, Sigma Xi; m. Martha Gray (deceased) July 25, 1922; ch.: John Baker, Jr., born Aug. 4, 1926. U.S. Nitrate Pl. No. 2, Muscle Shoals, Ala., chem. Air Nitrates Corp., July 1918 to closing of pl. 1919; teacher, chem., physics, Chamberlain Hunt Military Acdy., 1919-20; prof. chem. and physics Ark. Coll., 1920-28, 1929-30; instr. org. chem. Johns Hopkins U. 1928-29; Mary Baldwin Coll. 1930 to present; summers: instr. chem. labs. U. of Chicago; summers 1920, 1921, 1923; exch. prof. chem. Ark. State Teachers Coll. summer 1925. Res.: ammonia losses; nitration of org. compounds in presence of silica gel. Mem.: A.C.S., A.A.A.S., Amer. Assn. Physics Teachers, S. E. Section Amer. Physical Soc., Virginia Acdy. of Sc., Sigma Xi, Eastern Assn. Coll. and U. Bus. Officers, Natl. Assn. Educational Buyers. Trustee: Trustee Lexington Presbytery, Inc., secy. treas., Betty Bickle Home; dir.: Community Bldg. & Loan Assn.; Staunton Chamber of Commerce (Natl. councillor); city councilman: Budget Com. Community Chest. Clubs: Forum. Hobbies: pigeons, fishing.

DAFT, Floyd Shelton, sc. dir., U.S.P.H.S., asst. dir. Exp. Biol. and Med. Inst., chf. Lab. of Biochem. and Nutrition, Natl. Insts. of Health, Bethesda, Md.; res. 6615 Hillmead Rd., Bethesda 14.
Biochem.; b. Griswold, Iowa, May 19, 1900; s. of Edgar William and Sarah Elizabeth (Shelton) Daft; ed. Simpson Coll., Indianola, Iowa, B.A., 1921; Yale U., New Haven, Conn., Ph.D. 1926; mem.: Kappa Theta Psi, Alpha Chi Sigma, Gamma Alpha, Sigma Xi; m. Pauline Miller Fisk, Sept. 26, 1935; ch.: (stepson) Leon W. Fisk, Jr. 1924 res. asst. Yale U.; 1924-26 Cheney Fellow, Yale U.; 1926-27 traveling fellow from Yale, guest at Carlsberg Lab., Copenhagen, Denmark; 1927-29 asst. in phys. and biochem., Harvard U. Med. Schl. and Schl. of Pub. Health; 1929-31 Eli Lilly Fellow, Yale U.; 1931-37 instr. in biochem. and experimental pathology, Rochester U. Schl. of Med.; 1937 to date mem. staff Natl. Insts. of Health, Bethesda, Md.; commis. off. U.S. Pub. Health Serv. since 1945; chf., Lab. of Biochem. and Nutrition and asst. dir. Experimental Biol. and Med. Inst. since 1948; res. in biochem. and nutrition, particularly in the fields of vitamins of the B complex, proteins and amino acids; experimental diseases studied incl. liver cirrhosis and blood dyscrasias. Contrib. of numerous arts. to var. sc. jls. Mem.: Soc. for Exper. Biol. and Med.; A.C.S.; Internat. Soc. of Hematology (fellow), A. S. Biol. C.; The Amer. Pub. Health Assoc.; Amer. Inst. of Nutrition; Washington Acdy. of Scs., and A.A.A.S.

DAGGETT, Albert Frederick, dean of the grad. schl., prof. of chem., U. of New Hampshire, Durham, N.H.; res. 84 Madbury Rd., Durham.
Chem. prof.; b. Concord, N.H., Oct. 23, 1906; s. of Albert H. and Eva M. Daggett; ed. U. of New Hampshire, 1928, B.S.; U. of New Hampshire, 1930, M.S.; Columbia U., Ph.D., 1934; mem.: Theta Upsilon Omega, Alpha Chi Sigma; m. Marion Avis Phelps, Aug. 15, 1931; ch.: Sandra Daggett, Frederick Phelps Daggett. Instr. of chem., 1928-31, U. of New Hampshire, grad. asst. instr., Columbia U., 1931-33; Columbia U. fellow, 1933-34; res. asst., 1934-35, Columbia U.; instr. of chem., 1935 spring and summer semesters, Hunter Coll., N.Y.C.; instr. of chem., 1935, through the ranks up to present, prof. of chem. and dean of graduate schl. Res. in field of chem. kinetics, on heavy hydrogen, and rare earth chem. Co-author with W. B. Meldrum and E. W. Flosdorf, "Semi-Micro Quantitative Analysis," 1939; co-author with W. P. Meldrum "A Textbook of Quantitative Analysis," 1946. Mem.: Sigma Xi, Alpha Chi Sigma, Phi Lambda Upsilon, Phi Kappa Phi, Alpha Delta Epsilon.

DAGGETT, Hiram Choate, v.p., Eastern mgr., Wright Chemical Corp., 627 W. Lake St., Chicago, Ill.; res. 29, Nutgrove St., White Plains, N.Y.
Water conslt.; b. Buffalo, N.Y., Aug. 8, 1892; s. of Byron B. (Major) and Lulu Choate Daggett; ed. Cornell U., 1916; mem.: Theta Xi, m. Beatrice Bushman, June 16, 1917; ch.: John Byron. Metallurgist, Lackawanna Steel Plant, supt., engr. General Chem. Corp., 1915, mgr. plant, Sanborn Chem. Corp. Consulting Engr., dir. of dev., D. W. Haering & Co., Inc., 1939-46, v.p., Eastern Mgr., Wright Chem. Corp., 1946 to date. Res. dev. water treating chems. and applications, lectured on ind. corrosion control. Mem.: Cornell Soc. of Eng. Clubs: Westchester, Cornell, Chemists'. Hobbies: gardening-flowers, antique furniture.

DAGGETT, Ross Le Baron, v.p. & chem., George Leuders & Co., 1105 Metropolitan Ave., Bklyn., N.Y.; res. 2 Winged Foot Drive, Larchmont, N.Y.
Chem.; b. Brooklyn, N.Y., Feb. 6, 1902; s. of Arthur P. and Lillian R. Daggett; ed. Harvard, A.B., 1923; mem.: Alpha Chi Sigma; m. Dorothy Loring in 1926; ch.: Dorothy L, Cynthia R. Chem., Valentine & Co., 1923 to 1930; chf. chem., v.p., dir., George Leuders & Co. 1930 to present.

DAHL, Roland John, v.p. in chg. res. & dev., E. R. Squibb & Sons, 745 Fifth Ave., N.Y. 22, N.Y.; res. 1 Midland Gardens, Bronxville, N.Y.
Exec.; b. Providence, R.I., July 23, 1907; s. of John Albert and Linnea W. Dahl; ed. U. of Mich., B.S. in pharmacy, 1930; mem.: Sigma Pi; m. Anne Klopsic, 1934; ch.: Meredith Anne. 1930, professional serv. rep.; 1934, professional serv. mgr.; 1939, district mgr.; 1940 asst. product sales mgr., 1942, mgr. prod. dev. dept.; 1943, asst. dir. prod. dev. div.; 1945, dir. of prod. dev.; 1947, v. p., dir. of dev.; 1949 to date, v.p. res. & dev. & dir.; E.R. Squibb & Sons. Mem.: A.C.S., A. Phar.A., A.A.A.S., N.Y. Acdy. of Sc., Soc. for Advancement of Management, Assn. of Res. Dir. Clubs: Chemists' (N.Y.), N.Y. Athletic, U. of Mich. (N.Y.).

DAHLBERG, Henry W., dir. of res., Great Western Sugar Co., Terminal Box 5308, Denver, Colo.; res. 900 Steele St., Denver, Colo.
Chem. engr.; b. Fergus Falls, Minn., Sept. 24, 1887; s. of Elof and Christine Dahlberg; ed. B.S. in chem. engrg., U. of Minn., 1910, one semester, U. of Berlin, 1912; mem.: Alpha Chi Sigma; m. Irene G. Cannon, June 24, 1914; ch.: Henry Jr., Grace, Dorothy, Stanley Kenneth. Asst. & chf. factory chem., Great Western Sugar Co., 1910-12, traveling chemist, 1912-16, mgr. statistical dept., 1916-20; mgr. chem. res. dept., 1920-24; dir. of chem. and agri. res., same co., 1924 to date. Western Seed Production Corp., pres.; West Coast Beet Seed Co., dir. Res. dev. of recovery processes for sugar from molasses, chem. composition of sugar beets. Contrib. extensively various arts. in tech. jls. Mem.: A.C.S., A.I.Ch.E., Am. Soc. of Sugar Beet Technologists, Am. Soc. of Agronomy (past chmn.) Sugar div. of Am. Chem. Soc., Am. Soc. of Sugar Beet Technologists (v.p.). Chmn. Natl. Comm. of the International Commission for Uniform Methods of Sugar Analysis, Advisory

Comm. of Sugar Res. Foundation. Clubs: Teknik, Knife & Fork, Lions. Hobbies: photography, farming.

DAHLE, Dan, dir. of res., Bristol-Myers Co., Hillside 5, N.J.; res. 51 Princeton Rd., Elizabeth 3, N.J.
Chem.; b. Surte, Sweden, Aug. 30, 1894; s. of Aron Svenson and Anna Kristina (Almgren) Dahle; ed. Chalmers Inst. of Tech., Gothenburg, Sweden, Ch.E., 1919; American U., (Wash., D.C.), M.S., 1934; Ph.D., 1936; mem.: Chi Psi Omega; m. Eva Hentz, Sept. 8, 1925. Teacher, Sweden, 1919-20; chem., Advex Corp., 1920-21; chf. chem., Wilckes-Martin-Wilckes Co., Camden, N.J., 1921-23; res. chem. Phosphate Mining Co., 1923; Asst. state chem., Tallahassee, Fla., 1924-28; chem., U.S. Food & Drug Administration, Savannah, Ga., 1928-32; res. chem., U.S. Food & Drug Admin., Wash., D.C., 1932-38; chf., Cosmetic Div., 1938-46; consultant, War Prod. Board, 1942; dir. of res., Bristol-Myers Co., 1946 to date. Res. on small quantities fluorine, 1932-36. Specifications for certified coal-tar colors, U.S. Food & Drug Admin.; pub. var. arts. in sc. jls. Mem.: A.C.S., Toilet Goods Assn., S.C.C. (1st hon. mem. of this soc.), Chem. Club (N.Y.) Hobbies: woodworking, golf, bridge.

DAHLE, Frederick Burton, tech. advisor, Battelle Memorial Inst., 505 King Ave., Columbus, O.; res. 1686 Andover Rd.
Metallurgical Engr., b. St. Paul, Minn., May 20, 1901; s. of Fred H. and Evelyn Dahle; ed. U. of Minn.—Metallurgical Engr., 1930; advanced wk. in physics and physical chem., O. State U., 1931-32; mem.: Sigma Rho; m. Ruth Anne Doelker, June 29, 1932; ch.: Jeanne Anne, Karen Ruth. Location engr., Great Northern Railway, 1924-28; res. engr., Battelle Memorial Inst., 1930-38; asst. supvr., 1938-44; supvr., 1944-49; tech. advisor, 1949 to present. Res. twenty years exper. in metallurgy, mech. engrg., welding. and elec. engrg.; dev. of ledloy steels, chem. of steel dioxidation, chem. of sulphur reduction in steel, design and dev. of special production equipment, new prods. and processes. Assisted with data for 'Steel and Its Heat Treatment"—Bullens-Battelle. Mem.: Sigma Xi, A.S.M., S.A.E., Armed Forces Chem. Assoc., S.P.E. Clubs: Ohio State U. Golf, Scandinavian. Hobbies: photography, wood-working.

DAHLEN, Miles Augustinus, dir. of sales, Fine Chem. Div., E. I. du Pont de Nemours & Co., Wilmington, Del.; res. 309 Milton Drive, Wilmington.
Salesman, chem.; b. St. Paul, Minn., Jan. 4, 1904; s. of Magnus and Hulda E. Dahlen; ed. U. of Minn., B.S. chem. engrg. 1924, Ph.D. org. chem. 1928; du Pont Fellow 1924-28; mem.: Alpha Chi Sigma, Tau Beta Pi, Phi Lambda Upsilon, Sigma Xi; m. Marion C. L. Boyne, June 11, 1928; ch.: Miles Boyne, Dean Magnus, Rolf John. Jackson Lab., du Pont Co., res. chem. 1928-30, sec. hd. 1930-32, div. hd. 1932-38, tech. lab. org. chem. dept. asst. dir. 1938-46, asst. mgr. domestic sales, dyestuffs div. 1946-49, dir. of sales, fine chem. div. 1949 to date. Misc. res. in flds. of dyestuffs & org. chem.; conslt. in E.T.O., Office of QM Gen. 1945. Mem.: A.C.S., A.I.Ch.E., A.A.T.C.C., Textile Res. Inst. Clubs: du Pont Country, Wilmington Whist.

DAHLSTROM, Roy, tech. dir., Natl. Lead Co., Titanium Div., Box 58, So. Amboy, N.J.; res. 545 Alden Ave., Westfield, N.J.
Exec.; b. DeSoto, Nebr., June 13, 1905; s. of Albert and Selma (Grossoehme) Dahlstrom; ed. Ph.D., U. Chicago, 1930; m. Emelia Novotny, June 20, 1931; ch.: Ruth, Ralph. Kristin. Titanium Pigment Co. Fellow, U. Chicago, 1929-30; res. chem., Titanium Pigment Co., N.Y., 1931-35; chf. chem., Titanium Div., National Lead Co., So. Amboy, 1935-38, asst. dir. res., 1938-44, dir. of res., 1944-48, tech. dir., 1948 to date. Contrib. in titanium pigments, titanium metal, ceramics, dielectrics. Mem.: A.A.A.S., A.C.S., A.I.M.E., A.S.T.M., N.J. Prof. Engr.

DAHM, Henry Louis, pres., G. S. Robins & Co., 126 Chouteau Ave., St. Louis 2, Mo.; res. 7248 St. Andrews Rd., Normandy 2, Mo.
Chem., chem. engr.; b. St. Louis, Mo., Sept. 3, 1893; s. of John L. and Bertha M. Veith Dahm; ed. A.B., St. Louis U., B.S. 1914, F. X. Drew Scientific Medal; M.A., Missouri U., 1915; mem.: Alpha Chi Sigma, Gamma Alpha; m. Helen Barbara Diederich, Oct. 16, 1918; ch.: Henry L. Jr., Mary Louise, Helen Ann, Jack Veith. Dir. anal. labs., Monsanto Chem. Co., 1915-19; night supt., 1919-20; supt., Leeds Chem. Co., Kansas City, 1920; instr. St. Louis U., 1921-22; tech. dir., Gypsum Div., Certain-Teed Prod. Corp. 1923; tech. dir., v.p., and pres. 1923 to date, G. S. Robins & Co.; Charlite Manufacturing Co., pres. Res. in manuf., sales and distribution. Paper—Aspirin Melting Points "Industrial & Engineering Chemistry" 1919. Mem.: A.C.S., Chmn., St. Louis Section 1932, Councilor 1937, 1938, 1942, 1947. Mo. Soc. Professional Engineers, Acdy. of Sc. (St. Louis), Assoc. Drug & Chem. Industries of Mo., dir. Clubs: University, St. Louis, Mo., Athletic Assoc. (Mo.), Glen Echo Country. Hobbies: handball, fishing.

DAIGLE, Earl Clifton, chf. chem., Magnolia Petroleum Co., Refining Div., Beaumont, Tex.; res. 1095 Live Oak St., Beaumont.
Chem. engr.; b. Patterson, La., Jan. 25, 1901; s. of Emile P. and Flavia H. Daigle; ed. La. State U., B.S. in Ch.E., 1929; mem.: Alpha Chi Sigma, Mu Sigma Rho; m. Hazel Irene Mabry, Jan. 19, 1931; ch.: Allen, Diane. With T. & N. O. R. R., timekeeper-clerk, 1922-26; same R.R., chem. apprentice, 1926-27; at present chf. chem., Magnolia Petroleum Co., Refin. Div. Mem.: A.C.S. Hobbies: music, home repairs.

DAIGNAULT, Alexander T., treas., Dewey & Almy Chem. Co., Cambridge, Mass.; res. Lincoln, Mass.
Exec.; b. Woonsocket, R.I., Mar. 12, 1916; ed. Yale B.A.; Harvard Business Schl. M.B.A.

DALBY, Gaston, dir. of res., Ward Baking Co., 367 Southern Blvd., N.Y. 54, N.Y.; res. 51 Fifth Ave., N.Y. 3, N.Y.
Food chem.; b. New Boston, Texas, Nov. 19, 1907; s. of Joseph H. and Jessie (Childs) Dalby; ed. B.A., U. of Texas, Phi Beta Kappa, Sigma Xi, 1927; M.A., Princeton U., 1929; m. Rhoda Hines, Sept. 3, 1949. 1929-32, Natl. Biscuit Co., food chem.; 1932-45 food chem. (res.), 1945-48 asst. dir. of res., 1948 to date, dir. of res., Ward Baking Co. Brit. Arkady Co., Manchester, England, dir. 20 papers in various tech. jls. on food tech., mycology, food preservation. Mem.: A.C.S., A.A.C.C., A.A.A.S. Hobbies: color photography, classical music.

DALE, Julian K(alfus), Commercial Solvents Corp., Terre Haute, Ind.; res. Allendale, Terre Haute.
Chem.; b. Lexington, Ky., Apr. 13, 1889; s. of Wm. B. and Lizzy (Pratt) Dale; ed. Princeton U., A.B., 1911, A.M., 1913, Ph.D., 1914; m. Marjorie Otter Aug. 29, 1914; ch.: Mary Dale Burson. U.S. Bur. of Chem., 1914-19; U.S. Food Prods. Co., 1919-22; Sunmaid Raisin Growers Assoc., 1924-27; Natl. Research Council Fellow, 1927-28; Royal Baking Powder Co., 1928-33; res. dir., A. E. Staley Mfg. Co., 1933-36; Commercial Solvents Corp., 1936 to present. Publications and

pats. in carbohydrate fld. Mem.: A.C.S., A.A.A.S. Clubs: Cannon, Princton U., Terre Haute Country.

D'ALELIO, Gaetano F., v.p., mgr. of res., Koppers Co. Inc., Pittsurgh 19, Pa; res. 1427 Washington Rd., Pitts. 16, Pa.

Res. dir.; b. Charlestown, Mass., Dec. 26, 1909; s. of Severino and Francesca D'Alelio; ed. 1927-31, Boston Coll., B.A.; 1931-35, Johns Hopkins U., Ph.D. chem., Phi Lambda Upsilon, Phi Beta Kappa, Sigma Xi; m. Josephine M. McCarthy, Sept. 5, 1932; ch.: Denny Frank, Ellen, Jane, William. 1935-36, assoc., physical chem., Grad. Schl., Boston Coll.; 1936-39, plastics lab., Gen. Elec. Co.; 1939-41, dir., Plastics Res. In Plastics Labs., Gen. Elec. Co., 1941-43, dir., Plastics Labs.; 1943-44, dir. of res., Pro-phy-lac-tic Brush Co., 1944-46 v.p.; 1946-47, mgr., high polymers res., Ind. Rayon Corp.; 1947-49, asst. dir. of res., Koppers Co. Inc., 1949 to date, v.p., mgr. of res. Org. chem. in polymers, plastics & syn. resins, resulting in the issuance of 269 pats., which incl. outstanding ion exchange resins, syn. fibers, molding & laminating compositions, radar insulations, rocket launchers, heat resistant polystyrene, & org. intermediates; conslt., Manhattan Project; Naval Bur. of Ordnance. Co-author: "La. Manual of Syn. Plastics & Resinous Matls." Mich. State Coll. 1942; author: "A Lab. Manual of Plastics & Syn. Resins," John Wiley & Sons, Inc., 1943; "Substancias Plasticas Experimentales y Resinas Sinteticas" M. Marin, Barcelona, 1948; "Fundamental Principles of Polymerization—Polymers, Plastics & Resins," John Wiley & Sons, Inc., in press. Mem.: Phi Lambda Upsilon, Phi Beta Kappa, Sigma Xi, A.C.S., A.A.A.S., A.I.C. (fellow), appointed to Advisory Panel to Comm. of Quartermaster's Problems, N.R.C.; N.Y. Acdy. of Sc. (fellow), Textile Inst., Natl. Farm Chemurgic Council, Soc. of Chem. Ind. of London, Natl. Bur. of Ordnance Individual Citation for War Res. & Dev., recipient of Chas. J. O'Malley Fellowship, Boston Coll., Internatl. Mark Twain Soc. (hon. mem.), History of Sc. Soc., Pitts. Chamber of Comm., Ind. Res. Inst., Am. Ordnance Assn., Chemists' Club of Pitts. Hobbies: fishing, hunting.

DALEY, Raymond E., asst. sales mgr., Carbide & Carbon Chem. Div., Union Carbide and Carbon Corp., 30 E. 42nd St., N.Y. 17, N.Y., res. 435 W. 23rd St., N.Y.C.

Chem.; b. Bellevue, Ky., Mar. 14, 1904; s. of Eugene and Mary Jones Daley; ed. Xavier U., A.B. 1928; m. Grace Giltana, June 15, 1935. 1928-29 Midwest Glass Co.; 1929 to date Carbide and Carbon chems. div., Union Carbide and Carbon Corp. Mem.: A.C.S. Club: Chem.

DALIN, George A., dir. of res., Balco Research Labs., 580 Market St., Newark, N.J.; res. 467 Central Park West, New York 25, N.Y.

Chem.; b. Worcester, Mass., Oct. 7, 1907; s. of Arthur and Eva (Waldstein) Dalin; ed. Harvard Coll. B.S., 1928, Wister Prize, Columbia U., Ph.D., 1935; mem.: Sigma Xi, Tau Epsilon Phi; m. Barbara Roose, Nov. 3, 1939; ch.: Richard Alan, James Robert. United Optical Corp., 1935-36, chem.; Plax Corp., 1936-43, chf. chem.; Stauffer Chemical Co., Lab. Dir., 1943-50; Balco Research Labs., dir. of res., 1950 to present. Res. in electro plating, organo-silicon cmpds., polymers, dev. of process for forming plastic holloware, reaction kinetics in inorg. processes, thermodynamics of sulfur and its cmpds., chlorination of metals & organic compounds. Mem.: A.C.S., A.I.Ch.E. (fellow). Hobbies: piano, photography.

DALTON, Harry Lee, v.p., Am. Viscose Corp., 350 Fifth Ave., N.Y. 1, N.Y.; res. 1540 Montgomery Ave., Rosemont, Pa.

Exec.; b. Winston-Salem, N.C., June 13, 1895; s. of Rufus I. and Cora (McCanless) Dalton; ed. A.B., Duke U.; post grad. wk., N.Y.U. & in Manchester, England; m. Mary Keesler, Apr. 28, 1928; ch.: David McRae, Mary Elizabeth. Am. Viscose Corp., v.p. & a dir. R.S. Dickson & Co.; Shaw Mfg. Co., dir.; Gastonia Theatre Corp., dir.; Beach Corp., dir.; Home Finance Group, Inc., dir.; Southern Airways, dir.; Carlton Yarn Mills, dir.; Parts Co., dir.; Wachovia Bank & Trust Co., dir. Formerly associate edit. of "Southern Textile Bulletin." Mem. Advisory Bd. of: National Security Resources Bd., textile planning div., Munitions Bd. Advisory Contractor-Relations, Dept. of Commerce Natl. Prod. Authority, Quartermaster Assn.. National Distribution Council of U.S. Dept. of Commerce, all Wash., D.C. Adv. Council mem. Southern Res. Inst. Charlotte Memorial Hosp.; dir., Mint Museum, Charlotte, N.C.; trustee, Queens Coll.. Charlotte; mem. Comm. on Library of Duke U. Clubs: University (N.Y.C.), Charlotte Country (dir.), Metropolitan (Wash., D.C.), Rittenhouse (Phila.), Links (N.Y.C.), Pine Valley C.C. Hobby: collecting old books & manuscripts concerning Am. & English history & literature.

DALTON, Robert Hennah, res. chem., Corning Glass Works, Corning, N.Y.; res. 234 Delevan Ave., Corning.

Chem; b. Christchurch, N.Z., Oct. 21, 1902; s. of Edw. H. and E. M. Dalton; ed. U.C.L.A., 1921-22; Cal. Inst. of Tech., 1922-28; B.S., 1925; M.S., 1926; Ph.D., 1928; mem.: Tau Beta Pi, Sigma Xi; m. Claire Richardson, Jan. 10, 1936; ch.: Robert Hanford, Thomas Richardson, James Christopher. 1925-28, Teaching fellow, C.I.T.; 1928-29, Ramsay fellow, Oxford; 1930 to date, res. chem. Corning Glass Works. Mem.: A.C.S., Am. Ceramic Soc., Soc. of Glass Tech. Hobby: photography.

DALY, Patrick J., distr. mgr., Ansco, 11 W. 42nd St., N.Y.C.; res. 824 Bronx River Rd., Bronxville, N.Y.

Mgr. of N.Y.C. Off., Ansco Div. Gen. Aniline & Film Corp.; b. Reedsburg, Wis., Mar. 17, 1912; s. of Dr. F. P. and Anna (Joyce) Daly; ed. U. of Wis., grad. 1937, Ph.B.; mem.: Phi Delta Theta; m. Helen Carr, Sept. 9, 1939; ch.: Patrick J., Jr. 1937-42 with Ansco, factory training course one year, sales three years; 1942-46 U.S. Air Force, Major, Photographic Equip. Engr.; 1946-50 mgr., Ansco Washington off.; 1950 mgr. Ansco New York offiice. Mem.: Soc. of Photographic Engrs., Amer. Soc. of Photogrammetry, Armed Forces Communications Assoc. Hobbies: photography, golf, swimming.

DAMEREL, Charlotte Isabel, prof. of chem., Wilson Coll., Chambersburg, Pa.; res. same.

Teaching; b. Dec. 1, 1902; d. of Edward W. and Helen Gertrude (Smith) Damerel; A.B., Goucher Coll., 1924, M.S., U. of Michigan, 1928, Ph.D., Johns Hopkins U., 1939; mem.: Phi Beta Kappa, Iota Sigma Pi, Sigma Xi. Asst. in chem., Goucher Coll., 1924-27; instr., in chem., 1928-36, Wilson Coll., asst. prof., 1936-44; teacher in summer schl. at Western Maryland Coll., 1942-43; tech. aide, Liaison Office O.S.R.D., Washington, D.C., summers of 1944-45; assoc. prof., Wilson Coll., 1944-48; prof. 1948 to present. Mem.: A.C.S., A.A.A.S.

DAMON, Glenn H., supervising engr., Jet Propulsion Sec. & Explosives Testing Sec., U.S. Bur. of Mines, 4800 Forbes St., Pitts. 13, Pa.; res. 366 Ashland Ave., Mt. Lebanon, Pitts. 28, Pa.

Chem. engr.; b. Winnebago, Minn., Nov. 3, 1901; s. of Albert C. and Grace O. Damon; ed. 1926, B.S. in chem. engrg., hon., U. of Wis., 1927, M.S. in physical chem., 1932 Ph.D. in physical chem.; m. Eleanore Gillingham, June 22, 1932; ch.: Paul H., Carolyn E., Keith G. Res. asst., U. of Wis., 1926-27; instr., Mich. Coll. of Mining & Tech., 1927-30; sr. asst., U. of Wis., 1930-32; asst. prof. 1932-40, assoc. prof. 1940-43, Mich. Coll. of Mining & Tech.; res. scientist, sec. leader, S.A.M. Labs., Div. of War Res., Columbia U., 1943-45; res. scientist, group leader, S.A.M. Labs., Carbide & Carbon Chem. Corp., 1945-46; supervising engr., sec. chf., Explosives Branch, U.S. Bur. of Mines, 1946 to date. Corrosion, atomic energy, fuels & explosives. Author: 'Qualitative Anal." 1939; "Qualitative Anal." revised edit. 1941. Mem.: A.I.Ch.E., (active), A.C.S., A.I.C. (fellow), Sigma Xi, Phi Lambda Upsilon. Hobbies: gardening, golf.

DAMPMAN, Leroy Briggs, Jr., prod. dept. hd., Carbide & Carbon Chem. Div., U.C.C., Texas City, Tex.; res. 1715 23rd St., Galveston, Tex. Chem. engr.; b. Phila., Pa., June 16, 1914; s. of Leroy B. Sr. and Gertrude Green (Halgh) Dampman; ed. B.S. in chem. engrg., U. of Pa., 1934; mem.: Tau Beta Pi, Sigma Pi; m. Phyllis Grant, Nov. 26, 1937; ch.: Marcia A., Barbara L., William A., David McC., Richard H., Dorothy E. 1934-36, chem., wks. lab., Carbide & Carbon Chem. Corp., S. Charleston, W. Va., 1936-43 prod. supvr., 1943-45 prod. supvr. butadiene-from-alcohol plant, Louisville, Ky.; 1945 to date prod. supvr., Carbide & Carbon Chem. Div., Texas City, Tex.; all above wk. in fld. of syn. org. chem. Mem.: A.I.Ch.E. (active mem.), A.C.S. Hobbies: golf, fishing.

DANCO, Gerard J., pres., dir., Gerard J. Danco, Inc., 5 E. 19th St., N.Y. 3, N.Y.; res. 39 Spring Brook Rd., Morristown, N.J. Corp. exec. (essential oils, chem.); b. Brussels, Belgium, Aug. 28, 1899; s. of Pierre and Gabrielle (d'Hooghe) Danco; ed. Institut St. Boniface, Brussels, Belgium—St. Victor Coll., Turnhout, Belgium, B. in com. sc.; m. Flora Tyck, Jan. 19, 1925; ch.: G. Peter, Paul A. Managing dir., Essential Oil Co. Inc., Trenton, N.J.; v.p., dir., Belgian Trading Co. Inc., N.Y.C.; v.p., Compagnie Parento, Inc., Croton-on-Hudson, N.Y.; pres., dir., Gerard J. Danco Inc., N.Y.C.; pres., dir., Gerard J. Danco Internatl. Corp., N.Y.C.; v.p., dir., Phosphorescent Prods. Corp., N.Y.C. Mem.: N.Y. Bd. of Trade, Tiolet Goods Assn (past mem. bd. of dir.), Essential Oil Assn. (v.p.), Fragrance Foundations Inc. Trustee, Morristown Memorial Hosp., Morristown, N.J.; trustee, Morris Co. Community Chest; mem. exec. bd., Morris-Sussex Council, Boy Scouts of Am.; Morris Township Civic Assn. (past pres.). Clubs: Springbrook Country (Morristown, N.J.), Advertising (N.Y.). Hobbies: youth movements, golf, fishing.

DANIELS, Farrington, prof. chem., chem. dept., U. of Wisconsin, Madison, Wis.; res. 1129 Waban Hill, Madison. Prof. chem.; b. Minneapolis, Minn., Mar. 8, 1889; s. of Franc B. and Florence (Farrington) Daniels; ed. U. of Minn., B.S., 1910, M.S., 1911; Harvard U., Ph.D., 1914; mem.: Alpha Delta Phi, Alpha Chi Sigma, Sigma Xi; m. Olive M. Bell, Sept. 15, 1917; ch.: Farrington, Jr., Florence Mary (Daniels) Drury, Miriam O. (Daniels) Ludwig, Dorin S. Instr. and asst. prof., Worcester Polytech. Inst., 1914-17; 1st Lieut., C.W.S., 1918; electrochem., U.S. Fixed Nitrogen Res. Lab.; asst. prof., U. of Wis., 1920-24, assoc. prof., 1924-28, prof., 1928 to date; Baker Lecturer, Cornell U., 1935; dir. Metallurgical Lab., U. Chicago, Manhattan Distr., U.S.A., 1945-46. Chem. kinetics, nitrogen oxides, photochemistry, photosynthesis, nitrogen fixation, atomic power, thermoluminescence. Author: "Outlines of Physical Chem.," 1948 and earlier editions; "Mathematical Preparation for Physical Chem.," 1928; "Chemical Kinetics," 1937; co-author, "Experimental Physical Chem.," 1949 and earlier editions. Mem.: A.C.S., Faraday Soc., A.A.A.S., Natl. Acdy. Scs., Amer. Philosophical Soc. Mem. of bd. of dirs. of A.C.S.; mem. bd. of dirs., 1946-49, Argonne Natl. Lab.

DANIELSON, Irvin S., asst. dir. in chg. of Biolog. Prod., Animal Indus. Section, Lederle Labs. Div., Amer. Cyanamid Co., Pearl River, N.Y.; res. 18 Bogert Ave., Pearl River. Prod. of Biol. Prods.; b. Albuquerque, N.M., Feb. 25, 1904; s. of Swen O. and Hanna (Larson) Danielson; ed. U. of N.M., B.S. 1926; U. of Washington, M.S. 1928; Harvard U., Ph.D. 1933; m. Constance Almy, Aug. 3, 1936; ch.: Robert A., Kenneth S. Tchg. fel. and instr., Harvard, 1933-37; asst. prof. biochem., U. of Okla. Med. Schl., 1937-42; assoc. prof. biochem. same schl. 1942; Lederle Labs., Pearl River, N.Y. to date; res. in determination of amino acid nitrogen in blood; creatinine in blood; gas gangrene toxoids. Mem.: A.C.S., Soc. Am. Biolog. Chemists', N.Y. Acdy. of Scs.

DANNER, Charles Eugene, chf. Anal. Branch, Chem. Div., Tech. Command, Dept. of the Army, Army Chem. Center, Md.; res. Gilman Apts., B2, 31st and Calvert Sts., Baltimore 18, Md. Chem.; b. Beaufort, S.C., May 6, 1889; s. of William Porter and Eliza M. (Johnson) Danner; ed. U. of S.C., (Columbia, S.C.) 1906-10, B.S.; m. Marguerite A. Miller, Jul. 13, 1918; ch.: Charles Eugene, Jr. 1911-12, chem. in chg. Anal. Lab., J. C. Thomson, Bartow, Fla.; 1912-14, works chem., E. I. du Pont, Carney's Pt. Powder Wks., N.J.; then chf. supvr. Gun Cotton Dept. same co.; 1919-21, planning engr. du Pont Co., Wilmington, Del.; 1921-42 anal. chem. for Edgewood Arsenal, Md.; 1942-45 asst. chf. Anal. Branch, same arsenal; 1945 to date, chf., Anal. Branch at Army Chem. Center, (Edgewood Arsenal), Md.; dev. of irritant compounds, anal. of chem. warfare agents and related material; papers pub. on anal. of thermite type incend. and pyrotech. mixtures, halogenated vapors in air, bleaching powder, liquid phosgene, novel foreign chem. and pyrotech. munitions. Mem.: A.C.S.

DANZIG, Meyer H., hd., vinyl process dev., Naugatuck Chem., Naugatuck, Conn. Res. chem.; b. Detroit, Mich., Aug. 6, 1918; s. of David and Minnie Danzig; ed. B.S., M.S., Wayne U., Detroit, Mich., 1939-41; Ph.D., Purdue U., Lafayette, Ind., 1944; m. Sylvia Danzig, Oct. 26, 1941; ch.: Marilyn, Leslie Evelyn. Purdue U., res. fellow, 1943-44; Case Inst. of Tech., Cleveland, 1944-46, res. assoc.; Glenn L. Martin Co., Baltimore, Md., dir. of res., chem. div.; Naugatuck Chem., Div. U.S. Rubber, Naugatuck, Conn., hd., vinyl process dev. Thermoplastic resins, vinyls. Mem.: A.C.S., Sigma Xi, Sigma Pi Sigma.

DARKIS, Frederick Randolph, dir. of res., Liggett and Myers Tobacco Co., W. Main St., Durham, N.C.; res. 1211 Alabama Ave., Durham, N.C. Chem.; b. July 22, 1899, Frederick County, Md.; s. of Thomas M. and Maria Wachter Darkis; B.S., 1922, M.S., 1923, Ph.D., 1928, U. of Md.; mem.: Alpha Chi Sigma; m. Mildred Lee Morris, Oct. 6, 1928; ch.: Frederick Randolph Darkis, Thomas Morris Darkis, Barbara Lee Darkis. Asst. chem., State of Md. Control Labs., College Park, Md., 1923-26; chem. Citrus Expt. Station, Lake Alfred, Fla., 1927-28; chem., Liggett and Myers Tobacco Co., Durham, N.C., 1928-33; res. assoc., Duke U., Durham, N.C., 1933-48; dir. of res., Liggett and Myers Tobacco Co., 1948 to present. Res. in electro isomerism of org. molecules, chem. composition of citrus fruits; estimation of the quality of tobacco by chem. means, diseases of tobacco seedlings, chem. composition of domestic and imported tobaccos, chem. characteristics of tobaccos of the Turkish type, growth of tobaccos of the Aromatic type in the U.S. Author: "Aromatic Tobacco" 1947. Mem.: A.C.S., A.A.A.S., Acdy. of Sc. (N.C.), Sigma Xi, Phi Lambda Upsilon. Hobby, gardening.

DARLING, Arthur Henry, branch mgr. Interchemical Corp. Finishes Div., 915 Howard St., San Francisco, Calif.; res. 532 Park Blvd., Millbrae, Calif.
Chem. engr., tech. salesman; b. Hudson, Ohio, Aug. 7, 1905; s. of George and Marie (Kridler) Darling; ed. Miami U., A.B. Oxford, Ohio, premed. U. of Cincinnati, Ch.E.; mem.: Beta Theta Pi; m. Alice C. Berling, July 3, 1943; ch.: Richard A. 1928-31, lab. asst., control and development, Ault & Wiborg Co., Cincinnati, O.; 1931-42, supvr., Metal Decorating, res. lab., Interchemical Corp., Cincinnati; 1942-45, Off. U.S. Naval Reserve, released to inactive duty with rank Lt. Cmdr.; 1945-48, tech. salesman, Interchemical Corp., Los Angeles, Calif.; 1948 to date, branch mgr., Interchem. Corp., San Francisco. Mem.: Green Hills Country Club, Millbrae, Calif. Hobby: golf.

DARLING, Stephen Foster, prof. of chem., Lawrence Coll., Appleton, Wis.; res. 617 E. Alice St., Appleton, Wis.
Tchr. of chem.; b. DeSmet, S.D., May 1, 1901; s. of Andrew Delos and Harriet E. Darling; ed. U. of Minn., B.S. 1922, M.S. 1924; Harvard U., A.M. 1926, Ph.D. 1928; U. of Vienna 1928-29; mem.: Alpha Chi Sigma, Gamma Alpha, Sigma Xi, Phi Lambda Upsilon; m. Delphine Deziel, Aug. 20, 1930; ch.: Stephen D., Charlotte E., Anne Marie, Andrew D. 1929-37 assoc. prof., 1937 to date prof., Lawrence Coll.; 1930 to date res. assoc. Inst. of Paper Chem.; res. in nitrocyclopropanes. Mem.: A.C.S., Fellow, A.I.C., A.A.U.P. Hobbies: gardening, photography, philately, cooperatives.

DARLINGTON, Charles Joseph, supt., Jackson Lab., E. I. du Pont de Nemours & Co., P.O. Box 525, Wilmington, Del.; res. 26 Bowen Ave., Woodstown, N.J.
Chem. engr.; b. Darlington Station, Del Co., Pa. Oct. 21, 1894; s. of Jared and Marian E. Darlington; ed. Friends Central School, Phila., Pa.; A.B. 1915, Chem. Engr. Swarthmore Coll., A.M. 1916, Chem.; mem.: Phi Delta Theta; m. Marie S. Bender of Camden, N.J. Nov. 30, 1918, deceased May 12, 1929; m. Eleanor Collins of Purchase, N.Y., June 25, 1932; ch.: C. Le Roy, Robert P. (by first marriage), Jared L., Esther C., Richard B., (by second marriage). Employed by E. I. du Pont de Nemours Co., from June, 1916 to date with positions as follows: Res. chem. at Experimental Station, Wilmington, Del. and Jackson Laboratory, Deepwater, N.J., June 1916 to Oct. 1931; chf. super. of semi wks., Jackson Lab., Oct. 1931 to July 1943; super., Jackson Lab. July, 1943 to present. Res.: Development of dyestuffs intermediates and other org. chemicals. Mem.: A.C.S., A.I.Ch.E., Sigma Xi, Phi Beta Kappa. Chmn. Comm. on ed. of Phila. yearly meetings of the Soc. of Friends. V. chmn. of Friends Council on education. Mem. of American Friends Service Comm. Trustee of Pilesgrove Library Assoc., Woodstown, N.J. Mem. Gloucester-Salem Council, Boy Scouts of America. Hobbies: reading, gardening, activities of the Soc. of Friends.

DARRAH, William A., pres., Continental Industrial Engrs., Inc., 176 W. Adams St., Oak Park, Ill.; res. 901 N. Oak Park Ave., Oak Park.
Mech., chem., indus. engr.; b. Providence, R.I., Dec. 16, 1886; s. of Austin Albert and Mary A. (Cornell) Darrah; ed. Worcester Polytech. Inst., Worcester, Mass., B.S., E.E.; mem.: Sigma Xi; m. Marie Russell McNaughton, 1916; ch.: Jeanne (Mrs. Vierow), Elizabeth Ann (Mrs. Boyd). Pat. exam., U.S. Pat. Office; res. dir., Western Elec.; mgr., engrg. dept., Westinghouse; mgr. engrg., Ohio Brass Co.; plant mgr., Noble Electric Steel Co. of Calif.; founder, pres. & gen. mgr., Continental Indus. Engrs., Inc. About 100 pats. electro. fld. Mem.: A.I.E.E., A.S.M.E., A.C.S., A.E.C.S., Am. Geog. Soc., Am. Ceram. Soc., A.A.A.S., A.S.M. Hobbies: flying and traveling.

DARRIN, Marc (de Lepine), assoc. dir. res., Mutual Chemical Co. of America, Baltimore 31, Md.; res. 4401 Wickford Rd., Baltimore 10.
Chem. engr.; b. Elmira, N.Y., Jan. 11, 1891; s. of C. Bennett Darrin, M.D., and Caroline de Lepine Darrin; ed. B.S. in chem., 1912, M.S. in chem. eng., cum laude, 1913, U. of Wash. (Seattle); mem.: Sigma Xi, Tau Beta Pi, Phi Lambda Upsilon; mem. Pi Kappa Alpha; m. Kathleen Sullivan in 1915. U. of Wash., asst. instr. chem., 1913; U.S. Forest Serv., chem. in Forest Prods., 1914; Darrin Inc., v.p., (conslt. chem. eng.) 1915; Mellon Inst., sr. indust. Fellow, 1916-36; Mutual Chemical Co. of America, assoc. dir. res., 1936 to date. Not. wk.: Chromium chemicals, their manuf. and uses; over 50 pats. U.S. & foreign; over 50 tech. arts.; most recent and best known are a series of arts. on "Chromate Corrosion Inhibitors," starting 1941 in "Ind. Eng. Chem.," and in 1949 in "Oil and Gas Jl." Mem.: Chmn. Baltimore A.I.C., 1949 to date, chmn. A.S.T.M. subcom. on finishes for electrodeposited surfaces, 1947 to date, mem. committees of A.C.S., A.A.A.S., A.S.R.E., N.A.C.E., Electrochem. Soc., Acdy. Sc. (Md.). Clubs: Chemists', (N.Y.C.); Univ. (Baltimore, Md.); Univ. Club. (Pittsburgh, Pa.) Hobbies: fish, birds, dogs.

DART, Jack Calhoon, dir. of dev., Houdy Proc. Corp., Box 427, Marcus Hook, Pa.; res. Woodward Rd., Moylan, Pa.
Chem. engr.; b. Concord, Mich., Aug. 14, 1912; s. of James Laurance and Ethyl Lenore (Calhoon) Dart; ed. Albion Coll., Albion, Mich., A.B. 1934; U. of Mich., B.S.E. (Ch.E.); M.S.E. (Ch.E.) 1937; mem.: Tau Kappa Epsilon, Kappa Mu Epsilon, Iota Alpha; m. Rachel Cecilia Henderson, June 16, 1940; ch.: Diane Cecilia, Linda Lenore. 1936 res. assoc., U. of Mich. Faculty Res.; 1936 chem. engr. Universal Oil Prods., Chicago, Ill.; 1937-43 chem. engr. Pan Amer. Refin. Corp., Texas City, Tex.; A. & M. Coll. of Texas, taught chem. engrg. E.S.M.D.T. and E.S.M.W.T.; 1943-44 pilot plant supvr Magnolia Petroleum Co., Field Res. Dept.; 1944-47 chem. engr. Std. Oil Co. of N.J., Esso Labs., Louisiana Div.; 1947 to date dir. of dev. Houdry Proc. Corp., Marcus Hook, Pa. Contrib. sev. arts. to various sc. jls. Mem.: A.I.Ch.E., Program Comm. 1944 to date, vice-chmn. 1946, chmn. 1947 Baton Rouge Sect. of A.I.Ch.E.; A.C.S., Petroleum Div.; chmn. Baton Rouge Joint Tech. Council, 1947.

DART, Justin W., pres., Rexall Drug, Inc., 8480 Beverly Blvd., Los Angeles 48, Calif.; res. 944 Airole Way, Los Angeles 24.
Exec.; b. Evanston, Ill., Aug. 17, 1907; s. of Guy Justin and Laura (Whitlock) Dart; ed. Northwestern U., 1929, B.A.; m. Ruth Walgreen, Oct. 9, 1929, div. 1939; Jane O'Brien, Dec. 31, 1939; ch.: Justin Whitlock, Peter Walgreen, Guy Michael, Jane. Walgreen Co., Chicago, 1929-41, supervision, 1930-32, store operations, 1932-39; gen. mgr., 1939-41; dir., 1934-41; resigned Oct. 1941; joined Rexall Drug Co., Nov. 1941, dir. & v.p., Apr. 1942, pres. Apr. 1943 to date. United Air Lines (dir.). Clubs: University (Boston), Country (Brookline), Racquet & Tennis (N.Y.), Chicago Athletic (Chicago), Hinsdale Golf (Hinsdale, Ill.), Calif., Los Angeles Country, Bel Air Country.

DARVIN, Joseph J., pres., Republic Chem. Corp., 94 Beekman St., New York City; res. 55 E.

10th St., New York City and West Clarkstown Rd., New City, Rockland Co., N.Y.
Exec.; b. July 31, 1896; s. of Samuel and Beatrice Darvin; ed. B.S. in chem. Cooper Union, New York City; m. Evelyn; ch.: Lucille Shirley, Eugene Stanley. Pres. Republic Chem. Corp., 94 Beekman St., New York City, since Sept. 26, 1924.

DASHER, Paul James, pres. and gen. mgr., Dasher Rubber and Chem. Co., Box 97, Fanport Harbor, Ohio; res. 128 Euclid Ave., Willoughby, Ohio.
Conslt., inventor, exec.; b. Pleasant Plains, Ill., June 4, 1912; s. of Edwin Huston and Clara R. Dasher; ed. U. of Ill., B.S. 1934; Indiana U., M.A. 1935, Ph.D. 1937; honor roll; Sigma Xi, Phi Lambda Upsilon; m. June Lowman, Feb. 16, 1935; ch.: Katherine Elizabeth, Barbara June, Paul James. 1937-38 res. chem., 1938-40 asst. dir. Rubber Res., B. F. Goodrich Co.; 1941-43 dir. dev. and engr., Fuel Cell Div.; 1943-45 tech. supt. Fuel Cell Div., 1945-46 mgr. New Proc. Dev. same co.; pres. Merit Chem. Co.; pres. Summit Indus. Prods. Co., pres. Dasher Rubber & Chem. Co. Holds many pats. in fields of rubber reclaiming, rubber prods., and bullet sealing fuel tanks. Dir., Summit Industrial Prods. Co.; v.p., secy., dir., Lowmans, Inc.; v.p. and dir., Lake Rubber, Inc. Recip., Navy Award 1946 tech. dev.; Natl. Inventors Council, 1946, outstanding inventor in field of rubber reclaiming. Dir. Willoughby Masonic Temple Co. Clubs: University (Akron); A.C.S.; fellow, A.I.C.; A.A.A.S.; City Club of Cleveland, Cleveland Professional Men's Club; Masonic bodies, etc.

DAUBERT, Bernard Forbes, res. administrator, chem. dept., U. of Pittsburgh, Pittsburgh 13, Pa.; res. 1011 Vermont Ave., Pittsburgh 16, Pa.
Res. administrator; b. Martins Ferry, O., May 1, 1905; s. of Louis Henry and Elizabeth (Davis) Daubert; ed. Ph.C. U. of Pitts., 1925, B.S., U. of Pitts. 1930, Ph.D. U. of Pitts. 1939; mem.: Phi Lambda Upsilon, Sigma Xi, Pi Tau Phi; m. Dorothy Samuels, June 8, 1925; ch.: Margaret Helen, Sara Jean. Instr., U. of Pitts., 1925-30; asst. prof., 1930-41; asst. res. prof., chem. 1941-45; assoc. res. prof., 1945, res. prof. 1946; res. administrator, 1947 to present. Res. in chem. and physiology of lipids (fats). Author: "Pharmaceutical Latin," 1941. Mem.: A.C.S., A.O.C.S., A.A.A.S., A.S.Biol.C., A.Phar.A., A.C.S., (chmn., Pittsburgh Section). Clubs: Chemists' (Pittsburgh), Faculty (U. of Pittsburgh). Hobby: music.

DAUDT, Herbert Wilkens, res. chem., Jackson Lab., du Pont Co., Box 525, Wilmington, Del.; res. 2802 Baynard Blvd., Wilmington, Del.
Chem.; b. St. Charles, Mo., June 21, 1886; s. of Carl and Anna (Brenner) Daudt; ed. Washington U., St. Louis, Mo.; B.S., Harvard U., 1907, M.S., Harvard U., 1908; m. Charlotte Rist, June 9, 1913; ch.: William Herbert, Louis Rodney Daudt. Chem. Mallinckrodt Chemical Works, 1908-09; instr., U. of N. Dakota, 1909-13; chem. Bureau of Chem., U.S. Dept. of Agriculture, 1913-18; chem. Jackson Laboratory, E. I. du Pont de Nemours & Co., 1918 to date. Res.: chlorofluoro compounds (Freons), tetraethyl lead, ethyl chloride, chlorine-free benzoic acid, dye and dye intermediates and anal. of org. compounds, including dyes. Mem.: A.C.S., Natl. Assoc. of Manufacturers, "Modern Pioneer" award in 1940. Hobbies: fishing, music.

DAUGHTERS, Milo Reason, retired, 15 Paseo Primero, Salinas, Calif.; res. same.
Adm. & res. chem.; b. Feb. 8, 1883; s. of William T. and Sarah Elmira (Heaton) Daughters; ed. U. of Nebr., A.B. 1905, A.M. 1909; U. of Chicago 1912; U. of Calif. 1915; mem.: Alpha Chi Sigma; m. Alice B. Gillham, Dec. 24, 1906; ch.: Bard R. Asst. prof. org. chem., Ore. State Coll., 1909-18; Canning fellow, Mellon Inst., 1918-19; res. mgr., Dominion Canners, Ltd., Ont., 1919-23; res. chem., Citrus Prods., Fla., 1923-24; Sprague-Sells Corp., 1924-26; U.S. & Continental Can Cos. 1926-31; dir. res. frosted foods, Gen. Foods Corp., Calif., 1931-33; v.p., dir. res., Natural Food Prods. Co., Orange, Calif., 1933-37; pres. 1937-45; tech. adv., Stand. Brands, Louden Div., 1945-46; retired 1947. Res. in frozen foods. Numerous publ. in tech. jls. Mem.: A.C.S. (since 1911), A.A.A.S., Alpha Chi Sigma. Hobbies: mining, minerology, lapidary, ceramics.

DAULER, Lee Van Voorhis, v.p. in charge of sales, The Neville Co., Neville Island, Pittsburgh 25, Pa.; res. 5414 Kipling Rd., Pittsburgh 17, Pa.
Chem. Manufacturing Exec.; b. Pittsburgh, Pa., Nov. 5, 1912; s. of Harvey N. and Nina Lee Dauler; ed. B.S., 1935, Yale U.; mem.: Phi Gamma Delta; m. Margaret B. Hodge, May 12, 1938; ch.: Margaret H., Lee Van Voorhis, Jr. Training Course, The Neville Co., June 1935 to Jan. 1936; purchasing agent, Jan. 1936 to Mar. 1942, sales mgr., Mar. 1942 to date; v.p., Nov. 1944 to date; pres. and dir. Lee Labs., Inc., 1940-42, secy. and dir., Pittsburgh Broadcasting Co., 1946-48. Mem.: Akron Rubber Group of Am. Chem. Soc., Am. Wood Preservers Assoc., Synthetic Org. Chem. Mfgrs. Assoc., Manufacturing Chemists Assoc., Pitts. Paint, Varnish & Lacquer Assoc. (Exec. Comm. Mem.). Trustee, Ascension Acdy. (Pitts). Allegheny County Community Chest (group chmn.), Chamber of Commerce (Pitts.). Smaller Mfgrs. Council (Pittsburgh). Clubs: Chemists' (N.Y.C.), Fox Chapel Golf (Pittsburgh), The Duquesne (Pittsburgh). The Rolling Rock (Ligonier, Pa.).

DAVID, Donald Kirk, dean, Harvard U. Grad. Schl. of Bus. Adm., Soldiers Fld., Boston 63, Mass.; res. Dean's House, Soldiers Fld., Boston 63.
Dean; b. Feb. 15, 1896; s. of Frank Alva and Ella (Jameson) David; ed. U. of Idaho, A.B. 1916, LL.D. 1941; Harvard U., M.B.A. 1919, LL.D. 1948; St. Lawrence U., LL.D. 1947; Washington & Lee U., LL.D. 1949; m. Elizabeth Helen Soulen, Aug. 30, 1917; ch.: Helen Jameson. Philip Kirk. Harvard Bus. Schl., instr. 1919-21, asst. dean 1920-27, asst. prof. of marketing 1921-26, assoc. prof. of marketing 1926-27; Royal Baking Powder Co., exec. v.p. 1927-29, pres. 1929-30; Great Is. Holding Corp., v.p. 1930-41; Am. Maize Prods. Co., pres., 1932-41; Harvard Bus. Schl., assoc. dean & William Ziegler prof. of bus. adm. 1942, dean 1942 to date. Am. Maize-Prods. Co., dir.; Ford Motor Co., dir.; R.H. Macy & Co., Inc., dir.; Gen. Elec. Co., dir.; First Natl. Bank of the City of N.Y.. dir. Author: "Retail Store Management Problems" 1922; co-author: "Problems in Retailing" with Malcolm P. McNair, 1926. Mem.: Phi Beta Kappa, Phi Delta Theta. Trustee, Radcliffe Coll.; trustee. Ford Foundation; trustee, Rockefeller Inst. for Med. Res.; dir., Boys' Clubs of Am.; mem. Bd. of Overseers, Boys' Clubs of Boston. Clubs: Harvard (Boston). Harvard (N.Y.), Union League (N.Y.). Links (N.Y.). Tavern (Boston), Somerset (Boston), Country (Brookline, Mass.), Cambridge (Cambridge, Mass.), Wianno (Wianno, Mass.), Oyster Harbors, Inc. (Osterville, Mass.), Rolling Rock (Ligonier, Pa.). Hobby: tennis.

DAVIDHEISER, Lee Yorgey, prof. emer., Wagner Coll.; res. 44 Woodland Ave., Staten Island 4, N.Y.
Prof. emer.; b. New Hanover, Pa., Apr. 6, 1885; s. of Levi Hofmann and Malinda (Yorgey) Davidheiser; ed. Ursinus Coll., A.B., 1914; Johns Hopkins, Ph.D., 1921; Wagner Coll., Sc.D., 1950; mem.: Alpha Sigma Phi, Sigma Xi; m. Dagny

Anderson; ch.: Cedric Bolton. High schl. principal and supt. schls., 1914-17; C.W.S., 1918; Johns Hopkins, instr. in chem., 1922; Millersville Tchrs. Coll., prof. of chem., 1922-28; Wagner Coll., prof. of chem., 1928-50; prof. of chem. emeritus, 1950 to date. Wk. in adsorption of gases; complexions. Mem.: A.C.S., A.I.C., A.A.A.S., N.Y. Acdy. Sc., Franklin Inst., Sigma Xi. Hobbies: American literature, nature study.

DAVIDOFF, Charles, consulting engr., 198 Broadway, New York 7, N.Y.; res. Manhasset, L.I.
Chem. and metallurgical engr.; b., New York City, Jan. 23, 1915; s. of Morris and Minnie Davidoff; ed. Coll. of the City of New York, B.S. in Engrg., 1936, master of Chm. Engrg., 1937; m. Louise Berman, Mar. 1947; ch.: Peter Harris. Lucius Pitkin, Inc., 1938-43, in charge of chem. engrg; Sam Toun, Inc., 1943-46, v.p. in charge of chem. engrg; Coll. of the City of N.Y., 1944-45, lecturer, dept. of chem. engrg.; 1946 to date, independent consulting engr., dealing with problems in chem. and metallurgical engrg. Res. in thin films; dev. processes for making extremely thin metallic films, corrosion; special problems bordering between chem. and metallurgy; refining of metals. Mem.: A.I. Ch.E., Am. Soc. of Metals, Electrochem. Soc., T.A.P.P.I., Soc. of Plastics Ind., Assn. of Consulting Chemists and Chem. Engrs. (dir.). Hobbies: golf, silver coinage as relates to antique silver.

DAVIDSON, Arthur William, prof. of chem., U. of Kansas, Lawrence, Kansas; res. 9 Winona Ave., Lawrence.
Prof. of chem.; b. New York, N.Y., Feb. 16, 1896; s. of David and Clara (Recht) Davidson; ed. Coll. of the City of N.Y., B.S. 1915; Columbia U., A.M. 1917; Ph.D. 1921; m. Elisabeth Elsey, Aug. 5, 1925; ch.: David Leo, Dorothy Louise. 1921-27 asst. prof. of chem., 1927-37 assoc. prof. of chem., 1937 to date prof. of chem., U. of Kansas; res. on solutions of salts in anhydrous acetic acid, anodic oxidation of metals, ion exchange; mem. editorial bd., Journal of the Amer. Chem. Soc., 1949 to date. Co-author: "General Chemistry: A Systematic Approach" (with Harry H. Sisler and Calvin A. VanderWerf), 1950. Mem.: A.C.S., A.A. U.P., A.A.A.S., Kansas Acdy. of Sc., Phi Beta Kappa, Phi Lambda Upsilon, Sigma Xi. Club: University (Lawrence, Kans.). Hobby: philately.

DAVIDSON, Emil, v.p., Clay-Adams Co., Inc., 141 E. 25th St., N.Y. 10, N.Y., res. 14 Tunstall Rd., Scarsdale, N.Y.
Dir. res.; b. N.Y.C., Feb. 28, 1908; s. of Max and Ida Davidson; ed. Rutgers U., B.S. 1929; Columbia U., M.A. Chem. 1930; mem.: Sigma Alpha Mu; m. Mildred Kreeger, Dec. 24, 1936; ch.: Tina Patricia, Richard Michael, Jonathan Marc. 1930-35, Pfaltz and Bauer; 1935 to date, dir. res. advertising mgr., Clay Adams Co., Inc. Mem.: A.I.C. (fellow). Hobby: photography.

DAVIDSON, J(oseph) G(eorge), div. pres., Carbide & Carbon Chem. Div., Union Carbide & Carbon Corp., 30 E. 42nd St., N.Y. 17, N.Y.; res. 57 Butler Rd., Scarsdale, N.Y.
Chem. exec.; b. Feb. 7, 1892; s. of J. Wellington and Theresa (Gahan) Davidson; ed. 1911 A.B., 1912 A.M., U. of S. Calif.; 1917, Ph.D., Columbia U.; m. Madeleine E. Scheuerer, June 29, 1935. 1912-13, chem., Chapala Gold Mining Co., Mexico; 1914-16, Los Angeles Jr. Coll., chem. dept.; 1916-17, Columbia U., chem. dept.; 1919-23, Mellon Inst., fellow; 1923 to date, Carbide & Carbon Chem. Corp., 1923 sr. fellow on org. syn. fellowship at Mellon Inst., 1925 mgr. of chem. sales, 1930 gen. sales mgr., 1932 v.p., 1944 to date pres., dir. (Jan. 1, 1950, C.&C.C.C. became Carbide & Carbon Chem. Div. of Union Carbide & Carbon Corp., same is true of Bakelite Corp.). Bakelite Corp. (1939 v.p., dir.); Bakelite Corp. of Canada, Ltd. (1943 v.p., dir.); Canadian Resins & Chem. Ltd. (Can.) (1941 v.p., dir.); Carbide & Carbon Chem. Ltd. (Can.) (1944 pres., dir.); Union Carbide & Carbon Corp. (1945 v.p.); Southeast Corners Corp. (1941 v.p., treas., dir.). Mem.: Royal Soc. of Edinburgh, A.C.S., Am. Geographical Soc., Natl. Geographic Soc. Clubs: Chemists', Scarsdale Golf, Cloud, Green Mountain Boys, Ekwanok Country. Hobbies: woodworking, photography.

DAVIDSON, Lyndall Phillips, gen. supt., Amer. Zinc Co., Box 222, Monsanto, Ill.; res. 11 Hill Dr., Kirkwood 22, Mo.
Metallurgist; b. Bozeman, Mont., Jan. 15, 1894; s. of Albert E. and Sarah Lizzie (Phillips) Davidson; ed. Montana State Coll., B.S. 1915; Ch.E. 1939; mem.: Sigma Alpha Epsilon; m. Ruth Margaret Strand, Oct. 17, 1921; ch.: Helen Ruth Emerson, Dorothea Ann Sidney. Inspector, Montana State Bd. of Health; testing engr., res., dept. supt., Anaconda Copper Mining Co.; gen. supt., metallurg. mgr., Giesche Spolka Akcyjna; gen. supt. Amer. Zinc. Co. of Ill. Mem.: A.I.M.M.E., A.I.Ch.E.

DAVIDSON, Paul Ballinger, sr. fellow, Mellon Institute of Industrial Res., Pittsburgh 13, Pa.; 1007 Mifflin Ave., Pittsburgh 21, Pa.
Chem.; b. Bozeman, Mont., Aug. 12, 1896; s. of Wells S. and Lulu (Ballinger) Davidson; ed. B.S., Mont. State Coll. 1919, Ph.D. Columbia U., 1924; mem.: Sigma Chi, Alpha Chi Sigma, Sigma Xi; m. Marie Bunnell, Sept. 5, 1925; ch.: Jane, Esther Lee. Chem., Trident Portland Cement Co., Trident, Mont., 1919-20; asst. chem., Forest Products Lab., Madison, Wis., 1925-28; sr. fellow, Mellon Inst. of Ind. Research, Pittsburgh, Pa. 1928 to date. Mem.: A.C.S., T.A.P.P.I. Clubs: Faculty, U. of Pittsburgh. Hobbies: cabinet making, gardening, paper water marks.

DAVIDSON, William Lee, dir. phys. res., B. F. Goodrich Res. Center, Brecksville, Ohio; res. 123 N. Portage Path, Akron 3, Ohio.
Physicist; b. Jonesville, Va., July 14, 1915; s. of W. L. and Zelma (Albert) Davidson; ed. Coll. of Wm. and Mary, B.S. 1936; Yale U., Ph.D. 1940; mem.: Sigma Phi Epsilon, Phi Beta Kappa, Sigma Xi, Phi Kappa Phi, Gamma Alpha; m. Miriam Alloway, Dec. 20, 1941. 1940 res. phys., B. F. Goodrich; 1946-47 with Atomic Energy Commis., on leave of absence from B. F. Goodrich; 1947 to date res. B. F. Goodrich; 1948 became dir. of phys. res. same co.; res. in nuclear energy levels; neutron diffraction; physics of high polymers; X-ray diffraction; Co-author (with Pollard) of "Applied Nuclear Physics," 1942. Mem.: A. Phys. S., A.C.S.

DAVIES, Paul Lewis, pres., Food Machinery and Chem. Corp., 333 W. Julian St., San Jose, Calif.; res. 1598 University Ave., San Jose.
Exec.; b. Cozad, Neb., July 27, 1899; s. of Robert and Emma Estella Bennison Davies; ed. Oakland, Calif. H. S., U. of Calif., Graduate Schl. of Business Administration Harvard U.; mem.: Alpha Sigma Phi; m. Faith Crummey, Oct. 2, 1926; ch.: Paul L. Davies, Jr., Judith Davies, Nancy Faith Davies. Clerk, Natl. Bank of Commerce, 1922; asst. cashier, asst. v.p., v.p., Amer. Trust Co., San Francisco, 1923-28. Held following positions with Food Machinery and Chem. Corp., San Jose, Calif.: v.p. and treas., 1929-33; exec. v.p., 1933-40; pres., 1940 to present. Dir., Amer. Trust Co., San Francisco. Mem.: Advisory Committee of Reconstruction Finance Corp., San Francisco, Advisory Council, Schl. of Business Adm., U. of Calif., Advisory Council, San Jose, State Coll., Consulting professor, Schl. of Busines Adm., Stanford U., Bd. of Directors, Stanford Res. Inst.,

Stanford U. Trustee, Pacific Schl. of Religion, Mem., San Francisco World Trade Center Authority, Advisory Council Alumni Assoc. Univ. of Calif., Business Advisory Council, U.S. Dept. of Commerce. Natl. Assn. of Manufacturers, bd. mem. Clubs: Pacific Union (San Francisco, Calif.), Bohemian Club (San Francisco), St. Claire (San Jose, Calif.). Hobbies: hunting and has ranching operations.

DAVIES, Richard Lloyd, pres., Pennsalt Internat. Corp., Widener Bldg., Phila. 7, Pa.; res. Earle's Lane and Goshen Rd., Newton Sq.
Chem.; b. Wooster, O., Feb. 23, 1910; s. of H. Bonar and Rowene Olive (Brown) Davies; ed. Yale, cl. 1931; m. Mary Margaret McKee, Oct. 5, 1935; ch.: John David McKee, Richard Bonar. 1930-34 sales and engr., Denver Fire Clay Co. (Denver, Colo.); 1934-39 sales, res. and dev., mfg., Pa. Salt Mfg. Co.; 1939-44 mgr. market res. dept. same co.; 1941 to date asst. to pres. Pa. Salt Mfg. Co.; 1948 to date pres. Pennsalt Internat. Corp.; serv. in chem. fld.: industrial chem. participation in atomic project. Dir., Amer. Res. and Dev. Corp., Boston, Mass. Contrib. extens. to sc. and tech. jls.; holds numerous pats. Mem.: C.M.R.A. (a founder); A.C.S., S.C.I., E.S., Amer. Marketing Assoc., Amer. State. Assoc., Foreign Traders Assoc. of Phila., chmn. Munitions Bd. Industry Adv. Com. on Indust. Security, Munitions Bd. Aluminum and Magnesium Ind. Adv. Com.; M. of Liberation from King Christian X of Denmark. 1948 to date pres. Presbyterian Hosp. and mem. bd. from 1944 to date; past chmn. (1945-47) Foreign Policy Assoc.; Phila. Comm. on For. Rel.; mem. bd. of World Affairs Council, Acdy. of Natural Scs.; mem. of bd. and exec. com. Big Brother Assoc. Clubs: Yale (Phila.), Midday (Phila.), Chemists' (N.Y.), Cosmos (Washington).

DAVIS, Arthur Randall, assoc. prof. of inorg. chem., M.I.T., Cambridge, Mass.; res. 76 Brooks St., W. Medford, Mass.
Tchr.; b. Augusta, Me., Nov. 26, 1891; s. of Herbert and Mary (Smith) Davis; ed. Wesleyan (Conn.), A.B. 1915; Harvard, Ph.D. 1930, A.M. 1925; mem.: Delta Upsilon; m. Katherine Eaton, 1923; ch.: John Gilman, Barbara Plumley. 1915-23 instr. to prof., Middlebury Coll.; 1923-30 instr. Harvard U.; 1930 to date instr. to assoc. prof., M.I.T. Co-author: (with A.A. Blanchard and J.W. Phelan) of "Synthetic Inorg. Chemistry." Mem.: A.C.S. Trustee: Northeastern Sec., A.C.S. Hobbies: philatelic history.

DAVIS, Charles Prescott, hd. of tech. dept., Amer. Cyanamid Co., 30 Rockefeller Plaza, New York 20, N.Y.; res. 144 Manor Lane, Pelham Manor, N.Y. 65.
Chem. engr.; b. Concord, N.H., July 10, 1898; s. of Charles Austin (dec.) and Nancy Belle Davis; ed. Columbia, A.B. 1920; Schl. of Engrg., Columbia U., Ch.E. 1922; m. Pauline Boardway, July 30, 1949. Follow. positions with Amer. Cyanamid Co., 1922 to date: 1922-25, experim. lab.; 1926-29 tech. dept., asst. to chf. tech.; 1929-33 asst. to v.p.; 1933-37 in chg. of dev. work, experim. lab.; 1937 to date hd. tech. dept.; 1945-47 chf. of proc. section, engrg. dept. Survey of Jap. chem. indus. for the War Dept., 1949. Mem.: A.C.S., A.I.Ch.E., Tau Beta Pi. Clubs: Chemists'; Columbia U.; The University (N.Y.). Hobbies: photography, philately, tennis.

DAVIS, Clarke E., conslt., 882 Third Ave., Bklyn., N.Y.; res., Vermontville, Mich.
Conslt., chem. and sales; b. Burnips, Mich., May 31, 1888; s. of William H. and Augusta Davis; ed. B. Pd. Mich. State Normal Coll. 1909; B.A. 1912; D.Sc. (hon.) 1949; A.M. Columbia U. 1913; Ph.D. 1915; m. Annette Slout, Dec. 24, 1934. Instr. chem., Mich. State Normal Coll., 1907-12; prof. chem. Utah State Coll., 1915-17; chf. chem., 1917-29, prod. mgr., 1929-32, Natl. Biscuit Co., N.Y.; chf. chem. and sales mgr., 1934-49, Virginia Dare Extract Co.; conslt., 1949 to date, same co.; res. surface tension sulphuric acid-water mixts.; determ. freez. pt. curves and densities of denat. alcohol-water mixts.; viscosity of gel. sols.; shortening, its def. and measur.; leavens, act. and measur.; phys. charact. gel. sols.; jell strength and visc. of gel. sols.; titration curves for some common acids and bases as determ. by hydrogen electrode; surface tension of gel. sols.; hydrogen ion concentration measur.; effects. prev. hist. upon visc. of gels. sols.; specif. for stand. gel.; chart. of indicators useful for pH measurements. Mem.: Phi Lambda Upsilon, Sigma Xi, A.C.S. (chmn. N.Y. Sect. 1923-25), Washington Lodge, Masons, Shrine. Club: Chemists'. Hobby: farming.

DAVIS, Dale Stroble, prof of chem. engrg., Va. Polytech. Inst., Blacksburg, Va.; res. Bedside Manor, Tallmadge, Ohio; Dundas Heights, Blacksburg, Va.
Tchg.; writing; b. Hamilton, Ohio, Apr. 24, 1901; s. of John H. and Mary Ann (Leibrook) Davis; ed. M.I.T., B.S. Ch.E. 1923; M.S. Ch.E. pract., 1924; m. Marguerite Stevens, May 7, 1927; ch.: Margarethe, Dana Stevens. 1924-25 instr. in chem., U. of Vt.; 1925-29 chem. engr. Internat. Paper and Power Co.; 1930-34 mathemat., The Mead Corp.; 1934-37 conslt. Dale S. Davis' Assoc.; 1937-42 instr., asst. prof. chem. engr., Wayne U.; 1942-46 mathemat., editor, Wyandotte Chems. Corp.; 1946-48 editor, Government Labs., U. of Akron; 1949 to date prof. of chem. engrg., Va. Polytech. Inst. Work includes: freeness testing in pulp and paper indus., industrial appls. of nomography; tech. editing; 235 papers in the tech. press. Author: "Empirical Equations and Nomography," (McGraw-Hill Book Co., 1943); "Chem. Engr. Nomographs," (McGraw-Hill Book Co., 1944); "Elements of Engr. Reports," (Edwards Bros., 1949.) Mem.: A.C.S., Va. Acdy. of Sc. Hobbies: interpretations of contemporary humor; radio work and script writing.

DAVIS, Donald Walker, dir., converted prods. res., Marathon Corp., Menasha, Wis.; res. 325 Ninth St., Neenah, Wisc.
Dir. of Res.; b. Bar Creek, Wis., Apr. 4, 1905; s. of C.O. and Lou E. Davis; ed. A.B., Lawrence College, 1927 (magna cum laude); Ph.D., U. of Ill., 1931; mem.: Beta Sigma Phi, now Beta Theta Pi; m. Catherine MacLaren, July 14, 1931; ch.: Bruce MacLaren, Clyde Robert. Res. chem., E.I. du Pont de Nemours & Co., Exp. Station, Wilmington, Del., yr. 1930, res. studies on vapor phase oxidation of hydrocarbons; res. chem., du Pont Rayon Dept., Buffalo, N.Y., chem. res. on rayon delustering and other viscose and spinning problems, 1931-41; res. chem., Marathon Paper Mills Co., Rothschild, Wis., gas transmission studies and other res. on converted prods., 1941-44; dir. of res., Marathon Corp., Menasha, Wis., dir. of res. on converted prods. for food packaging, 1944 to present. Welcome-Shiocton Lumber Co., pres. Studies on free org. radicals, applied res. on viscose rayon delustering and spinning, dev. of apparatus and method for gas permeability of sheet mtls., general paper and packaging tech. Mem.: Phi Beta Kappa, Phi Lambda Upsilon, Sigma Xi, A.C.S., T.A.P.P.I., A.A.A.S. Trustee: First Methodist Church, Neenah, Wis. Clubs: Rotary, Winnebago Camera, Riverview Country. Hobby: photography.

DAVIS, Harold Simmonds, director, Stamford Labs., Amer. Cyanamid Co., 1937 W. Main, Stamford, Conn.; res. 218 Palmer Hill Rd., Riverside, Conn.
Chem.; b. Clifton, Nova Scotia, Apr. 19, 1889; s. of Matthew John and Lillie Frances Davis; ed.

Dalhousie, A.B. 1910, high honors and Univ. Medal; A.M. 1912; Harvard, Ph.D. 1914; m. Mary Isabella Davidson, July 14, 1915; ch.: (Mrs.) Catherine Davidson Crowley, George Gray, John Clifton, (Mrs.) Rose Charters Davy. 1914-18 lect., asst. prof. U. of Manitoba; 1918-22 fellow, Mellon Inst.; 1922-26 res. assoc. A.D. Little Inc.; 1926-30 M.I.T. Amer. Pet. Inst. fellow; 1930-34 div. hd., res. and tech. dept., Vacuum Oil Co.; 1934-45 grp. ldr., 1945-50 res. advisor, 1950— director library and abstracts division Amer. Cyanamid Co.; res. in prods. from olefinic hydrocarbons, acrylonitrile. Contrib. numerous arts. to sc. jls.; holds many pats. 1851 Exhibition fellow 1912-14 A.C.S. Hobbies: books, gardening, trees.

DAVIS, Harry Elmer, gen. mgr., v.p. Kaw River Valley Fertilizer Co., Inc., Box 82, 6th & Locust Sts., Lawrence, Kansas; res. 524 S. Street, Iola, Kans.
Fertilizer mfr.; b. Iola, Kans., Sept. 30, 1907; s. of Albert H. and Osolia Davis; m. Delphine Ward, Nov. 2, 1930; ch.: Gary Ward, Margary Lynn. Sales & field representative, Thurston Chem. Co., Joplin, Mo., Nov., 1945-Oct., 1948; sales and gen. mgr. Kaw River Valley Fertilizer Co., Oct., 1948 to present. Clubs: Jr. Chamber of Commerce, Elks, Lions. Hobbies: all sports.

DAVIS, Harry Willard, prof. and hd. dept. of chem., U. of South Carolina, Columbia, S.C.; res. 1809 Devine St., Columbia.
Tchr.; b. Pelzer, S.C., Nov. 7, 1915; s. of Eugene M. and Mary (Fennell) Davis; ed. U. of S.C., B.S. in Ch.E. 1937; U. of Concinnati, M.S. 1939; Ph.D. 1941; Laws fellow; m. Mary Watson, Aug. 28, 1937; ch.: Anne, Harry, Jr., James. 1941-44 adjunct prof., 1944-49 assoc. prof., 1949 to date hd., and prof., U. of So. Carolina. Mem.: A.C.S., Phi Lambda Upsilon, Alpha Chi Sigma, Phi Beta Kappa, Sigma Xi, S.C. Acad. of Sc., LeConte Sc. Soc. Hobby: photography.

DAVIS, Helen Miles, edit., "Chemistry" Magazine. Science Service. 1719 N St. N.W., Wash. 6, D.C.; res. 1422 R.I. Ave. N.W., Wash. 5, D.C.
Edit.; b. Wash., D.C., Apr. 13, 1895; d. of Henry R. and Charlotte (Ketcham) Miles; ed. George Washington U., B.S. in chem., 1918; mem.: Sigma Kappa; m. Watson Davis, Dec. 6, 1919; ch.: Charlotte (Davis) Mooers, Miles Davis. Chem. aide, Natl. Bur. of Stands., 1916-18; edited "Classics of Science," Sc. Serv., 1927-33; edit. "Chemistry" 1944 to date; varying amounts of writing in popularization of sc. & history of sc. flds. since 1921. Mem.: A.C.S.

DAVIS, Herbert L(eroy), dir. of res., Ethicon Suture Lab. Inc., New Brunswick, N.J.; res. 239 Harrison Ave., Highland Park, N.J.
Res. chem.; b. Cedarville, N.J., Dec. 20, 1897; s. of E. Mulford and Eleanor W. (Diament) Davis; ed. A.B., Dickinson Coll., 1921; Ph.D., Cornell U., 1927; Heckscher Res. Fellow, Cornell, 1928-32; mem.: Sigma Xi, Phi Beta Kappa, Phi Kappa Sigma; m. Nora L. Lippi, Aug. 24, 1924; ch.: George, Nancy. Dickinson Coll., instr. chem., 1921-25; Cornell U., grad. student, 1925-27; Dickinson Coll., asst. prof. chem., 1927-28; Heckscher Fellow, Cornell, 1928-32; Westminster Coll., asst. prof., 1932-34; Lawrence Coll., asst. prof., 1934-36; Inst. of Paper Chem., res. assoc., 1936-39; Johnson & Johnson, res. chem., 1939 to date. Contrib. abt. 30 papers to sc. jls.; holds sev. pats. Author: "Mechanism and Evaluation of Antiseptics." Organizing Chmn., 1949-50. Mem.: A.C.S., Sigma Xi, Phi Betta Kappa.

DAVIS, John B., hd. chem. dept., Amer. Internat. Coll., Springfield, Mass.; res. 81 Braddock St., Springfield, Mass.
Prof. of chem.; b. Berwick, Maine, Dec. 28, 1897; s. of George H. and Emma C. (Smith) Davis; ed. Bates Coll., D.S. 1923; Harvard U., Ed.M. 1930; Johns Hopkins U., Ph.D. 1934; m. Evelyn E. Longley, 1931; ch.: John B. Jr.; res. in the field of reaction kinetics. Mem.: A.C.S., New Eng. Assoc. of Chem. Tchrs.

DAVIS, Lewis W., v.p., sales mgr., Metal Hydrides, Inc., 12-24 Congress St., Beverly, Mass.; res. 8 Giddings Ave., Beverly.
Chem.; b. Auburn, Maine, Feb. 7, 1914; s. of Wilbur H. and Gertrude L. Davis; ed. Bates Coll., Lewiston, Maine, B.S. degree; m. Frances Adkins, Oct. 23, 1937; ch.: Barbara Jean, Jonathan Robert. Chem., Cohart Refractories Co., Louisville, Ky., 1936; res. chem., General Electric Co., Lynn, Mass., 1936-39; chem., Metal Hydrides Inc., 1939-40; gen. mgr., Metal Hydrides Inc., 1940-47; v.p. & sales mgr., Metal Hydrides Inc., 1947 to present. Work in dev. of metallurgical hydrides and preparation of uranium, titanium, zirconium and other refractory metals on pilot plant scale and in production quantities. Mem.: A.C.S., Electrochem. Soc., Inst. of Metals (British), Am. Soc. for Metals, A.S.T.M., A.I.M.M.E. Officer: Sec'y., Kiwanis Club, dir., Metal Hydrides Inc. Clubs: Kiwanis, Chamber of Commerce. Hobbies: gardening, stamps, boating, photography.

DAVIS, Myron Park, chf. chem. and metallurgist, Otis Elevator Co., 44 Wells Ave., Yonkers, N. Y.; res. 149 North Broadway, Yonkers, N.Y.
Chf. chem., metallurgist; b. Meadville, Pa., Nov. 7, 1885; ed. Allegheny Coll., spec. in chem.; m. Mary Eleanor McLean, Nov. 8, 1913. Stand. Steel Wks., 1906; Penn. R.R. Co., Chem. Lab., 1906-09; foundry, chem. and metall. 1909-12; Otis Elevator Co., chf. chem. and metall. 1912 to date. Mem.: A.C.S., A.S.T.M., A.S.M., Amer. Standards Assn., Natl. Geog. Soc. Clubs: Larchmont Yacht, Phi Gamma Delta, Masons.

DAVIS, Richard Foster, res. chem., Universal Oil Prods. Co., 310 S. Michigan Ave., Chicago 4, Ill.; res. Palatine, Ill.
Chem.; b. Olean, N.Y., Oct. 2, 1888; s. of Harry Foster and Clara Grant (Hawkins) Davis; ed. Cornell U., B.Chem. 1911; m. Edna Pearl McClure, Feb. 5, 1913; ch.: Clara Foster, Jane Louise, Donald McClure, Ruth Stanton. 1911-26 res. chem., Std. Oil Co. of Calif.; 1927 with Pan American Western; 1928 with Richfield; 1929 with Gen. Petroleum; 1929 to date with Universal Oil Prods. Co.; res. in dev. of Montmorillonite clays for lub. oils and catalysts; cracking res.; hydrogenation; petroleum anal. methods. Mem.: A.C.S., A.I.C. Patent agent. Hobbies: piano, tennis, mountain climbing, odd names.

DAVIS, Roy B(enton), prof. of chem. and hd. of dept. of chem., The U. of the South, Sewanee, Tenn.; res. same.
Prof. of chem.; b. Bigelow, Mo., Aug. 25, 1890; s. of Thos. Orville and Marilla Jane (Trueblood) Davis; ed. Earlham Coll. B.S. 1912, U. of Mo., M.A. 1913, State U. of Iowa, 1913 to 1917 graduate student and instructor; mem.: Alpha Tau Omega, Alpha Chi Sigma, Omicron Delta Kappa; m. Isabelle Thomas (deceased) May 9, 1918; m. Ione Gaston Finley (deceased) November 24, 1926; ch.: Roy Benton, Jr., Laura Jane, Orville Gaston. Scholarship, U. of Mo. 1912-13; instructor, The U. of the South, 1918-19; prof. of chem., The U. of the South, 1919 to date, chem. warfare serv., 1918. Mem.: Tenn. Acad. of Sci., A.C.S., Fellow A.A.A.S., S.A.S.I., A.A.U.P., Leon P. Smith Award, 1942.

DAVIS, Samuel Jackson, asst. to the dir. of res., Callaway Mills Co.; res. La Grange, Georgia.
Chem.; b. Campbellsburg, Ky., Feb. 11, 1913; s.

of Rev. G.J. and Mrs. Martha Elvira (Davis) Davis; ed. Boys High School, Atlanta, Ga., 1930, Emory U., Atlanta, B.A., 1933, M.A. 1934, U. of Ill.; Harvard U., A.M. 1938; mem.: Alpha Chi Sigma; m. Elizabeth Louise Thomas, Aug. 19, 1945. Instr., Physics and Chem., Greensboro, Ga., H.S., 1934-35; res. chem., 1941-46, chf. chem., 1946-48, asst. to the dir. of res. 1948 to present, Callaway Mills Co. Mem.: A.C.S., A.A.A.S., Amer. Asso. of Textile Chemists and Colorists (v. chairman, S.E. Section), The Chemical Soc. (England), The Fiber Society (treas.). Member, Tech. Advisory Bd., Inst. of Textile Technology, Charlottesville, Va. Club: Lions. Hobbies: antique automibiles.

DAVIS, Watson, dir., Science Service, 1719 N Street, N.W., Washington 6, D.C.; res. 1422 Rhode Island Ave., N.W., Washington, D.C.
Editor and engr.; b. Washington, D.C., Apr. 29, 1896; s. of Allan and Maud (Watson) Davis; ed. B.S. in Chem. Engrg., George Washington U., 1918, C.E., 1920; m. Helen Augusta Miles, Dec. 6, 1919; ch.: Charlotte (Davis) Mooers, Miles. Asst. engr. & physicist, U.S. Bur. of Standards, 1917-21; sc. editor, “Washington Herald,” 1920-22; mng. editor, Science Service, since 1921, dir., since 1933; editor, “Science News Letter,” since 1922; editor, “Things of Science,” since 1940; editor, “Chemistry” (magazine), since 1944; pres., American Documentation Inst., 1937-47; secy., 1947——; William L. Hounold lecturer, Knox College, 1939; dir., Science Clubs of America, since 1941; chmn., U.S. Delegation, World Congress of Documentation, 1937; bd. trustees, George Washington U. (1949 to date); Jackson Lab. (1950 to date); Natl. Advisory Dental Research Council (1949 to date); chmn., Science Clubs Comm., U.N.E.S.C.O., 1949; exec. bd., Natl. Child Research Center. Editor: “Science Today,” 1931; “New World of Science Series,” 1931; “The Advance of Science,” 1934; “Atomic Bombing,” 1950. Author: “The Story of Copper,” 1924; “Science Picture Parade,” 1940; “From Now On,” 1950. Contrib. mags. and engrg. jls. Awarded Syracuse U. Journalism Medal, 1944; Westinghouse Science Writing Award, 1946; received War-Navy Certificate of Appreciation, 1946. Mem.: Natl. Inventors Council (since 1940), Overseas Writers, Congressl. Press Gallery, White House Corr. Assn., Am. Inst. (fellow), A.A.A.S. (fellow), Harvard Observatory (member visiting comm., since 1941), A.S.T.M., Am. Eugenics Soc., Am. Polar Soc., Am. Concrete Inst., Philos. Soc. Am., Population Soc. Am., Brit. Assn. Advancement Sc., Assn. francaise pour l'avancement des sciences, Hist. of Sc. Soc., Sigma Xi, Pi Delta Epsilon, Sigma Delta Chi. Clubs: Cosmos, Natl. Press, Torch, Harvard.

DAVIS, William W., hd. dept. physical chem., Eli Lilly and Company, 740 S. Alabama, Indpls. 6, Indiana; res. Beech Park Dr., Greenwood, Ind.
Physical chem.; b. Parkersburg, West Va., Apr. 3, 1908; s. of Benjamin Martin and Marie Barbara Davis; ed. A.B., Wabash Coll., 1933, Ph.D., Johns Hopkins U., 1937; m. E. Louise Stalnaker, Sept. 15, 1934; ch.: Marten Wade, Martha Louise, Michael William, Ella Marie. Physical chem., Eli Lilly and Co., 1937-45; hd. dept. of physical chem., Eli Lilly and Co., 1945 to date. Pubs. on surface chem. of carcinogenic and related substances; wartime res. on structure of penicillin; antibiotic assay procedures. Mem.: Phi Beta Kappa, Sigma Xi, A.C.S., A.A.A.S., Electron Microscope Soc. of Amer., Acad. of Scs. (N.Y.), Am. Drug Mfgs. Asso., Res. and Dev. Sec.

DAVISON, Albert Watson, dir. of res., Owens-Corning Fiberglas Corp., Newark, Ohio; res. 1199 Moundview Ave., Newark, Ohio.
Chem. engr.; b. Alexandria, Ohio, Apr. 24, 1888; s. of Watson and Hester Ann (Beaumont) Davison; ed. Denison U., B.S. 1910; (Phi Beta Kappa, Omicron Delta Kappa, Fletcher O. Marsh Physics Prize); Ohio State, M.S. 1911; (Sigma Xi); Cornell U., Ph.D. 1914; mem.: Sigma Chi, Alpha Chi Sigma; m. Ida McDaniel, June 22, 1915; ch.: Frances Ann (Mrs. Stuart Sturges), Albert Watson, Jr. 1915-17 asst. prof. phys. chem., U. of Cincinnati; 1917-19 Lieut., Ordn. Dept.; Capt., C.W.S., U.S.A.; 1919-21 conslt.; 1921-24 prof. phys. chem. Rensselaer Polytech. Inst.; 1924-42 prof. chem. engr., hd. dept. of chem. and chem. engr. same Inst.; 1943-48 sc. dir., Res. Labs., Owens-Corning Fiberglas Corp.; 1949 to date dir. of res. same co. Pub. res. in flds. of colloid chem., dyeing, electro-chem., chem. engr. Co-author with H.S. van Klooster, “Lab. Manual of Physical Chem.,” 1922; revised edit. with H.S. van Klooster and Walter Bauer, 1941. Mem.: A.C.S., A.I.Ch.E., S.C.I., Phi Lambda Upsilon, A.A.E.E., Naval Ordn. Dev. Award. Trustee, Denison University. Clubs: Kattskill Bay Yacht, (Kattskill Bay, N.Y.); Moundbuilders' Country (Newark, Ohio). Hobbies: sailing, photography.

DAWES, Irving Desmond, v.p. Virginia-Caroline Chem. Corp., 401 E. Main St., Richmond, Va.; res. 104 Tonbridge Rd., Richmond 21, Va.
Exec.; b. March 13, 1892, Somerville, Mass.; s. of Henry Laurens Dawes and Minnie Walton (Goodwin) Dawes; ed. Harvard U. S.B. 1912, Harvard Graduate School of Business Administration M.B.A. 1914, C.P.A. Mass. 1917; m. Corinne Thies Dawes, June 23, 1917; ch.: Phyllis Corinne (Dawes) Haynes, Richard Irving Dawes. Exec. accountant with Lamson Co., Boston, Mass., Sept., 1915; asst. to gen. aud., Solvay Process Co., Syracuse, N.Y., 1921-23; comptroller, Riegel Sack Co. and Warren Mfg. Co., N.Y.C. 1923-26; trea., Martin-Parry Corp., York, Pa., 1926-30; comptroller, Va. Car. Chem. Corp., Richmond, Va., 1930-34; secy. trea. C.K. Eagle & Co., N.Y.C., 1934-36; Compt. formerly, now v.p. & treas. and dir. Virginia-Caroline Chem. Corp., Richmond, Va. since 1936. Director: Tobacco By-Products & Chem. Corp., Richmond, Va., Fidelity Chem. Corp., Houston, Texas, Blackstone Guano Co., Blackstone, Va. (comp.), Algonquin Chem. Co., Dubuque, Iowa. Formerly chmn. of cost acct. comm. Nat'l. Fertilizer Asso.; writer num. arts. for acct. and tech. books and mags. Mem.: Controllers Institute of Amer. since 1937; chmn. of comm. on tech. inf. and res. of Controllers Institute of Amer. 1947-48, 1948-49; also mem. of tax comm. of Controllers Institute; director, Va. Asso. Businessmen. Clubs: Country of Va., Harvard of Va., Harvard Business School Asso. Hobbies: golf, bridge, sports.

DAWSON, Lyle R(amsay), hd., dept. of chem., professor of physical chem., U. of Ky., Lexington, Ky.; res. 129 Barberry Lane, Lexington. Ky.
Univ. prof.; b. Long Point, Ill., Apr. 21, 1904; s. of Marcus and Jessie (Ramsay) Dawson; ed. Ed.B., Ill. State Normal U., 1928, M.S., U. of Ill., 1932, Ph.D., U. of Ia., 1935; m. Lucile Sanders, Aug. 11, 1926; ch.: Venita. Sc. teacher, high schls. of Ill., 1929-34; acting hd., dept. of chem., State Teachers Coll., Eau Claire, Wis., 1935-36; asst. prof. chem., U. of Omaha, 1936-37; res. chem., Universal Atlas Cement Co., 1937-39; asst. prof., assoc. prof., prof. chem., La. Poly. Inst., 1939-43; res. chem. and group ldr., metallurgical lab., U. of Chicago, 1943-45; prof. of physical chem., and hd. dept. of chem., U. of Ky., since 1945. Res. and publications in cement and cement prods., chem. of solutions, radiochem., wk. on atomic bomb project. Mem.: A.C.S., Sigma Xi, A.A.A.S., Acad. Sc. (Ky.), A.A.U.P., Phi Lambda Upsilon, Kappa Delta Pi, Kappa Mu Epsilon, Alpha Chi Sigma. Clubs: Executives, International Torch.

DAY, George Arthur, dir. of res. and dev. dept., Brown Co., Berlin, N.H.; res. 300 Hillside Ave., Berlin.
Chem. engr.; b. Guelph, Ontario, Canada, April 14, 1901; s. of George E. and Theresa M. (Campbell) Day; ed. B.A.Sc. chem. engr. from U. of Toronto 1922; m. Clarice Barraclough, Aug. 5, 1931; ch.: Beverley A. and Anthony G.B. Day. Chem. with Ind. Laboratories, Ltd., Toronto, May, 1922-Mar., 1926; Chem. engr. in labs. Brown Corp., La Tuque, P.Q., March, 1926-June, 1930; chf. chem. Brown Corp., La Tuque, P.Q., June, 1930-Dec., 1939; tech. adv. to Brown Co., Berlin, N.H., Dec., 1939-Nov., 1940; mgr. pulp. div. Brown Co., Berlin, Nov., 1940-Nov., 1944; present—dir. of res. and dev. dept., Brown Co., Berlin, since Nov. 14, 1944. Mem.: A.C.S., A.I.Ch.E., Canadian pulp & Paper Asso., Tech. Asso. of the Pulp & Paper Industry, S.C.I., A.A.A.S., Northeastern Wood Utilization Council. Clubs: University, Montreal, Quebec, Canada.

DAY, George Gerald, chf. engr., Velsicol Corp., Box 109, Marshall, Ill.; res. 207 E. Edgar St., Paris, Ill.
Chem. engr.; b. Buffalo, N.Y., Nov. 5, 1894; s. of George J. and Mary Fitzgerald Day; ed. A.B. 1919, Ch.E., 1922, Columbia U.; mem.: S. A.E.; m. Helen J. Macdonald, Apr. 20, 1929; ch.: June Helen, Geraldine, David George. Asst. supt., Niagara Metal Stamping Corp., 1922-23; chem., E.I. du Pont de Nemours & Co., rayon div., 1923-24, chf. chem., 1924-27, res. chem. engr., 1927-30; chem. engr., Mathieson Chem. Corp., 1930-31, supt. dev. dept., 1931-39, chem. engr. res. dept. 1939-42, tech. adviser, Magnesium Plant, 1942-43, res. & plant liaison engr., 1943-48, chf. engr., Velsicol Corp., 1948 to present. Mem.: A. C.S., Am. Inst. Ch. Eng., Electrochem. Soc.

DAY, Jesse Harold, asst. prof., Ohio U., Athens, Ohio; res. 8 Dairy Ave., Athens.
Chem.; b. Bend, Oregon, Oct. 27, 1916; s. of Jesse W. and Claudia E. Day; ed. B.A. Reed College 1942, Portland, Ore., M.S. Case School of Applied Sc., Cleveland, O., Ph.D. 1948, Case Institute of Tech., Cleveland; mem.: Sigma Xi, Alpha Chi Sigma; m. Bessie R. Johnson, June 1, 1938. Chemist U.S. Rubber Reserve, syn. rub. program, 1943-44; chem. Glenn L. Martin, polymerization of vinyl chloride 1944-45; instr. Case Inst. of Tech., 1945-48; asst. prof. chem. Ohio U. 1948; edit. of Soc. of Plastics Engrs. Journal since 1945. Publications: "Corrosion of Lead by Xylene Solutions of Lauric Acid & p-Quinone" Prutton & Day, Jour. Phys. & Coll. Chem., Oct., 1949. Mem.: A.C.S., S. of Plastic Engrs., Ohio Acad. of Sc., A.A.U.P. Clubs: Athens Country, Kiwanis. Hobbies: golf, reading, woodworking, photography.

DAY, Paul L(ouis), prof. of biochem., School of Med., U. of Ark., Little Rock, Ark.; res. 2525 Chester St., Little Rock.
U. prof.; b. Grants Pass, Ore., Dec. 26, 1899; s. of Marcus C.H. and Adella (Scott) Day; ed. A.B. 1921, Williamette U.; M.A. 1923, Ph.D. 1927, Columbia U.; m. Mildred Garrett, June 22, 1922; ch.: Margaret Evelyn (Peggy), Dorothy Ann. Prof. of chem., Montana Wesleyan College, Helena, Montana, 1923-25; prof. and hd. of biochem., Schl. of Med., U. of Ark., Little Rock. Recipient, Mead Johnson Vitamin B Complex Award, 1947; recipient, Mid-West Award in Chem. 1948. Author of num. research papers in chem., biochem. and med. jls. Mem.: A.C.S., A.Inst. of Nutri., S.E.B.M., A.S.Biol.C., Southern Soc. for Clin. Res. Board of Dir., Little Rock Family Serv. Agency, Editorial Board, Jl. of Nutri. 1948.

DEAN, Carlton Miles, asso. mgr. engr. sales. dept., Monsanto Chem. Co., 1700 S. Second St., St. Louis, Mo.; res. 101 Mason Ave., Webster Groves 19, Mo.
Chem. engr.; b. Lowell, Mass., Nov. 18, 1895; s. of Samuel and Mabel Dean; ed. B.S. M.I.T., 1917; m. Christine Danforth in 1926; ch.: Carlton Miles, Jr. and Louise Danforth. Superintendent, manufacturing various inorganic chemicals, Merrimac Chemical Company; Superintendent Acid Div. Monsanto Chem. Co.; asso. mgr. engr. sales dept., Monsanto. Mem.: A.I.Ch.E., Electrochem. Soc. Hobby: reading.

DEAN, Ernest W(oodward), conslt. chem., 15 W. 51st St., New York 19, N.Y.; res. 140 Stanmore Pl., Westfield, N.J.
Chem.; b. Taunton, Mass., Sept. 28, 1888; s. of Everett K. and Annie Janet (Woodward) Dean; ed. B.A. Clark, 1908 (summa cum laude) M.A. 1912, Ph.D. 1914 Yale U.; mem.: Sigma Xi; m. Gladys Campbell (Moyer) Oct. 20, 1915; ch.: Raymond Moyer, Margaret Woodward (Mrs. W.L. White), Constance Campbell (Mrs. C.V. Adair), Walter Craig. Instr. chem., Hobart Coll. 1908-11; Petroleum Chemist, U.S. Bur. of Mines 1914-22; Standard Oil Development Co. (sub. of Stand. Oil Co., N.J.) Dir. of Standard Inspec. Lab. 1922-50; conslt. chem. 1950. Mem.: A.C.S., A.S.T.M., Inst. Petrol. (Gr. Britain), Amer. Stands. Asso. Club: Echo Lake Country, Westfield, N.J.

DEAN, Paul Marshall, prof., hd. dept. chem., U. Colo., Boulder, Colo.; res. 525 Highland Ave., Boulder.
Instr.; b. Newcastle, Pa., Mar. 24, 1885; s. of Marshall H. and Mollie I. Dean; ed. B.A., M.A., U. Colo.; Ph.D., U. Ill.; mem.: Sigma Phi Epsilon; m. Cleophile Bell, June, 1912; ch.: Paul Marshall, Jr. Instr. Golden, Coll. High Sch. 1908-09; U. Ill. 1914-15; U. Colo. 1911 to date; U. Wash. 1939. Contr. articles in jl. A.C.S., Bulletine de La Societe Chimique de France, Comptes. Rendus. Mem.: A.C.S., A.A.A.S., A.A.U.P., Sigma Xi, Alpha Chi Sigma.

DEAN, Reginald Scott, conslt. metallurgist, 6000 34th Pl. N.W., Washington, D.C.; res. same.
Conslt. metallurgist; b. Aug. 23, 1897 in Rolla, Mo.; s. of Geo. R. and Luella C. Dean; ed. B.S. U. of Mo., 1915, M.S. 1916 Met. E. 1922, U. of Md. Ph.D. 1936; m. Mattie McGregor in 1930. Metallurgist, Amer. Zinc Co., 1917-18; Metallurgist, Anaconda Copper Co., 1918-19; Metallurgist, Western Elec. Co. 1919-29; chf. metallurgist, U.S. Bur. of Mines 1929-42; asst. dir., U.S. Bur. of Mines 1942-46. R.S. Dean Laboratories, Inc. (pres.), Chicago Devel. Co. (pres.). Author: "Theoretical Metallurgy" (John Wiley), co-author "Text Book of Metallography" Tammann (translation), "Magnetic Separation of Ores," Bur. of Mines Bull. Mem.: A.I.M.E., A.S.M., A.C.S. Electrochem. Soc. Asso. Conslt. Chemists and Chem. Engrs.

DEAN, Russell T(attershall), res. chem., Interchem. Corp., 432 W. 45th St., N.Y. 19, N.Y.; res. Stillwater Rd., Stamford, Conn.
Chem.; b. Troy, Pa., Oct. 2, 1912; s. of John Clark and Anna Sarah (Tattershall) Dean; ed. B.S., Lehigh, 1933; Ph.D. chem., Yale, 1936; mem.: Phi Delta Theta; m. S(ophia) Martha Schureman, June 21, 1933; ch.: Abigail M(artha). Res. chem., Am. Cyanamid Co., 1936-42; dev. chem., Gen. Aniline & Film Corp., 1942-44; res. chem., Casein Co. of Am., 1944-45; dev. chem., plastics div., Glenn L. Martin Co., Md., 1945-46; market dev., Shell Dev. Co., 1946-47; res. chem., Interchem. Corp., 1947 to date. Mem.: Sigma Xi, A.C.S., Alpha Chi Sigma, Com. Chem. Dev. Assn., Chem. Market Res. Assn. Hobby: stamp collecting.

DEANE, Joseph Tenison, v.p., Oronite Chemical Co., 38 Sansome St., San Francisco, Calif.; res. 2465 Filbert St., San Francisco.
Engr. exec.; b. San Francisco, Mar. 22, 1895; s.

of Tenison Deane, M.D., and Zella Holmes Deane; ed. 1913-15, U. of San Francisco, 1915-20, U. of Calif. (B.S.); mem.: Alpha Tau Omega, Theta Tau; m. Dorothy Newell Deane, June 1, 1922; ch.: Mrs. Harvey E. Winds, Thomas Newell Deane. 1920, A.G. Suydam Co., San Francisco, mine supt.; 1921-22, American Manganese Products Co., Redwood City, Calif., plant supt.; 1922-23, Sierra Railway, Jamestown, Calif., asst. chf. engr.; 1924-36, Standard Oil Co. of Calif., Richmond, job engr., plant foreman; 1936-42, Bahrein Petroleum Co., Bahrein Island, Refinery Supt., mgr. of operations; 1942-46, Calif. Company, New Orleans, plant mgr.; 1946-48, Calif. Oil Co., New Orleans, v.p.; 1949 to present, Oronite Chemical Company, San Francisco, v.p. Sutter Butte Land Co., dir. Mem.: American Petroleum Inst. Clubs: International House, New Orleans, Petroleum Club, (New Orleans), Commonwealth (San Francisco).

DEARING, A(lfred) Willis, assoc. prof. & chmn., dept. of chem., Hunter College, 695 Park Ave., New York 21, N.Y.
Chem. prof.; b. Rural Virginia, Aug. 28, 1899; ed. B.S., Va. Military Inst., 1921; Ph.D. (in chem.), Johns Hopkins, 1926; N.Y.U., 1940; m., 1924. Instr., Johns Hopkins, 1923-25; assoc. prof., prof. chem., Coll. Wm. & Mary, 1926-34; instr., Hunter Coll., 1934-36 asst. prof., 1936-49; assoc. prof., 1949 to date; chmn., dept. of chem., 1950 to date. Organ. silicates; lead compds.; microorgan. anal. Mem.: A.A.A.S., A.C.S., N.Y. Acdy. Scs.

DEARING, LeRoy M., dir. of res., Technicolor Motion Picture Corp., 6311 Romaine St., Hollywood 38, Calif.; res. 3289 Carse Dr., Hollywood 28, Calif.
Chem., color photography; b. Parma, Mich., Jan. 26, 1908; s. of David M. and Bessie K. Dearing; ed. B.S., with distinction in chem. from Antioch Coll., 1930, M.S., chem. from Antioch Coll., 1933, Ph.D., Physical chem. from O. State U., 1935; mem.: Gamma Alpha; m. Betty Jean Brown, Apr. 15, 1944; ch.: Matthew Owen. Miscellaneous cooperative jobs, Antioch Coll., 1925-30; summer 1930, field expedition in the S.W. desert area to study desert plants; res. asst. at Antioch Ind. Res. Inst.—anal. of desert plants, 1930-32; Eastman Kodak Co., Technical Supvr. of Cinekodak Processing Dept., 1935-42; U.S. Navy, highest rank commander U.S.N.R., Officer in chg. of Photographic Res. Bur. of Aeronautics, 1942-45; Technicolor Motion Picture Corp., 1946—present, since 1946 dir. of res. Mem.: A.C.S., Optical Soc. of Amer., Soc. of Motion Picture and Television Engineers, Photographic Soc. Hobbies: fishing, golf, tennis.

DEARING, William Cockrum, dir. of res. Electro-Textile Div. Behr-Manning Corp., Troy, N.Y.; res. Brunswick Hills, Troy, N.Y.
Chem.; b. Oakland City, Indiana, October 24, 1906; s. of W.P. and Mary C. Dearing; ed. A.B., Oakland City Coll. 1926, A.M., Princeton U. 1927, Ph.D., Western Reserve U. 1935; m. Edythe Broshears, June 27, 1929; ch.: Anne, Kathleen. Teacher Fellow Princeton U. 1926-28; instr. in chem. Coll. of Wooster, O. 1929-37; res. chem., Plaskon Div. Libbey Owens Ford Glass Co., Toledo, O., 1937-39; group leader, same co. 1939-45; asso. res. dir., same co., 1945-47; res. dir. same co. 1947-49; at present res. dir., Electro Textile Div. Behr-Manning Corp., Troy. Res. in fields of electrochem. synthetic resins and adhesives. Mem.: A.C.S., Sigma Xi. Hobbies: fishing, hunting, music, gardening and mechanics.

DEATRICK, Eugene P., mechanician, Dept. Chem., W.Va. U., Morgantown, W.Va.; res. Stewartstown Rd., Morgantown, W.Va.
Tchg. b. Rimersburg, Pa., Apr. 7, 1889; s. of W.W. and Emma Jane (Balliet) Deatrick; ed. Keystone State Normal; Franklin Marshall, A.B., 1911; Cornell, Ph.D. 1917; mem. of Acacia; m. Lily Bell Sefton (dec.); ch.: Eugene Peyton (Lt.). Boyertown, Pa., H.S., chem. tchr.; N.Y.S. Agr. Coll. (Cornell), asst. instr.; Pa. State Forestry Schl., instr.; W.Va. U. Coll. of Agric., hd. Soils Dept.; Soil Conservation Service, assoc. soil conservationist; U.S. War Dept., chem.; W.Va. U., Dept. of Chem., mechanician. Mem.: Sigma Xi, A.A.A.S. Clubs: Faculty (W.Va. U.), Torch (mgt.). Hobby: cabinet repair.

de BEER, Edwin John, actg. dir. res., hd. Dept. Pharmacol., The Wellcome Res. Labs., Tuckahoe 7, N.Y.; res. 264 Scarsdale Rd., Tuckahoe 7, N.Y.
Phar.; b. Portsmouth, O., Apr. 19, 1902; s. of Hilko and Martha (Dickhoff) de Beer; ed. U. of Pa., B.S. 1925; M.S. 1927; Ph.D. 1932; mem.: Tau Beta Pi; m. Helene Thinsz, Aug. 19, 1933; ch.: Edwin John, Jr., Ilona Elsa. 1927-33 asst. in phys. chem., U. of Pa.; 1933-41 phys. chem., 1941 to date hd. Dept. of Phar., 1942-43 actg. dir. res., 1943-49 asst. dir. res., 1949 to date actg. dir. res., all with Wellcome Res. Labs., Tuckahoe, N.Y. Mem. mgmt. comm. Burroughs Wellcome & Co., U.S.A. (Inc.), Tuckahoe, N.Y. Work in dev. of biostatistics; chem. of body fluids; pharmacol. of antihistamines, myoneural blocking agents, local anesthetics, vaso-pressor drugs, hypnotics, isquinolines, piperazines, etc. Author of more than 50 papers, mostly in pharmacol. and experimental therapeutics. Mem.: A.S. Pharmacol. and Exper. Therapeutics, N.Y. Acad. Scs. (fellow), A.A.A.S., A.C.S., Sigma Xi, Am. Statis. Assoc., Biometrics Soc., Res. Directors' Assoc. Hobby: cabinet making.

de BEERS, Franklin M., owner, F.M. de Beers & Assocs., R. 1444, 20 N. Wacker Dr., Chicago 6, Ill., res. 814 Grove St., Glencoe, Ill.
Chem. engr.; b. Chicago, Nov. 14, 1881; ed. Ill. Inst. Tech., B.S., Ch.E., M.S.; mem.: Tau Beta Pi; m. Florence Crocker, Oct. 20, 1909; ch.: Franklin M., Jr., John S., Nancy M. Howard. Am. Fdry. & Mach. Co., sales engr. 1905-09; Swenson Evaporator Co. 1909-21 pres., gen. mgr. (inc. bus. 1909, owned over 70% of stock sold out to Whiting Corp. present owners 1921); Whiting Corp., v.p. 1921-23; pres. Swenson div., Sun-Maid Raisin Growers Assn. 1923-26, dir. res., Fresno, Calif.; 1926 to date conslt. chem. engr., Chicago; 1932 to date mfgrs. rep. in middle West, full line process machinery. Mem.: A.C.S., A.I.Ch.E., Chicago Engr.; trustee Ill. Inst. Tech., trustee, treas., Glencoe Union Church; former dir., A.I.Ch.E. (chmn. Chicago sect.). Club: Glencoe Golf.

De CASTRO, Arthur, chf. chem., anal. res. lab., Nopco Chemical Co., 15 Essex St., Harrison, N.J.; res. 142 So. 21 St., Irvington 11, N.J.
Chem.; b. Newark, N.J., July 8, 1911; s. of Benedict and Bernadette De Castro; ed. B.S., Newark Coll. of Engineering, 1931; graduate wk., Columbia, New York Universities; mem.: Phi Sigma Omega, Chem., Calco. Chem. Co., 1931-33. Held following pos. with Nopco Chemical Co.: Chem., Control Lab., 1933-36; anal. chem., anal. res. lab., 1936-38, chf. chem., anal. res. lab., 1938 to date. Inventions: "Mercerizing Penetrant," "High Twist Artificial Yarn Production," A.S.T.M. comm. member "Analysis of Pet. Sulfonates." Co-auth. art. on "Ricinoleic Acid," Encyclopedia of Chem. Technology. Mem.: Am. Inst. Chemists (Fellow), A.C.S. Hobby: gardening.

DECK, Joseph Francis, chmn., dept. of chem., U. of Santa Clara, Santa Clara, Calif.; res. 937 Morse St., San Jose, Calif.
Tchr.; b. St. Louis, Mo., Mar. 19, 1907; s. of Michael and Anna (Westerheide) Deck; ed. St. Louis U., A.B. 1928; M.S. 1930; U. of Kansas,

Ph.D. 1932; mem.: Alpha Chi Sigma; m. Lillian M. Schwalbe, June 30, 1937; ch.: Jerome Bothe, Mary Victory, Peter Mitchel. 1932-35, res. chem., Stewart Inso Board Corp.; 1935-36, quality supvr., U.S. Gypsum Co., So. St. Joseph, Mo.; anal. res. chem., Richmond Chase Co., San Jose, Calif.; since 1936 tchr. at Santa Clara U. Mem.: A.C.S., Catholic Round Table of Sc.; Inst. of Food Technologists; Sigma Xi; Southwest Assoc. of Chem. Tchrs. Clubs: Rotary (Santa Clara). Hobbies: gardening, bridge.

DeCOSTA, Charles F.; asst. supt., Groton Pl., Chas. Pfizer Co., Inc., Groton, Conn.; res. 193 Plant St., Groton, Conn.
Chem. engr.; b. South Portland, Me., Jan. 29, 1905; s. of Frank J. and Sadie M. DeCosta; ed. School of Science & Technology, Industrial Chemical Engrg., Pratt Institute, Class of 1927; mem.: Omega Iota Pi; m. Ludmilla Veilon DeCosta, Nov. 6, 1937; ch.: Raymond Charles. Hired by Pfizer Co. in Sept., 1927. Started as sampler, then control chem., later worked on process improvement & cost reduction; adv. to night superintendent, now asst. superintendent, Groton Plant. Specialized in production wk. Mem.: A.C.S., A. A.A.S. Armed Forces Chem. Assoc., Dir. New London Y.M.C.A., dir. New London Cham. of Com., Trustee, Mitchell College. Clubs: Groton Lions, dir. Hobbies: flying; short-wave radio.

DEELY, John Martin, Sr., pres. Lee Lime Corp., Marble St., Lee, Mass.; res. Whiteholm Rd., Lee.
Exec.; b. Lee, Mass.; s. of Martin Henry and Agnes (Doyle) Deely; ed. A.B. Williams Coll., Williamstown, Mass., 1915; mem.: Phi Gamma Delta; m. Mary Sedgwick, 1916; ch.: John M., Jr., James S., Ann (Deely) Hahn, Martin H. Sales mgr., gen. mgr., pres. Lee Lime Corp., 1915-50. Waterproof Materials, Inc., Boston, (pres.) Trustee U. of Mass., Amherst. Clubs: Williams (N.Y. C.), Stockbridge, (Mass.) Golf. Hobbies: golf. politics, Williams Coll. athletic activities.

DEGERING, Ed(ward) F(ranklin), res. conslt., Miner Labs., 9 South Clinton St., Chicago, Ill.; res. 939 W. Sunnyside, Chicago 40, Ill.
Author, conslt., educator, res. chem.; b. Dodge City, Kans., May 17, 1898; s. of Irving Harrison and Talitha Cumi (Cowgill) Degering; ed. A.B., Union Coll., Lincoln, Nebr., 1924; M.S., U. of Nebr., 1929; Ph.D. in chem. 1930; post doctorate wk. at Cornell U. and U. of Wash.; m. Clara Mae Ogden, Aug. 12, 1921; ch.: John (dec.). Dean of Men and prof. of math., Canadian Jr. Coll., Lacombe, Alta., 1919-20; principal, Oriens H.S., Seattle, Wash., 1921-23; grad. asst. and res. fellow, U. of Nebr., 1924-30; instr., asst. prof., assoc. prof., prof., Purdue U., 1930-49; asst. chmn. chem. and chem. engrg., Armour Res. Found., 1949-50; res. conslt., Miner Labs., 1950 to date (Chicago, Ill.); notable wk.: over 150 educ. and tech. papers in var. jls.; specialties are carbohydrates, org. nitrogen compds., and org. synth.; flds. of res. include, amino acid synth., azamalonic esters, dyes, ethers of starch, esters of starch, insecticides, medicinals, plastics, sulfamides, surface active agents, and monomers from ketene. Author: "An Outline of the Chem. of the Carbohydrates," 1944; "An Outline of Org. Nitrogen Compds.," 1950; "An Outline of Org. Chem.," 1947; "Fundamental Org. Chem.," 1949; "The Quadri-Service Manual," 1946; "Tri-Service Manual," 1940. Mem.: Alpha Chi Sigma, Catalyst Club, Phi Lambda Upsilon, Sigma Xi, A.C.S., Alpha Chi Sigma, Phi Lambda Upsilon, The Catalyst Club, A.A.A.S., Amer. Sci. Tchrs. Assoc., Eugene Field Soc. (hon.), Mark Twain Soc. (hon.). Trustee: Indiana Lions Cancer Control Fund, Indiana Cancer Soc. Clubs: Lions Internatl.; Lafayette Club (past pres.); Past Distr. Gov. of Indiana 25C, now Internatl. Counsellor. Hobbies: cruising, fishing, hiking, swimming.

DE GREEFF, Robert Henry, pres. R.W. Greeff & Co., Inc., 10 Rockefeller Pl., New York 20, N.Y.; res. McLain St., Mt. Kisco, N.Y.
Exec.; b. Frankfurt, Germany, Feb. 3, 1884; s. of Edward and Johanna de Greeff; ed. Germany, studied chem. with Fresenius, Wiesbaden; m. Lillian E. Palmer, Apr. 1, 1926; ch.: Marjorie Jacobi. R.W. Greeff & Co., Ltd., London, Eng., 1906-14; pres., R.W. Greeff & Co., Inc., New York, N.Y., 1914 to date. Fries Bros., Inc., Bloomfield, N.J., v.p. and dir., Montrose Chem. Co., Newark, N.J., dir., American Norit Co., Inc., Jacksonville, Fla., v.p. and dir. Clubs: Union League, Chemists', Shenorock Shore. Hobbies: golf, photography.

De GROOTE, Melvin, v.p. in chg. of res. devlps. and pats., Tretolite Co., 937 E. Pacific, Webster Groves 19, Mo.; res. 6611 Pershing Ave., University City 5, Mo.
Chem. and chem. engr.; b. Wheeling, West Va., Feb. 27, 1895; s. of Louis and Jeannette (Fuld) Degroote; ed. Ohio State U., B.S. in Chem. Engrg., 1915, chem. engr. prof. degree 1942; mem.: Sigma Alpha Mu; m. Esther A. Grossman in 1922; ch.: Barbara Sue, Irwin Stanley. Anal. chem., Maxwell Motor Co., Deroit, Mich.; res. chem. Koppers Co., Pittsburgh, Pa.; chf. chem. Hochmeister-Lind Co., Pittsburgh, Pa.; connected with poison gas res. proj. in W.W. I; fellow at Mellon Inst. thru 1923; Tretolite Co., beginning with 1924. Sole or senior inventor on more than 500 U.S. patents. Mem.: Fellowship fund trustee Tau Beta Pi for last 20 yrs., Phi Lambda Upsilon, Sigma Alpha Mu Achievement Award 1941, Masonic Fraternity.

De HART, William K., asst. plant mgr., U.S. Indust. Chems., Inc., 400 Doremus Ave., Newark, N.J.; res. 517 Stuyvesant Ave., Rutherford, N.J.
Chem. engr.; b. Kearny, N.J., Sept. 11, 1916; s. of John W. and Elizabeth (Schneider) DeHart; ed. Bergen Jr. Coll.; Newark Coll. of Engrg.; m. Anne E. Hackenberg, Aug. 12, 1940; ch.: Doris, Wm., Jr. With U.S. Rubber Co., Passaic, N.J., Gen. Labs., 1937-39, chem.; U.S. Indust. Chem., Inc., Jan. 2, 1939 to date, asst. plant mgr. Mem.: A.C.S., A.I.Ch.E., (N.J. chapt.).

DEHLER, Frank C., mgr., contract dept., Davison Chem. Corp., 101 N. Charles St., Baltimore 3, Md.; res. 3439 Guilford Terr., Baltimore 18.
Chem. engr.; b. Baltimore, Md., Oct. 14, 1898; s. of Conrad and Frieda (Panetti) Dehler; ed. Baltimore Polytech. Inst. 1916; Johns Hopkins U., B.E., 1919; m. Katharine B. Butler, Jan. 23, 1926. 1919-21, Davison Chem. Co., design engr.; 1921-24, Silica Gel. Corp., dev. engr., 1924-36, European rep.; 1936-46, Davison Chem. Corp., tech. co-ordinator, 1946 to date, mgr., contract dept. Mfr. of silica gel. & gel. type catalysts; dev. of uses & applications of silica gel. as an adsorbent. Var. arts. on the properties & uses of silica gel. Mem.: A.I.Ch.E., Am. Soc. of Heating & Vent. Engrs., A.A.A.S. Clubs: Johns Hopkins (Baltimore), Engineers (Baltimore). Hobbies: gardening, travel.

DEIGNAN, J. Vincent, S.J., chmn. chem. dept., Spring Hill Coll., Spring Hill, Ala., res. same.
Chem. prof.; b. Co. Cavan, Ireland, May 22, 1891; s. of Patrick and Margaret Anna Deigman; ed. National U. Dublin, Fordham U., New York; mem.: Moderator Alpha Sigma Nu. Coll. studies, Nat'l. U., Ireland, 1907-10; Woodstock Coll., Md., 1914-17; instr. chem., Spring Hill Coll., Ala., 1917-22; L'Immaculée Conception Coll., Montreal, 1922-26; Paray Monial, France, 1926-27; Fordham U., 1927-29, graduate studies; prof. chem. Spring Hill Coll., Ala. since 1929. Mem.: A.A.A.S., A.C.S., Alpha Sigma Nu.

DEKKER, Harry G., prof. of chem., registrar, Calvin Coll., 1331 Franklin St., S.E., Grand Rapids, Mich.; res. 1309 Alexander St., S.E., Grand Rapids.

Chem. teacher, registrar; b. Chicago, Ill., Mar. 15, 1887; s. of Abram and Henrietta Dekker; ed. Armour Inst. (Ill. Tech.), B.S.; U. of Chicago, M. S.; mem.: Tau Beta Pi; m. Mae Kleinhuizen, Aug. 15, 1915; ch.: Marion Joan, Ahleen Mae, Charles Abram, Doris Rica. High schl. teacher, 1913-20; coll. teacher chem., 1920 to date.

DEKKER, Maurits, pres., treas., Interscience Publ., Inc., 250 Fifth Ave., N.Y. 1, N.Y.; res. 511 W. 232nd St., N.Y. 63.

Publisher; b. Amsterdam, Holland, Mar. 18, 1899; s. of Marcus and Elisabeth Dekker; ed. Nat. Phil. Docts. chem., U. of Amsterdam, 1923; m. Rozetta Sophia Roos, July 2, 1925; ch.: Elisabeth Emma, Andrew, Marcel. Pres., Dekker & Nordemann, Amsterdam, Holland, 1923-39; asst. ed, 'Chemisch Weekblad," 1925-37; pres., Intersc. Publ. Inc., 1940 to date. Elsevier Book Co., Inc. (pres.). Mem.: A.C.S., Dutch Chem. Soc. Club: Netherland (N.Y.).

DELANO, Philip Hall, res. engr., E.J. Lavino & Co., Plymouth Meeting, Pa.; res. 349 Lindenwold Ave., Ambler, Pa.

Chem. engr.; b. Ironton, Mo., Aug. 8, 1906; s. of Lewis A. and Anne K. Delano; ed. Missouri School of Mines & Met., Rolla, Mo., B.S. in Ch.E., 1929; M.S. 1930; Ch.E. 1941; mem. Triangle, Alpha Chi Sigma, Sigma Xi, Tau Beta Pi, Phi Kappa Phi; m. Evelyn Ross, May 18, 1931; ch.: Philip R., Helen A. Asst. instr. chem., Mo. School of Mines, 1930-31; chf. chem., Bay Chemical Co., Weeks Island, La., 1931-34; asst. chem., Fort Peck Lab., U.S. Engrs., Fort Peck, Mont., 1934-38; assoc. chem. engr., U.S. Bur. of Mines, Tuscaloosa, Ala., 1938-42; asst. prof. chem. engrg., Mo., School of Mines, Rolla, Mo., 1942-44; chf. chem., Lithaloys Corp., New York City, 1944-46; res. engr., E.J. Lavino & Co., Plymouth Meeting, Pa., 1946-50. Res. on manganese dioxides. Mem.: A. C.S., The Electrochem. Soc. Hobby: phonograph records.

de LEEUW, Frederik J.G., factory supt., Lucidol Div., Novadel-Agene Corp.; res. 4 Howard Ave., Williamsville, N.Y.

Chem. engr.; b. Amsterdam, Netherlands, May 23, 1898; s. of Jan and Carolina F. Kerling de Leeuw; ed. Delft University, Netherlands, Institute Pasteur, Paris, degree chem. engr., Delft, 1924; m. Georgiana McWilliams, Aug. 18, 1928; ch.: Shirrell Johan F., Carolina F., Hendrik McW. Asst. tech. bacteriology, U. Amsterdam, Jan., 1926-July 1, 1926; chem. Novadel Process Corp., 1926-28; chf. chem., Lucidol Corp., 1928-47; factory supt., Lucidol Div., Novadel-Agene Corp., 1947 to date. Bacteriological Res. on acetobacter suboxidans, Kluyver et de Leeuw; res. org. peroxides, color of flour, etc. Mem.: A.C.S. Hobbies: gardening, woodworking.

DELLINGER, James Ray, pres. Chem. Prods. Corp., Cartersville, Ga.

Mining, barium chems.; b. Gotebo, Okla., Oct. 28, 1899; s. of J.P. and Anna V. Dellinger; ed. U. Okla., B.S. 1921; mem.: Beta Theta Pi; m. Evelyn Satterfield, Sept., 1921; ch.: James R., Jr. Managing partner, New Riverside Ochre Co., Cartersville, Ga.; Dellinger & Tuckett, Athens, Tenn.; owner, J.R. Dellinger (Mining Co.), Potosi, Mo.; pres. Chem. Prods. Corp., Cartersville, Ga. Clubs: Rotary (Cartersville, Ga.), Piedmont Driving (Atlanta, Ga.), Capital City. Hobbies: golf, fishing, canasta.

DELMONTE, John, conslt. engr., Furane Plastics & Chem. Co., 719 W. Broadway, Glendale, Calif.; res. 1018 Geneva St., Glendale 7, Calif.

Conslt. engr., exec.; b. N.Y.C., Oct. 8, 1913; s. of John and Lillian (Goldthwaite) Delmonte; ed. N.Y.U., 1933; M.I.T., M.S., 1934; mem.: Tau Beta Pi; m. Janet Helene Bronson, Aug. 24, 1934; ch.: Joan Elaine, James Richard, Judith Lynne, Jocelyn Anne. Naval Aircraft Factory, jr. engr., 1934-37; Chicago Flexible Shaft Co., asst. chf. engr., 1937-40; Plastics Inst., tech. dir., 1940-50 and Furane Plastics & Chem. Co., 1946 to date; conslt. for latter two and gen. mgr., Furane Plastics & Chem. Co. Pats. and dev. in furane resins. Author: "Plastics in Engrg." (Penton Pub.), editions, 1940, 1943, 1949; "Tech. of Adhesives," Reinhold, 1947; "Plastics Molding Equipment," (in print). Mem.: S.P.I., Soc. Plastics Engrs., A.S.T.M., Am. Soc. Engrg. Educ. Hobbies: mountain hiking-Sierra Club.

De LOACH, Will Scott, prof. and hd. dept. of chem., Huntingdon Coll., Huntingdon Coll., Montgomery, Ala.

Prof.; b. Dora, Ala., Dec. 22, 1910; s. of James E. and Susan Frances (Gaines) DeLoach; ed. Birmingham, Ala., Ph.D. (in chem.). The U. of Chicago 1939; unmarried. Teacher of chem., East Carolina Teachers Coll., 1940-46; assoc. prof., prof. chem., Southwestern La. Institute, 1946-47; assoc. prof. East Carolina Teachers Coll., 1947-48; prof. Huntingdon Coll., 1948 to date. Summer appointments, Howard Coll., 1946; Peabody Coll., 1947. Res. chem. res. on OSRD project, Botany Dept. Duke U. Mar., 1944-Sept., 1944; off. in chg. chem. sec., Carter Memorial Lab., Savannah, Ga., Mar., 1945-Oct., 1945; (a U.S. Pub. Health Serv. lab. devoted to res. on use of DDT in malaria control; rank of ass't. sanitarian (1st Lieut.). Mem.: Sigma Xi, A.C.S., Ala. Acad. of Sc., Gamma Alpha Graduate Scientific Fraternity, Southern Asso. of Sc. and Industry. Hobbies: folk music, collecting general chem. textbooks.

De LONG, Carl Raymond, v.p. North American Solvay, Inc. and The Solvay American Corp., 50 Broadway, New York 4, N.Y.; res. 7 Meadow Pl., Larchmont, N.Y.

Chem. engr.; b. Cuyahoga Falls, O., Oct. 15, 1892; s. of Edgar W. and Cora M. (Harrington) DeLong; ed. B.S.Ch.E.—Ohio State, 1914; m. Alice Ward, Apr. 1916; ch.: Carl W. Asst. chem. Ohio Geol. Survey, Sept., 1914-Feb., 1916; Asst. to supt. Chlorine Dept., Fed. Dyestuffs and Chem. Corp. 1916-17; res. chem Electron Chem. Co., Portland, Me., 1917-18; specl. expert, U.S. Tariff Commis., 1918-26; chf. Chem. Div. Tariff Commis., 1920-26; Federal Phosphorus Co.-Coml. res. 1926-29; Mutuelle Solvay of Amer., Inc., res., 1929-35, Conslt. Chem. Engr., Coml. 1935-47; v.p. North Amer. Solvay, Inc. and The Solvay Amer. Corp., 1948 to date. Served as chem. expert to Ways & Means Comm. and Sen. Fin. Comm. during framing of Tariff Act of 1922. Mem.: A.I.Ch.E., A.C.S. Clubs: The Chemists', Downtown Athletic. Hobbies: golf, flowers.

De LUCIA, John Joseph, sr. chem., Interchem. Corp., 432 W. 45th St., N.Y. 19, N.Y.; res. 3950 Bronx Blvd., N.Y. 66.

Org. chem. in pigments, dyes, intermediates; b. N.Y.C., Sept. 6, 1915; s. of Filippo and Concetta De Lucia; ed. 1937, B.S., N.Y.U.; 1937-39, U. of Rome, Italy; 1942, M.S., Fordham U.; m. Anna Rita Di Canio, Apr. 12, 1942; ch.: Tina Rita. 1941-43, microanal., res. labs., 1943-44 sugar chem., res. labs., 1944 to date sr. chem. in pigments, dyes & intermediates, Interchem. Corp. Syn. of carbohydrates, dyes, pigments & intermediates; textile prods. Mem.: A.C.S., Metropolitan Michrochem. Soc. Hobby: photography.

De MARCHI, Vincent S(alvatore), chem. engr., Interchem. Corp., 432 W. 45th St., N.Y. 19, N.Y.; res. 170-48 Cedar Croft Rd., Jamaica 3, N.Y.

Chem. engr.; b. Fragneto Monforte, Italy, Dec. 24, 1905; s. of Gian Battista and Pasqualina (Cocchiarella) de Marchi; ed. B.S., Columbia, 1934, Ch.E. 1935, Am. Silver Producers' fellow 1937-38, Ph.D. chem. engrg. 1938; mem.: Sigma Xi, Phi Lambda Upsilon, Epsilon Chi; m. Marie C. Gallo, Sept. 9, 1937; ch.: Vima, John. Chem. Anal., Supertessile, Italy, 1928-30; chem., Caledonia Fire Preventives, 1938-39; physical chem., E.J. Lavino & Co., Pa., 1939-40; chem. engr., United Color & Pigment Co., N.J., 1941-42; supvr. metals & refractory sec., Inst. Gas Tech. Ill., 1942-46; engr., Interchem. Corp., 1946 to date. Beneficiation of taconite, freeze-drying of amino acids, continuous processes. Mem.: A.C.S., Am. Electrochem. Soc. Hobbies: magnetic recording, collecting minerals.

De Milt, Clara (Marie), prof. of chem., hd. of dept., Newcomb Coll., Tulane U., New Orleans, La.; res. 7820 Jeannette St., New Orleans 18. Tchr.; b. New Orleans, La., May 8, 1891; d. of Daniel Peter and Carrie (Barnard) de Milt; ed. Biloxi, Miss, H.S. 1907; Newcomb Coll. of Tulane U., B.A. 1911; M.S. Tulane U. 1921; Ph.D. U. of Chicago, 1925; mem.: Phi Beta Kappa, 1911; Sigma Xi, 1925. 1912-19, Gretna H.S.; 1919-25, instr. Newcomb Coll.; 1925-30, asst. prof. and acting hd.; 1930-35 assoc. prof.; 1935 to date prof. same coll.; 1941-49 hd. of grad. dept. of chem., Tulane U.; chmn. dept. of chem. Tulane U. 1946-49; resigned March, 1949; res. in org. chem.: phenylstearic acid, diazotization; primary interest now is in hist. of chem., esp. hist. of org. chem. Author: Lab. Manuals in Gen. Chem., Qualitative Anal. and Org.; last edit. of manual for Gen. Chem. 1949. Mem.: A.C.S., Sects.: Hist. of Chem., Org., Chem. Educ., Chem. Lit.; La. Acdy. Sc., New Orleans Acdy. Sc., A.A.A.S., Hist. of Sc. Soc. Contrib. editor of Chymia, Studies in the Hist. of Chem., U. of Pa. Press. Hobbies: travel by automobile, gardening, history of philoophy of science.

DEMING, Horace Grove, visiting prof. of chem., U. of Hawaii, Honolulu, T.H.; res. U. of Hawaii, Honolulu. Prof.; b. San Bernardino, Calif., Feb. 25, 1885; ed. U. of Wash., B.S. in chem. engrg., 1907, U. of Wis., Ph.D. 1911; m. Elsie Madeline Ball, Sept. 12, 1908 (dec. Sept. 23, 1946); ch.: 4 sons, 2 daughters; m. Robina Dempster Dec. 19, 1947. U. of Philippines, prof. agr. and anal. chem., 1911-16, hd. dept. chem., 1915-16; U. of Ill., assoc. chem. 1916-18; U. of Nebr., prof. chem., phys. chem., 1918 to 1950; to date, visiting prof. of chem., U. of Hawaii; Arthur D. Little, Inc., dept. information, 1929-30. Author: "Gen. Chem.," 1923-25-30-35; "Exer. Gen. Chem." (with S.B. Arenson), 1923-25-30-35; "In the Realm of Carbon," 1930; "College Chem.," 1932; res. in corrosion, industrial treatment of water, and electrochem., conslt. chem. Hobbies: yachting, fishing, photography.

DEMING, Meryl William, prof. of chem., dept. of chem., U. of Nev.; res. 25 Penrose Drive, Reno, Nev. Univ. Prof.; b. Mar. 5, 1901, Forest Hill, Mich.; s. of Wm. L. and Sarah Blanche Deming; ed. U. of O. 1919-23, B.A., 1923-25, M.A., U. of Washington (Seattle) 1925-28, Ph.D.; m. Lena Rand, Sept. 1923; ch.: Don Dorion, Anne Carolyn. Instr. in chem., Oregon State Coll. 1928-29; instr. in chem. U. of Nevada, 1929-30; asst. prof. U. of Nev. 1930-33; assoc. prof. U. of Nev. 1933-46; prof. of chem. U. of Nev. 1946 to present. Mem.: A.C.S.

DEMPSEY, William Lawrence, pres., Sharp & Dohme, Inc., 640 N. Broad St., Phila. 1, Pa.; res. 8601 Montgomery Ave., Phila. 18, Pa. Corp. exec.; b. Newark, N.J., July 29, 1894; s. of William A. and Ella C. Dempsey; ed. Princeton U., B.S. 1917; mem.: Cap and Gown Club; m. Mary Shanley, Apr. 26, 1923; ch.: William L. Jr., Bernard S., Mary Catherine, Elizabeth Ann. Gen. mgr., Ivy Lee (pub. relations counsel); partner, Cowan, Dempsey & Dengler (adv.); exec. Merck & Co., Inc.; to date pres. and dir. Sharp & Dohme, Inc. Dir. Penn. Co. for Banking & Trusts; dir. Germantown Saving Fund Soc.; Fire Assoc. of Phila. On bd. of mgrs., Germantown Hosp.; dir., Health Information Foundation. Clubs: Sunnybrook Golf, Racquet, University (N.Y.). Hobbies: fishing, golf, reading.

DEMSKER, Robert Charles, chf. chem., Macy's Bur. of Stands. & Affiliated Stores; dir., Demsker Chem. Labs., R.H. Macy & Co., Herald Sq., N.Y.C.; res. 21-09 146th St., Whitestone, L.I., N.Y. Chem., chem. conslt.; b. Bklyn., N.Y., Mar. 15, 1921; s. of William and Antoinette Demsker; ed. N.Y.U., B.A. in sc.; m. Miriam Rago, Apr. 17, 1942; ch.: Stuart Mark. Sr. chem., N.Y. Testing Labs., gen. res. & anal., res. pilot plant, syn. rubber; sr. chem., Mayflower Chem. Co., res. in org. syn. & processes; physiolog. chem., Israel Zion Hosp., anal. of all body fluids, res. in vitamin C. Chemist, Cadillac Chem Co.; prod. development & compounding. 1944 to date, chf. chem., Macy's Bur. of Stands., owner & dir. of own lab., res. dev., consltg., anal. wk. in com. fld. Assoc. of Research Development Corp. Consltg. Indus. Scs. Res. & writing on rapid separation of boric acid & sodium borate; determination of second hand matl. in feathers; differentiation & identification of thiosulphates, bisulfites, sulfites & hydrosulfites. Mem.: N.Y. Acdy. of Sc. (life mem.), A.C.S. (sr. mem.), A.I.C., N.Y. Microscop. Soc. Club: N.Y.U. Chem. Alumnae. Hobbies: athletics (swimming, handball, basketball, tennis, ping pong, skeet shooting), tropical fish breeding, color & scientific photography, chess, checkers.

De NAPOLI, Gerard Ralph, tech. dir., Masury-Young Co., 76 Roland St., Charlestown, Mass.; res. 36 Manet Rd., Chestnut Hill, Mass. Chem. engr.; b. Boston, Mass., Aug. 5, 1918; s. of Angelo and Rose Tentindo DeNapoli; ed. B.S., chem. engr., Northeastern U., 1941, Cert. aerological engr., M.I.T., 1944, Northeastern U., B.B.A., Engineering and Management Evening Schl., 1950; mem.: Alpha Kappa Sigma; m. Ruth E. Howe, July 17, 1943; ch.: Darleen Ruth, Gerard R., Jr. Res. engr., Atlantic Research Assocs., Newton, Mass., 1937-41; asst. to gen. mgr., Aralac, Inc., Taftville, Conn., 1941-43; U.S. Navy, Aerological Officer, 1943-46; gen. mgr., Natl. Atlantic Res. Corp., Cambridge, Mass., 1946-48; tech. dir., Masury-Young Co., Boston, Mass., 1948 to date. Res. in dev. and prod. of first casein synthetic wool, Arolac, in the United States. Mem.: A.C.S., New Eng. Paint & Varnish Club, Chemical Specialties Manufacturers Assoc. Club: Y.M.C.A. Hobbies: athletics (squash, baseball, etc.).

de NAVARRE, Maison G., v.p. chg. mfg. & res., Cosmetic Labs., Inc., Detr. 2, Mich.; res. 404 Lothrop Rd., Grosse Pointe Farms 30, Mich. Chem.; b. Poland, Mar. 27, 1909; s. of Marian and Bernice Maicki; ed. 1929, Ph.C., Wayne U.; Coll. Phar., 1930; B.S. (Phar.) Wayne U.; mem.: Phi Delta Chi (prof.); m. Jeanette Dutts, June 30, 1938; ch.: Edward Thomas, Marietta Bernice. 1930-47 conslt. chem., drugs, flavors, cosmetics; 1947 to date v.p. chg. mfg. & res. Cosmetic Labs. Div. of Beauty Counselors Inc.; tech. ed. Am. Ref. over 10 yrs., ed. Jl. Soc. Cosmetic Chem., form. conslt. Camouflage Bur., Eng. Bd. War Dept. Writer, conslt., researcher in cosmetics since 1930. Beauty Counselors, Inc., v.p. chg. mfgr. & res.; Helfrich Labs. of Canada, Ltd., dir.; Wonderful

Dream Salve Corp., pres. Author: "Chem. & Mfg. Cosmetics" 1941; "Prod. Contr. & Anal. Cosmetics" 1945; "Surfactants" (in preparation); Mem.: A.C.S., A.A.A.S., A. Phar. A., A.O.C.S., Soc. Anal. (London); Soc. Cosmetic Chems., A.I.C. (fellow). Club: Engr. Soc. (Detr.). Hobbies: writing, taking movies, philately, old books.

De NISCO, Stanley G., asst. dir. res. serv., Standard Brands, Inc., 595 Madison Ave., N.Y. 22; res. 24 Monroe St., Pelham Manor, Pelham.
Res. chem.; b. N.Y.C., Sept. 24, 1918; s. of Fred and Mamie DeNisco; ed. Fordham U., B.A., 1940; N.Y.U., M.A., 1946; m. Marie LaRegina, Sept. 14, 1941; ch.: Ann-Marie, Richard. Asst. dir. of Control Lab., Sheffield Farms, Inc.; res. chem., Best Food, Inc.; res. assoc., Pease Labs.; asst. dir. res. serv., Standard Brands, Inc. Mem.: A.C.S., A.O.C.S., A.A.C.C., Fordham Alumni Chem. Soc. Hobbies: gardening, music.

DENNIS, Joe, prof., hd. dept. chem. & chem. engrg., Texas. Tech. Coll., Lubbock, Texas, res. 2718 29th.
Teach., res.; b. Sherman, Texas, Dec. 5, 1911; s. of E.L. and Maude Bernard Dennis; ed. B.A., Austin Coll., 1933; M.A. U. of Texas, 1937; Ph.D. 1942; m. Jeanette Wallis, 1935; ch.: Nancy Clay, Linda Joan, Susan Moon. Tutor, biol. chem., U. of Texas Med. Schl., 1934-36; instr., 1936-38; instr. chem., Texas Tech. Coll., 1938-41; asst. prof., 1941-45; assoc. prof., 1945-47; prof., 1947-50; prof., hd. dept. 1950 to date. Res., publ. protein denaturation, blood potassium, calcium levels in conditions of tetany. Mem.: A.C.S., A.A.A.S. Hobby: gardening.

DENNY, Henry Wadhams, v.p., Com. Solvents Corp., 17 E. 42nd St., N.Y. 17, N.Y.; res. 214 Parkside Ave., Trenton 8, N.J.
Chem. (biolog.); b. Pittsfield, Mass., Jan. 2, 1886; s. of James, Jr. and Charlotte Ives (Wadhams) Denny; ed. Worcester Polytech. Inst., B.S. chem., 1908; mem.: Sigma Alpha Epsilon; m. Elizabeth Parson Frazee, Sept. 27, 1910. 1908-15, chem., N.J. State Bd. of Health, 1915-17 chf. chem.; 1917-20, dir. of res., Schoenhofen Co., Chicago, Ill.; 1920-24, gen. mgr., Sugola Co. of Am., Orange, N.J.; 1924-26, res. technologist, Sun Maid Raisin Growers Assn., Fresno, Calif.; 1926 to date, Com. Solvents Corp., res. chem., v.p., 1937, dir. 1943-49.

DENOON, Clarence England, Jr., with Rohm & Haas Co., Washington Sq., Phila., Penn.; res. 116 Station Ave., North Hills, Penn.
Chem.; b. Richmond, Va., Feb. 25, 1915; s. of Clarence England and Blanche (Williams) Denoon; ed. U. of Richmond, B.S. 1934; M.S. 1935; U. of Ill., Ph.D. 1938; mem.: Phi Beta Kappa, Phi Kappa Phi, Sigma Xi, Phi Lambda Upsilon, Phi Delta Theta; m. Mary Eleanor Kratz, Feb. 14, 1942; ch.: Ashby England Alderfer, David Baugh Holden. 1938-42 with E.I. du Pont de Nemours & Co., Wilmington, Del.; 1942-45 with Landers Corp., Toledo, Ohio; 1945 to date with Rohm & Haas Co., Phila., Pa.; res. in org. synth., high polymers, commercial chem. dev. Mem.: A.C.S., Commercial Chem. Dev. Assoc. Club: Manufacturers Golf and Country.

DENSLOW, Roy R., res. chem., E.I. du Pont de Nemours & Co., 256 Vanderpool St., Newark, N.J.; res. 227 Grant Ave., Nutley 10.
Chem.; b. Bklyn., N.Y., Oct. 22, 1894; s. of M.H. and Cecilia (Pollock) Denslow; ed. B.S., C.C.N.Y. 1915, M.A. Columbia U. 1917, Ph.D., N.Y.U. 1926; mem.: Delta Alpha; m. Mary Esther Toohy, June 17, 1918; ch.: Allan. Chem., Citro Chem. Co. 1915; asst. C.C.N.Y., 1915-18; instr. & asst. prof. Smith Coll. 1918-28; res. chem. E.I. du Pont de Nemours & Co., 1928 to date. Res. pigment chem. Mem.: A.C.S., A.I.C.

DEPEW, Harlan Armstrong, mgr. res. dept., American Zinc Lead & Smelting Co., 1600 Paul Brown Bldg., St. Louis, Mo.; res. 100 Laurel Hill Rd., Mountain Lakes, N.J.
Chem. engr.; b. Chelsea, Mich., Sept. 25, 1891; s. of Charles J. and Lillian E. Depew; ed. B.S. Ch.E., Michigan, 1913, M.S. in Ch.E. in 1914, Ph.D. in Ch.E., Columbia, in 1929; mem.: Sigma Xi, Phi Lambda Upsilon; m. Mary Louise Gardner Aug. 17, 1929; ch.: Charles, Frank, Elizabeth. U.S. Bureau of Mines 1915-17; 2nd Lt., C.W.S. 1918; Firestone res. 1919; chf. rubber sect., res. div., The N.J. Zinc Co., 1920-31; dir. of res. for Amer. Zinc Sales Co. (div. Am. Zinc Lead & Sm. Co.), 1932-40; mgr. titanium div., Sherwin Williams, 1940-46; Amer. Zinc Lead & Smelting Co., 1947 to present. Res.: Dev. of significance of particle shape of pigments in paint with special reference to acicularity of zinc oxide; work on wood preservative, fire, decay, leach proof. Mem.: A.C.S., A.I.Ch.E., A.S.T.M., A.A.A.S., A.W.P.A. Hobby: gardening.

De PREE, Edward J., v.p., Sumner Chem. Co., Inc., Zeeland, Mich., res. 134 E. Central Ave.
Chem. engr.; b. Zeeland, Mich., May 18, 1890; s. of P. Henry and Reka E. De Pree; ed. B.S. Chem. Engrg., U. of Mich., 1915; m. Alice Benoist, Sept. 5, 1919; ch.: Eleanor May, Alyce. Operating frmn. Detr. Org. Chems. Co., Wyandotte, Mich. 1915-16; dept. supvr., Pa. Salt Mfg. Co., 1916-17; U.S.A., Capt. Artillery, A.E.F. 1918; plant supt., Natl. Aniline & Chems. Co., Bklyn., N.Y. 1919-21; v.p. De Pree Labs. Inc., Holland, Mich. 1922-28; plant supt. Monsanto Chem. Co., St. Louis, Mo. 1929-34; plant mgr. 1935-44; plant mgr., Holland Color & Chem. Co., Holland, Mich. 1945; v.p., gen. mgr., Sumner Chem. Co., Inc., 1946 to date. Mem.: A.I.Ch.E. Hobbies: swimming, boating.

DEQUINE, Louis E., Jr., chf. engr., Am. Bemberg Div., Beaunit Mills, Inc., Elizabethton, Tenn., res. 707 N. Main.
Chem. engr.; b. Fond du Lac, Wis., Sept. 14, 1912; s. of L. E. and Ruth W. Dequine; ed. U. of Wis., 1935, B.S. Ch. Engr. (high hons.); mem.: Lambda Chi Alpha; m. Dorothy Miller, July 22, 1935; ch.: L. E., III. 1935-38, Koppers Co., Kearny, N.J., chem. engr.; 1938-41, Natl. Carbon Co., U.C.C., sales engr.; 1941-42, Am. Bemberg Corp., chem. engr.; 1942 to date chf. engr. Mem.: A.I.Ch.E., N.A.C.E.; pres. Boys Club Carter Co. (bd. dirs.). Club: Kiwanis. Hobbies: hunting, fishing.

DERBY, Wallene Russel, group leader, Monsanto Chem. Co., Dayton 7, Ohio; res. 428 W. Siebenthaler Ave., Dayton 5.
Res. chem.; b. Henrietta, Ohio, Feb. 2, 1913; s. of Orville T. and Susan S. Derby; ed. Wittenberg Coll., A.B. 1934; U. of Dayton; mem.: Delta Sigma Phi; m. Hildred C., July 22, 1933; ch.: Sari Elizabeth, Cecelia. 1933-36, res. chem., Thomas & Hochwalt Labs. Inc.; 1936-44, res. chem., 1944 to date group leader, Monsanto Chem. Co. Mem.: A.C.S., A.I.Ch.E. Hobbies: music, photography.

DERMER, Otis Clifford, prof., hd. dept. of chem., Okla. A. & M. Coll., Stillwater, Okla.; res. 509 Hester St., Stillwater.
Coll. prof.; b. Hoytville, Ohio, Nov. 11, 1909; s. of G. A. and Iva (Darrow) Dermer; ed. B.S. in ed., Bowling Green State U., 1926-30, Ohio; Ph.D., Ohio State U., 1930-34; mem.: Gamma Alpha; m. Verne Hughes, May 22, 1935; ch.: Carmen, Richard, Verne Allan. Grad. asst., Ohio State, 1930-33 (part time, chem.); university fellow, Ohio State, 1933-34, chem.; instr. to prof. and dept. hd., Okla. A. & M. Coll., 1934 to date. About 30 arts. & notes on chem. res. publ. in var. jls. Mem.: A.C.S. (chmn., Div. of Chem. Ed.

1950), Okla. Acdy. of Sc. (pres. 1946), A.A.A.S., Sigma Xi, Phi Lambda Upsilon, A.A.U.P.

de SCHEPPER, Harry Y., asst. secy., R. W. Greeff & Co., Inc., 10 Rockefeller Pl., New York 20, N.Y.; res. 52 Brookside Pl., New Rochelle, N.Y.
Mgr. foreign dept.; b. Rotterdam, Holland, Apr. 6, 1912; s. of Gerhard and Agatha C. de Schepper; ed. Rotterdam Lyceum, Rotterdam, Holland; mem.: Lyceum Club; m. Mildred Westerman, 1947; ch.: Cornelia. Batavian Pet. Co. (Shell), The Hague, Holland, 1932-36; R. W. Greeff & Co., Inc., 1936 to present. Dir. Netherland Benevolent Soc. Clubs: Chemists' (N.Y.), The Netherland (N.Y.). Hobbies: boating, crafts.

DESCHNER, Walter William, mgr. chem. div., J. F. Pritchard & Co., 908 Grand Ave., Kans. City 6, Mo.; res. 8541 High Dr., Kans. City, 5.
Chem. engr.; b. Friestatt, Mo.; s. of H. M. and Minna Charlotte Deschner; ed. B.S., Washburn Coll., Topeka, Kans., 1928; Ph.D. Chem. Engrg., U. of Mich., Ann Arbor, Mich., 1935; mem.: Phi Pi Phi (social), Alpha Chi Sigma (prof.); m. Catherine McPherson, Mar. 23, 1937; ch.: William Henry. Corn Prods. Ref. Co., chem., 1928-29; Stand. Oil Co., chem., 1929-31; grad. schl.; Pratt Inst., instr. chem. engrg., 1935-38; U. of Kans., asst. prof. chem. engrg., 1938-43; J. F. Pritchard & Co., mgr. chem. div., 1942 to date.

DESHA, Lucius Junius, prof. of chem., hd. of dept., Washington & Lee U., Lexington, Va.; res. 4 University Pl., Lexington.
Chem., teacher; b. Cynthiana, Ky., June 14, 1883; s. of Jack and Mary (Broadwell) Desha; ed. A.B., Washington & Lee U., 1906; Ph.D., Johns Hopkins U., 1909; mem.: Phi Kappa Sigma, Phi Beta Kappa, Omicron Delta Kappa; m. Mary Forrester, Sept. 14, 1911; ch.: Julia Forrester, Lucia, Mary Walton. 1909-12, chem., Tenn. Food & Drug Inspection, Nashville, Tenn.; 1912-20, prof. chem., U. of Tenn. Coll. of Medicine, Memphis, Tenn., acting dean, 1917; Capt., Sanitary Corps, U.S.A. in France, Dec. 1917-Jan. 1919; 1920 to date, prof. of chem., Washington & Lee U., Lexington, Va., dean of university, 1946-47, exec. dir. W. & L. Bicentennial, 1947-49. Author. "Org. Chem." 1936, 2nd edit. in preparation; co-author: "Experiments in Org. Chem." 1938, with L. H. Farinholt. Mem.: A.C.S., Soc. Chimique de France. Hobby: flower gardening.

Des JARDINS, Russell Trudeau, assoc. prof. and hd. of chem. Middletown Collegiate Center, Middletown, N.Y.; res. 32 Highland Ave., Middletown, N.Y.
Educator; b. Owosso, Mich., May 8, 1900; s. of Paul and Sarah (Bigelow) Des Jardins; ed. A.B. Albion Coll. 1921, U. of Penn. 1922, New York U. 1925, Rutgers U. 1928, Columbia 1939-40; mem.: Electic; m. Mildred (Beebe) Des Jardins, June 15, 1921; ch.: Lora Elizabeth (Riehl), Paul Russell, Robert Bigelow. Asst. to chf. chem. Chapin-Sachs Corp. 1921; chf. chem. Crane Ice Cream Co. 1921-23; chem. bacteriologist, Wilmington Bd. of Health 1923-36; instr., Wilmington public schls., 1923-46; assoc. prof. of chem., associated colleges of upper N.Y., 1946 to date. Hd. of chem. Mohawk Coll. 1946-48; hd. of chem. Middletown Collegiate Center, 1948 to date. Res.: vanilla flavors for frozen food products; development of swimming pool sanitation methods, Wilmington, Del. Author: "Vitalized Chemistry," 1942; revised 1946 and 1950. Mem.: A.C.S., A.I.C., A.A.U.P., Phi Delta Kappa, Delta Sigma Rho. Hobby: fishing.

DESSAUER, John H., v.p. in chg. of res. & prod. dev., Haloid Co., 282 Hollenbeck St., Rochester, N.Y.; res. Parker Dr., Pittsford, N.Y.
Chem.; b. Aschaffenburg, Germany, May 13, 1905; ed. Inst. of Tech., Munich, Germany, B. Sc. 1926 cum laude; Inst. of Tech., Aachen, Germany, M.S. 1927 magna cum laude, D.Sc. 1929 magna cum laude; married Margaret Lee, ch.: John Philip, Margaret Mary, Thomas David. 1929-35, chem. & asst. supt. film & later paper sensitizing, Agfa Ansco, Binghamton, N.Y.; 1935 to date, chem., dir. of res., v.p., Haloid Co., Rochester, N.Y. Several U.S. pats.; new ring isomerizations in the camphene series. Mem.: A.C.S., Opt. S.A., Soc. of Motion Picture Engrs. (assoc. mem.), Photographic Soc. of Am. (assoc.). Hobbies: motion picture photography, gardening, music.

DEUBLE, John Lewis, tech. dir., Wyeth, Inc., 1600 Arch St., Phila. 3, Pa.; res. 103 Bentley Rd., Cynwyd, Pa.
Chem.; b. Ashland, Pa., Jan. 10, 1905; s. of Lewis Frederick and Marie Deuble; ed. Phila. Coll. Pharmacy & Sc., 1923-26 T.C., 1927 B.Sc. chem.; mem.: Alpha Sigma; m. Katherine V. Lippincott, Aug. 29, 1940; ch.: John L., Jr., Richard L., Elizabeth L. E.R. Squibb & Sons, N.Y., 1927-29 control chem., 1929-37 res. chem.; Wyeth, Inc., Phila., 1937-44 chf. anal. div., 1944 to date tech. dir. Mem.: A.C.S., Natl. Geographic Soc. Hobbies: music, singing, drama, Gilbert & Sullivan, Shakespeare.

DEUTCH, Michael Joseph, consltg. engr., 1737 "H" St., N.W., Wash. 6, D.C.; res. 3701 Reno Rd. N.W., Wash. 8, D.C.
Consltg. engr.; b. Smolensk, Aug. 26, 1907; s. of Joseph and Mary (Askenazy) Deutch; ed. U. of Ghent, Belgium, Mech. Eng., Elec. Eng. 1928, magna laude; Dr. Econ., Brussels, 1929-30; m. Rachel F. Fischer, Feb. 2, 1934; ch.: Nina, Sara-Ann, John-Marc. Chf. engr., mgr. dev. & res., Sofina Ltd.; asst. to pres., Mexican Light & Power & Mexico Tramways Co.; principal conslt., U.S. Engrg. Staff of Warfare Anal.; chf., Integration & Scheduling Branch, War Prod. Bd.; special asst. to chmn., W.P.B.; special asst. to dir., War Mobilization & Reconversion. Industrial Advisor, U.S. Economic Survey Mission to the Philippines. Jefferson Lake Sulphur Co. (dir.); Montana Canadian Oil Co. (v.p., dir.); Western Prairie Explorations Ltd. (v.p., dir.). Num. pubs. in flds. of public utility management, electrical engrg. Mem.: A.S. M.E., A.I.E.E., Soc. Mil. Eng., A.P.I.

DEUTSCH, John Brunswick, tech. asst., ind. chem. dept., Antara Prods., Div. of Gen. Aniline & Film Corp., 435 Hudson St., N.Y.C.; res. 234 W. 14th St., N.Y.C.
Chem. sales; b. Chicago, Ill., Sept. 7, 1923; s. of Percy L. and Eleanor G. Deutsch; ed. Sheffield Schl., Yale U., 1944 B.S. in chem.; 1946 Plastics Inst., N.Y.C.; 1948 to date, Bklyn. Law Schl.; m. Nancy R. Deutsch, July 22, 1948. 1944-46, gunnery officer, U.S.N.R.; 1946-47, prod. chem., Am. Cyanamid; 1947 to date, Gen. Aniline & Film Corp. Hobbies: sailing, stamps.

DEUTSCHMAN, Archie John, Jr., dir. of chem. res., Spencer Chem. Co., Box 604, Pittsburg, Kans.; res. Columbus, Kan.
Chem.; b. Chicago, Ill., Nov. 21, 1917; s. of Archie J. and Vera H. Deutschman; ed. B.S., U. of Ill.; M.S., Lawrence Coll., Ph.D.; mem.: Phi Kappa Sigma, Alpha Chi Sigma; m. Lois E. Kergan, Nov. 22, 1945; ch.: Archie John III, Charles William, James Edward. U. of Ill., special res. asst.; Graham, Crowley & Assoc., chf. chem.; Phillips Pet. Co., asst. group leader; Spencer Chem. Co., dir. of chem. res. Syn. rubber, high pressure reactions, chem. of org. nitrogen, fertilizers. Mem.: A.C.S., Sigma Xi. Hobbies: metal working, photography, glass blowing.

De VRIES, John, prof. of chem., Calvin Coll., Grand Rapids, Mich.; res. 851 Calvin Ave., S.E., Grand Rapids 6.

Prof.; b. The Netherlands, Mar. 19, 1907; s. of George and Tryntje DeVries; ed. A.B., Calvin Coll., 1929, Ph.D. U. of Ill., 1932; m. Sophy Bolt, Aug. 19, 1930; ch.: George Raymond, John Frederick, James Howard, Robert Charles. Asst. U. of Ill., 1929-32; prof., Huran Coll., Huron, S.D., 1932-34; prof. Knox Coll., Galesburg, Ill., 1934-39; prof. Calvin Coll., Grand Rapids, Mich., 1939 to present. Author: "Beyond the Atom," 1948. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S. Hobbies: golf, fishing.

De VRIES, Thomas, prof. of chem., Purdue U., Lafayette, Ind.; res. 167 E. Oak St., W. Lafayette, Ind.
Prof. of chem.; b. Smilde, Netherlands, July 15, 1901; s. of George and Trijntje (Dokter) De Vries; ed. Hope Coll., A.B. 1923; U. of Ill., M.S. 1924; Ph.D. 1926; m. Johanna Hulst, June 20, 1939; ch.: Thomas Winfield, Theresa Elizabeth. 1926-28 instr., 1928-34 asst. prof., 1934-40 assoc. prof., 1940 to date prof., Purdue U.; 1943-44 Manhattan Proj. grp. ldr.; res. in electrochem., heat capacity of org. vapors, and polarography. Mem.: A.C.S., Optical Soc. of America, Sigma Xi. Club: Lions Internat. Hobby: photography.

DEVYS, Jacques Gustave, pres., Am. Ind. Dev. Corp., 445 Park Ave., N.Y.C., res. Petersville Farm, Mt. Kisco, N.Y.
Exec.; b. Lillers, France, June 30, 1904; s. of Maurice and Laure Marelle Devys; ed. U. Britanny (France), B.A.; U. France, M.S.; mem. Ecole Nationale Superieure des Mines; m. Suzanne F. Perrier, Dec. 2, 1932; ch. Janine, Marie. 1929-46 supt., mgr., gen., mgr., mgr. dir. Etablissements Kuhlmann, Paris, France (leading chem. concern); 1946 to date pres., Am. Ind. Dev. Corp., subs. of Kuhlmann in U.S.A. Etablissements Kuhlmann, Paris, France, exec.; Res. in water gas prod. under high pressure; mem.: A.C.S. Clubs: Chem., Univer. Hobbies: tennis, photography.

DEWEY, Bartlett Taggart, chmn. of Div. of Natural Scs. and Math. Eastern New Mexico U., Portales, N.M.; res. 1301 Yale Ave., Portales.
Prof. of chem.; b. Royalton, Vt., Dec. 7, 1921; s. of Pearl B. and Lillian (Goodell) Dewey; ed. U. of Colo., B.A. 1926; M.A. 1934; Ph.D. 1935; mem.: Delta Sigma Phi, Phi Delta Chi; m. Evelyn Grow, June 11, 1934. 1930-35, asst. in sanitary chem.; U. of Colorado; 1935-37, act. prof. of chem., Stephen F. Austin State Tchrs. Coll. (summers); 1935-37, assoc. prof. of chem. John Tarleton Agric. Coll.; 1937-41, prof. of chem. North Pacific Coll. of Oregon; 1941-43, asst. prof. of chem., U. of Colo.; 1943-45, assoc. prof. of chem , Eastern New Mexico Coll.; 1945 to date, prof. of chem., same coll.; res. in chem. microscopy and sanitary chem. with contrib. to var. sc. jls. Mem.: A.C.S., Sigma Xi, A. Phar. A., A.A.A.S., A.A.U.P. Hobbies: architecture, gardening.

DEWEY, Bradley, pres., Dewey & Almy Chem. Co., 62 Whittemore Ave., Cambridge, Mass.; res. 37 Fayerweather St., Cambridge.
Exec.; b. Burlington, Vt., Aug. 23, 1887; s. of David R. and Mary (Hopkins) Dewey; ed. A.B., Harvard, 1908; S.B., M.I.T., 1909; hon. Sc. D., Akron U., 1944; hon. D.Sc. Northeastern U., 1945; hon. LL.D., Harvard, 1945; m. Marguerite Mellen, April 17, 1915; ch.: Bradley, Jr., Davis R. II, Marguerite, Ann. Organized Res. Dept. of the Amer. Sheet & Tinplate Co., 1909; entered W.W.I. in 1917 as a Capt., became a Colonel in C.W.S.; rec. D.S.M.; organized in 1919, and has been pres. continuously since, Dewey and Almy Chem. Co.; fld. conslt. of the Advis. Bd. to Resources Div. of the Off. of the Army Q.M. General; mem. Res. Bd. of Natl. Security; conslt. to dir. of the Off. of Sc. Res. and Dev.; deputy Rubber Dir., W.P.B., 1942, 1943; Rubber Dir., 1943, 1944; awarded M. for Merit; chmn. Guided Missiles Comm. of the Joint Chfs. of Staff; mem. Presidential Evaluation Commis. on Atomic Bomb tests; chmn. of Notre Dame Advis. Council for Sci. and Engrg. Mem. of bd. of dirs. of U.S. Smelting, Refin. and Mining Co.; mem. of bd. of dirs. of Amer. Res. and Dev. Corp.; Trustee, Amer. Optical Co.; trustee, North Ave. Savings Bank, Cambridge, Mass.; trustee, Mount Auburn Hospital, Cambridge, Mass. Fellow, Am. Acd. of Arts & Scs.; mem. S.C.I. (awarded M. 1944); A.I.Ch.E., I.F.T., Newcomen Soc. of England (Amer. Branch); mem. and past pres. of A.C.S. (pres. 1946); A.Phil. S.; life mem. of corporation of M.I.T. (past pres. of Alumni Assoc.); mem. of Mass. Comm. on Post-War Readjustment; mem. of Army Res. Advis. Panel; chmn. of bd., Associates Food and Container Inst. (July, 1949-July, 1950). Clubs: Country (Brookline), Harvard Faculty, Chemists' (N.Y.), Cosmos (Wash., D.C.).

De WITT, Frederic James, Jr., gen. sales mgr., Parker Rust Proof Co., 2177 E. Milwaukee Ave., Detroit 11, Mich.; res. 16808 Warwick Rd., Detroit.
Gen. sales mgr.; b. Auburn, N.Y., Oct. 10, 1906; s. of Frederic James and Sybil Atwater DeWitt; ed. U. of Mich., B.S. in Ch.E. 1929, M.S. in Ch.E. 1930; mem.: Alpha Chi Sigma, Kappa Delta Rho; m. Margaret Emma Flint, Sept. 1, 1934; ch.: Margaret Ann, Elizabeth Flint, Frederic James, III. King Seeley Corp., Ann Arbor, Mich., res. chem. 1930-32; Metal Finishing Corp., Detroit, Mich., res. chem. 1932-33; Parker Rust Proof Co., sales engr., Detroit, Mich. 1933-35, east. repr., N.Y., N.Y. 1935-40, asst. sales mgr., Detroit, Mich. 1940-44, sales mgr. 1944-47, gen. sales mgr. 1947 to date. Mem.: S.A.E., A.S.T.M. Clubs: Recess (Detroit, Mich.), Chemists' (N.Y.), Sarnia Golf (Sarnia, Ontario), Corinthian Lodge No. 241, F.&.A.M., Detroit Gun Club, Detroit, Mich., S.A.R., Detroit, Mich., Board of Commerce, Detroit, Mich., Engineering Society of Detroit; Civilian Consultant, Office Chief of Ordnance, Washington, D.C.

De WOLFE, Richard Sears, proc. engr., M.W. Kellogg Co., 225 B'way., N.Y. 7, N.Y.; res. 414 Hawthorne Pl., Ridgewood, N.J.
Chem. engr.; b. Melrose, Mass., Feb. 11, 1915; s. of James Morton and Alice Sears De Wolfe; ed. B.S. Chem. Engrg., M.I.T., M.S. Chem. Engrg. Practice; mem. Alpha Chi Sigma; m. Maedytha White, Nov. 20, 1948; ch.: Deborah Jane. 1936, Stand. Oil Co. Calif., jr. engr., Richmond Ref.; 1937 to date, M.W. Kellogg Co., proc. dev. engr.; mem. A.I.Ch.E.

DEWOODY, T.S. Jr., plant supt., Pine Bluff Wks., Diamond Alkali Co.; res. Rt. 6, Box 690, Pine Bluff, Ark.
Chem. engr.; b. Pine Bluff, Ark., Jan. 21, 1916; s. of T.S., Sr. and Mary (Kote) Dewoody; ed. U. of Ark., B.S. Chem. Engr., 1938; mem. Sigma Nu; m. Jeannette Krumnne Dec. 19, 1941; ch.: Diana M., 6, T.S. III, 3; Dev. engr., Columbia Chem. Div. Pittsburgh Plate Glass Co., 1938-1942; Op. engr., Pine Bluff Arsenal, Chem. Corps., 1942-46; 1947 to date plant supt., as above. Mem.: A.I.Ch.E., asso. mem. A.A.S.E., Alpha Chi Sigma, Knife and Fork Club, Masonic Order. Hobbies: gardening, fishing.

DHONAU, Charles John, asst. dean, prof. of embalming & chem., Cincinnati Coll. of Embalming, 3202 Reading Rd., Cincinnati 29, Ohio; res. 3800 Congreve Ave., Cincinnati 13.
Teacher, mortician; b. Cincinnati, Ohio, Dec. 21, 1911; s. of Charles O. and Edna (Horn) Dhonau; ed. Ohio Military Inst., 1930; Kenyon Coll., Gambier, Ohio, 1935, B.S.; grad. wk., U. of

Cincinnati; mem.: Sigma Chi, Kenyon Clan; m. Martha Gower, May 16, 1936; ch.: Patricia Jeanne, Charles J. II. Cincinnati Coll. of Embalming, 1935-42, asst. dean, prof. of chem. & embalming; 1942-45, tech. adviser to plating dept., Wright Aeronautical Corp., Lockland, Ohio; 1945 to date, Cincinnati Coll. of Embalming, asst. dean, prof. of chem. & embalming. Res. thesis on electrochem., Wright Aeronautical Corp. "Removal of Post-Mortem Stains." Many contr. to prof. jls. in mortuary fld. Mem.: A.I.C. Dir., Cincinnati Coll. of Embalming. Club: Kenwood Country (Cincinnati, Ohio). Hobbies: hunting, fishing.

DIAL, Morse Grant, v.p., treas. & dir., Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N.Y.; res. 5 Northwest Way, Bronxville, N.Y.
Exec.; b. Chicago, Ill., Aug. 29, 1895; s. of Grant Dunnigan and Frances (Newman) Dial; ed. Fargo H.S., Fargo, N.D., M.E. Cornell U., Ithaca, N.Y., 1919; mem. Delta Upsilon; m. Ethelwyn Gamble, Sept. 20, 1924; ch.: Morse Grant, Jr. Sales Mgr., Morse & Rogers, Branch of International Shoe Co., St. Louis, Mo., 1920-27; v.p., Brownville Board Co., Bronxville, N.Y., 1927-29; Union Carbide & Carbon Corp., and/or Subsidiary Companies, sales exec., finance, 1929 to present. Clubs: Union League, Links Golf, American Yacht, Siwanoy Country, Uptown.

DIAMOND, Grant Sidney, pres., Electro Refractories & Alloys Corp., 344 Delaware Ave., Buffalo 2, N.Y.; res. 76 Rosedale Ave., Hamburg, N.Y.
Exec.; b. Buffalo, N.Y., Dec. 25, 1901; s. of Sidney Fulton and Jeannie McKinven (Stoddart) Diamond; ed. Buf. Elem. Schls., Hutchinson H.S., U. of Buf.—Anal. chem. degree Naomi M. 1923; m. Laura Phoebe Dale, June 9, 1928; ch.: Joan Ann, Grant Dale. Positions held with Electro Refractories & Alloys Corp.: res. chem. 1924; dir. of res. 1925-28; pl. mgr. 1928-33; v.p. 1933-41; exec. v.p. 1941-43; pres. 1943 to present. Buffalo Chamber of Commerce (dir. & chmn. of exec. comm.), Inter Allied Foundries of N.Y. State (chmn. of exec. comm.), Grinding Wheel Institute (dir. & chmn. of Public relations. comm.), Contrib. extens. to sc. and tech. jls.: "Tercod, a New Refractory Brick for Electric Furnaces" Electrochem. Soc. 1933, "Properties and Performance of Silicon Carbide Batts in the Porcelain and Other Ceramic Industries"—Bul. of Amer. Ceramic Soc. O 1936, "Factors Affecting Life of Kiln Furniture in the Whiteware Industry"—Bul. of Amer. Ceramic Soc., 1940. Awarded professional degree of Ceramic Engr. N.Y. State Coll. of Ceramics, Alfred, N.Y., June, 1940. Mem.: Bd. of Mgrs. of N.Y.S. Coll. of Ceramics, Bd. of Trustees Y.M.C.A., Buf. Clubs: Buffalo, Buffalo Athletic Wanakah Country, Buffalo Ad.

DIBBLE, Wallace Hampden, chf. chem., U.S. Rubber Co., Bristol, R. I.; res. Highland Rd., Bristol.
Chem., dev. insulated wire & cable; b. Holyoke, Mass., July 6, 1900; s. of Frank H. and Jennie E. (Clark) Dibble; ed. M.I.T., 1922, S.B.; m. Irene M. Beck Collier, July 16, 1932. U.S. Rubber Co., 1922-27, chem.; Phillips Baker Rubber Co., 1927, chf. chem.; U.S. Rubber Co., 1928 to date, asst. tech. dir., chf. chem. Dev. of matls. & constructions for cables for use by ind. & armed forces. Mem.: A.C.S. Hobbies: golf, gardening.

DICE, Marion (English), mgr., economics dept., Gen. Petroleum Corp., 612 S. Flower St., Los Angeles, 17, Calif.; res. 139 Ridge Rd., Whittier, Calif.
Chem. engr.; b. Quincy, Ill., Aug. 15, 1899; s. of Zell and Estella (English) Dice; ed. U. of Colorado, B.S. (Ch.E.) with spec. honors, 1922; Ch.E., 1926; mem.: Lambda Chi Alpha, Alpha Chi Sigma, Tau Beta Pi, Sigma Xi; m. Bernita Vander Las, June 17, 1925; ch.: Alison (Mrs. Edwin Adams Wells, Jr.), Doris Mae. 1922-23, inst. in engr. math., U. of Colo.; 1923 to date, with General Petroleum Corp., Los Angeles, in following positions: 1923-25, draftsman, engrg. dept.; 1925-26, tester; 1926-29, testing engr.; 1930-32, res. engr.; 1932-41, asst. engr., design section; 1941-42, asst. engr., mfg. dept.; 1943-44, tech. asst. to the pres.; 1944 to date, mgr., economics dept. Has Contrib. misc. tech. arts. to sc. jls.; holds two pats.; contrib. a chapt. to "Handbook of Butane and Propane Gases," 1930. Mem.: A.I.Ch.E.; sr. mem. A.C.S.; fellow, A.A.A.S.; adv. mem. Los Angeles Engr, Council of Founder Societies; Amer. Econ. Assoc.; A.P.I., and Western Oil & Gas Assoc. Clubs: Petroleum (Los Angeles); Town Hall (Los Angeles); University (Whittier). Hobbies: pictorial photography; old science books.

DICKEY, George Daman, partner, Conkey Filter Co., unit of General American Transportation Corporation, 10 E. 49th St., N.Y. 17, N.Y.; res. 234 Gardner Rd., Ridgewood, N.J.
Chem. equipt. engr.; b. W. Pittston, Pa., 1898; s. of Eward Parker and Anna (Ellithorpe) Dickey; ed. B.S., Pa. State 1919; grad. study, Pratt Inst., Columbia U.; mem.: Alpha Gamma Rho; m. Mary Elizabeth Laborde, 1923; ch.: George John, Mary Elizabeth. V.p., Ind. Filtration Corp. 1922; market anal., Gen. Motors, 1927; dryer mgr., Carrier Corp., 1930; org. Conkey Filter Co., 1924 to date. Pats. cataphoric filter, dewaterers, filters. Co-author: "Textook Filtration" 1923; author: "Theory & Practice Filtration" 1947; assoc. author: "Chem. Eng. Cost" 1950. Mem.: A.I.Ch.E., A.C.S. Club: Traffic.

DICKEY, Richard Earle, state chem., State Bd. of Agric., Dover, Del.; res. Christiana, Del.
Agric. chem.; b. Stanton, Del., Sept. 15, 1893; s. of Charles P. and Mary E. (Hensel) Dickey; ed. U. of Del., Newark, Del., B.S.; m. Edna Chambers, June 26, 1923. Asst. chem., State Bd. of Agric., Apr. 3, 1923-June 30, 1947, state chem., July 1, 1947 to date. Mem.: Masons, Odd Fellows. Club: Lions. Hobbies: moving pictures, natural history.

DICKHART, Wallace H., off. chem., Olive Oil Assoc. of Amer., 6 Harrison St., New York 13, N.Y.
Chem.; b. Phila., Pa., Feb. 18, 1888; ed. U. of Pa., M.M. 1914; Phila. Coll. of Phar., chem. and bacteriologist 1917; m. Alice A. Deinet, May 8, 1920. Am. Stores, Phila.; U.S.A. (gas def.) res. chem.; Pease Labs.; off. chem., Olive Oil Assoc. of Am. and N.Y. Mercantile Exchange. C.W.S. arts. pub., "The Refining of Palm Oil for Edible Purposes," "The Behavior of Cooper Acetate with Crude Veg. Oils," "The Detection of Olive Oil in Some Refined Veg. Oils," "Kapot Oil," "The Behavior of Fish Oils with Uranium Nitrate and Pyrogallic Acid," "The Effect of Sunlight on Olive Oil." Res. on bleaching of palm oil with benzoyl peroxide; soap color tests of sulphur olive oil; smoke, flash and fire points for commercial oils. Mem.: A.C.S., A.O.C.S., F.A.M., sub. comm. on org. chem. The Revision, U.S.P., XI, 1935. Hobbies: music, photography.

DICKINSON, David Franklin, asst. prof., chemical engineering dept., Mich. State Coll.; res. 704 Cherry Lane, East Lansing, Mich.
Teaching; b. Coffeyville, Kansas, Jan. 28, 1914; s. of Frank H. and Jennie M. Dickinson; ed. A.B. 1934, M.S. 1936, Kansas State Teachers Coll., U. of Ill. 1936-37; Iowa State Coll., Ph.D., 1941; mem. Sigma Mu Delta. Res. chem., Maytag Co., Newton, Ia., 1941-43; pilot plant foreman, Res.

Data Book Editor; Mathieson Chem. Corp., 1943-46; project leader, Armour Research Foundation, 1946-47; teacher, Michigan State Coll., 1947 to present. Ph.D. Research: "The Drying of an Ideal Porous Body." M.S. Research: "The Electric Moment of Organic Isothiocyanates." Mem.: A. C.S., Inst. of Food Technologists, Sigma Xi, Phi Lambda Upsilon. Hobbies: photography, hiking.

DICKINSON, Quintin Todd, mgr. of coal tar chem. dept., Calco Chem. Div., Am. Cyanamid Co., Easton Turnpike, Bound Brook, N.J.; res. 580 Watchung Rd., Bound Brook.
Chem. engr.; b. Phila., Pa., Nov. 10, 1894; s. of John and Sophronia B. (Todd) Dickinson; ed. U. of Pa., 1917, B.S. in chem. engrg.; m. Anna F. Hastings, Oct. 27, 1923; ch.: Ann H., John, David H. Barrett Co., Phila., chem. engr., 1917-20; Calco Chem. Co., Bound Brook, N.J., chem. engr., 1920-22; Natl. Lead Co., tech. sales, 1922-28; Calco Chem. Co. & Am. Cyanamid Co., 1928 to date, tech. advisor, gen. purch. agent, mgr. of coal tar chem. dept. Specialist in coal tar chem., particularly naphthalene & benzol. Mem.: Purch. Agents Assn., Chem. Salesmen's Assn. in N.Y., Eastern States Blast Furnace & Coke Oven Assn., Newcomen Soc. Clubs: Racquet (Phila., Pa.), Chemists' (N.Y.), Raritan Valley Country. Hobbies: golf, philately.

DIDIER, Ida Marie, assoc. prof. of home economics, Ill. Inst. of Tech., 18 S. Michigan, Chicago 3, Ill.; res. 1344 Rosedale, Chicago 40.
Teacher; b. Sanborn, N.D., Feb. 6, 1896; d. of Joseph Sr. and Marie (Petit de Mange) Didier; ed. B.S. home economics, N.D. Agric. Coll., Fargo, N.D.; M.S. textiles, U. of Chicago, Chicago, Ill.; mem.: Kappa Delta, Phi Upsilon Omicron. Asst. to dean of women, N.D. Agric. Coll., Fargo, N.D.; hd. of home economics dept., Little Falls, Minn., H.S.; home adviser, U. of Ill., Home Economics Extension Service, Coles Coll., Charleston, Ill.; asst. prof. of textiles & clothing, Colo. A.&M., Ft. Collins, Colo.; hd. of home economics dept., Marygrove Coll., Detroit, Mich.; assoc. prof. of home economics, Ill. Inst. of Tech.; visiting prof. of textiles, U. of Minn. Effects of various concentrations of acids on linen & cotton fibers. Mem.: Am. Home Economics Assn., Ill. Home Economics Assn. (textiles & clothing chmn., consumer speaks chmn.), Am. Textiles Chemists & Colorists Assn., Chicago Textiles, Clothing & Related Arts Forum (secy., clothing conservation chmn., membership chmn., program chmn., 1st v.chmn., chmn.), Phi Upsilon Omicron, Who's Who in Am. Women, Who's Who in Am. Ed., Altrusa Club of Chicago, Chicago Stand. Budget (textile conslt.). Hobby: reading.

DIEHL, Harvey, prof. chem., dept. chem., Ia. St. Coll., Ames, Ia., res. 3310 Oakland St.
Chem., coll. prof.; b. Detr., Mich., Nov. 2, 1910; s. of Harvey C. and Ella F. Straass Diehl; ed. B.S. U. Mich. 1932; Ph.D. 1936; mem. Alpha Chi Sigma; m. Helen Louise Clark, June 21, 1936; ch.: Margaret Sue, Byron Clark, Rosemary, Barbara Lyon, Harvey R. Instr., Cornell U. 1936-37; instr. Purdue U., 1937-39; asst. prof., Ia. St. Coll. 1939-42; assoc. prof. 1942-47; prof., 1947 to date; off. invest. Natl. Defense Res. Comm. 1941-43. Numerous contribs. to anal. chem. Co-author: "Advanced Quantitative Anal." 1943; "Elementary Quant. Anal.," Ia. St. Coll. Print. Dept., 1949; Applications of Dioxine to Anal. Chem.," Columbus, 1940; "Electro-deposition with Graded Cathode Potential Contr." 1947. Mem.: AC.S., Sigma Xi, Phi Lambda Upsilon, Ia. Acdy. Sc., A.A.U.P., A.A.A.S.

DIEHL, H(elmut) C(harles), dir. and secy. The Refrigeration Research Foundation, 200 Midland Bldg., Colorado Springs, Colo.
Conslt.; b. Bridgeport, Conn., June 6, 1894; ed. Mich. State Coll., B.S. 1918; Johns Hopkins U., 1919-20; U. of Md., 1923-24; State Coll. of Wash., 1938-39; m. Anna Cecelia Maurrer, Sept. 28, 1920; ch.: 3 sons, 2 daus. C.W.S., Med. Div. at Yale, 1918; asst. chem., Conn. State Bd. of Health, 1918-19; joined U.S. Dept. of Agri., 1920; physiologist in chg. U.S. Hortic. Fld. Lab., Wenatchee, Wash. and Yakima, 1924-31; sr. physiolog. in chg. U.S. Frozen Pack Lab., Seattle, 1935-40; and U.S. Fruit and Vegetable Prods. Labs., Pullman, Wash., 1935-40; sr. chem. and chf., Commodity Proc. Div., Western Regional Res. Lab., Albany, Calif., 1940-43; sr. chem. in chg. Dehyd. Training Schls., U.S.A., 1924; conslt., Western Reg. Res. Lab., Albany, Calif., 1948 to date; dir. and secy., The Refrigeration Res. Fdn., Colorado Springs, Colo., 1944 to date. Author: reports and bulletins on maturity, harvesting, handling and storage of fruits and veg., esp. with freezing preservation of these prods. Fellow, A.A.A.S., fellow, A.I.C., fellow, Amer. Pub. Health Assoc.; mem. Amer. Soc. Refrig. Engrs., Natl. Assoc. Practical Refrig. Engrs., charter mem. and pres., I.F.T., Amer. Soc. Hort. Sci., Cath. Round Table of Sci., Cath. Comm. for Intellectual and Cultural Affairs, Sigma Xi, Xi Sigma Pi. Clubs: Engrs. (San Francisco); Rotary Internatl. (Colorado Springs, Colo.).

DIEHM, Robert Adam, exec. vice pres. & gen. mgr., Ward Paper Co., Merrill, Wis.
Paper mfr.; b. Avilla, Indiana, Aug. 22, 1903; s. of Christian and Magdelena (Gienger) Diehm; ed. B.S.A. Purdue U. 1926, M.S. Rutgers U. 1928, Ph.D. Rutgers U. 1930; mem: Beta Sigma Psi, Sigma Xi; m. Hildred Fritz, Jan. 2, 1927; ch.: Lois, Asst. Soil Fertilizer—N.J. Agr. Exch. 1926-28; Res, asst. soil microbiol.—N.J. Agr. Exch. Sta. 1928-29; instr. bacteriol.—N.J. Coll. for Women, 1928-29; Microbiol. Rohm & Haas Co., Phila. 1929-36; Sales Service—Rohm & Haas Co., Phila. 1936-42; tech. dir.—Container Corp. of Amer., Chgo. 1942-46; res. dir. Cuneo Press, Chic., 1946-47; Tech. dir.—Ward Paper Co., Merrill, Wis. 1947-50; exec. vice pres. & gen. mgr., Ward Paper Co. 1950 to date. Res.: Transformation of soil org. matter with particular ref. to hemi celluloses; res. and prod. of indus. enzymes; application of plastics to paper ind.; res. on paper prod., conversion and print. Mem.: A.C.S., Tech. Assoc. of the Pulp and Paper Industry, Ceres, Trees for Tomorrow, (dir.). Club: Lions. Hobby: fishing.

DIETRICH, Charles H., engr. and serv. mgr., Anti-Hydro Waterproofing Co., 271 Badger Ave., Newark 8, N.J.; res. Long Hill Rd., Chatham, N.J.
Engr. construc.; b. Newark, N.J., Oct. 18, 1908; s. of John A. and Maude Dietrich; ed. Irvington H.S., Irvington, N.J., 1925; Clarkson Coll. of Tech. 1931; B.S. in Civil Engrg., Phalanx Society, Editor-in-chief of Integrator; M.A., Columbia U., 1937; mem.: Theta Pi Epsilon; m. Catherine E. Cowan, Aug. 19, 1933; ch.: Peter K., Hannah Lee. Sc. instr. and math. instr. Salem Central School, Salem, N.Y., 1931; v.prin. and guidance adv. same school, 1941; engr., Anti-Hydro Waterproofing Co., Newark, N.J. 1941-42; engr. and serv. mgr. Anti-Hydro W'p'f'g. Co., Newark, N.J. 1942 to present. Mem.: Amer. Concrete Institute. Member of Bd. of Ed., Passaic Township, N.J., on comm. of Boy Scout Org., Watchung Council, Gillette, N.J. Hobbies: baseball, golf, gardening and skiing.

DIETRICH, Harold Glenn, asst. prof. chem., Sterling Chem. Lab., Yale U., New Haven, Conn.; res. Longmeadow Rd., Orange, Conn.
Tchg.; b. Reading, Penn., Mar. 25, 1899; s. of Amandus M. and Anna E. (Beck) Dietrich; ed. Oberlin Coll., Oberlin, Ohio, 1919-22, A.B. 1922; Yale U., New Haven, Conn. 1922-26, Ph.D. 1926;

mem.: Alpha Chi Sigma; m. Margaret M. Jenkins, June 24, 1924; ch.: Harold Fred; James (dec.). 1923-26 tchg. fellow; 1926-29 instr., 1929 to date asst. prof., all Yale U.; res. on crystalline zinc hydroxide; distrib. of ammonia betw. chloroform and water; tungsten-nickel and tungsten-silver electrode systems. Co-author with Prof. Erwin B. Kelsey of following books: "Lab. Manual to accompany Principles of Gen. Chem." (1933); "Lab. Manual to accompany Introductory Gen. Chem." (1935), revised 1938; "Fundamentals of Semimicro Qualitative Analysis" (1940); "Exercises in Gen. Chem." (1950). Mem.: A.C.S., A.A.A.S., Sigma Xi.

DIETZ, David (Henry), Sc. Editor of Scripps-Howard Newspapers, The Cleveland Press Bldg., Cleveland 14, Ohio; res. 2891 Winthrop Rd., Shaker Hts. 20, Ohio.

Editor and author; b. Cleveland, Ohio, Oct. 6, 1897; s. of Henry W. and Hannah (Levy) Dietz; ed. Western Reserve U., A.B. 1919; postgrad. studies, Western Reserve U. and Case Inst. of Tech.; honorary Litt.D., Western Reserve U., 1948; mem.: Zeta Beta Tau, Sigma Delta Chi, Omicron Delta Kappa; m. Dorothy B. Cohen, Sept. 26, 1918; ch.: Doris Jean, Patricia Ann, David Henry, Jr. Member, editorial staff of The Cleveland Press since 1915; science editor of the Scripps-Howard Newspapers since 1921; lecturer in gen. sc., Western Reserve U., since 1927. Author: "The Story of Science," 1931; "Medical Magic," 1937; "Atomic Energy in the Coming Era," 1945; also author of article on Atomic Bomb in new edition of Encyc. Britannica, and of arts. on Atomic Energy in the Britannica Book of the Year for 1946, 1947, 1948, 1949, 1950. Fellow, A.A.A.S., and Ohio Acdy. of Scs., also of the Royal Astronomical Society; mem. Amer. Astronomical Soc.; Societe Astronomique de France; Sigma Xi. Winner, Pulitzer Prize in Journalism, 1937; B.F. Goodrich Award for Distinguished Pub. Service, 1940; War Dept. Cert. of Appreciation, 1945; Westinghouse Distinguished Science Writers Award, 1946. Mem. of Subcomm. on Publicity, Div. of Med. Scs., Natl. Res. Council, 1940-46; consult. to Surgeon General of U.S.A., 1944-46. At Bikini with Army-Navy Task Force One for atomic bomb test as newspaper corresp. and radio commentator. President, Shaker Heights Library Bd. of Trustees. Clubs: Oakwood, Rowfant, City (Cleveland), Natl. Press (Washington). Hobbies. violin, golf.

DIGGIN, Myron Bradford, tech. dir., Hanson-Van Winkle-Munning Co., Matawan, N.J.; res. Matawan.

Chem.; b. Matawan, N.J., Nov. 1, 1904; s. of William Henry and Carrie (Bennett) Diggin; ed. Wesleyan U., B.S., 1926; M.A., 1928; mem.: Phi Sigma Kappa; m. Elna Nelson, 1934; ch.: Diana Gail, Candace Joyce. Own consulting lab., New Britain, Conn., 1928; supervisor of bridges, Monmouth County, N.J., 1929; tech. staff, Am. Colloid Co., N.Y C., 1929; Hanson-Van Winkle-Munning Co., Matawan, N.J., since 1930, chem., chf. chem., tech. dir. Patents & devels. electrochem. field; deposition of cadmium, zinc & lead; rack coatings; anode diaphragms; regenerative plating systems; designer, "Diggin Electroplating Control Table." Author num. arts. in tech. & trade jls.; lect. throughout country on electrochem.; assoc. edit. "Plating," Am. Electroplating Soc. (A.E.S.); awarded A.E.S. Gold M., 1946. Mem.: A.E.S. (chmn., current res. project; ed. chmn., 1948 Natl. Convention), Electrochem. Soc., A.S.T.M. (active committeeman), A.C.S., Army Ord. Assn., Matawan Township Schl. Bd. (6 yrs.; 4 yrs. pres.), Monmouth Schl. Bds. Assn. (pres., 1 yr.), Monmouth County Better Schl. Health Bd. (mem. of bd.), spec. comm. to investigate tech. & trade ed., Monmouth County (mem., apptd. by Bd. of Freeholders). Hobbies: photography, music, propagation of broadleaf evergreens.

DILLON, Charles Aaron, asst. sales mgr., Wm. S. Merrell Co., Cincinnati, Ohio; res. 1776 S. Wilaray Terr., Cincinnati, Ohio.

Pharmacist; b. Decatur, Ill., Dec. 3, 1912; s. of Frank and Anna Dillon; ed. U. of Cincinnati, Cincinnati Coll. of Pharmacy; m. Karolyn Kerr, Nov. 26, 1934; ch.: Susan, Sally, Sandra. Ciba Phar. Prods. Inc., representative; W. S. Merrell Co., hosp. sales mgr.; Jensen Salsbery Labs., gen. sales mgr., asst. sales mgr., Wm. S. Merrell Co. Clubs: Masonic, Shrine. Hobby: stamp collecting.

DILLON, John Henry, dir. res., Textile Research Inst., P.O. Box 625, Princeton, N.J.; res. 237 Elm Rd., Princeton, N.J.

Dir. physical & chem. res.; b. Ripon, Wis., July 10, 1905; s. of F.G. and Hattie Dillon; ed. B.A., Ripon Coll., 1927; M.A., U. of Wis., 1928, Ph.D., physics & math., 1931; hon. degree, D.Sc., Ripon Coll., 1950; mem.: Phi Kappa Pi, Phi Kappa Tau, Pi Kappa Delta, Gamma Alpha, Sigma Xi; m. Bernice O. Dillon, 1935. Firestone Tire & Rubber Co., Akron, Ohio, 1931-47, res. physicist 1931-37, hd. of physics res. group 1937-45, asst. dir. of res. 1945-46; Textile Foundation & Textile Res. Inst., Inc., dir. of res. 1946 to date; Princeton U., visiting lecturer in chem., 1947 to date. Contrib. extensively to sc. & tech. jls. Author: chapter, "Fatigue Phenomena in High Polymers," "Advances in Colloid Sc." (Vol. III, edited by H. Mark & E.J.W. Verwey, 1950). Mem.: A.Phys.S. (fellow), Textile Inst. (fellow), A.A.T.C.C., A.A.A.S., A.S.T.M., A.C.S., Fiber Soc., Soc. of Rheology. Club: Nassau. Hobby: tennis.

DILLON, Robert T(routman), hd. anal. div., G. D. Searle and Co., Box 5110, Chicago (80), Ill.; res. 1721 Central Ave., Wilmette, Ill.

Res. chem.; b. Pasadena, Calif., Feb. 2, 1904; s. of John and Emma T. Dillon; ed. Calif. Inst. of Tech., B.S., 1925; M.S. 1927; Ph.D., 1929; mem.: Tau Beta Pi, Sigma Xi; m. Alice M. Carpenter, Aug. 1, 1930; ch.: Jeanne K., Patricia A., John A., Hayden A. Asst. in chem., Calif. Inst. of Tech., 1925-26; teaching Fellow, Calif. Inst. of Tech., 1928-29; res. asst., Am. Petroleum Inst. 1926-28; asst. in chem., Rockefeller Inst. for Med. Res., 1929-31; asst. in hospital, Rockefeller Inst. for Medical Research, 1931-37; res. chem., G. D. Searle and Co., 1937-41; hd. anal. div., G. D. Searle and Co., 1941 to present. Res. in physical and org. chem., biochem., analytical chem., instrumentation. Mem.: A.C.S., Am. Soc. of Biol. Chemists. Hobbies: photography, gardening, model making.

DINGLEY, Walter Frederick, secy., treas., U. S. Potash Co., N.Y. 20, N.Y.; res. 353 W. 56 St., N.Y. 19, N.Y.

Exec.; b. Seattle, Wash., Jan. 5, 1893; s. of Walter Frederick and Charlotte (Gardner) Dingley; ed. grad. Stanford U. 1916, A.B. chem.; mem.: Sigma Nu, Phi Lambda Upsilon, Alpha Chi Sigma; m. Virginia Boardman, Feb. 20, 1917. 1916-31, Pacific Coast Borax Co., chem., sales technologist; Nov. 1931 to date, U.S. Potash Co., secy., treas. Mem.: A.C.S. Trustee, Broadway Tabernacle Church (Congregational); pres., Neighborhood House, Inc., N.Y. Clubs: Chemists' (N.Y.), Rockefeller Center Luncheon (N.Y.), Economic (N.Y.).

DINKINS, Philip Moss, pres., Jefferson Chem. Co., Inc., 711 5th Ave., N.Y. 22, N.Y.; res. Sutton Pl.

Chem. engr.; b. Savannah, Ga., Dec. 20, 1896; s. of Tyre J. and Anna Belle Moss Dinkins; ed.

M.I.T., B.S. (Chem. Engr.); mem.: Chi Phi; m. Ella Uppercu, Jan. 26, 1935; ch.: Sarah Ann. 1919 Southern Cotton Oil Co.; 1919-21 Zinsser & Co.; 1922-23 Dorr Co.; 1923-44 Am. Cyanamid & Chem. Corp., v.p.; 1944-46 Jefferson Chem. Co., Inc., v.p., gen. mgr.; 1946 to date, pres.; mem.: A.I.Ch.E.; dir., Mexico Pilgrims. Clubs: Chem. (N.Y.), Univ. (N.Y.), Rumson Country, Seabright Beach, Seabright Lawn Tennis and Cricket. Hobbies: golf, swimming; dir., Am. Cyanamid Co.

DINSMOOR, Daniel Stark, dir. of dev., Amer. Potash & Chem. Corp., 3030 W. 6th St., Los Angeles, Calif.; res. 370 S. Westmoreland, Los Angeles 5.
Chem. engr.; b. Laconia, N.H., Sept. 22, 1894; s. of Arthur W. and Amy (Hatch) Dinsmoor; ed. Dartmouth Coll., B.S. 1916; Harvard U., A. M., 1917; mem.: Sigma Phi Epsilon, Alpha Chi Sigma, Phi Beta Kappa; m. Jean E. Mason, June 30, 1920; ch.: James Arthur. 1919-20 res. chem. Merrimac Chem. Co.; dept. supt. 1920-25; supt. 1926-32; asst. to mng. dir. Monsanto Chem. Wks. (England), 1932-34; supt. and plant mgr. E. St. Louis Plant, 1935-40; asst. mgr. org. div. 1941-43; mgr. Merrimac Div., 1943-47; conslt. engr. 1947-48; dir. of dev., Amer. Potash & Chem. Corp. 1948 to date. Mem.: A.C.S., A.I.Ch.E., Soc. Chem. Ind. Clubs: Harvard (Boston); Chemists' (N.Y.).

DINSMORE, Ray Putnam, v.p. in chg. of res. and dev., The Goodyear Tire & Rubber Co., 1144 E. Market St., Akron 16, O.; res. 795 Merriman Rd.
Chem. engr.; b. Tewksbury, Mass., Apr. 24, 1893; s. of Hiram and Susan (Toye) Dinsmore; ed. B.S. in chem. engr., M.I.T. in 1914, D. Eng., Case School of Applied Sc., Cleveland, 1940; Mem.: Alpha Chi Sigma; m. Violet Cowie, Sept. 24, 1919; ch.: Ruth Harrison Ayers, Ray Putnam. Tech. staff, The Goodyear Tire & Rubber Co., Ohio, 1914-16; asst. chem. (same co.) Canada, 1916-19; chf. chem., Calif., 1919-21; chf. chem. res. dir., Ohio, 1921-32; asst. factory mgr., 1932-39; mgr. dev. dept., 1940-43; v.p. since 1943; asst. deputy rubber dir. Oct. 1942-May 1943, org. sys. rubber res. and dev. prog. for govt. and co. v.p. and dir., The Goodyear Synthetic Rubber Corp. Res. dev. rayon tire; synthetic rubber work in war period. Contrib. chapter on "Physico-Chem Aspects of Hevea Rubber" in book by Jerome Alexander on Colloidal chem. tech. appli.; contrib. chapter on rub. tires "Handbuck Der Gesamten Kauts chuktechnologie." Mem.: Fellow Am. Inst. Chem., Inst. Rubber Ind. British, A. A.A.S.; A.C.S. (councilor 1922-25, chmn. Akron section, v. chmn. rubber div., 1925-26, chmn. rubber div. 1926-27) A.I.C.E., S.A.E.; Colwyn Medal awarded by Inst. Rubber Ind., London, June 25, 1948. Clubs: Chemists', Akron U., Portage Country. Hobby: interested in reclamation waste land.

DIPPEL, Harry W., v.p.-lab. dir., Stillwell & Gladding, Inc., 130 Cedar St., N.Y.C.; res. 515 Sagamore Ave., Teaneck, N.J.
Chem.; b. Apr. 1, 1898 at Jersey City, N.J.; s. of Wm. J. and Josephine (Anthony) Dippel; ed.; B.S. Penn. Coll. 1919, M.S. 1920, graduated highest cl. honors. du Pont scholar 1919-20; mem.: Phi Gamma Delta; m. Mildred M. Edwards, Sept. 27, 1924; ch.: William A. Dippel. Started with Stillwell & Gladding, Inc., during summers while at coll. returned in 1920 and been there ever since; chf. chem in 1938; v.p. and part owner in 1946. Mem.: A.C.S., S.C.I., A.S.T.M., A.C.C.C.E. Hobby: stamps, coin, collecting.

DIRKSEN, A(lvin) J(oseph), asst. mgr., Chemical Products Div., Phillips Petroleum Co., Bartlesville, Okla.; res. 1530 Jennings, Bartlesville, Okla.
Chem.; b. Springfield, Ill., Nov. 17, 1915; s. of Paul A. and Mathilda F. Dirksen; ed. B.S. in chem., June 1938, U. of Ill. (with high honors), Ph.D. in chem., June 1941, U. of Wisconsin; mem.: Alpha Chi Sigma; m. Louise Horan, Sept. 15, 1939; ch.: Lawrence J., Jane, James A., and Martha. Res. asst., U. of Wis., Sept. 1938 to June 1941; res. chem. Oldbury Electro-Chemical Co., Niagara Falls, N.Y., June 1941 to Sept. 1943; res. chem., metallurgical, U. of Chic., Ill.; Sept. 1943 to Apr. 1944; asst. mgr., Chemical Products Division, Phillips Petroleum Co., Mar. 1944 to date. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S., Chemical Market Res. Asso., Commercial Chemical Dev. Asso. Hobbies: model railroading and flying.

DIRR, Peter Aloysius, v.p., Chas. L. Huisking & Co. Inc., 155 Varick St., N.Y. 13, N.Y.; res. 89-19 Lefferts Blvd., Richmond Hill 18, L.I., N.Y.
Exec.; b. N.Y.C., June 5, 1888; s. of Francis de Sales and Mary (Muller) Dirr; ed. parochial schls., N.Y.C.; m. Sabina M. Lindemann, Sept. 11, 1912; Marie Sabina Schwenzer, Feb. 11, 1925; ch.: Marie, Peter G., Dr. John Paul, Gertrude Marie, Joseph F., Sister Teresa Child Jesus, D.C., Francis Aloysius, Sister Pierre Marie, Margaret Mary, Catherine Mary, Ann Marie, James Aloysius O'Caroll, Sabina Marie. Jan. 1902-May 1910, errand & office assistant, Thos. M. Curtis, N.Y.; May 1910-Dec. 1911, trav. salesman, McKesson & Robbins, Inc., N.Y.; Dec. 1911 to date, chf. buyer, Chas. L. Huisking & Co. Inc., N.Y., v.p. 1918 to date. Clubs: Drug & Chem. (ex mem., N.Y.), Wool. Hobby: accumulate old time letters, postcards, write-ups.

DITTMAR, Harry Robert, asst. dir. of sales, polychem. dept., E. I. du Pont de Nemours & Co., Wilmington, Del.; res. 130 School Rd., Alapocas, Wilmington.
Chem.; b. Fond du Lac, Wis., Feb. 3, 1903; s. of J.W.A. and Martha Kliemchen; ed. U. of Wis., B.S. 1925, M.S. 1926, Ph.D. 1928; mem.: Alpha Chi Sigma; m. Helen Osterbind, Aug. 24, 1931; ch.: Bruce Ivor. Instr. chem. dept., U. of Wis., 1928-30; E. I. du Pont de Nemours & Co. 1930 to date. Mem.: A.C.S., A.A.A.S., Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, Gamma Alpha.

DITTMER, Karl, dept. exec., dept. of chem., Fla. State U., Tallahassee, Fla.; res. 422 Oakland Ave., Tallahassee.
Chem. prof.; b. Hebron, N.D., Jan. 18, 1914; s. of Albert Dittmer and Pauline Dittmer; ed. B.A. Jamestown Coll., N.D., 1937; M.S., in 1939, in Organic Chem., U. of Colorado, Boulder; Ph. D., Cornell U. N.Y. in 1944; m. Marjorie Ann Johnson Thomas, June 15, 1949; Grad. assistantships during graduate study, 1939-44; U. of Col., 1938-40; Cornell U. Med. Coll., 1940-44. Res. asso., 1944-45; Cornell U. Med. Coll. Asst's. Prof. of Chem., 1945-47; U. of Col. Asso. Prof. of chem., 1947-49; U. of Col.; Prof. of chem. Fla. State U., 1949 to date. Res.: Author about 40 papers in field of amino acid antagonists,, microbiol. assay. vits. and synthesis and properties of amino acid analogues. Mem.: Sigma Xi, A.C.S., S.E.B.M., Amer. Soc. of Biological Chemists, Fla. Acad. of Sc., and A.A.A.S.

DIUGUID, Lincoln Isaiah, dir., Du-Good Chem. Lab., 1215 S. Jefferson Ave., St. Louis 4, Mo.; res. same.
Res. chem., dir. of res.; Lynchburg, Va., Feb. 6, 1917; s. of L. W. and B. A. Diuguid; ed., B.S., W. Va. State Coll. 1938 magna cum laude; M.S., Cornell 1939, Ph.D. org. chem. 1945; hd. of chem. dept., Ark. State Coll., 1939-43; anal. chem., Pine Bluff Arsenal, C.W.S., U.S.A., 1942-43; W. S. Merrill res. fellow, Cornell U., 1943-45; Office Sc. Res. & Dev. res. fellow, 1945-46, Cornell U., res. assoc. 1946-47; B. F. Goodrich rubber res. fellow 1947; res. dir., Du-Good Chem. Lab., 1947 to date. Org. res., modified Friedel

crafts reaction; drugs, antibiotics, plasticizers, syn. meths., microanal. determinations, modified Herz process, benzothiazole derivatives for anti-malarial studies. Arts. in sc. jls. Mem.: A.C.S., Sigma Xi, Omega Psi Phi, Phi Kappa Phi, Am. Federation of Scientists, Natl. Inst. of Sc., Microchem. Soc., St. Louis Chapter of A.C.S. Club: Advisor to Jr. Achievement - Natl. Youth Bus. Assn. Hobbies: tennis, basketball, horseback riding, golf.

DIWOKY, Roy John, v.p., Pan-Am. Southern Corp., 944 St. Charles Ave., New Orleans, La.; res. 232 W. Livingston, Metairie, La.
Chem. engr.; b. Council Bluffs, Ia., Dec. 4, 1910; s. of Adolph and Ann Diwoky; ed. (1924-28) A. Lincoln H.S.; College Prep. (1928-34) State U. of Iowa, BS-MS, chem. engineering; (1948) Harvard Business School, advanced management course; mem.: Phi Gamma Delta; m. Doris M. Hendricks, in 1933; ch.: Roy James, Linda. Held following positions with Standard Oil Co. (Ind.) - Whiting Refinery: chem. engr., 1935-37; group ldr., res. dept., 1938-39; asst. gen. foreman, pressure still dept., 1939-41; tech. asst., exec. dept., 1941-46; asst. supt., light oils dept., 1946-47; supt. Projects Div., 1947-48; asst. gen. supt., Whiting Refinery, 1948-49. Pan-Am Southern Corp.: Exec. asst. to pres. 1949; v.p. 1950 to present. Mem.: A.C.S., A.I.Ch.E. Clubs: New Orleans Chamber of Commerce, Petroleum, International House, Colonial Country. Hobby: golf.

DIX, Edgar Hutton, Jr., asst. dir. of res., Aluminum Co. of Am., Box 772, New Kensington, Pa.; res. 834 11th St., Oakmont, Allegheny Co., Pa.
Metallurgist; b. Baltimore, Md., Aug. 11, 1892; s. of Edgar Hutton and Margaret J. G. (Chesley) Dix; ed. Roland Park, Baltimore, 1899-1907 public schl.; Baltimore Polytech. Inst., 1907-11; Cornell 1911-14 M.E., 1916 M.M.E. Sigma Xi; m. Mary Opie Tabb 1919. 1914-16 instr., Matls. Testing Lab., Cornell; 1916, metallographer, Mores Chain Co., Ithaca, N.Y.; 1916-18, Baltimore Copper Smelting & Rolling Co., Baltimore, Md., asst. to master mechanic; 1919-20, asst. engr. of tests, Al. Casting Co., Cleveland, Ohio; 1920-23, chf. metals branch, McCook Fld., U.S.A., Dayton, Ohio; 1923 to date, Al. Co. of Am. Dev. of corrosion resistant al. alloys & alclad prods.; contr. to the explanation of intergranular corrosion & stress corrosion cracking of al. alloys. Author: "Corrosion of Light Metals (Al. & Magnesium)" chapter in Corrosion of Metals, A.S.M., 1946, 131-176; "Thermal Treats.," chapter in Physical Metallurgy of Al. Alloys" A.S.M., 1949, 200-240; "Al. Clad Prods." chapter in Engrg. Laminates, John Wiley & Sons, Inc., 1949, 382-402. Mem.: A.A.A.S., A.S.T.M., A.S.M., A.I.M.M.E., S. A.E., Inst. of Metals (England), chmn., subcomm. on aircraft structural matls., Natl. Advisory Comm. for Aeronautics, Metallurg. Advisory Comm. Natl. Bur. of Stands. Awards: Francis J. Clamer M., Franklin Inst., 1947. Inst. of Metals Div. lecturer 1940, A.I.M.M.E., Edward de Mille Campbell Memorial Lecturer 1949, A.S.M. Clubs: University (Pitts.), Oakmont Country (Oakmont), Hill Crest Country (New Kensington). Hobbies: golf, gardening.

DIXON, Tod Galloway, prof. & chmn. of chem. engrg. curriculum, Pratt Inst., Bklyn. 5, N.Y.; res. 147 Park Blvd., Malverne, N.Y.
Chem. engr.; b. Columbus, Ohio, Apr. 17, 1900; s. of Charles Roy and Louise K. Dixon; ed. Ohio State U., B.Ch.E., 1923; M.Sc., 1930; Ph. D., 1932; P.E. in N.Y. & Ohio; mem.: Acacia; m. Claire V. Horst, 1932; ch.: Roy Conrad, Tod Galloway, II. 1923-25, Logan Gas. Co., Columbus; 1925-27, Jeffrey Mfg. Co., Columbus; 1927-28, Heider Ind. Chem. Co., Columbus; 1928-30, Columbia Engrg. & Management Corp., Columbus; 1932 to date, Pratt Inst., Bklyn., N.Y.; 1945-47, dir. of res., Pratt Inst.; conslt., Radiation Labs., M.I.T.; conslt., Columbia Machine Wks., Bklyn.; Nassau Indus. Chem. Labs. Inc., secy., treas. Author: chapter on lime, cement & plaster, "Manual of Indus. Chem.," Rogers, 1943; "Testing Aquarium Water," Aquatic Life (Vol. 17, No. 1); U.S. pat. 2,030,055, floor wax. Mem.: A.C.S., A.I.Ch.E. (active), Sigma Xi, Phi Lambda Upsilon, Cum Lauda (hon.), Am. Public Wks. Assn. Trustee, Inc. Village of Malverne, N.Y., 1947 to date; district governor, Order of De Molay, 1948-50. Clubs: Malverne Square, Masonic Order, Am. Legion. Hobbies: sports, model railroads.

DIXSON, H. Philip, tech. dir., Fox River Paper Corp., Appleton, Wis.; res. 615 E. Parkway, Appleton.
Chem. engr.; b. Des Moines, Iowa, Aug. 18, 1913; s. of Henry P. and Josephine Dixson; ed. B.S. Ch.E., 1935, Iowa State Coll.; Ph.D., Inst. Paper Chem., 1939; m. Helen Wenzel, June 11, 1939; ch.: Philip, Helen, James, Michael. Tech. dir., Fox River Paper Corp., 1939 to date. Mem.: T.A. P.P.I. Club: Elks.

DOAN, Leland Ira, pres., The Dow Chem. Co., Midland, Mich.; res. 1018 W. Main St., Midland.
Exec.; b. North Bend, Nebr., Nov. 9, 1894; s. of Ira and Hester (Spencer) Doan; ed. U. of Mich., 1913-16; mem.: Sigma Ch; m. Ruth Alden Dow, Apr. 7, 1917; ch.: Leland A., Herbert D., Mrs. Parker Frisselle. The Dow Chem. Co. 1917 to date, dir. of sales 1929, dir. of company 1935, v.p. 1938, secy. 1941, pres. 1949 to date. Mfg. Chemists Assn., dir.; Saran Yarns Co., Odenton, Md., dir.; Dowell, Inc., v.p., dir.; Dow Chem. of Canada, Ltd., dir.; Midland Ammonia Co., dir. Clubs: Detroit Athletic, Canadian (N.Y.), Chemists', Newcomen Soc.

DOAN, Wilson Irving, conslt., The Dow Chem. Co., 135 S. LaSalle St., Chicago 3, Ill.; res. 1426 Chicago Ave., Evanston, Ill.
Conslt. Sales Dept., The Dow Chem. Co.; b. North Bend, Nebr., Oct. 29, 1884; s. of Dr. Ira and Hester (Spencer) Doan; ed. U. of Nebraska, 1902-03; U. of Mich. (engr.) 1903-06; (law) 1906-09, LL.B.; Northwestern U. (Lit.) 1937-38; mem.: Alpha Theta Chi; m. Naomi B. Staples, Nov. 12, 1917; ch.: Patricia W. (Mrs. C. R. Webster). 1918-19 sales dept., The Dow Chem. Co., Midland, Mich.; 1919-24 salesman, New York off., Dow Chem.; 1924-37 mgr. St. Louis off.; 1937-50 mgr. Chicago off., 1950 conslt., Chicago off., The Dow Chemical Co. Mem.: A.C.S.; Chicago Drug & Chem. Assoc.; Chicago Perfumery, Soap & Extract. Assoc., Newcomen Society of England. Clubs: Union League (Chicago); University (St. Louis). Hobbies: historical res.; reading; baseball; football; home moving picture photography.

DOBBINS, James Talmadge, chem. prof., Venable Hall, Chapel Hill, N.C.; res. 301 Comeron Ave., Chapel Hill.
Chem. teach.; b. Boonville, N.C., Feb. 11, 1888; s. of Nathan C. and Sophronia Reece Dobbins; ed. U. of N.C., A.B. 1911, A.M. 1912, Ph.D. 1914; mem.: Alpha Chi Sigma, m. Lila Shore June 20, 1917; ch.: Christine, James Talmage, Jr. Instr. N.C. State Coll., 1914-18; assoc. prof. U. of N.C., 1918-30; prof. U. of N.C. 1930 to present. Res.: Inorganic and analytical chem. Author: "Semi Micro Qualitative Analysis" 1943. Mem.: A.C.S., Soc. of Public Analysts, Sigma Xi. Hobbies: gardening, flowers.

DODD, Robert E., v.p., resins div., Durez Plastics & Chems., Inc., No. Tonawanda, N.Y., res. 127 Brantwood Rd., Eggertsville, 21, N.Y.
Selling; b. Palmerton, Pa., Jan. 30, 1901; s. of Robert H. and Daisy Elverston Dodd; ed. M.I. T.; mem.: Phi Gamma Delta; m. Margaret L. Wilson, May 29, 1936; ch.: Patricia, Barbara,

Cornelia. 1922-27 Colt's Patent Firearms Mfg. Co., Hartford, Conn., supt. molding div.; 1927 to date Durez Plastics & Chems. Inc., v.p., resins div.; mem.: Forest Prods. Res. Soc., Soc. Plastics Indust. Club: Country (Buffalo).

DODGE, Barnett F., prof. of chem. engrg., Yale U., and chmn. of dept., 225 Prospect St., New Haven, Conn.; res. 108 Middle Road, Hamden, Conn.
Tchr. and conslt.; b. Akron, Ohio, Nov. 29, 1895; s. of Fred Bradley and Charlotte Ida Dodge; ed. B.S., M.I.T., 1917; D.Sc., Harvard U., 1925; mem.: Beta Theta Pi; m. Constance Woodbury, June 5, 1918; ch.: Phyllis, Richard Woodbury. 1917-20, chem. engr., E. I. du Pont de Nemours & Co., at Eastern Lab., Gibbstown, N.J., for 1 yr., dev. of proc. for loading high explosive shells with Amatol; June-Nov., 1918, at U.S. Govt. shell loading plant at Penniman, Va.; acted as an advisor in starting operations on shell loading with Amatol; ret. to Eastern Lab. in Nov., 1918; dev. wk. on ammonium nitrate explosives; transf. to main off., 1919, as asst. to Mgr. of Inspection and Stds. Div. of Chem. Dept.; 1920-22, chem. engr. with Lewis Recovery Corp., Boston, Mass., design and operation of solvent recovery plants; 1921-25, lecturer on chem. engrg., Harvard U.; 1922-25, lecturer on chem. engrg., Worchester Polytech. Inst.; 1925, chem. engr. with Fixed Nitrogen Res. Lab. of U.S. Dept. of Agri.; Investigated hydrogen prod. and conversion of ammonia to nitric acid; 1925-30, asst. prof. of chem. engrg., Yale U.; 1930-35, assoc. prof. of chem. engrg., same U.; 1935 to date, prof. of chem. engrg., same U.; 1931 to date, chmn. of Chem. Engrg. Dept., Yale University; 1927-31, conducted res. on high pressure synth. of methanol in coop. with Mellon Inst. of Indust. Res.; 1926-27, conslt. to Oxygen Process Corp. of New England on dev. of Jefferies-Norton proc. of air separation; 1930 to date, conslt. to Conn. State Water Commis. on dev. of proc. for treatment of metallurg. wastes; 1940, lecturer on chem. engrg. thermodynamics, Summer Grad. Session, Armour Inst. of Tech.; 1941-42, conslt. to Tenn. Valley Authority on testing of catalysts for the synth. of ammonia; 1941-43, Official Investigator for N.D.R.C. working at Yale under 3 different contracts with OSRD; 1943-44 on lve. from Yale for 1½ yrs. as assoc. dir. of Central Engrg. Lab. of Div. 11 of the N.D.R.C.; 1943-44, lecturer on chem. engrg. thermodynamics, N.Y.U. Even. Grad. Schl.; Nov., 1944-Sept. 1945, on lve. from Yale, tech. dir., Fercleve Corp., Oak Ridge, Tenn.; Sept., 1945-Jan., 1947, conslt. to E. I. du Pont de Nemours and Co. on var. chem. engrg. problems; since Mar., 1946, conslt. to Phillips Petroleum Co.; since Sept., 1945, conslt. to H. K. Ferguson Co.; since Nov., 1946, dir. of res. proj. No. 10, Amer. Electroplaters Soc. Author and coauthor of abt. 50 papers in tech. jls.; main tech. flds. of interest: thermodynamics and its appls., esp. to chem. equilibrium and to low temp. proc.; catalytic gas reaction; high pressure technique and proc.; distillation and adsorption proc.; also, disposal of wastes from metallurg. industries; oxygen mfr.; thermal diffusion; holds 4 U.S. pats. in fld. Author of "Chem. Engrg. Thermodynamics," McGraw-Hill, 1944; chapt. in Rogers' Manual of Industrial Chem., 1942 and Sections 18 and 25 of Chem. Engrs. Handbook, 3rd ed. Mem.: A.C.S., A.A.A.S., A.I.Ch.E., Sigma Xi, Amer. Electroplaters Soc., Yale Engrg. Assoc. Club: Appalachian Mt. Hobbies: photography, travel, camping, minerals.

DODGE, Ralph L., mgr. planning div. polychemicals dept., du Pont Co., du Pont Bldg., Wilmington 98, Del.; res. Sassafras Farm, P. O. Box 23, Cecilton, Md.
Chem.; b. Peabody, Mass., Nov. 4, 1895; s. of Ralph F. Dodge and Laura (Lane) Dodge; ed. A.B. Harvard Coll. 1917, Ph.D., Harvard U., 1924; mem.: Alpha Chi Sigma; m. Gertrude Winter; ch.: Sarah (Dodge) Chirnside, Laura (Dodge) Cole. U.S. Navy, 1917-20; Fixed Nitrogen res. lab. U.S.D.A., 1920-24; E.I. du Pont de Nemours & Co., 1924 to date. Res.: ammonia synthesis at high pressure. Mem.: A.C.S., A.I.Ch.E.; ASTM, Merchant Mar. Coun. Advisory Panel. Dir. Wilmington Music Scholls. Clubs: Harvard of N.Y.C., Harvard of Del. (v.p. 1948 to date), Elk River Yacht, U.S. Power Squadron. Hobbies: music, boating, farming.

DOE, Willis H., treas., Doe & Ingalls, Inc., 56 Garden St., Everett 49, Mass.; res. 32 Sagamore Ave., West Medford 55, Mass.
Exec.; b. Medford, Mass., Aug. 22, 1883; ed. Northeastern, B.C.S. 1915; Boston U., M.B.A. 1917; m. Florence Merrill, June 5, 1905. Howe & French, 1901-21; estab. Doe & Ingalls, 1921; treas. to date. Trustee, Mass. Charitable Mechanic Assoc. Mem.: Mason (Comdry.), P.I.M. Medford Council, R. & S. Masters, P.R. Royal Arcanum. Hobbies: photography, music.

DOERR, George Valentine, 1st v.p., McKesson & Robbins, Inc., 24 N. Third St., Minneapolis, Minn.; res. 1940 Knox Ave. S., Minneapolis.
Exec.; b. Apr. 27, 1884; s. of Henry and Sarah (Scharpf) Doerr; m. Eleanor Davidson, Apr. 17, 1909; ch.: Charles D., Caroline (Doerr) Carse, George V. Jr., Chloe (Doerr) Ackman. Dir., Minneapolis Foundation; dir., Am. Foundation for Phar. Ed. Clubs: Minikahda, Minneapolis, Lafayette, Woodhill.

DOETSCH, James Francis, pres., Chilean Nitrate Sales Corp., 120 Broadway, New York 5, N.Y.; res. Sterling Rd., Harrison, N.Y.
Exec.; b. Apr. 2, 1899, Iron Mountain, Mich.; s. of John J. and Frances C. (Stenglein) Doetsch; ed. U. of Mich., A.B., 1922; m. Cecil Connors, June 30, 1927; ch.: James F. Jr., Richard Lee. 1922-27, Arthur Young & Co., Certified Public Accountants, Chicago, Ill.; 1927-32, G. L. Ohrstrom & Co., Investment Bankers, v.p., New York City; 1932-45, Anglo-Chilean Nitrate Corp., Mining Co., v.p., N.Y.C.; 1932-45, The Lautaro Nitrate Company, Ltd. Mining Co., v.p., N.Y.C.; 1945 to present, Chilean Nitrate Sales Corp., pres., N.Y.C.; 1945 to present, Chilean Nitrate Educational Bur., pres., N.Y.C.; 1945 to present, Chilean Iodine Educational Bur., pres., N.Y.C. Pacific Tin Consolidated Corp., dir., Guggenheim Nitrate Corp., dir., American Plant Food Council (Washington, D.C.), dir. Clubs: Bankers of America (New York), Winged Foot Golf (Mamaroneck), American Yacht (Rye, N.Y.), U. of Mich. Club of N.Y. Hobbies: golf, fishing, shooting.

DOHAN, Jerome, plant mgr., Mutual Chem. Co. of Am., 201 West Side Ave., Jersey City 5, N. J.; res. 437 Millburn Ave., Millburn, N. J.
Chem.; b. N.Y.C., Sept. 12, 1901; s. of Joseph and Charlotte (Schmer) Dohan; ed. Cooper Union, B.S. in chem.; mem.: Alpha Mu Sigma; m. Augusta Schiffer, July 3, 1929; ch.: Joseph Lawrence, Michael Charles. Chem., asst. supt., supt., plant mgr., all with Mutual Chem. Co. of Am., Baltimore, Md. plant, Jersey City, N.J. plant. Dev. in chromium chem. & special work on CP. chromium chems. Mem.: A.C.S., A.I.C. (fellow).

DOHENY, James J., Jr., mgr., Chicago Section, American Chemical Soc., (also mgr., National Chemical Exposition), 86 E. Randolph St., Chicago 1, Ill.; res. 4247 West End Ave., Chicago 24, Ill.
Association exec.; b. Effingham, Ill.; s. of James J. and Julia W. Doheny; ed. B.S., 1927, M.S., 1932, Ill. Inst. of Technology; mem.: Alpha Chi Sigma, Phi Lambda Upsilon. Instr., St. Mel H.S., Chicago, 1927-34; inspector, Alcohol Tax Unit, Bur. Int. Rev., 1934-39; instr., Chicago High Schools, 1939-42; Chemical Corps, United States Army, 1942-46; convention mgr., Amer. Chem. Soc., 1946-49. Mem.: A.C.S., A.A.A.S., Soc. for

Study of Alchemy and Early Chem., Armed Forces Chem. Asoc., Amer. Trade Assoc. Executives, Trade Association Executives Forum of Chicago, Natl. Association of Exhibit Managers. Clubs: Chemists' (New York), Chemists' (Chicago). Hobby: philately.

DOHERTY, Charles Henry, Jr., dir. prodn., polychem. dept., E.I. du Pont de Nemours & Co., Wilmington, Del.; res. 1115 Brandon Lane, Westover Hills, Wilmington.
Dir. prodn.; b. Grand Rapids, Mich., Sept. 30, 1895; s. of Charles Henry and Theresa Doherty; ed. U. of Mich., B.S. M.E. 1918, M.S. Ch.E. 1925; m. Margaret Roggemann, 1925; ch.: Charles H., III. Du Pont Nitrate Co., mgr. Oficina Pena Grande, Iquique, 1925-28; du Pont Co., asst. engr. constrn., Belle, W. Va. 1928-29; asst. mgr. Belle Wks. 1929-37; mgr. 1937-45; prod. mgr., ammonia dept., Wilmington, 1945-50; dir. prodn., polychem. dept., Wilmington, 1950 to date.

DOHERTY, Edward E., tech. dir., Bona Allen, Inc., Buford, Ga.; res. 98 Moreno, Buford, Ga.
Chem.; b. Montgomery, O., Mar. 2, 1907; s. of Edward F. and Louise Doherty; ed. Ch.E., U. of Cincinnati, 1929, M.S., 1935; Mem.: Phi Delta Theta, Phi Lambda Upsilon (hon.); m. Vera Dugan, Jan. 11, 1936; ch.: Cecile, Dorothy. Chem., Carl E. Schmidt & Co., Detroit, Mich., 1929-31; prof. of bacteriology, Eclectic Med. Coll., 1932-35; asst. prof., Tanners Res. Lab., U. of Cincinnati, 1935-41; prof. of biol., Cincinnati Coll. of Phar., 1939-41; tech. dir., Bona Allen, Inc., Buford, Ga., 1941 to present. Res. in disinfecting hides containing foot and mouth disease virus; method adopted by U.S. Govt. Co-developer of new Dialdehyde-Resin Tannage. Mem.: A.L.C.A., Recipient of Alsop Award, 1940, for wk. on foot and mouth disease disinfection. Hobbies: quail hunting.

DOHERTY, Joseph Daniel, asst. chf., off. of syn. liq. fuels, Bur. of Mines, Dept. of the Interior, rm. 4426 Interior Bldg., Washington 25, D.C.; res. 7203 Maple Avenue, Chevy Chase 15, Md.
Chem. engr.; b. Bangor, Maine, April 12, 1903; s. of James Albert and Mary Ann (nee Rice) Doherty; ed. B.S. U. of Maine in chem. engrg., in 1926 (honors); mem.: Alpha Chi Sigma; m. Barbara Daschbach in 1944; ch.: Daniel Peter 3; James Albert 10 mo.; John Bernard 10 mo. Chem. Brown Company, Berlin, N.H., 1926; Jr. chem. engr., U.S. Dept. of Agri. 1926-27; Koppers Res. Corp., Mellon Inst., Pittsburgh, Pa., chem. engr., 1927-32; res. engr., Eastern Gas & Fuel Associates, Pittsburgh, Pa., 1932-45; ass't. chf., Office of Syn. Liq. Fuels, Bur. of Mines, Wash., D.C., present, from 1945. Has asst. in planning and directing the program being carried out in Gov't.'s 5 labs. and demonstration plts. for prodn. of oil and gasoline from coal and oil shale. $60,000,000 has been auth. for this purpose over an 8-yr. period. Clubs: Tau Beta Pi, A.I.M.E., A.G.A., Amer. Coke and Coal Chem. Institute, Eastern States Blast Furnace and Coke Oven Assoc.

DOISY, Edward A., prof. of biochem., dir. of dept., St. Louis U. Schl. of Medicine, 1402 S. Grand Blvd., St. Louis, Mo.; res. 444 Sherwood Dr., Webster Groves, Mo.
Teacher, investigator; b. Hume, Ill., 1893; s. of Edward Perez and Ada (Alley) Doisy; ed. A.B., U. of Ill., 1914; M.S. 1916. Ph.D., Harvard, 1920; Sc.D., hon., Wash. U., 1940; U. of Chicago, 1941; Central Coll., 1942; Docteur Honoris Causa, U. of Paris, 1945; m. Alice Ackert, July 20, 1918; ch.: Edward A., Robert A., Philip P., Richard J. Asst. in biochem., Harvard Medical Schl., 1915-17; instr., assoc., assoc. prof. in biochem., Wash. U. Schl. of Medicine, 1919-23; prof. of biochem., St. Louis U. Schl. of Medicine, 1923 to date, appointed dir. of dept. of biochem. 1924 to date. Metabolism; insulin; blood buffers; isolation & chem. characterization of theelin, theelol & dihydrotheelin; ovarian hormones & estrogenic substances; gonadotropic & thyrotropic principles; isolation of vitamins K1 & K2; syn. of K1; antibiotic substances. Co-author: "Sex & Internal Secretions" with Edgar Allen & Charles H. Danforth, 1939. Awards: Gold M. of St. Louis Medical Soc., 1935; Philip A. Conne M. of Chemists Club, N.Y., 1935; St. Louis Civic Award, 1939; Willard Gibbs M., 1941; Am. Phar. Mfrs. Award, 1942; Squibb Award, 1944; shared the Nobel Prize in physiol. & medicine for 1943 with Dr. Henrick Dam. Mem.: League of Nations Comm. on Standardization of the Sex Hormones meeting in London 1932 & 1935, Am. Soc. of Biolog. Chemists (pres. 1943-45), A.C.S., A.I.C., Assn. for Study of Internal Secretions (pres. 1949-50), A.A.A.S., S.E.B.M. (pres. 1949-51), Am. Assn for Cancer Res., Natl. Acad. of Sc., Am. Philosophical Soc., Pontifical Acad. of Sc., Am. Acad. of Arts & Sc. Hobbies: golf, hunting, fishing.

DOLD, C. Norman, gen. mgr., Rose Exterminator Co., 1809 W. North Ave., Chicago 22, Ill.; res. 1350 Greenwood Ave., Wilmette, Ill.
Pest control; b. Indianapolis, Ind., Nov. 24. 1897; s. of Charles V. and Anna A. Dold; ed. Denison U., Ph.B.; mem. Beta Theta Pi; m. Helen Shumaker, Sept. 24, 1927; ch.: Charles Norman, Jr., John Allen, Robert James, Mary Ann. Mem.: Amer. Pub. Health Assoc.; Amer. Assoc. of Economic Entomolists; Natl. Pest Control Assoc. (past pres.), A.A.A.S. Trustee, Northern Baptist Theological Seminary. Clubs: Illinois Athletic; Chicago Executives Assoc.; Central Lions Club.

DOLE, James Drummond, partner, James D. Dole & Associates, 58 Sutter St., San Francisco 4, Calif.; res. 1100 Union St., San Francisco 9.
Industrialist; b. Jamaica Plain, Boston, Mass.; s. of Charles Fletcher and Frances (Drummond) Dole; ed. prep., Roxbury Latin Sch., A.B. Harvard, 1899; m. Belle Dickey (of Honolulu), Nov. 22, 1906; ch.: Richard Alexander, James Drummond, Charles Herbert, Elizabeth (Porteus), Barbara (Larsen). Took up homestead Hawaiian Is. 1900; planted pineapples, 1901; org. Hawaiian Pineapple Co. Ltd., 1901; erected cannery, 1903, pack reaching 4,957,054 cases 1931; guided dev. canning syrup, citric acid, pineapple bran from skins & ends of pineapple, of canned pineapple juice, 1932; "liquid apple" type canned & bottled apple juice, 1940, cooperation with Am. Can Co.; corresponding type of natural carrot juice, 1937; originated, carried out first campaign of "Associated Advertising" for popularizing canned Hawaiian pineapple, 1908-09; helped establ. sc. res. wk. in pineapple indust.; chmn. bd. Hawaiian Pineapple Co. 1932-48; retired 1948. Pres., Chem. Proc. Co., The Schwarz Engrg. Co., Inc. Author: pamphlet "Impressions of five months in Washington," 1934; Clubs: Pacific (Honolulu), Pacific Union, Commonwealth (San Francisco), Harvard (N.Y.), Union (B.C. Canada). Hobby: fishing.

DOLE, Malcolm, chem. prof. Northwestern U., Evanston, Ill.; res. 2402 Isabella St., Evanston.
Physical chem.; b. Melrose, Mass., Mar. 4, 1903; s. of William Andrews and Grace Weld (Soper) Dole; ed. A.B. Harvard Coll., 1924, Ph.D. 1928; mem: Pi Eta; m. Frances Hibbard Page; ch.: Priscilla Page, Malcolm, Jr. Res. Ass't., Rockefeller Inst. for Med. Research, 1928-30; instr. Northwestern U., 1930-35; asst. prof. 1935-38; asso. prof. 1938-43; leave of absence 1943-45; prof. 1945 to present. Official Investigator, 1941-44; res. physicist, Manhattan Project, 1944-45, Author: "Experimental and Theoretical Electrochemistry," 1935, "The Glass Electrode," 1940. Mem.: A. Chem, Physical and Electrochem. Societies, A.A. A.S Sigma Xi, Chaos Club. Awarded Army Navy Certificate of Appreciation, 1948. Clubs: Sheridan Shore Yacht, U. Club (Evanston). Hobby: sailing.

DOLIAN, Frank E., asst. mgr., tech. serv. div. Commercial Solvents Corp., 745 5th Ave., N.Y. 22, N.Y., res. East Lane, Revonah Woods, Stamford, Conn.
Chem.; b. Coalmont, Ind., Aug. 16, 1909; s. of Peter and Rose Dolian; ed. Ind. U., A.B. 1930; A.M. 1931; Ph.D. 1933; mem.: Kappa Delta Rho (social), Alpha Chi Sigma (prof.); m. Edith Alice Prentice, Oct. 1, 1938; ch.: James P., Rosemary Sue, Robert P. 1938-39 res. dept., Comm. Solvents Corp., Terre Haute, Ind.; 1939-42, market dev.; 1942-46, U.S.A., Chem. Corps. Tech. Command, Major; 1946-48, tech. serv. div., Comml Solvs. Corp., Terre Haute, Ind.; 1948 to date, asst. mgr., N.Y.C. Mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi, A.C.S., Comm. Chem. Dev. Assn. Club: Chem. (N.Y.C.).

DONEGAN, Joseph Willard, supvr., bituminous res., Barrett Div., Allied Chem. & Dye Corp., Edgewater, N.J.; res. 221 Hale St., New Brunswick, N.J.
Chem.; b. New Brunswick, N.J., Sept. 22, 1908; s. of John T. and Catherine M. Donegan; ed. Rutgers U., B.S. ceramics 1929, Phi Beta Kappa. Barber Asphalt Corp., res. chem., 1929-34, asst. chf. chem. 1934-41; Barrett Div., Allied Chem. & Dye Corp., res. chem. 1941-45, supvr., bituminous res. 1945 to date. Mem.: A.S.C., Rheology Soc., A.I.C. (fellow) A.S.T.M. (comm. mem.). Clubs: Metuchen Golf & Country, St. Peter's Lyceum (New Brunswick, N. J.). Hobbies: golf, movies, photography.

DONELSON, John Garhart, res. associate, Carnegie, Ill. Steel Corp., 234 Atwood St., Pitts. 13, Pa.; res. 1001 Milton Ave., Pitts. 18.
Chem. res.; b. Huntingdon, Pa., July 21, 1911; s. of Homer Schell and Nora A. (Garhart) Donelson; ed. Juniata Coll., B.S. 1933; Yale U., Ph. D. 1937; mem.: Gamma Alpha, Sigma Xi; m. Mary Elizabeth Ayres, June 5, 1938; ch.: Elizabeth Anne, Jean Rebecca. Grad. instr., Juniata Coll., 1933-34; grad. asst., Yale U., 1934-37; physical chem., Carnegie Ill. Steel Corp., res. lab. 1937 to date, chf. of chem. div. since 1947. Mem.: A.C.S., A.Phys.S., A.S.M., Electrochem. Soc. Hobbies: woodworking, tropical fish.

DONLAN, Theodore Rothwell, tech. sales engr., overseas markets, Standard Oil Dev. Co., Research Center, Linden, N.J.; res. 626 Duquesne Terrace, Union, N.J.
Chm. engr.; b. Elizabeth, N.J., Aug. 12, 1901; s. of P. Leo and Bertha E. Rothwell Donlan; ed. U. of Cincinnati, 2 yrs. (1922-24), N.Y.U.; 3 yrs. (1925-28) Chem. engr.; Rutgers U., M.S., 1942; mem.: Sigma Delta Pi, Kappa Sigma, Scabbard & Blade; m. Gertrude D. Cotter, Oct. 25, 1930; ch.: Sonya, Alberta. West. Elect. Co., Mech. Switch Insp., 1921-22; Stand. Oil Co. of N.J., Lab. Assist., 1924-25; Johns Manville Co., chem. engr., 1928-29; Stanco Inc., chem. engr. 1929-32; Standard Alcohol Co., hd. solvents lab. 1932-46; Standard Oil Co., N.J., chem. engr., tech. sales, Overseas Mkts. 1946-July 1, 1950. Tech. sales engr. overseas markets Standard Oil Dev. Co., Research Center, Linden, N.J., July 1, 1950 to date. Major work in purific, properties and uses of solvents derived from pet.; prepared 55 page booklet on Prof. and Economic Status of Chemists in North Jersey area. Mem.: A.C.S., A.S.T.M., A.A.A.S., Sigma Xi, A.I.C. (fellow), Esso Research Club, Tech. Societies Council of N.J., N.Y.U. Chem. Alumni Club, Chemists' (N. Y.). Clubs: Knights of Columbus, U.S. Power Squadron. Hobbies: color photography, surf fishing, swimming.

DONNALLEY, James Rolston, Jr., plant mgr., Gen. Elec. Co., Waterford, N.Y., res. Hedgewood Lane, R.D. No. 1, Schenectady, N.Y.
Chem. engr., b. Camden, N.J., June 6, 1918; s. of James R. and Susanna M. Donnalley; ed. B.S. (Chem. Engr.), Pa. St. Coll., 1939; Ph.D. (Chem. Engr.) Cornell U. 1943; mem. Alpha Chi Sigma; m. Gladys Parry, June 1, 1946; ch.: James R., III, Susan Rae. 1943-45 Gen. Elec. Co., res. lab., staff chem. engr.; 1945-48 chem. dept., group leader; 1948 to date Gen. Elec. Co., plant mgr. (Waterford, N.Y.). Res., dev. in field of organosilicon chems., silicon prod. Mem.: A.I.Ch.E., A.C.S. Club: Edison.

DONOVAN, James, treas., gen. mgr., Artisan Metal Prods., Inc., 73 Pond St., Waltham 54, Mass.; res. 91 Garden St., Cambridge 38.
Chem. engr.; b. Vancouver Barracks, Wash. State, Oct. 26, 1906; s. of Andrew E. and Johanna M. Donovan; ed. M.I.T., B.S. 1928; mem. Tau Beta Pi; m. Frances Cooper-Marshall, 1931; ch.: Andrew E., James M. Asst. in chem. engrg. dept. M.I.T. 1928-29; chem. engr. Hird & Connor, Inc. 1929-32; chem. engr. Acme Indus. Equip. 1932-34; treas., gen. mgr. Artisan Metal Prods., Inc. 1934 to date; pres., treas., Metal Fabricators Corp., 1947 to date. Author: "Some Aspects of Food Processing Equipment Design from the Standpoint of Heat Transfer," "Food Technology," 1947, Vol. I., No. 1. Mem.: A.I.Ch.E., A.C.S., Amer. Welding Soc., Inst. of Food Technologists. Clubs: Chemists' (N.Y.), M.I.T. (N.Y.). Officer: Metal Fabricators, Inc. (pres.), Metal Clad Doors, Inc. (treas.), Thermal Research & Engrg. Corp. (dir.).

DOOLITTLE, Arthur K., Asst. Dir. of Res., Carbide & Carbon Chem. Div., Union Carbide & Carbon Corp., South Charleston, W. Va.; Res.: South Charleston.
Chem. engr., b. Oberlin, Ohio, Nov. 15, 1896; s. of Frederick G. and Maude T. Doolittle; ed. A.B. Columbia Coll., 1919, B.S. 1920, Coll. U. Schl. of Engrg., Chem. Engr., 1923; mem. AXP; m. Dortha B. Bailey, Aug. 8, 1923; ch.: Robert F., Elizabeth Doolittle Packham. Res. Engr., The Dorr Co., 1923-25; Pl. Engr., The Sherwin-Williams Co., Chicago, Ill., 1925-29; Chf. Lacquer Div., The Sherwin-Williams Co., Newark, N.J., 1929-30; Res. Engr., Bowen Research Corp., N.Y.C., 1930-31; Dir. Lacquer Res., Bradley and Vrooman Co., Chicago, Ill., 1931-32; coatings res. Carbide and Carbon Chem. Corp. 1932-44; Ass't. Dir. Res., 1944 to date. Res.: on solvents and plasticizers; holds a number of patents in fld. of surface coatings. Mem.: A.C.S., A.I.Ch.E., A.S.T.M., A.A. A.S., Phi Beta Kappa, Tau Beta Pi, Phi Lambda Upsilon, Chi Beta Phi. Clubs: Col. U., N.Y.; Quiet Birdmen, Washington. Hobby: flying.

DOOLITTLE, Orrin Sage, retired chem.; res. 388 Palisade Ave., Yonkers, N.Y.
Retired chem.; b. Chester, Conn., Dec. 29, 1863; s. of Edgar Jared and Jane Elizabeth (Sage) Doolittle; ed. Williston Seminary, Easthampton, Mass., grad. 1881; M.I.T., Boston, Mass., 1886, B.S. Chem.; m. Grace Ferguson, Nov. 10, 1896; ch.: Catherine, Jane, Edgar J., Nathaniel F. Penn. R.R., Altoona, Pa., 1886-89, asst. chem.; Phila. & Reading R.R., Reading, Pa., chem. and gen. storekeeper, Div. supt., 1889-99; N.Y. rep., Semet Solvay Co. of Syracuse, N.Y., 1905-26. Mem. of A.C.S. for 53 yrs. to date.

DORN, Charles W., dir. of res. lab., J.C. Penney Company, Inc., 330 W. 34th St., New York City; res. 1 Montfort Rd., Port Washington, N.Y.
Textile chem.; b. Louisville, Ky., in 1896; s. of George F. and Amelia Winkler Dorn; ed. U. of Louisville, B.S., chem.; mem. Kappa Psi; m. Isabel Brooks, May 1, 1924; ch.: Brooks, Susan. 1918-20, Instr. of chem., Pa. State Coll.; 1920-26, chem., Melba Mfg. Co., Chicago, Ill.; 1927-29, chf.

chem., Noridia Perfumery: 1929 to present, dir. res. lab., J.C. Penney Co., Inc. Res. in washfastness of textiles, flammability of textiles, water repellency of textiles, insect pests, hygienic finishes. Mem.: Am. Assoc. Textile Chems. and Colorists, A.S.T.M., Am. Leather Chems. Assoc., Chmn. Tech. Comm., Natl. Retail Dry Goods Asso. Club: Port Washington Yacht. Hobbies: Yachting and photography.

DORN, Herman W., dir., of res., Irwin, Neisler & Co., Decatur, Ill.; res. 719 S. McClellan Ave., Decatur.
Res. biochemist; b., New York City, Sept. 14, 1911; s. of David and Fannie (Schnaper) Dorn; ed. Worcester Polytechnic Inst. 1929-30; A.B. (biol. & chem.) Clark U. 1935, A.M. (Biochem) Clark U. 1936, Ph.D. (Org. Chem.) Clark U. 1938; m. Mary Alice McDermott in 1934; ch.: Cynthia Gilbert Dorn, Prescott Mathew Dorn, Juliet Benson Dorn. Scholar 1935; fellow 1936-38; 1935-38 grad. tch. Clark U.; at present, Maj. in Chem. Corps; Comm. in Chem. Corps in 1939; 1938-39, chem, & physics instr., Worcester schls; 1939-43, sr. res. chem. & chem. prod. super. International Minerals & Chemical Corp; 1943-44, res. & post-doctorate fellow, State U. of Iowa & liaison officer on Army Emergency Field Rations; 1944-45, International Minerals & Chem. Corp. Sr. res. chem. & chem. prod. super; 1944, reg. prof. chem. engr.; 1945, lecturer & instr. in chem. engrg., U. of Toledo (Ohio); 1945-48: Supervisor of Biochemistry & Nutrition, Owens-Illinois Glass Co., Toledo, Ohio; 1948-50, dir. of res., Irwin, Neisler Co., Decatur, Ill. General Electric Co., Plastics Div. Decatur, Ill., Res.: heart drugs, extraction and purification of Amino Acids, cinchona Alkaloids in cardiac theraphy, steroid therapeutics, patents and publications. Author: "Nutritive Aspects of the Amino Acids" 1947, "Derivatives of Hydroxy-Hydroquinone" 1939. Mem.: Chmn. of Toledo sec. A.C.S., 1946, fel. N.Y. Acad. of Sc., fel. A.A.A.S., fel. Am. Inst. of Chems., I.F.T., asso. ed. of "Food Technology," Asso. of Vit. Chems., v.p. of Central Ill. Soc. of Prof. Engrs. Chmn. Amer. Social Hyg. Asso. of Toledo, 1947; chmn. Health Coun. of Decatur Social Agencies 1950; Trustee of Toledo Cancer Soc. 1946-47; chmn. of Health Div. of The Toledo Council of P.T. Asso. Club: Rotary International. Hobbies: swimming, auto mechanic, home laboratory.

DORRIS, Thos. B., chf. chem. engr., Sprout Waldron & Co. Inc., Muncy, Pa.; res. 407 S. Market St., Muncy.
Mgr. chem. process equipt. div.; b. Cape Vincent, N.Y., Aug. 17, 1906; s. of Jas. W. Sr. and Almira C. Dorris; ed U. of Notre Dame, B.S. Ch.E. cum laude, M.S., Ph.D. magna cum laude; N.Y.U., M.C.E. sanitary engrg.; m. Katheryn G. DeGroote, June 20, 1936; ch.: Thos. Patrick, Jas. Wm. Instr., St. Jos. Hosp. Nursing Schl. (S.B., Ind.); asst. prof. chems. & metallurgy, Manhattan Coll., N.Y.C.; org. conslt., Sowa Labs., N.Y.C.; sanitary conslt., Westchester Co., N.Y.; tech. dir., Franklin Res. Co., Phila. Several res. publ., org. chem., chem. ed. meths., contributor to Perry Chem. Engrs. Handbook 3rd ed. & chapter in forthcoming Chem. Equipt. Costs on size-reduction. Author: "A Study of Org. Cmpds. Through Identification" 1941. Mem.: A.C.S., A.I.C., Natl. Soc. for Prof. Engrs., Licensed Prof. Engr. Pa. Club: Aircraft Owners & Pilots Assn. Hobby: flying.

DOTY, Paul M., assoc. prof. chem., dept. of chem., Harvard U., Cambridge, Mass.
Assoc. prof. of chem.; b. Charleston, W. Va., June 1, 1920; ed B.S., Penn. State Coll., 1941; M.A., Columbia U., 1943; Ph.D., chem. physics, 1944. Instr., res. assoc. and co-dir. of O.M. Projs. 32 and 36, Polytech. Inst. of Bklyn., 1943-45; asst. prof. of phys. chem., same Inst., 1945-46; Rockefeller Fellow, Cambridge U., England, 1946-47; asst. prof. of chem., U. of Notre Dame, 1946-48; editor, "Jl. of Polymer Sc.," 1945 to date; mem. Natl. Res. Council Comm. on Macromolecules and Commis. on Macromolecules of the Internatl. Union of Chem., 1947 to date; asst. prof. of chem., Harvard U., 1948-50; v.chmn., Div. of High Polymer Physics, Amer. Physical Soc., 1948 to date; assoc. editor, "Jl. of Chem. Physics," 1949 to date; awarded Guggenheim Fellowship, 1950-51; assoc. prof. of chem., Harvard U., 1950 to date. Author of numer. pubs. on phys. chem. of Polymers and Proteins.

DOTY, Wendell E., treas., Battle Creek Equipment Co., 32 N. Washington St., Battle Creek, Mich.
Exec.; b. Bedford, Mich., Aug. 13, 1902; ed. U. of Mich., B.S. 1924; grad. wk. Battle Creek Coll. & U. of M.; m. Huberta Mae Thayer, Aug. 3, 1926; ch.: 2 daus. & 1 son. Gen. Elec. Co., test course, 1924; Brunswick-Balke-Collender Co., br. engr., 1925-27; Sanitarium Equip. Co., engr. 1927-31; Battle Creek Equip. Co., treas. 1931 to date. Clubs: Lions, Jr. Chem. of Commerce, (chmn. Sea Scout Comm.). Hobby: gardening.

DOUBLEDAY, Ralph Stafford, plant mgr., G. W. Carnrick Co., 20 Mt. Pleasant Ave., Newark, N.J.; res. 256 Glen Ave., Millburn, N.J.
Exec.; b. Cortland, N.Y.; s. of F.J. Doubleday and Elizabeth Doubleday; ed. Syracuse U. in 1913; mem.: Delta Kappa Epsilon; m. Anne Seinecke June 14, 1928; ch.: Priscilla Russel, Ralph S. Jr. Present occupation since 1923. Mem.: Fel. Amer. Int. Chems. (founder member), Alpha Chi Sigma. Hobbies: flowers, stamps.

DOUGHERTY, Patrick H., pres., res. dir., Dougherty Chem., 87-34 134th St., Richmond Hill 18, N.Y.
Chem.; b. Dayton, Ky., Mar. 24, 1909; s. of Patrick H. and Lillian (Walker) Dougherty; ed. State U. of Iowa, B.S. in pharmacy, 1930, M.S. in org. chem. 1931; Yale U., Ph.D. in org. chem. 1934; mem.: Sigma Xi, Rho Chi, Phi Lambda Upsilon; m. Dorothy Newburn, Nov. 8, 1941. E.I. du Pont de Nemours & Co. Inc., 1934-38, pat. service dept.; Merck & Co. Inc., 1940-41, special asst. to v.p. in chg. of new prods.; Upjohn Co., 1941-43, res. chem.; Dougherty Chem., 1945 to date. First to offer commercially thymine, cytosine, orotic acid & quite a number of other pyrimidines. Mem.: A.C.S. (1930 to date).

DOUGLAS, Stuart Dunshee, asst. res. dir. in chg. of plastics, Carbide & Carbon Chem. Div., Union Carbide & Carbon Corp., So. Charleston 3, W. Va.; res. 9 Walton Apts., Maple Terrace, Charleston 1, W. Va.
Res. chem.; b. Bristol, Vt., Sept. 2, 1897; s. of William J. Douglas and Mary D. Douglas; ed. B.S., Middlebury Coll. in 1919, Middlebury, Vt.; M.S. 1923, U. of Pa., Phila., Pa., Ph.D. 1926, U. of Pennsylvania, Phila., Pa.; mem.: Delta Kappa Epsilon; unmarried. Head of plastics research. C. & C.C.C., 1926-43, asst. dir., 1943 to date. Res.: Devlp. of vinyl resins (Vinylite"). Mem.: A.C.S., Soc. of the Plastics Ind., John Wesley Hyatt Award, 1944. Clubs: Chemists' (New York City), Army and Navy, (Charleston, W. Va.). Hobbies: bowling, golf.

DOUGLASS, Emory Wright, res. dir., Potash Company of America, P.O. Box 31, Carlsbad, New Mex.; res. 612 North Chestnut, Carlsbad.
Chem. engr.; b. Apr. 19, 1903; s. of E.O. and Grace (Wright) Douglass; ed. B.S. Chem. Tech. Iowa State Coll.; m. Cleo Crawford, July 1, 1930; ch.: Emory James, John Charles. Chem. Engr., Anglo-Chilean Nitrate Corp., 1928-32; chem. engr., Ozark-Mahoning Company, Tulsa, Okla., 1932-43; res. dir., Potash Co. of America,

Carlsbad, N. Mex., 1943 to present. Res.: submerged combustion, sol. equilibria, & potash processing. Mem.: A.I.Ch.E., A.I.M.E.

DOUGLASS, Irwin Bruce, prof. of chem. and hd., dept. of chem., U. of Maine, Orono, Me.; res. 4 Summer St., Orono, Me.
Coll. teacher; b. Des Moines, Ia., Sept. 2, 1904; s. of Alonzo Cline and Mary Findley Douglass; ed. B.S., Monmouth, 1926, Ph.D., U. of Kansas, 1932; post doctorate res., Yale, 1937-38; mem.: Alpha Chi Sigma; m. Grace Fetherston, Aug. 15, 1931; ch.: Nancy Grace, Miriam Lois. Monmouth, Ill., H.S., 1926-28; Kansas City Jr. Coll., 1930-31; North Dakota Agric. Coll., 1932-33; Northern Montana Coll., 1933-40; U. of Me., 1940 to present. Chmn., Me. Section Amer. Chem. Soc., 1942-43. Mem.: A.C.S., A.S.Engrg. Edu., A.A.A.S. Hobby: photography.

DOURIF, Henry, pres., gen. mgr., Standard Ultramarine Co., v.p., Barium Reduction Corp.; address: c/o Standard Ultramarine Co., Huntington, W.Va.
Exec.; b. Paris, April, 1881; ed. Ecole Centrale, Ingenieur des Arts & Manufactures, 1904; m. Eveleen Huillard, May, 1918; ch.: 2 daughters, 1 son. Major in French Aviation Service, Knight of the Legion of Honor, French War Cross. Hobbies: shooting, golf.

DOVE, Walter E., dir. entomological res., U.S. Indust. Chems., Inc., P.O. Box 1956, Balt., Md.; res. Defense Highway, Gambrills, Md.
Entomol.; b. Apr. 14, 1894; s. of T.W. and Senie Stampley Dove; ed. B.Sc., Miss. St. Coll. 1913; Baylor Med. U., Dallas Texas, 1927-28; Sc.D., Sch. Hygiene, Public Health, Johns Hopkins U.; m. Ina Lewis, Dec. 23, 1925; ch.: Walter W., Lewis D., Thomas Leland. 1913-17 U.S. Bur. Entomol., Jr. ent., Dallas, Tex.; 1917-19 air serv. U.S.A., France; 1919-24 Comm. employment, Aberdeen, S. Dak.; 1924-35 U.S. Dept. Agri. Entomol., Savannah, Ga.; 1935-37 prin. entomol., screw worm contr.; 1938-40 prin. entomol. grasshopper contr.; 1940-41 sr. entomol. Panama City, Fla.; 1942-45 chg. div. insects, affecting man and animals, Wash., D.C.; 1945 to date U.S. Indust. Chems., Inc., Balt., Md. Dr. res., military, U.S. Bur. Entomol. & plant quarantine, 1942-45; insecticides, insect repellents, 1945-50; dir. entomol. res., non-toxic insecticides, U.S. Indus. Chems., Inc. Contrib. extens. to sc. and tech. jls. Citation, U.S. Navy on War time res., Silver M., Am. Med. Assn., 1931; Wash. Acdy. Sc., 4 entomol. socs., Assn. Parasitol., Am. Assn. Trop. Med.; Natl. res. Council, Comm. on Quartermaster Problems. Hobbies: young scientists, especially in biol. sc.

DOWLING, Arthur L., advertis. mgr. and sales promotion mgr., also asst. secy., Dodge & Olcott Inc., 180 Varick St., New York 14, N.Y.; res. 12 Weybridge Rd., Great Neck, N.Y.
Exec.; b. Mar. 10, 1919; s. of Laurence and Kathleen H. (Tuttle) Dowling; ed. Amherst Coll., 1941; mem.: Psi Upsilon; m. Polly R. Warner, Sept. 13, 1941; ch.: Cynthia, Louise. June, 1941-Jan., 1946, U.S.N.; Feb., 1946 to date, with Dodge & Olcott Inc., serving in var. capacities in sales dept. Club: Manhasset Bay Yacht.

DOWLING, William F., Jr., secy. and gen. counsel, Burroughs Wellcome & Co., Inc., Tuckahoe, N.Y.; res. 151 Penn. Ave., Crestwood, N.Y.
Attorney-at-law; b. Utica, N.Y., Oct. 6, 1912; s. of Hon. Wm. F. and Margaret O. Dowling; ed. A.B., Dartmouth Coll., 1933, LL.B. Yale Law School, 1936; mem.: Phi Kappa Psi; m. Elizabeth Von Wellsheim, Feb. 7, 1942; ch. Gretchen, William F. III, Elizabeth, Patrick. Private practice of law, Utica, N.Y., 1936-41; U.S. Army, Major QMC, 1941-45; secy. and gen. counsel, Burroughs Wellcome & Co., Inc., 1946 to date. Mem.: N.Y. State & Amer. Bar Assns., Am. Pharmaceutical Assn. Clubs: Yale (N.Y.C.), Fort Schuyler Club, (Utica, N.Y.).

DOWNES, Arthur Caldwell, ret. chem. engr.; res. 2181 Niagara Dr., Lakewood 7, Ohio.
Ret.; b. Ipswich, Mass., Feb. 26, 1882; s. of John W.C. and Mary Baldwin (Kimball) Downes; ed. M.I.T., S.B. 1904; m. Helen Winship, Sept. 8, 1906; ch.: 1 son. Hartford Lab. Co., 1904-05; Hartford, Conn., conslt. wk. 1905-47; Natl. Carbon Co., var. pos. labs. 1905-17, asst. supt., Fostoria & Cleveland, 1917-22, chg. insp. & control, 1922-25, res. & dev. labs. 1925; ret. 1947. Author or joint author of papers on carbon arcs & their uses in motion picture studios & theaters. Mem.: A.C.S., Soc. Motion Pict. and Television Engrs., A.I.Ch.E., Illumin. Eng. Soc. Club: Lakewood Country. Hobby: stamps.

DOWNEY, Thomas B., v.p., Kind & Knox Gelatin Co., 5th & Erie Sts., Camden, N.J.; res. E. Greenman Rd., Haddonfield, N.J.
Chem. exec.; b. Keezletown, Va., Mar. 13, 1894; s. of Elea Azer and Mabel Catherine (Irvin) Downey; ed. A.B., Trinity Coll., 1915; B.S., Pitts., 1917, M.S. 1920, Ph.D. 1922; mem.: Alpha Chi Sigma, Phi Lambda Upsilon; m. Agnes J. Dickson, Sept. 14, 1921; ch.: Janet L., Thomas D., Sarah J. Prin. high schl., Tarboro, N.C., 1915-16; instr. chem., U. of Pitts., 1916-17, 1919-22; C.W.S., U.S.A., 1917-19; sr. fellow, Mellon Inst., 1922-25; v.p. in chg. res. & prod., Kind & Knox Gelatin Co., 1925 to date. Northern Bldg. & Loan Assn., v.p.; Haddonfield Natl. Bank, dir. Articles in sc. & tech. jls. Author: "Study Questions Org. Chem." 1922. 3 U.S. pats. Mem.: A.C.S., Leather Chemists Assn., Franklin Inst., I.F.T., Alphi Chi Sigma. V.p., South Jersey Mfrs. Assn.

DOWNING, Frederick Baxter, asst. dir., Jackson Lab., E.I. du Pont de Nemours & Co., P.O. Box 525, Wilmington 99, Del.; res. 30 Fenwick Dr., Carneys Point, N.J.
Res. chem.; b. Woodhaven, N.Y., Oct. 13, 1894; s. of Frederick Baxter (dec.) and Florence May (Gibson) Downing (dec.); ed. B.Chem., Cornell, 1916; mem.: Alpha Chi Sigma, Tau Beta Pi, Sigma Xi; m. Ethel Linton Kollock, Aug. 24, 1919. Mem. staff, Al. Co. of Am. & Champion Fibre Co., 1916-17; hd. gen. org. div. & later asst. dir., Jackson Lab., E.I. du Pont de Nemours & Co. Modern Pioneer Award. Mem.: S.A.E., A.C.S., A.A.A.S., Franklin Inst.

DOWNS, Charles Raymond, conslt. chem. engr., 50 E. 41st St., New York 17, N.Y.; res. 5 Sylvan Lane, Old Greenwich and P.O. Box 84, Old Greenwich, Conn.
Conslt. chem. engr.; b. Mar. 17, 1888, New Haven, Conn.; s. of Walter Root and Lillian Gay (Burwell) Downs; ed. Ph.B., Sheffield Scientific Schl., Yale, 1909, Ph.D. 1912; m. Ruth Evelyn Clifford, May 8, 1926; ch.: Walter Burwell, Carolyn Clifford. Lab. instr. chem., Sheffield Sci. Schl., 1909-12; res. chem., Barrett Co., Edgewater, N.J., 1912-17, chf. res. dept., 1917-22; chem. engr. in chg. spec. dev., Natl. Aniline & Chem. Co., Buffalo, 1922; v.p. and secy. Weiss & Downs, Inc., N.Y.C., 1923-44; pres. Chemists Bldg. Co. of N.Y., 1944-45; pres. and dir. The Calorider Corp., Stamford, Conn., since 1937, conslt. chem. engr. since 1923. Mem. Referee Bd. Off. Prod. Res. and Dev. of W.P.B., 1942-44; conslt. Army Corps of Engrs. since 1948; reg. prof. engr., Conn., N.J. and N.Y. Author: "The Technical Organization--Its Development and Administration," 1924. Mem. advisory bd. Chem. Engrs. Handbook since

1941; mem. conslt. editorial bd. Chem. Industries since 1927; occasional contrib. to sci. and tech. publs.; rec. numerous U.S. and foreign pats. Awarded Howard N. Potts gold medal, Franklin Institute, Phila., 1922; Grasselli gold medal, Am. Sect. of Soc. Chem. Indust., London, 1926. Mem.: A.I.Ch.E. (dir. 1929-31, 1933-35, 1940-42; pat. comm. since 1944; admissions comm., 1931-44; industrial and civil protection comm., 1941-44; rep. on Comm. for Economic Dev., 1945-46; pubs. comm. 1946-48); A.C.S. (councillor 1927, 1928, 1929, 1938 and 1941; chmn. N.Y. Sect. 1928; chmn. Nichols Medal Jury of Award 1929; chmn. Western Conn. Sect. 1936); S.C.I. (London), (exec. comm. Am. Sect., 1939-42); Am. Inst. City of N.Y. (bd. of mgrs. 1932-35, 1945-49; council of awards, 1940-43); A.I.C.; A.A.A.S.; Am. Soc. Mech. Engrs.; Am. Gas Assoc.; Assoc. Cons. Chemists and Chem. Engrs.; Natl. Soc. Prof. Engrs.; Conn. State Soc. Prof. Engrs.; Yale Engrg. Assoc.; Sigma Xi, Alpha Chi Sigma. Mason, 32nd degree, K.T. Clubs: Yale, Chemists' (N.Y.), (pres. 1944-45, v.p. 1926-28, 1939-40, trustee 1926-32, 1939-44, and since 1939; chmn. symposiarchs 1936-38).

DOWNS, Charles S., v.p. in chg. pub. rel. and adv., Abbott Laboratories, North Chicago, Ill.; res. 349 Witchwood Lane, Lake Bluff, Ill.
Exec.; b. White County, Ind., May 23, 1903; s. of Frank W. and Cora (Shackley) Downs; ed. Wabash Coll., 1921-23; mem.: Lambda Chi Alpha; m. Alice Peltier, Oct. 14, 1932. Adv. copywriter Swan-Myers Co., Indianapolis, Ind. 1928-30; transferred, through merger of firms to Abbott Laboratories, North Chic., Ill., adv. copywriter 1930-35; adv. mgr. 1935-44; dir. of adv. and pub. relations, 1944-46; v.p. in chg. of pub. rel. and adv. 1946 to date. Mem.: Alpha Delta Sigma (professional fraternity), Pharmaceutical Advertising Club, N.Y.C., 32nd degree Mason. Hobby: fishing.

DOWNS, Martin L., tech. dir., Thilmany Pulp & Paper Co., Kaukauna, Wisc.; res. 1024 N. Leminwah St., Appleton, Wisc.
Chem.; b. Reading, Pa., Mar. 12, 1910; ed. Pa. St., B.S. (Ch.E), 1931; Inst. Paper Chem., M.S. 1932; Ph.D. 1934; mem.: Alpha Chi Sigma, Phi Lambda Upsilon; m. Anita Krahn, 1939; ch.: Stephanie K., Kathleen K. Mead Corp. 1934-37; Thilmany Pulp & Paper Co. 1937 to date. Mem.: A.C.S., T.A.P.P.I.

DRAPEAU, Benjamin Lincoln, pres., treas., Federal Mining & Mfg. Co., 222 Kearney Ave., Jersey City 4, N.J.; res. Bonnie Burn Rd., Scotch Plains, N.J.
Mfr. of chem.; b. Bklyn., N.Y., Feb. 12, 1896; s. of Benjamin and Emma A. (Geisel) Drapeau; m. Ruth Elizabeth Coles, 1941. 1921-29, pres., Stand. Abrasive Co.; 1930-32, pres., Schwerdt Mfg. Co.; 1933-34, gen. mgr., Duryea Prods. Co.; 1935 to date, pres., treas., Federal Mining & Mfg. Co. Impoil Co. Inc. (pres., treas.). Dev. a variety of solvents used by the printing ind. Hobby: philately.

DRAPEAU, Joseph Edward, Jr., tech. dir., Metals Refining Co., 1717 Summer St., Hammond, Ind.; res. 11 Forestdale Park, Calumet City, Ill.
Chem. & metall. Engr.; b. New Milford, Conn., Apr. 16, 1899; s. of Joseph and Ruth E. (Waters) Drapeau; ed. Rensselaer Polytechnic Intitute, Ch.E., U. of Utah, M.S. Bur. of Mines Scholarship; mem.: Sigma Xi; m. Alvenia E. Snyder, June 11, 1923; ch.: Ruth E., Joseph, Gerald R. Bur. of Mines, Salt Lake City, Res. Fellow, 1922-23; Hudson & Manhattan Railroad, New York City, chem., 1923-25; Guggenheim Bros., Res. Labs., New York City, Res., 1925-27; Nichols Copper Co., Laurel Hill, N.Y., res., 1927-31; Metals Refining Co., Hammond, Ind., tech. dir., 1931 to present. Res. in fume collection and processing; metal powder production and end uses; anti fouling pigments. Mem.: A.C.S., Electro Chemical Soc., Am. Soc. for Metals, Am. Inst. of Mining & Metallurgical Engrs., British Inst. of Metals, Washington Award Commission of Chicago. Club: Rensselaer Club of Chicago.

DRAPER, Hal D(aniel), prof. of chem. and chmn. div. of sci. and math., Sacramento State Coll., Sacramento 18, Calif.; res. P.O. Box 743, Nevada City, Calif.
Tchr. and admin.; b. Eddy (now Carlsbad), N.M., Aug. 17, 1893; s. of Edwin Fenton and Harriet Elizabeth (Shields) Draper; ed. A.B. in Chem. (highest honors), 1917, U. of Calif. (Berkeley); Ph.D. in Chem. 1922, U. of Calif.; m. Madeline Waite Shaw, Feb. 6, 1918; ch.: Hal Daniel, Jr., Mary Lou (Draper) Axtell, Roy Douglas. May-Sept., 1918, jr. chem. Bur. of Mines, War Gas Investigations, Wash., D.C.; 1918-20, instr. in chem., The Rice Inst., Houston, Tex.; 1920-22, tchg. fellow, in chem., U. of Calif., Berkeley, Calif.; 1922-35, instr. to assoc. prof. of chem., Fresno State Coll., Fresno, Calif.; 1935-42, proprietor, Custom Assay Office and Chem. Lab., Nevada City, Calif.; conslt. in mining and milling in Nevada City, Grass Valley area., supt. Queen Lil Mill, Nevada City, Calif.; 1942-45, assoc. prof. of chem., Chico State Coll., Chico, Calif.; 1946-48 instr. of chem., Sacramento Jr. Coll., Sacramento, Calif.; 1948 to date, prof. of chem. and chmn. Div. of Scs. and Math., Sacramento State Coll. Author: "Scheme of Anal. for the More Common Cation-Constituents," 1932, 2d ed., 1933. Res. on catalytic oxid. carbon monoxide; pore vol. catalysts manganese dioxide; copper oxide and mixts.; theory emulsification; capillary condensation and adsorp.; stand. score num. scales, construc. and uses; pub. on these. Mem.: Phi Lambda Upsilon, Phi Beta Kappa, Sigma Xi, Phi Delta Kappa, A.C.S., Calif. Acad. of Sci.

DRAVES, Carl Zeno, tech. ed., Gen. Dyestuff Corp., 435 Hudson St., N.Y. 14, N.Y.; res. 30 Lahey St., New Hyde Pk., N.Y.
Tech. ed.; b. Wilmot, S. Dak., Aug. 22, 1894; s. of Albert C. and Lena Buntrock Draves; mem.: Alpha Delta Phi; m. Cornelia Foster Powell, June 2, 1918; ch.: Carl Zeno, Jr., Francis Albert, Ralph Buntrock, Cornelia Powell, Richard Powell, Linda Foster. 1st Lt., U.S.A. 1917-19; anal. chem., Bennett's Lab., Tacoma, 1919-20; assoc. instr. U. Wash. 1920-25; dye chem., du Pont, 1925-31; text chem. Ludlow Mfg. & Sales Co., Ludlow, Mass. 1931-39; chem., Gen. Dyestuff Corp. 1939-46; tech. ed., 1947 to date. Ed. of proceedings (avocation) A.A.T.C.C. 1950; lecturer in org. chem. (even. avocation) Hunter Coll. 1944-50. Res. in (first to introduce) boiling, bleaching of linen yarn in circulating machines, spectrophot. as an aid in standardizing dyestuff, du Pont 1928; mem.: A.C.S., A.A.T.C.C. (natl. pres. 1940-41), Am. Optical Soc., Verein Textil Chemiker & Coloristen, Tau Beta Pi, Sigma Xi, Phi Lambda Upsilon and A.F.&A.M. Hobbies: activity in Am. Assn. of Text. Chems. & Colorists, reading German literature.

DREGER, Emil Edward, v.p. in chg. res. & dev., Colgate-Palmolive-Peet Co., 105 Hudson St., Jersey City 2, N.J.; res. 23 High St., Summit, N.J.
Chem.; b. Chippewa Falls, Wis., Jan. 3, 1893; s. of Julius and Louise (Holtz) Dreger; ed. North Western Coll., B.S. in chem. 1916; U. of Ill., M. S. in chem. 1920; Ph.D. in chem. 1924; m. Marie Woodward Dudley, Oct. 1, 1926; ch.: Joan Marie, Doris Anne. 1924 with Eastman Kodak Co.; 1924 to date wth Colgate-Palmolive-Peet Co. Mem.: A.C.S. Clubs: Chemists'; Canoe Brook Country.

DREISBACH, Robert Rickert, lab. dir., The Dow Chemical Co., Midland, Mich.; res. 301 Helen St., Midland.
Res. chem.; b. Naperville, Ill., Dec. 22, 1888; s. of Reuben H. Dreisbach and Catherine (Rickert) Dreisbach; ed.: A.B. Adelbert Coll., W.R.U., A.M., Western Reserve U. Cleveland, O. magna cum laude; mem.: Phi Beta Kappa; m. Mae H. Willard, Oct. 9, 1913; ch.: Mrs. Lionel H. Phillips, Grace Winifred (deceased). Instr. Physics, Western Reserve, 1912-13; anal. res., Dow Chem. Co., 1913-14, pl. supt., 1915-20; asst. supt. Barrett Co., 1921-23; lab. mgr. Rohm and Haas Co., 1923; asst. supt. Lenning and Co. 1924-26; pl. supt. Dow Chem. Co., 1927-31, res. chem. 1932-37, asst. dir. plastics res. 1937-50, lab. dir. 1950. Res.: Development of syn. phenol; dev. and prod. of ethyl benzene and styrene; dev. of ternary rubber; 53 patents on chems. and chem. processes. Privately pub. tables of vapor pressure - temp. relationships of org. compounds, 1946. Six papers on Antoine equation, vapor density equations, corrections to latent heat formulas, and liquid density formulas. Mem.: A.C.S., Entom. Soc., As. Plant Taxon, Wash. Entom. Soc., Mich. Acad., Phila. Bot. Club, (Sec'y. 1924-26), Am. Soc. of Zoologists. Club: Masonic. Hobbies: botany, entomology, bowling, fishing. Catalogue and reclassification of spider wasps of N.A. Descriptions of new species of spider wasps. Lists and distrib. of Mich. insects, and those of Midland County.

DRELICH, Arthur Herbert, res. chem., Res. Div., Chicopee Mfg. Corp., Chicopee Falls, Mass.; res. 38 Shawmut St., Springfield 8, Mass.
Res. Chem.; b. Jersey City, N.J., March 26, 1920; s. of George and Sadie (Rand) Drelich; ed. N.Y.U., B.A. -1940; U. of Pa., M.S., 1942; mem.: Kappa Nu; m. Pearl Syat, Dec. 11, 1949. 1942-43, Jr. chem., Res. Div. Chemical Warfare Serv., Edgewood Arsenal, Md.; Dec. 1943 to date, res. chem., Res. Div., Chicopee Mfg. Corp. Impurities in raw cotton, antistatic chem. for plastics, microscopy, scient. photography. Mem.: A.C.S., N.Y.U. Chem. Alumni Club. Hobby: photography.

DRESHFIELD, Arthur Charles, consulting chem. engr., 401 W. Elm Ave., La Grange, Ill.; res. same. Staff Consultant, Chicago Testing Lab., 536 Lake Shore Dr., Chicago 11, Ill.
Chem. engr.; b. Brooklyn, N.Y., Oct. 19, 1901; s. of Maurice C. and Rose W. Dreshfield; ed. New Rochelle, N.Y., H.S.; A.B. Columbia U. 1922; Ch.E., 1924; m. Judith Carroll, Apr. 27, 1944; ch.: Arthur C., Jr., Robert L. Dev. engr., Taylor Chem. Co., Penn Yan, N.Y., 1924-25; chf. chem. and tech. dir., 1925-37, Paper Makers Chemical Corp., Kalamazoo, Mich.; dir. of Operations, Paper Makers Chemical Dept., Hercules Powder Co., Wilmington, Del., 1937-44; mgr. of res., H.P. Smith Paper Co., Chicago, Ill., 1944-46; consulting chem. engr., to the paper ind., 1947 to date. Determined chem. composition and dev. new process for mfr. Satin White; dev. and commercialized prodn. of Dry Rosin Size and methods inhibiting its spontaneous combustion. Pub. tech. arts. relating to chem. of paper making chemicals in trade jls. Mem.: A.S.T.M., A.C.S., T.A.P.P.I., A.I.Ch.E., A.S.Q.C. Club: Chemists' (N.Y.).

DRESSER, Walter E., gen. mgr., Summers Fertilizer Co., St. Stephen, N.B., Canada; res. Calais, Maine.
Fertilizer mfr.; b. Houlton, Me., Apr. 16, 1906; s. of Willis R. and Lucy L. Dresser; ed. Dartmouth Coll., Hanover, N.H., B.A. 1930; m. Betty Mann, Jan. 16, 1938; ch.: Mary. With Summers Fertilizer Co. since coll. Hobbies: amateur radio, W-1-EOP; private aircraft pilot license; photography.

DRESSLER, Russell George, chf. Gas Synthesis Demonstration Plant, U.S. Bur. of Mines, Louisiana, Mo.; res. Ordonia No. 4, Louisiana, Mo.
Chem. engr.; b. Indiana, U.S.A., Dec. 17, 1907; s. of George and Ella Dressler; ed. U. of Southern Calif. B.S. Chem. engr., 1931; M.S. chem. engr. 1934; Ph.D. 1939; mem.: Sigma Phi Delta; m. Helen M. Hagen, in 1932; ch.: Mary Lynn Dressler. Chf. chem. Procter & Gamble Co., Long Beach, Cal., 1931-32; chem. engr., Globe Grain & Milling Co., Los Angeles, Cal., 1932-37; chem. engr., graduate study, U. Southern Calif., 1937-39; res chem. engr., Colgate-Palmolive-Peet Co., Jersey City, 1939-40; Sr. chem. engr. U.S. Chem. Warfare Serv., 1940-44; engr. special. Calif. Research Corp., Richmond, Calif., 1944-46; chf., Demonstration Plant, U. S. Bur. of Mines 1946 to present. Constr. & operation of org. chem. mfg. plants, synthetic fuels. Mem.: Phi Lambda Upsilon, Sigma Xi, A.C.S., A.I.Ch.Engrs. Club: Rotary. Hobbies: swimming, shooting.

DREW, Thomas Bradford, prof. chem. engrg., exec. off. of dept., chem. engrg., Columbia U., N.Y.C.; res. 24 Ellis Pl., Ossining, N.Y.
Tech., res.; b. Medford, Mass., Feb. 9, 1902; s. of Henry J. W. and Henrietta Cole Drew; ed. S.B., M.I.T. 1923; S.M. 1924; m. Alice Wait, June 9, 1930; ch.: Mary, Emilie, Sarah. 1924-35 res. asst., M.I.T.; 1925-28 inst. chem. engrg., Drexel Inst., Phila.; 1928-29 res. asst., M. I. T. 1929-34; inst. chem. engrg., M. I. T. 1934-40 chem. engr., E. I. du Pont de Nemours & Co., Wilmington, Del.; 1940 to date Columbia U., successively assoc. prof chem. engrg., prof. chem. engrg., hd. dept. chem. engrg. 1948 to date; 1942 dir. engr., S.A.M. Labs., Columbia U.; 1943-44 (on leave to) TNX Div., E.I. du Pont de Nemours & Co.; 1947 to date conslt. Brookhaven Natl. Lab.; 1949-50 chmn. visiting comm., reactor sc. & engrg. dept., Brookhaven Natl. Lab. Res. in heat transf., mass transf. res., nuclear reactor design. Mem.: A.I.Ch.E., A.C.S., A.S.M.E., A.A.A.S., Am. Soc. Engrg. Ed.; N.Y. Acdy. Sc. (fellow). Sigma Xi, Pi Lambda Upsilon, Tau Beta Pi. Clubs: Chem. (N.Y.), Mens' Faculty (Columbia). Hobby: philately.

DREW, Thomas Champion, dir. res., dev., Spartan Mills, Beaumont Div., Spartanburg, S. C.; res. 507 S. Petty St., Gaffney, S. C.
Textile; b. Macon, Ga., Mar. 23, 1902; s. of Thomas C. and Sarah Martha Drew; ed. Ga. Tech., B.S. Textile Engrg.; mem.: Sigma Nu, Scabbard and Blade; m. Ella Tabor, July 14, 1928; ch.: Thomas C. Drew, John T.

DREWSEN, Pierre, conslt. engr., P.O. Box 104, Northampton, Mass.; res. same.
Chem. engr., consultant to pulp, paper and paper board mills and paper converting plants; b., Norway, Europe, Mar. 17, 1889; s. of Dr. Viggo and Gudrun (Lochen) Drewsen; ed. B.S. Amherst 1910, B.S. Chem. engr., M.I.T., 1912; mem.: Theta Delta Chi; m. Dorothy Huestis Clausen, May 7, 1944; ch.: Mrs. Francis C. Gaudet, Troy, N.Y. Chf. Chem., The Hinde and Dauch Paper Co., Sandusky, O., to 1944, thereafter consulting work. Serv. in chem. fld.: 7 U.S. pats., others pending. Mem.: T.A.P.P.I., Sr. member, Tech. Sec. Canadian Pulp and Paper Asso., fel. A.I.C.

DRICKAMER, Harry George, assoc. prof. of chem. engrg., U. of Ill., 213 E. Chem., U. of Ill., Urbana, Ill.; res. 1105 W. William, Champaign, Ill.
Chem. engr.; b. Cleveland, Ohio, Nov. 19, 1918; s. of George H. and Louise S. Drickamer; ed. U. of Mich., B.S.E. 1941; M.S. 1942; Ph.D. 1946; m. Mae Elizabeth McFillen, Oct. 28, 1942; ch.: Lee Charles, Lynn Louise. 1942-46 tech. serv., design, res., Pan American Refin. Corp.; 1946 to date; U. of Ill., asst, prof. 1946-49; assoc.

prof. 1949 to date; res. in diffusion and thermal diffusion in dense gases and liquids vapor-liquid equilibria. Mem.: Tau Beta Pi, Sigma Chi, Psi Lambda Upsilon, Phi Kappa Psi, Psi Eta Sigma, Iota Alpha; Junior Award of A.I.Ch.E. 1947; A.I.Ch.E., A.C.S., A.Phys.S.

DRIGGS, Frank Howard, sr. vice-pres. charge of tech. dev., Fansteel Metallurgical Corp., North Chicago, Ill.; res., Apt. 641-42, Sovereign Hotel, 6200 N. Kenmore, Chicago, Ill.
Chem.; b. Clinton, Mo., Oct. 25, 1895; s. of Augustus Leroy (deceased) and Martha Odgen Driggs (deceased); ed. Baker, A.B., 1917; M.S. Illinois, 1921; Ph.D. (inorg. chem.), 1924; mem.: Sigma Xi, Phi Lambda Upsilon, Epsilon Chi, Alpha Chi Sigma; m. Helen Freeman, Aug. 29, 1924; ch.: Shirley Ann. 1914-24, asst. chem., Illinois; instructor, 1924-27; res. chem., Westinghouse Lamp Co., Bloomfield, N.J., 1927-34; Fansteel Metallurgical Corp., 1934 to date, v.p., dir. Observations on Rare Earths (1) Atomic Weight of Lanthanum by Hopkins and Driggs, 1922 and (2) Purification and Atomic Weight of Holmium by Hopkins and Driggs, 1925. Preparation of metal pwdrs. by electrolysis of Fused salts (1) Ductile Uranium by Driggs & Lilliendahl, 1930, (2) Thorium by Driggs and Lilliendahl, 1930, and (3) Tantalum by Driggs & Lilliendahl, 1931. Titanium and Zirconium, (with notes on Hafnium) by Driggs & Marden 1929. Titanium and Zirconium, 1931. Electrolytic Production of Thorium and Uranium, 1930. Mem.: A.C.S. (Wash., D.C.), A.I.M.M.E. (N.Y.), Exmoor Country Club, Highland Park, Ill.

DROGIN, Isaac, dir. of res., United Carbon Co., Charleston, W. Va.; res. 1524 Quarrier, Charleston.
Chem.; b. Bialystok, Poland; s. of Max and Fanny Drogin; ed. C.C.N.Y., 1913 B.A.; U. of Pitts., M.Sc. 1916, Ph.D. 1921; fellow, Mellon Inst. of Indus. Res., 1914-21; mem.: Pi Lambda Phi; m. Winnie Rosenberg, Dec. 25, 1935. J.M. Huber, chf. chem., 1922-39; United Carbon Co., dir. of res., 1940 to date. Res. in fld. of carbon black, natural gas & rubber technology. Author: "Dev. & Status of Carbon Black" 1945; "Todays Furnace Black" 1948; many other publ. on carbon black & rubber technology. Mem.: A.C.S. Club: Chemsts' (N.Y.). Hobby: work.

Du BOIS, Eugene McKinley, pres., Spectrochem. Labs. Inc., 1010 Wood St., Pittsburgh, 21, Pa.; res. 149 Springrove Rd., Cresent Hills, Pittsburgh 21, Pa.
Chem.; b. Franklin, O., May 31, 1911; s. of John V. and Faye M. Du Bois; ed. Ohio State U., 1935, B.A.; mem.: Sigma Nu; m. Lois M., 1936; ch.: Steven J., Ellan J., Marjorie F. 1935-37 Titanium Alloy Mfg. Co., Niagara Falls, N.Y., chem., spectrographer; 1937-45 same co., in chg. of spectrographic dept.; 1945-49 Orefraction, Inc., Pittsburgh, Pa., lab. dir.; 1949 to date, Spectrochem. Labs. Inc., pres.; work in study of the total analyses of frits and enamels by means of spectrograph. Hobbies: golf, baseball, swimming.

DUDLEY, James Robert, supervisor, new prod. develop., American Cyanamid Co., 30 Rockefeller Plaza, N.Y.; res. 4 Christie Hill Rd., Darien, Conn.
Chem.; b. St. Paul, Minn., Apr. 23, 1917; s. of Robert C. and Agnes H. Dudley; ed. B.A., Carleton Coll., 1936, M.S. U. of Iowa, 1938, Ph.D., in 1940; mem.: Alpha Chi Sigma; m. Elinor M. Browning, Apr. 18, 1942; ch.: William B., Robert J., Susanne. Res. chem., American Cyanamid Co., 1940-48; supervisor, new product development, same Co., 1948 to present. Res.: synthetic resins, nitrogen chem. Mem.: A.C.S., A.A.A.S. Comm. Chem. Development Asso., Amer. Inst. of Chems. (fellow), Sigma Xi.

DUDLEY, John William, div. engr., chem. recovery and instrumentation, Amer. Viscose Corp., 35 S. 9th St., Phila. 7, Pa.; res. 219 Clifton Ave., Sharon Hill, Pa.
Chem. engr.; b. Parkersburg, W. Va., Mar. 31, 1910; s. of John W. and Olive K. Dudley; ed. Rensselaer Polytech. Inst., Troy, N.Y., Ch.E., 1932; mem.: Theta Xi, Sigma Xi; m. Frances E. Miller, Jan. 25, 1941. 1933-42 chem. engr. American Viscose Corp., Parkersburg, W. Va.; 1942-45 U.S.N.R., Engineering Expt. Station, Annapolis, Md.; 1945 to date with American Viscose Corp., Engrg. Off., Phila. Pa.; res. in rayon chem. recovery measurement of grease viscosity, statistical analysis. Author: "Examination of Industrial Measurements" (McGraw-Hill), 1946. Mem.: A.I.Ch.E., Amer. Stat. Assoc., Amer. Soc. Quality Control. Hobbies: music; photography.

DUECKER, Werner W., mgr. of res., Texas Gulf Sulphur Co., 75 E. 45th St., New York 17, N.Y.; res. 4810 Post Road, Pelham Manor 65, N.Y.
Chem. engr.; b. Kiel, Wis., May 23, 1894; s. of G. A. and Anna Griebenau Duecker; ed. B.S., U. of Wis., 1917, Ph.D., Iowa State Coll., 1925; mem.: Theta Chi, Gamma Sigma Delta, Sigma Xi, Phi Lambda Upsilon; m. Ethel Cecil in 1919; ch.: John C. Chem., Patten Paint Co., Milwaukee, Wis., 1917; 2nd Lt., Chem. Warfare Serv., France, 1918; plant foreman, Swan Myers Co., Indianapolis, Ind., 1919, 1920; instr., Iowa State Coll., Ames, Iowa, 1921-25; Fellow, Mellon Institute, Pittsburgh, Pa., 1925-30, researches on gelatine in the manuf. of confectionery; sr. Fellow, researches on sulphur, 1930-36; mgr. res. dept., Texas Gulf Sulphur Co., New York, 1936 to date. Res. on dev. of acid proof sulphur cements, dev. processes for recovery of sulphur and methods of shipping liquid sulphur, etc. Written numerous arts. on sulpur cements, sulphur melter, consumption of sulphur and markets for sulphur. Mem.: A.C.S., A.I.Ch.E., A.I.M.M.E. Clubs: Chemists', Pelham Country. Hobby: gardening.

DUEWER, Casper Frederic, chf. control chem., Irwin, Neisler & Co. 434 No. Morgan St., Decatur, Ill.; res. 1158 E. Cantrell St., Decatur, Ill.
Chem.; b. Loami, Ill., Apr. 4, 1913; s. of Henry C. and Katherine Duewer; ed. B.S., Ill. State Normal U., Normal, Ill., 1938; mem.: Kappa, Phi Kappa, Kappa Delta Pi; m. Ethel Lee Buchholz, May 17, 1941; ch.: William Henry, David Lee. Chem. & math. teach., Rockport H.S., Rockport, Ill., Sept. 1938-June 1940; sc. teach., Centennial Jr. H.S., Decatur, Ill., Sept. 1940-June 1942; Laboratory Supervisor, Sangamon Ordnance Plant, Illiopolis, Ill., July 1942-Apr. 1944; Lab. super., Garfield Div. of Houdaille Hershey, Decatur, Ill. (Manhattan Project) (Apr. 44-Nov. 45). Res.: "Chemical Desensitization of Tetryl in Powder Sumps" - Army Ordnance Bulletin, 1944. Mem.: A.C.S. Club: Sportsman. Hobbies: glass blowing, fishing, fly-tying, tennis, bowling.

DUFFEY, Homer R., gen. mgr. chems. dept., Merchandise Mart Plaza, Chi., 54, Ill.; res. 234 Merton Ave., Glen Ellyn, Ill.
Chem. engr.; b. Chicago, Ill., July 27, 1904; s. of Russell N. and E. F. Duffey; ed. B.S. Shurtleff Coll. 1926, U. of Ill. Ph.D. 1933; m. Florence Belshaw Jan. 2, 1928; ch.: Donald D. and Paul H. Acting prof. of chem. Shurtleff Coll., 1930-31; res. chem. engr. E.I. du Pont de Nemours & Co. Inc., 1933-39; chf. engr. The Vulcan Copper & Supply Co., 1939-45; The Quaker Oats Co., 1945 to date. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S., A.I.Ch.E.

DULANY, Franklin Reed, pres., Southern States Phosphate & Fertilizer Co., A.C.L. Wharf, P.O. Box 546, Savannah, Ga.; res. 213 E. Hall St., Savannah.

Bus. exec.; b. Phila., Pa., Nov. 23, 1897; s. of William Penn and Anna (Reed) Dulany; ed. Rutgers U., B.S. 1920; mem.: Delta Upsilon; m. Mary Lois Howard, Dec. 22, 1923; ch.: Anne (Dulany) Compton, Franklin Reed, Jr. 1921-22, secy.-treas., J.K. McIver Co., Savannah, Ga.; 1922-40, pres., McIver-Dulany Co., Savannah; 1940 to date, pres., treas., dir., Southern States Phosphate & Fertilizer Co., Savannah; Chatham Chem. Co., pres., treas., dir.; Am. Warehouse & Storage Co., treas., dir., secy.; Phosphate Trading Corp., pres., dir., treas.; Plym Chem. Co., mgr.; Factory Sites, Inc., pres., treas., dir.; Chem. Packaging Corp., dir.; Chatham Paper Co., dir. Dir., Telfair Acdy., Savannah. Clubs: Oglethorpe (Savannah; bd. of mgrs.), Savannah Yacht & Country, Savannah Golf, Century (Savannah). Hobbies: photography, books, golf.

DUNBAR, Paul B., comm. of food and drugs, Food and Drug Adm., Fed. Sec. Agency, Washington 25, D.C.; res. 311 Cumberland Ave., Somerset, Chevy Chase 15, Md.
Chem.; b. Lebanon, Pa., May 29, 1882; s. of William H. Dunbar, D.D. and Jennie Chamberlain Dunbar; ed. B.S. 1904, M.S. 1906, Honorary Sc. D. 1937, Gettysburg Coll., Gettysburg, Pa.; Ph.D. Johns Hopkins, 1907; mem.: Phi Delta Theta; m. Alice L. Davison, Sept. 7, 1910; ch.: Mrs. John W. Bisselle, Mrs. Stanley E. True, Mrs. Romolo D. Tedeschi. Chem. Bur. of Chem., U.S. Dept. Agri., 1907-25; asst. chf., Bur. of Chem., U.S.D.A., 1925-27; ass't. chf., Food and Drug Adm. U.S.D.A., 1927; designated asst. comm., Food and Drug Adm. on its transfer to Fed. Security Agency, 1940; asso. comm. F. & D. A., 1942-44; comm. of Food and Drugs since 1944. Mem.: A.C.S., Asso. of Food and Drug Officials of the U.S., Asso. of Official Agri. Chemists, Phi Beta Kappa.

DUNBAR, Ralph E(dwin), dean, School of Chemical Technology, North Dakota State Coll., Fargo, N.D.; res. 1342 9th St., North, Fargo, N.D.
Chem. and Adm.; b. Platte, S.D., Aug. 22, 1895; s. of Joseph Close and Mary (Brumbaugh) Dunbar; ed. B.S. Dakota Wesleyan U., 1921, M.A. Columbia U., 1926; Northwestern U. summer 1928; U. of Wis., Ph.D., 1933 and summer 1934; m. Vivienne Ames, Sept. 2, 1938; ch.: Delores May, Donna Marie. Chem. teach. and high school principal, Britton, S.D., 1921-25; chmn.-chemistry dept., Dakota Wesleyan U., Mitchell, S.D., 1925-36; chem. instr., Iowa State Coll., Ames, Iowa, 1936-37; prof. of chem., N.D. State Coll., 1937-43; dean, School of Chemical Tech., N.D., State Coll., Fargo, N.D., 1943 to date. Res.: 112 res., tech. and ed. articles pub. to date in 21 nat'l. jls.; abstractor: chemical abstracts; res. studies in acetals, dehydrogenations, catalysis, reaction mechanisms, and chemistry of plastics. Author: "Visual Outline of General Chemistry"-1939. "An Outline of Organic Chemistry"-1947, "The Quadri-Service Manual of Organic Chemistry"-1938, "Fundamentals of Org. Chem."-1940, "The Work Book of Fundamental Organice Chemistry"-1941, "Encyclopedia of Chemical Reactions" (5 vol.) 1946-date. Mem.: A.C.S. (National Councilor), A.A.A.S., N.Dak. Acad. of Science (pres.), Sigma Xi, Phi Kappa Phi, Pi Gamma Mu, Pi Kappa Delta-(degree of special distinction-Order of Debate), Delta Sigma Rho. Past Pres.-Faculty Mens Club, Past Pres.-Sigma Xi Club, Past Pres. Fargo Philatelic Soc., Member City Zoning Commission. Clubs: Rotary International, Commons, Sigma Xi, Faculty Mens, Fargo Philatelic. Hobbies: Philately, scouting, photography, hunting, fishing, canoeing, wood working, plastic art.

DUNBECK, Norman Joseph, v.p., Eastern Clay Prods., Inc., 443 Walnut St., Jackson, Ohio; res. 95 High St.
Exec.; b. Lancaster, N.Y., May 25, 1902; s. of Joseph R. and Minnie Dunbeck; ed. 1924 B.S. (Ch.E.), Catholic U. Am., Wash., D.C.; m. Mary G. Ridenour, 1934; ch.: Joseph Ridenour, Mary Susan. 1924-26 foundry engr., Symington Gould Corp., 1926-28 plant supt., Eastern Clay Prods., Inc.; 1928-34 serv. engr.; 1934 to date v.p., mgr. Dir., First Natl. Bk. (Jackson, Ohio), given 20 to 30 papers before local, natl. meetings of Am. Foundrymen's Soc.; annual exch. paper to British Foundrymen, 1940; mem.: Am. Foundrymen's Soc. (natl. dir.); Am. Ceramic Soc., A.I.M.M.E.; Hobbies: stamps, minerals.

DUNBROOK, Raymond Frederick, asst. dir. res., Firestone Tire & Rubber Co., Akron, Ohio; res. 206 S. Firestone Blvd.
Chem.; b. Grand Rapids, Mich., May 9, 1896; s. of Augustus and Christine Epting Dunbrook; ed. B.S. Ch.E., 1917, U. of Mich.; M.S. 1921; Ph.D. 1923, U. Pittsburgh; mem.: Lambda Chi Alpha; m. Sylvia E. Jensen, June 7, 1919; ch.: Norma Eileen, Marilyn Jean, Richard Frederick. Holland Aniline Co., Holland, Mich., plant chem., dyestuffs, 1917-20; U. Pitts., instr. chem. 1920-23; Wittenberg Coll., Springfield, Ohio, prof. chem. 1923-29; Firestone Tire & Rubber Co., hd. org. res. 1929-38; asst. dir. res. 1938 to date. Res. on rubber chems., synth. rubber; author of arts., patents. Co-author: "Sc. of Rubber," Memmler, English Translation, 1934; "Synthetic Rubber," (in press); mem.: Phi Lambda Upsilon, Alpha Chi Sigma, A.C.S.. Clubs: Torch, Kiwanis. Hobbies: golf, bird hunting, fishing, hunting.

DUNCAN, Robert A., asso. chem. dir., The Procter and Gamble Co., Cincinnati, O.; res. 129 Wyoming Ave., Wyoming, O.
Chem.; b. Exeter, Mo., Sept. 6, 1889; s. of Robert A. and Emma (Woods) Duncan. A.B. U. of Mo., 1913, A.M. U. of Mo. 1914; mem.: Alpha Chi Sigma, m. Grace Greenwood Sept. 6, 1931; ch.: Robert C. Duncan, Helen Joye Duncan Fay Instr. in chem., Oregon State, 1914-17; chem., Monsanto Chemical Co., 1917-19; chem., Procter and Gamble, 1919 to present. Mem.: A.C.S., A.A.A.S. Amer. Oil Chem. Soc., A.I.Ch.E. Clubs: Wyoming Golf, Wyoming Civic Center. Hobbies: golf, gardening, grandchildren.

DUNCOMBE, Charles Gross, dir. of Dept. of Chem. Engrg., U. of Detroit, Detroit, Mich.; res. 18451 Ohio Ave., Detroit 21.
Chem. engrg.; b. Gordonsville, Va., Mar. 14, 1889; s. of Geo. H. and Mertie V. (Gross) Duncombe; ed. Penn. Coll., Gettysburg, Pa., 1905-07; The Ohio State U., Columbus, O., 1912-16, B.Ch.E.; 1927-31, M.S., 1929, Ph.D. 1931; mem.: Sigma Xi, Phi Lambda Upsilon; m. Dolores May Lafferty, Sept. 3, 1918; ch.: Mary Lenore (Duncombe) Payette; Charles A. 1916-21, Firestone Tire and Rubber Co., Akron, Ohio, supvr. and foreman, rubber reclaiming, dept. mgr., rubber reclaiming; 1921-27, Prest-O-Lite Co., Speedway, Ind., storage battery engr.; 1927-31, Ohio State U., part-time instr.; 1931-32 full time instr.; 1932-36 asst. prof.; 1936 to date, prof., dir. of Dept. of Chem. Engrg., U. of Detroit. Mem.: A.C.S., A.I.Ch.E., Am. Soc. Engrg. Educ., Engrg. Soc. of Detroit.

DUNHAM, LeRoy Shaw, chf. engr., Thomas A. Edison, Inc., Primary Battery Div., Bloomfield, N.J.; res. E. Orange, N.J.
Engrg. & res. exec.; b. Middleboro, Mass.; s. of Elbridge F. and Abbie E. Dunham; ed. Bradford Durfee Tech. Inst., Fall River, Mass., grad. 1915 with high honor; m. Mary A. Dunham, 1916; ch.: Elizabeth (Dunham) Williams, Ethel (Dunham) Ormay. Swandale Chem. Co., Assonet, Mass., chf. chem., 1915-16; Massasoit Mfg. Co., Fall River, Mass., chf. chem., tech. dir., supt., 1916-18; Thomas A. Edison, Inc., W. Orange, N.J., chem., dir. of res. & chf. engr. of var. divs. & affiliates during period 1918 to date. Direction of & contrib. to progress in fld. of elec. batteries & applications thereof. Mem.: A.S.M. (former mem. exec. comm. of N.J. Chapter).

DUNKLE, Cyrus G(rant), chem., Picatinny Arsenal, Dover, N.J.; res. 15 Fairchild Ave., Morris Plains, N.J.
Explosives chem.; b. Oil City, Pa., Apr. 8, 1901; s. of Dr. Cyrus G. and Edith V. Dorworth Dunkle; ed. B.S., U. Pitts. 1922; M.S. Carnegie Inst. Tech. 1927; m. Mary E. McDonald, Oct. 19, 1929; ch.: Mary C., Michael P., John J. 1922-26, asst. chem., H. J. Heinz Co., Pitts., Pa.; 1926 grad. stud. Carnegie Inst. Tech.; 1927 asst. chem., Pitts. Sta., U.S. Bur. Mines, asst. chem., Pa. St. Dept. Health; 1927-29 res. physicist Picatinny Arsenal, Dover, N.J.; 1929-30 asst. chem., Combustion Utilities Corp.; 1930 to date explosives chem., Picatinny Arsenal. Serv. U.S.A. off. 1942-46. Applications of thermodynamics, chem. kinetics to problems in interior ballistics; mem.: A.C.S., A.I.C., A.O.A., Franklin Ist., Resv. Offs. Assn. Club: Morris Co. Engrs. Hobbies: political, military history, gardening.

DUNLAP, Howard Leroy, prof. of chem., Ohio Univ., Athens, Ohio; res. 275 East State St., Athens, Ohio.
Prof. of org. chem.; b. Flushing, Ohio; s. of Joseph Calvin and Clara (Clements) Dunlap; ed. pub. schls., Flushing H.S. to 1905; B.S., Ohio U., 1912; M.A., Ohio State U., 1914; Ph.D., Ohio State, 1925; mem.: Sigma Xi, Phi Kappa Phi, Alpha Chi Sigma; Phi Kappa Tau; m. Kathryn M. Roeser, Sept. 6, 1917; ch.: Margaret (Dunlap) Ritter. Pub. schls. of Belmont County, O., 1905-08; prncipal, St. Clairsville H.S. 1912-13; fellowship in chem., O.S.U., 1913-14; instr. in chem., Iowa State U., 1914-17; asst. prof., assoc. prof. and prof. of chem., Mo. Schl. of Mines and Metallurgy, 1917-36; prof. of chem., Ohio U., 1936 to date; Res. Dept., Goodyear Tire & Rubber Co., summers, 1920-21; res. for Phillips Petroleum Co., summers, 1926 to 1935; also as a conslt. with this co. throughout above schl. yrs.; res. in molecular weights of lubricating oils, solubilities of paraffin waxes in pure hydrocarbs., rates of reaction, apparatus. Author: "The Carbonization of Missouri Cannel Coals," (with Kershner), Bulletin No. 5, Mo. Experim. Sta., 1919; author also of numerous tech. arts. in sc. jls. Mem.: A.C.S.; Ohio Acad. of Sci.; registered prof. chem. engr., Ohio; Prof. Engrs., Hocking Valley Chapter. Hobbies: golf, hunting, fishing.

DUNLOP, Andrew P., asst. dir. chem. res., The Quaker Oats Co., 345 E. 25 St., Chicago 16, Ill., res. 252 Bartram Rd., Riverside, Ill.
Chem.: b. Balloch, Scotland, Nov. 26 1914; s. of John and Charlotte Paterson Dunlop; ed. B.S. U. Chicago 1938; m. Beatrice A. Jedlam Nov. 12, 1938; ch.: John Andrew, James Douglas, Lenore Beatrice. Lab. tech. Quaker Oats Co. 1931-38; res. chem. 1938-47; asst. dir. chem. res. 1947 to date. Res. in furan chem. spec. on hydrog., oxidation, polymer., ring-opening of furan compds.; mem.: A.C.S. Hobbies: tennis, swimming, yachting.

DUNN, Joseph Avery, sales mgr., Atlantic Gelatin, Div. Gen. Foods Corp., Woburn, Mass.; res. 7 Lewis Rd., Winchester, Mass.
Food technologist; b. Newark, N.J., 1900; s. of Frank A. and Rosa B. (Stringer) Dunn; ed. Rutgers U., B.Sc. chem. 1921; M.A. chem., Columbia 1926; Ph.D. agr. biochem., 1928, U. of Minn.; m. Isabel Janet Cleal. 1930; ch.: Theodore Arthur. Cereal chem., Wallace & Tiernan Co. Inc.; dir. res. bakery, Procter & Gamble Co. Inc.; wheat res., Pillsbury Mills Inc.; dir. res. bakery, Lever Bros. Co.; tech. dir., Diamond Crystal Colonial Salt, div. Gen. Foods Corp. Cereal & Baking res., gen. problems in food technology. Mem.: A.A.A.S. (fellow), A.A.C.C., I.F.T., Sigma Xi. Club: Winchester Country. Hobbies: music, painting.

DUNN, Max Shaw, prof. of chem., U.C.L.A., W. Los Angeles, Calif.; res. 1352 Woodruff Ave., W. Los Angeles.
Prof.; b. Milo, Iowa, Aug. 22, 1895; s. of Lon and Nellie (Shaw) Dunn; ed. Simpson Coll, B.A. 1916; D.Sc., 1950; U. of Illinois, M.S. 1918, Ph.D. 1921; mem.: Kappa Theta Phi; m. Lois Evelyn Fox, July 18, 1921; ch.: Max, Jr., Deneige. 1921-22 instr. biochem. U. Calif., Berkeley; 1922-26 instr., 1926-29 asst. prof., 1929-40 assoc. prof., 1940 to date prof. U.C.L.A.; res. in proteins, amino acids, microbiology. Contrib. numerous arts. to sc. jls.; has pub. chapts. in Monographs on Proteins, also "Lab. General Chem." (McGraw Hill, 1929). Mem.: Alpha Chi Sigma, Sigma Xi, A.A.U.P., A.A.A.S., A.C.S., A.S.Biol.C., S.E.B.M., Biochem. Soc. (London), N.Y. Acad. Sc. (fellow), Inst. Food Tech., assoc. ed. Food Tech., assoc. ed Proc. Soc. Exp. B.; mem. bd. of dirs. Los Angeles County Med. Assn. Res. Found., and of Chas. C. Hastings Home, Tubercul. Res. (Calif). Club: Rotary. Hobby: golf.

DUNN, Parker Southerland, res. mgr., Potash Co. Am., Box 31, Carlsbad, New Mexico; res. 209 Riverside Dr.
Chem. engr.; b. Portsmouth, Ohio, Aug. 25, 1910; s. of Joseph Sidney and Florence Bowen Dunn; ed. B.S. Chem. Engr., Ohio St. U., 1930; M.S. Chem. Engr., M.I.T. 1931; Winner Alpha Chi Sigma Cup for Scholarship in Freshman Chem.; m. Mayde Modenia Smith, July 15, 1939; ch.: Joseph Smith, Dwight James. 1931-33 chem. engr., Mead Corp., Chillicothe, Ohio; 1933-34 chem. engr., Pitts. Plate Glass Co., Barberton, Ohio; 1934-38 asst. plant supt., Southern Alkali Corp., Corpus Christi, Texas.; 1938-41 tech. dir.; 1941-46 res. dir., Potash Co. of Am., Carlsbad, N.M.; 1946 to date resident mgr. (asst. secy.); mem.: A.I.Ch.E., A.I.M.E., E.S., Tau Beta Pi, Sigma Xi, Phi Lambda Upsilon. Club: Riverside Country (Carlsbad, N.M.). Hobbies: golf, fishing, gardening.

DUNN, William Lewis, dean, Lake Forest Coll., Lake Forest, Ill.; res. 7 College Campus, Lake Forest.
Coll. adm.; b. Lake Village, Ark., Oct. 18, 1914; s. of William Lewis and Ruth Dewey Dunn; ed. U. of Ill., A.B. 1936; U. of Wis., Ph.D. 1941; mem.: Alpha Chi Sigma; m. Eleanor Tisdel, June 8, 1940; ch.: Carol Ruth, Janet Marjorie. Instr., asst. prof. chem., Cornell Coll., Mt. Vernon, Ia., 1941-45; prof. chem., Colo. State Coll. of Edn., 1945-49. Mem.: Phi Beta Kappa. Hobby: piano.

DUNNING, John Walcott, dir., res., V.D. Anderson Co., 1935 W. 96 St., Cleveland 2, Ohio; res. 15305 Edgewater Dr., Lakewood 7, Ohio.
Chem. engr.; b. Ottumwa, Ia., Dec. 20, 1912; s. of Walter Lyle and Madge Pettit Dunning; ed. Ia. St. Coll., B.S., Ph.D.; mem.: Sigma Zi; m. Louise French, June 28, 1939; ch.: John W., Barton B., Cidney F. 1938-40 post doctorate fellow, Ia. St. Coll., Ames, Ia.; 1940-42 res. dir., Anderson-Clayton Co., Abilene, Texas; 1942-45 chem., U.S.D.A., Peoria, Ill.; 1945-48 chg. Synthetic Liq. Fuels Div., U.S.D.A.; 1948 to date dir. res., V.D. Anderson Co., Cleveland, Ohio. Res. in fermentation, saccharfication, vegetable oil prod. Mem.: A.O.C.S., A.C.S. Hobbies: sports, photography.

DUNWOODY, William B., chf. engr., Miss. Chem. Corp., Yazoo City, Miss.; res. 1219 Grand Ave., Yazoo City, Miss.
Mech. engr.; b. Pineville, Mo., Apr. 27, 1915; s. of Jacob Z. and Edith Dunwoody; ed. Joplin Jr. Coll., Joplin, Mo.; I.C.S. Scranton, Penn.; (Night Schl. Courses, U. of Kansas); m. Ruth M. Beckman, Apr., 1939; ch.: Robert, Jack A., Susann, Sharon. Proj. engr., Spencer Chem. Co., Pittsburg, Kansas; proj. engr. with J.F. Pritchard & Co. (Engrs.), Kansas City, Mo.; chf. engr., Universal Engrg. Co., Kansas City, Mo.; to date with Miss. Chem. Corp. Mem.: A.S.M.E.; Missouri Soc. of Prof. Engrs.; registered prof. engr.

in Missouri, Texas and Mississippi (by examination). Mem.: Lions Club; A.F. & A.M. Hobbies: fishing, photography.

du PONT, Emile Francis, dir. empl. relations, 6016 du Pont Bldg., Wilmington, Del.; res. 2203 Grant Ave.
Exec.; b. Wilmington, Del., May 20, 1898; s. of Francis I. and Marianna Rhett du Pont; ed. Yale U. 1922; mem.: Delta Psi; m. Mrs. Margaret Dick Marvel, May 18, 1950; ch.: Francis I., II, Mrs. Geo. Francis Cahill, Jr., Peter Rhett. Bd. dirs., E.I. du Pont de Nemours & Co., Inc. 1944; Finance Comm. 1944; dir. employe relations 1945 to date. Clubs: Wilmington, Wilmington Country, Vicmead Hunt. St. Anthony (N.Y.).

du PONT, Lammot, du Pont Bldg., Wilmington 98, Del.
Exec. (retired); b. Wilmington, Oct. 12, 1880. With the du Pont Co. from 1902 until retirement.

du PONT, Pierre Samuel, 9012 du Pont Bldg., Wilmington 98, Del.; res. Hotel du Pont, Wilmington.
Exec. (retired); b. Nemours, Christiana Hundred, New Castle Co., Del., Jan. 15, 1870; s. of Lammot and Mary (Belin) du Pont; ed. M.I.T.; LL. D., Lafayette Coll., 1922; LL.D., U. Del., 1922; mem.: Phi Kappa Sigma; m. Alice Belin, Oct. 6, 1915. With E.I. du Pont de Nemours predecessors & affiliates, chem. to chmn. of the bd., 1890 to retirement 1940; dir.: du Pont Co., Christiana Securities Co., Wilmington Trust Co. (hon. chmn. bd.), Pa. R.R. Co., Pitts. Cin. St.Louis & Chicago R.R. Chevalier de la Legion d'Honneur, 1918 (Officer, 1928). Life mem., M.I.T. Corp.; v.p., State Bd. of Ed. (Del.), 1919-21; State Tax Commissioner (Del.), 1925-38 & 1944-49. Clubs: Metropolitan (N.Y.), Wilmington (Wilmington), Bankers' (N.Y.), Philadelphia (Pa.). Hobbies: horticulture, music

du PONT, Pierre Samuel, 3rd, dir., mgr., Tire Yarn Sales - Rayon Div., E.I. du Pont de Nemours & Co., Wilmington, Del.; res. Rockland, Del.
Chem. Engr.; b. Wilmington, Del., Jan. 1, 1911; s. of Lammot and Natalie (Wilson) du Pont; ed. M.I.T. 1933; mem.: Phi Beta Epsilon; m. Jane Holcomb, June 24, 1933; ch.: Pierre Samuel 4th, Jane de D., Michele W. E.I. du Pont de Nemours & Co., 1934-38 dev. engr.; 1938-39, tech. investigator, 1939-45 new prod. dev.-nylon; 1945-47 asst. dir. trade anal.; 1947 to date mgr. tire yarn sales - rayon div.; E.I. du Pont de Nemours & Co. (dir.); Farmers Bank of State of Del (dir.). Mem.: A.C.S. Trustee, Phillips Exeter Acad., Exeter, N.H.; trustee, Tower Hill Schl., Wilmington, Del. Clubs: Wilmington, N.Y. Yacht, Wilmington Country. Hobbies: sailing, tennis.

DUPREE, Lansing Thorne, adv. mgr., Chem. Engrg. Progress, Am. Inst. Chem. Engrs., 120 E. 41 St., N.Y. 17, N.Y.; res. 321 E. 43 St.
Adv. mgr.; b. Sayville, N.Y., June 2, 1912; s. of Alfred H. and Caroline T. Garrett Dupree; ed. Rensselaer Polytech. Inst., 1934, Ch.E.; mem.: Pi Kappa Pi; m. Martha Hall, May 21, 1949. 1934-36 A.A. Lund & Assoc., N.Y.C., chem. engr.; 1936-38 Johns-Manville Corp., N.Y.C., sales chem. engr.; 1938-42 Reinhold Pub. Corp., N.Y.C., N.E. Dist. Mgr., (adv. sales); 1942-43 Singmaster & Breyer, N.Y.C., chem. engr.; 1943-44 Servel, Inc., Evansville, Ind., sales chem. engr.; 1944-46 Arthur D. Little, Inc., Cambridge, Mass., chem. engr.; 1946 to date adv. mgr., Chem. Engrg. Progress, Am. Inst. of Chem. Engrs. Club: Chemists' (N.Y.C.). Hobbies: sailing, golf, badminton, baseball.

DUPUIS, Robert Newell, asst. res. and dev. dir., S.C. Johnson & Son, Inc., Racine, Wis.; res. 469 Shoreland Dr., Racine.
Direction of chem. res.; b. Indianapolis, Ind., June 4, 1910; s. of Arthur J. and Veronica C. DuPuis; ed. A.B. U. of Ill., 1927-31, Ph.D., N.Y.U., 1931-34; mem.: Alpha Chi Sigma; m. Eleanor T., June 29, 1935; ch.: Joan, Robert T. Res. chem., Miner Labs., 1935-42; asst. dir., Miner Labs., 1942-47; asst. res. and dev. dir., S.C. Johnson & Son, Inc., Racine, Wis., 1947 to date. Res. in the flds. of glycerine, resins, surface coatings, waxes; org. chem. Mem.: A.C.S., A.O.C.S., A.A.A.S., Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon. Club: Chemists' (Chicago). Hobby: gardening.

DURFEE, Charles Gibson, v.p., Pyrene Mfg. Co., 560 Belmont Ave., Newark, N.J.; res. 130 Sherman Ave., Teaneck, N.J.
Engr., exec.; b. Yonkers, N.Y., July 15, 1898; s. of C.G. and Abigail LeRoy Durfee; ed. 1918 Sheffield Sc. Schl., Yale U.; Ph.B. (magna cum laude); 1920 grad. sch., Yale U., M.E. (cum laude); mem.: Sigma Xi; m. Alice Edna Lau, Feb. 21, 1924; ch.: Dorothy Ann Wurtmann, Charles Gibson, III. 1920-21 N.Y. Edison Co., N.Y.C., combustion engr.; 1921-26 Westinghouse Elec. & Mfg. Co., N.Y. & San Francisco, Calif., market anal. sales; 1926-28 Soc. for Electrical Dev., Trade Assn.; 1928-35 Pyrene Mfg. Co., mgr. systems dept.; 1935-41 asst. to v.p. in chg. sales; 1941-48 Pyrene Dev. Co. (and predecessor co.) pres.; 1948 to date Pyrene Mfg. Co., v.p. Chem. Concentrates Corp., pres., dir. Res. in fire exting. field, hand fire exts., foam systems for large oil fire risks; mem.: Natl. Fire Protection Assn., Mem. Several Tech. comm. Chem. Fire Exting. Assn., chmn., mem. Tech. Comm. Club: Chemists' (N.Y.).

DURFEE, Philip S., treas. & mgr., W.C. Durfee Co., Inc., 463 Commercial St., Boston 13, Mass.; res. 124 Myrtle St., Boston 11.
Chem. mfre.; b. Boston, Mass., June 11, 1891; s. of Winthrop C. and Sylvie W. Durfee; ed. Harvard, A.B., A.M. 1912; grad. wk., Columbia. Tech. Schl. of Milan, Univs. of Rome, Heidelberg, Munich; m. Dorothy D. Durfee, Nov. 20, 1912; m. (2nd.) Helene L. Durfee, Mar. 10, 1937; ch.: Dorothy Anne, Winthrop C. Banking, Philip M. Tucker (Boston), 1914-18; Air Corps, 1918; Case Pomeroy, (N.Y.), 1919; Frank Robbins Co., Havana, Cuba, 1920; Rubber Roofing Co., Caracas, Venezuela, 1921; Merrill Lynch (N.Y.), 1922; Brown Corp., Los Angeles (chem. supplies), 1923; Schlar & Britten, San Francisco, 1924; Grosset & Dunlap, publishers, (N.Y.) 1925-29; W.C. Durfee Co., 1930 to date; mem.: A.A.T.C.C. Hobbies: theater, languages.

DURFEE, Walter C., pres., W.C. Durfee Co., Inc., 463 Commercial St., Boston 13, Mass.
Manu. chem.; b. Boston; s. of Winthrop C. and Sylvie (Whitney) Durfee; ed. Roxbury Latin School, Boston, hon. mention in physics; Harvard U., 7 years, M.A. Teaching fellow Engineering Soc., Editor Engrg. Jl.; m. Elizabeth Davidson, Aug. 17, 1911; ch.: Margaret, Sylvie, Anna. Tunnel surveying in N.Y.C.; machine shop and foundry manager' helper in S. Boston, a few years. Since about 1910 in studies and making of textile chemical dyeing mordands or assistants, etc., a business of Winthrop Durfee above. On res. comm. Am. Assoc. Textile Chemists & Colorists attended to mechanical, patent, and manu. of Crockmeter, a test instrument for rub stains. Hobbies: at times, aerodynamics, color perception studies, parts of telescope optics, pre-history of ogam and Chinese writing signs.

DURHAM, Edward Josephi, dir., Wm. H. Nichols Lab.; assoc. prof. of chem., dept. of chem.,

N.Y.U., Bronx 53, N.Y.; res. 497 N. Broadway, Yonkers 3, N.Y.
Prof., dir. of chem. lab.; b. Portland, Ore., Oct. 15, 1902; s. of Geo. C. and Mary H. Durham; ed. A.B., Reed Coll., Portland, Ore.; M.A., Rice Inst., 1928, Ph.D. 1930; m. Joyce Ellsworth, Aug. 11, 1927; ch.: Edward A.M. Chem., Crown-Willamette Paper Co., 1924-25, chf. chem. 1925-26; teaching fellow, Rice Inst., Houston, Texas, 1926-30; instr. in chem., N.Y.U., 1930-40, asst. prof. 1940-46, asst. dir. Nichols Lab. 1941-46, assoc. prof. 1946 to date, dir. Nichols Lab. 1946 to date. Co-author: "A Lab. Manual of Qualitative Anal." with T.M. Smith, (N.Y.U. Bookstore) 1st ed. 1932, revised 1933, 1936, 1938; "A Lab. Manual of Gen. Chem. & Elementary Chem. Anal." with T.M. Smith, (N.Y.U. Bookstore) 1941. Mem.: A.C.S., A.I.C., N.Y. Acad. of Sc., Phi Lambda Upsilon, Sigma Xi. Dir., N.Y. Sec. 1943 to date, secy. N.Y. Sec. 1944 to date, A.C.S. Hobby: gardening.

DURKEE, Maurice M., divisional supt. oil div., A.E. Staley Mfg. Co., Decatur, Ill.; res. Decatur.
Chem. engr.; b. Binghamton, N.Y., July 1, 1891; s. of Arthur M. and Florence Georgia Durkee; ed. Columbia U., N.Y.C.; mem.: Tau Beta Pi, Phi Lambda Upsilon; m. Marguerite Matteson, Oct. 5, 1922; ch.: Donald Tharpe, Jean Matteson. Southern Cotton Oil Co., hydrogenation wk.; Hauck Food Prods., vegetable oil refining, plant mgr.; Newark Vegetable Oil Co., plant mgr.; Pompeian Romanza Co., plant mgr., olive oils; A.E. Staley Mfg. Co., Decatur, 1926 to date, chg. oil div. Prominent pioneer part in dev. soybean tech.; first to dev. techniques for Am. soybean oil. Several tech. articles in scientific jls.; pats. 1916 to date scattered. Mem.: A.C.S., A.I.Ch.E., A.O.C.S., Natl. Soc. Prof. Engrs. Hobbies: gadgeteering. mineralogical prospecting, also fossils, travel by books.

DURNO, W(illiam) H(enry), chf. chem., Federal Labs. Inc., P.O. Drawer H, Saltsburg, Pa.; res. P.O. Box 466, Saltsburg.
Chem.; b. Pittsburgh, Pa., Aug. 28, 1914; s. of Joseph P. and Helen (McQuade) Durno; ed. U. of Pittsburgh, B.S. in chem. 1937; m. Grace Hale, Oct. 3, 1943. 1937 to date with Federal Labs., Inc., in follwing positions: 1937-39 chem., 1939-44 plant supt., 1944 to date chf. chem.; res. and dev. in chem. explosives, pyrotechnics, electrochem. Mem.: A.C.S., Amer. Ordn. Assoc., Armed Forces Chem. Assoc. Clubs: B.P.O.Elks, Lions. Hobbies: reading, photography.

DUTCHER, R. Adams, hd., dept. agri., biol. chem., Frear Labs., Pa. St. Coll., State College, Pa.; res. 254 E. Hamilton Ave.
Tchr., res. worker; b. Raymond, S. Dak., Mar. 28, 1886; s. of Paul and Susie Adams Dutcher; ed. B.S., S. Dak. St. Coll., 1907; M.S. 1910; M.A., U. Mo., 1912; D.Sc. (hon.) U. Puerto Rico 1936; D. Sc. (hon.) So. Dak. St. Coll. 1948; mem.: Theta Chi, Alpha Chi Sigma, Acacia; m. Mary M. Wright; Sept. 14, 1912; ch.: Adams Wright, Rachel Mary. Instr. S. Dak. St. Coll. 1907-10; U. Mo. 1910-12; U. Ill. 1912-13; asst. prof. Oregon St. Coll. 1913-17; asst., assoc. prof., U. Minn. 1917-21; prof., hd. dept. Pa. St. Coll. 1921 to date. Res. in vitamins, foods, nutrition; Co-author: Introduction to Agri. Biochem., 1932; Agri. Biochem. 1951; mem.: A.C.S., A.A.A.S. (fellow), A.S.Biol.C., Inst. Nutrition, Biochem. Soc. (British), I.F.T., N.Y. Acdy. Sc., Pa. Acdy. Sc., Sigma Xi, Phi Lambda Upsilon, Alpha Zeta, Gamma Sigma Delta (hon. soc.), Phi Kappa Phi (hon. soc.). Clubs: Chem. (N.Y.), Centre Hills Country (St. Coll., Pa.). Hobbies: collecting fine porcelains, photography.

DUTTON, Walter Curtis, dir., Field Agri. Chems. Res., The Dow Chem. Co., Midland, Mich.; res. 523 Bailey St., East Lansing, Mich.
Res. with agri. chems.; b. Hockingport, Ohio, July 27, 1889; s. of Edwin A. and Lethe R. Curtis; ed. Ohio St. U., B.S. (horticulture) 1912; Mich. St. Coll., M.S. 1925; mem.: Delta Theta Sigma; m. Marie G. England, Oct. 15, 1913; ch.: Charles E., Nancy B. Mich. St. Coll., dept. Horticulture, asst. in horticulture, 1913-20; res. assoc. horticulture, 1920-36; The Dow Chem. Co., Midland, Mich., horticulturist, 1936-45; dir., field agri. chems. res., 1945 to date. Studies on effects of insecticides, fungicides on fruit plants; mem.: A.S.H.S., A.A.E.E., A.S. Agri. E., No. Cent. Weed Contr. Conf. Clubs: State College, Mich. State Coll. Hobbies: photography, antique furniture.

Du VIGNEAUD, Vincent, prof. of biochem., Cornell U., Coll. of Med., 1300 York Ave., N.Y. 21; res. 41 Cohawney Rd., Scarsdale, N.Y.
Prof. of biochem.; b. Chicago, Ill., May 18, 1901; s. of Alfred Joseph and Mary Theresa (O'Leary) du Vigneaud; ed. U. of Ill., B.S. 1923; M.S. 1924; U. of Rochester, Ph.D. 1927; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi; m. Zella Zon Ford, June 12, 1924; ch.: Vincent, Marilyn Renee. Asst. biochem. Phila. Gen. Hosp. and asst. biochem. Grad. Schl. of Med., U. of Pa., 1924-25; asst. biochem. Grad. Schl. of Med., U. of Rochester, 1925-27; Natl. Res. Fellow, Schl. of Med., Johns Hopkins, 1927-28; Kaiser Wilhelm Inst., Germany, and dept. med. chem., U. Edinburgh, 1928-29; assoc. dept. of chem., U. of Ill., 1929-30; asst. prof., 1930-32; prof. and hd. dept. biochem. Schl. of Med., Geo. Washington U., 1932-38; prof. and hd. dept. biochem. Cornell U. Med Coll., since July, 1938. Work on chem. of insulin and posterior pituitary hormones; intermediary metabolism of sulfur; amino acid and peptide chem.; transmethylation; biotin; penicillin; transulfuration. Has contrib. various arts. to sc. jls. Foster Lecturer, U. of Buffalo, 1939; Hitchcock prof. U. of Calif., 1944; visiting lect. Switzerland, Amer. Swiss Found. for Sc. Exch., 1947; Julius Stieglitz Memorial Lect., 1948; Eastman Lect., U. of Rochester, 1949; spec. univ. lect., U. of London, 1949; Liversidge Lect. U. of Cambridge, 1949; Messenger Lect. Cornell U. 1950; awarded Hillebrand prize, Chem. Soc. of Wash., 1936; Mead Johnson Vitamin Award of Am. Inst. of Nutrition, 1943; Nichols M. 1945; Borden Award for Res. in Med. Sci., 1947; Lasker Award, Am. Pub. Health Assoc., 1948; Award of Merit war res., 1948. Mem. of bd. of sc. dirs. The Rockefeller Inst. for Med. Res.; on adv. bd. The Pub. Health Res. Inst. of the City of N.Y. Mem.: Soc. Biol. Chem., A.C.S. (councilor at large 1943, chmn. N.Y. Sect. 1943), Soc. of Exper. Biol., Harvey Soc. (pres. 1946-48), Am. Philos. Soc., Natl. Acad. Scs., N.Y. Acad. Scs., Acad. of Arts and Scs., Wash. Acad. Med. Clubs: Boulder Brook, Scarsdale Golf.

DWYER, Harold A., v.p. and secy., Amer. Oil & Supply Co., 238 Wilson Ave., Newark, N.J.; res. 6 Parkview Pl., Baldwin, N.Y.
Accountant; b. N.Y.C., Dec. 1, 1894; s. of Daniel F. and Mary L. Dwyer; ed. Pace & Pace Inst., (now Pace College); m. Alice M., July 12, 1920; ch.: Virginia A., John Corr, Marie T. With Natl. City Bank of N.Y., asst. cashier; trustee of N.Y. Clearing House, re loans to depositors of Bank of U.S. (chf. agent); dir., v.p., secy., Amer. Oil & Supply Co. Mem. of Controllers Inst. of Amer. Clubs: Newark Athletic; Newark Down Town.

DYER, E. Russell, pres., Russ-Reyd Laboratories, Inc., 621 Packard St., Ann Arbor, Mich.; res. 2448 Packard Rd., Ann Arbor, Mich.
Exec.; b. Montreal, Quebec, Aug. 21, 1902; s.

of William E. and Caroline (Ayers) Dyer; ed. Ph.G. Ferris Institute; m. Marian Hall Henderson, Nov. 7, 1932; ch.: Susan Hall. Spec. repres. Frederick Stearns & Co., 1930-32; divisional mgr., Agfa-Ansco Corp., 1932-34; divisional mgr., Weco Products Co., 1934-35; divisional mgr., Lambert Pharmacal Co., 1935-41; v.p. International Vitamin Corp., 1941-43; v.p., dir., gen. mgr. International Vitamin Corp., 1943-48; pres., dir., gen. mgr., Russ-Reyd Laboratories, Inc., 1949 to present. Consultant, Guardian Drug Products Co. Clubs: Chemists'. Hobbies: woodworking and gardening.

DYKE, Milton, partner, S.L. Abbot Co.; pres., Oilwell Chem. & Matls. Co., 800 Santa Fe Ave., Los Angeles, Calif.; res. San Marino, Calif.
Chem. mfr. & distr.; b. Chicago, Ill., Apr. 6, 1906; s. of W.M. and L. (Sweetman) Dyke; ed. public schls.; m. Flerence Stack, 1928; ch.: Milton Jr., John Charles. Chem. Salesman, Mailliard & Schmiedell; branch mgr., partner, S.L. Abbot Co.; pres., Oilwell Chem. & Matls. Co. Res. wk. & pats. granted for oil well drilling mud additives. Club: Jonathan. Hobby: thoroughbred racing & breeding.

DYKES, J.W. (James), plant mgr., Am. Cyanamid Co., Calco Chem. Div., Willow Island, W. Va.; res. St. Marys, W. Va.
Plant mgr.; b. Salisbury, Md., Oct. 5, 1895; s. of James M. and Lillie (Goslee) Dykes; ed. Wash. Coll., A.B. 1917; m. Carmeta Russell, Dec. 31, 1919; ch.: Mrs. William R. Griffith, James W., Jr., Bernice R., Kathryn L. War Dept., Aug., 1917-Jan., 1918; E.C. Klipstein & Sons Co., Jan., 1918-May, 1918; Ord. Dept., U.S.A., May, 1938-Mar., 1919; E.C. Klipstein Sons Co., Carteret, N.J., res. mgr. 1919-25; E.C. Klipstein & Sons Co., Charleston, W. Va., prod. supt. 1925-34; Am. Cyanamid Co., Calco Chem. Div., Bound Brook, N.J., Dept. supt. 1934-40; div. mgr., 1940-46; Willow Island, W. Va., plant thru construction, prod. mgr., asst. mgr., 1946-49; mgr., 1949 to date; mem.: A.I.Ch.E. Clubs: St. Marys Golf; F&AM.; Parkersburg Country. Hobbies: hunting, golf.

DYNE, Godfrey W., v.p., American-British Chemical Supplies, Inc., 180 Madison Ave., New York 16, N.Y.; res. 191 S. Highwood Ave., Glen Rock, N.J.
Exec., chem., sales mgr.; b. London, England, July 8, 1888; s. of Godfrey H. M. and Emma Susan Dyne; ed. St. Dunstan's Coll., Catford, London, Eng.; London U. (Univ. Coll.), B.Sc. (hon. chem.); m. Ida M., Aug. 30, 1921; ch.: G. Donald, Douglas M. 1912, res. Pellolit Ltd., London and Birmingham; 1913-14 gen. mgr. U.S. Foil Co., Yonkers, N.Y.; 1914-28 chem., dept. mgr., T.M. Duché & Sons, N.Y.; 1928 to date, dept. mgr., v.p., Amer.-British Chem. Supplies Inc., N.Y. Club: Chemists' (N.Y.). Hobbies: photography, gardening, tennis.

E

EAGAN, Henry William, pl. supt., Hercules Powder Co., (Canada) Ltd., Freeman, Ont.; res. 54 Guelph Line, Burlington, Ont.
Chem. engr.; b. Feb. 18, 1913, Boston, Mass.; s. of William H. and Agnes C. (Tracey) Eagan; ed. B.S., M.I.T., 1934; m. Miriam H. Gentel, June 15, 1940; ch.: Richard H., Patricia A., Suzanne, and Peter M. Trainee, Calco Chemical Co., Inc., Bound Brook, N.J., 1934-36; salesman, same co., Phila., Pa., 1936-39; salesman, Hercules Powder Co., Inc., Wilmington, Del., 1939-40; shift supervisor, 1940-41, and dept. supervisor, Hercules, Belvidere, N.J., 1942-44; prod. supervisor, Hercules, Radford, Va., 1944-45; pl. engr., Hercules, Savannah, Ga., 1945-49; pl. supt., Hercules (Canada), Freeman, Ont., 1949 to present. Clubs: Roseland Park Country, Burlington Golf and Country. Hobbies: gardening, golf, bridge.

EAGLE, Sam, sr. res. engr., chems., Calif. Research Corp., 200 Bush St., San Francisco, Calif.; res. 640 Wallea Drive, Menlo Pk., Calif.
Petr. res.; b. St. Anthony, Idaho, July 11, 1912; s. of S.P. and Ida C. Eagle; ed., B.S. Ch.E., 1934, Montana St. Coll., Bozeman; M.S. Chem., 1935; D.Sc., 1938, Carnegie Inst. of Tech.; mem.: Sigma Xi, Pi Kappa Delta, Tau Beta Pi, Phi Kappa Phi, Phi Eta Sigma, Sigma Alpha Epsilon; m. Jean Stahl, Jan. 11, 1941; ch.: Carl W., Anna C., Delia J., Julie K., Eva E. 1934-38, Teaching fellow, instr., Carnegie Inst. of Tech.; 1938-40, res. chem., Stand. Oil Co. of Calif., Richmond; 1941-45, asst. foreman, By-Prod. Plant, Cracking Div., Std. Oil Co. of Calif. (refinery); 1946-May, 1949, proj. ldr., process res. and dev., Calif. Res. Corp., Richmond; June, 1949 to date, sr. res. engr., chem. Kinetics of reactions in solution; doctorate thesis, alkylation, refining by adsorption. Mem.: A.C.S. (Petr. div.); A.I.Ch.E. (act. mem.); Registered chem. engr. (St. of Calif.).

EAGLES, Reginald Harrison, v.p., J.M. Huber Corp., 100 Park Ave., N.Y.C.
Exec.; b. Madison, N.J., June 9, 1895; s. of Alexander and Mary E. (Harrison) Eagles; ed. A.B., Cornell, 1915; m. Edna D. Handy, Oct. 6, 1919; ch.: Joan, Harrison, Alexander, Cynthia. Metall. chem., Phelps Dodge Corp., Douglas, Ariz., 1915-16; N.J. Zinc Co., Palmerton, Pa., 1916-17; 2nd Lt., C.W.S., U.S.A., 1918; sales engr., The Dorr Co. Inc., N.Y.C., 1919-22; v.p. & sales mgr., J.M. Huber Corp., carbon black, clay, ink, N.Y.C., since 1923; dir. Carbon Black Export, Inc., N.Y.C. Mem., advis. comm. carbon black indus., W.P.B., since 1942; v.p., China Clay Producers Assn. (N.Y.C.). Mem.: N.Y. Rubber Grp., A.C.S. Episcopalian. Clubs: Engineers, Union League (N.Y.), Hudson River Country, Ardsley Country.

EARHART, Kenneth A., hd., resin div., Research & Development Labs., U.S. Indus. Chems., 3441 Fairfield Rd., P.O. Box 1956, Baltimore 3, Md.; res. 715 Charing Cross Rd., Baltimore 29, Md.
Chem.; b. Avonmore, Pa., Dec. 15, 1907; s. of George G. and Augusta A. Earhart; ed. B.S., Ch.E., Lehigh U., 1930, M.S. Chem. 1932, Polytech. Inst. of Bklyn., 1944-47, no degrees; mem.: Tau Beta Pi; m. Rose M. Durnin, Nov. 25, 1931; ch.: Barry George. Res. on alkyd resins, Jones-Dabney, Louisville, Ky., 1930-31; res. on alkyd resins, Devoe-Raynolds, Louisville, Ky., 1932-39; hd. resin res. U.S. Ind. Chem., Baltimore, Md., 1939 to present. U.S. Patents 2,308,498, 2,496,-340; considered an authority on alkyd resins. Mem.: A.S.T.M., A.C.S., A.I.C., A.O.C.S., Paint & Varnish Production Club. Club: Catonsville Kennel. Hobbies: golf, gardening.

EARLE, Roland D., pres., Union Bay State Chemical Co., Inc., 50 Harvard St., Cambridge, Mass.; res. 16 Cedar Lane, Cohasset.
Chem. mfg.; b. June 2, 1904; s. of Raymond B. and Mary S. Earle; ed. B.S., M.I.T., 1929; mem.: Scabbard & Blade; m. Helen F. Millar, Aug. 17, 1929; ch.: Richard M. Chf. chem., C.L. Hathaway & Sons, 1929-32; v.p. Angier & Earle, Inc. 1932-38; pres. Union Bay State Chemical Co., Inc., 1938 to date. Mem.: A.C.S.; dir. Paul Pratt Memorial Library; dir. Community Center of Cohasset, Inc. Clubs: University, Cohasset Golf.

EASH, Ralph D., v.p., tech. dir., Holland Color & Chem. Co., Holland, Mich.; res. 458 Lakewood Blvd., Holland.

Chem.; b. Bunkerhill, Ind., Feb. 22, 1898; s. of Charles and Martha Eash; ed. Albion Coll., Albion, Mich., A.B. 1922; Northwestern U. & Columbia U. (no add. deg.); mem.: Delta Sigma Phi; m. Ruth V. Bellamy, 1923; ch.: Doris J., R. Douglas, David T. 1923-35, E.I. du Pont de Nemours & Co., chem., sales service; 1935 to date, Holland Color & Chem. Co., from chem. to v.p., tech. dir.

EASTBURN, William H., distr. sales mgr., Mathieson Chem. Corp., 613 Hosp. Trust Bldg., Providence 3, R.I.; res. 96 Ocean Ave., Edgewood 5, R.I.

Chem. sales; b. Phila., Pa., Apr. 5, 1906; s. of Mortimer N. and Mabel E. Parker Eastburn; ed. Wash. & Jefferson Coll., Wash., Pa., A.B. 1930; mem.: Phi Kappa Psi; m. Nancy B. White, Sept. 9, 1931; ch.: William H., III, Gail, Linda. 1932-46, sales rep., Mathieson Alkali Wks., Phila., Pa.; 1946 to date distr. sales mgr., Mathieson Alkali Wks., Mathieson Chem. Corp. Mem.: Chem. (New Eng.), A.A.T.C.C., N.E. Water Wks. Assn., N.E. Sewage Wks. Assn. Club: R.I. Yacht. Hobbies: golf, tennis.

EASTERWOOD, Henry W., hd. patent dept., Victor Chem. Wks., Chicago Heights, Ill.; res. 1225 Schilling Ave., Chicago Heights.

Chem. engr. (charge of pat. dept.); b. Hearne, Texas, Jan. 2, 1896; s. of W.W.P. and Callie (Wilcox) Easterwood; ed. U. of Virginia, Ch.E.; mem.: Alpha Chi Sigma, Raven Society; m. Nettie H. Chauncey, Sept. 28, 1921; ch.: Henry W., Jr., Mary V. Analyst, F.S. Royster Guano Co.; res. analyst, E.I. du Pont de Nemours; jr. chem. engr., U.S. Dept. of Agric.; chem. engr., Victor Chem. Works. Blast furnace production of phophorus and phosphoric acid. Co-author: "Phosphoric Acid Phosphates and Phosphatic Fertilizers" (1927). Mem.: A.C.S., A.I.Ch.E.; Chicago Heights Country Club, Rotary, Masonic. Hobby: golf.

EASTMAN, Harvey Selden, res. staff engr., American Potash & Chemical Corp., Trona, Calif.; res. P.O. Box 395, Trona.

Chem. engr.; b. Havana, Cuba, May 21, 1907; s. of Frank R. and Stella E. (Calhoon) Eastman; ed. Pasadena Jr. Coll., 2 yrs., Calif. Inst. of Tech., B.S. chem. engr.; m. Mary Elizabeth Wagner, Oct. 6, 1945; ch.: Harvey Selden, II. With American Potash & Chemical Corp., since 1930; 1930 to 1940, prod. dept.; 1940-41, res. dept.; 1941-42, prod. dept.; 1942-44, res. dept.; 1944-46, manager's office; 1946 to date, res. dept. Mem.: A.I.Ch.E., A.C.S.; Chmn. bd., Trona Community Church. Club: Searles Lake Gem & Mineral Soc.

EASTMAN, Irene Margaret Howard, asst. prof., chem. dept. U. Wyoming, Laramie, Wyoming; res. Bathgate, N.D.

Chem. prof.; d. of Howard and Margaret (Stanley) Eastman; B.A., U. North Dakota; M.S., U. of Chic.; Ph.D., Columbia U.; mem.: Kappa Mu Sigma. Asst. prof. Elmira Coll., Elmira, N.Y.; asst. in biochem., Coll. of Phys. & Surgs., Columbia U., N.Y.; prof. (sub) and hd. of dept. Keuhu Coll., N.Y.; staff Brainerd Coll., Minn.; instr. sch. chem. tech., Agri. Coll., Fargo, N.D.; lecturer, U. So. Calif., Los Angeles; prof. and head of dept. Buena Vista Coll., Storm Lake, Iowa; staff Phoenix Coll., Phoenix, Arizona; asst. prof. U. Wyoming, Laramie. Partial red. of 2-nitro fuorene, pH of rats intestinal contents under rachitic regimes by glass electrode. Res. in progress; inves. of Gottlieb treatment for dental caries; minerals in soil as related to food anal. Mem.: Sigma Xi, A.C.S., A.A.A.S., Academy of Science. Club: International Relations. Hobbies: flying, farming.

EASTMAN, Whitney Haskins, v.p. General Mills, Inc., Gen. Mills Bldg., Minneapolis 1, Minn.; res. 2240 West Lake of the Isles Blvd., Minneapolis 5.

Business exec.; b. Fort Ann, N.Y., Apr. 24, 1888; s. of Elmer and Lydia Elsie (Gilmore); ed. B.S., Dartmouth, 1910, C.E., 1911; m. Anna Marie Nagel, Sept. 28, 1912; ch.: Betty Ann (Mrs. Morrow Peyton), Marie Barbara (Mrs. John Hicks). Res. engr. Midland Linseed Products Co., Edgewater, N.J., 1911-12, asst. supt., 1912-17, mgr. Chicago plant 1917-19; gen. mgr. William O. Goodrich Co., Milwaukee, 1919, v.p., dir., 1919-28, pres. 1928-42; dir. Archer-Daniels-Midland Co., Minneapolis, 1933-42, v.p., 1938-42, mem. exec. comm., 1942; res. exec. Gen. Mills, Inc., 1942, pres. chem. div. since 1943, v.p. since 1946. Served as chmn. Ind. Rehabilitation Comm. for Wis., 1932; mem. Soybean processors industry adv. comm., W.P.B., 1942. Trustee Milwaukee U. Schl. Found. since 1946 (past pres.); mem. bd. trustees Shattuck Schl., Faribault, Minn. Mem. Milwaukee County Council, Boy Scouts Am. (past pres.); Minneapolis area Council (dir. since 1940, past pres.); Region No. 10 (exec. comm. mem. since 1945); awarded Silver Beaver, 1948, Silver Antelope, 1950; organized Foundn. for Boy Scouts Minneapolis area (pres. bd trustees since 1949). Mem.: Natural History Soc. of Minneapolis (dir., v.p.), Thayer Soc. C. Engrs., Dartmouth Alumni Assn.; Izaak Walton League. Nat. Soybean Processors Assn., Milwaukee Assn. Commerce (past pres.), Alpha Phi Omega, Sigma Phi Epsilon (past nat. pres.). Lutheran. Mason. Clubs: Minikahda, Minneapolis, Rotary (hon); Milwaukee (past pres.). Author code of ethics Nat. Paint, Varnish and Lacquer Assn. Amateur ornithologist.

EATON, Berrien, pres. and treas., Eaton Chem. & Dyestuff Co., 1490 Franklin St., Detroit, Mich.; res. 1018 Bishop Rd., Grosse Pointe.

Merchant; b. Detroit, Mich., Aug. 3, 1893; s. of Theodore Horatio and Eliza W. Clark Eaton; ed. St. George's School, Newport, R.I.; Lawrenceville School, Lawrenceville, N.J.; Williams Coll., (1915) Williamstown, Mass.; mem.: Kappa Alpha; m. Gladys Hambleton, Aug. 15, 1917; ch.: Berrien, Jr. With Eaton Chem. & Dyestuff Co. Mich. corp. with branch plants Windsor and Toronto (Ont.), since Mar. 1, 1915; salesman, 1915-20; purchasing agent, 1921; pres., since 1920; treas. since 1939. Eaton Investment Co., (pres., treas., dir.); trustee Estate of Theo. H. Eaton, Detroit. W.W.I., 1917-19, 1st lt. Infantry. W. W.II 1942-45, lt. col., C.W.S. Mem.: Newcomen Soc. of England; O.S.E. (Hon. officer, Most Excellent Order of the British Empire); Commendation Medal (Army). Dir., Detroit Festival of the Great Lakes, Inc.; vestryman, St. Paul's Cathedral, Detroit, 1921-48, former trustee, Detroit Episcopal City Mission. Clubs: Detroit, Country Club, University (Detroit), University (Toronto), Williams Club (N.Y.), Royal Canadian Military Inst. (Toronto), Armed Forces Chem. Assoc. (Wash., D.C.), Detroit Bd. of Commerce. Canadian Manufacturers Assoc. (Toronto), Historical Soc. (Detroit), Essex Scottish Officers' Mess. (Windsor, Ont.) hon. mem.. Hobbies: boating, fishing, polo (1915-29), collecting commemorative medals and medallions.

EATON, Frederik S(elden), dir. of res., Res. & Design Inst. Inc., 151 Court St., New Haven, Conn.; res. Old Forest Rd., Northford. Conn.

Res. granite ind.; b. Branford, Conn., July 15, 1900; s. of George F. and Julia H. (Hammer) Eaton; ed. Yale, Ph.B., 1923; m. Mary Martindale Bean, 1939; ch.: Jonathan, Peter, Richard. U.S. Dept. Agric. 1929-30, forest pathology; tchg. botany, pharmacognosy, Cornell, Conn. U. of Pharmacy, 1924-29; arboriculturist, City of New Haven, 1930-40; war wk., U.S.N. 1940-43; Res. &

Design Inst., 1943 to date, res. in by-prods. of granite ind., mainly agricultural, soils, agronomy, etc. Dev. application of granite dust as soil amender; use in tobacco culture; base exchange provides exchangeable potash from insoluble potassium silicates; restores aroma to tobacco grown on old flds. Mem.: A.S.T.M. (comm. chmn., secy., C-18 on Natl. Bldg. Stones). Trustee, Northford Congregational Church. Club: Yorick (Lowell, Mass.). Hobbies: philately, photography, railroadiana.

EATON, James Tucker, dir. of res., E. F. Houghton, 303 W. Lehigh Ave., Phila. 33, Pa.; res. 204 W. Monument Ave., Hatboro, Pa.
Chem.; b. Bonne Terre, Mo., Feb. 24, 1907; s. of James A. and Nannie (Tucker) Eaton; ed. A.B., Central Coll., Fayette, Mo., 1928; A.M., U. of Ill., Urbana, 1931; Ph.D., 1934; mem.: Alpha Chi Sigma, Theta Chi Delta; m. Margaret Alexander, Dec. 24, 1933; ch.: Shirley, Patty, Barbara. Instr. chem., Central Coll., 1928-29; asst. instr. U. of Ill., 1929-33; instr. in chem. Wittenberg Coll., Springfield, O., summer of 1932; res. chem., Natl. Aniline and Chem., 1934-37; res. chem., E. F. Houghton, Phila., Pa., 1938-39; supervisor, same co. 1940-45; mgr. of res., same, 1946-49; dir., same, 1950 to present. Studies of the Friedel-crafts reaction; surface active chems., including extens. investigations of alkyl aryl sulfonates. (U.S. Pats. 2,325,485; 2,352,698; 2,484,146). Mem.: A.C.S., A.A.A.S., Sigma Xi, Phi Lambda Upsilon, Amer. Leather Chems. Assn., Red Cross Drive 1950 (dir.), Hatboro-Horsham Joint Authority, Mary Bailey Res. Found. for Cardio-Vascular Res. Clubs: Presbyterian Social Union of Phila. (pres. 1947-49), E. Montgomery County Federation of Mens' Bible Classes (pres. 1949-51). Hobbies: gardening, church work.

EATON, Robert Smith, chmn. bd., The Norwich Pharmacal Co., 17 Eaton Ave., Norwich, N.Y.; res. 78 South Broad St., Norwich.
Exec.; b. Norwich, N.Y., June 10, 1883; s. of Robert D. and Maria E. (Smith) Eaton; ed. Norwich H.S., U. of Pa. 1902-06; m. Christina C. Murray, Mar. 27, 1941; ch. (by a former marriage): Constance C., Elizabeth M. Started as accountant, July 1, 1906, The Norwich Pharmacal Co.; appointed asst. secy. July 13, 1909; asst. treas. July 13, 1910; treas., Sept. 21, 1910; gen. mgr. Jan. 19, 1921; elected pres. and gen. mgr., Jan. 20, 1937; chmn. bd., July 1, 1938 to present. Natl. Bank & Trust Co. of Norwich (dir. & chmn. of the bd.), W. H. Dunne Co. (dir.), Benedict Corp. (dir.), Utica Mutual Ins. Co. (dir.), Allied Fire Ins. Co. (dir.), Norwich Hotel Corp. (dir.), Chenango & Unadilla Telephone Corp. (dir.), The Preferred Mutual Fire Ins. Co. (dir.), Dunco Realty & Equipment Corp. (dir.). Dir., Norwich Cemetery Asso.; trustee, Y.M.C.A.; mem.: Chenango County Chapter of Citizens' Hist. Asso.; local draft bd. No. 444 (adv. comm.). Clubs: Norwich; Norwich Chapter 302, F. & A.M.; Royal Lodge Masons; Harmony Chapter 151, B.P.O.E.; Rotary.

EATON, Samuel Edward Jr., chem., Arthur D. Little, Inc., 30 Memorial Dr., Cambridge, Mass.; res. 51 Bertwell Rd., Lexington.
Consltg. chem. res.; b. Nyack, N.Y., Jan. 20, 1915; s. of Samuel Edward and Olive (Eddy) Eaton; ed. Davidson Coll.; Wesleyan U., B.A. 1937; M.I.T.; mem.: Alpha Delta Phi; m. Dorothy Verna Gittins, July 5, 1941; ch.: Deborah Chace, Meredith Bowman, Timothy Edward. Chem., Arthur D. Little, Inc., July 1937 to date. Dev. & patd. process electropolishing metals; conducted publ. res. ind. applications radioactive tracers. Mem.: A.C.S., Opt. S.A., Electrochem. Soc. Award: Army-Navy Cert. of Appreciation. Clubs: social, religious & singing clubs. Hobbies: skiing, sailing, tennis, gardening.

EATOUGH, Harry, res. chem., du Pont Experimental Sta., Wilmington 98, Del.; res. R.F.D. No. 1, Marshallton, Delaware.
Res. chem.; b. Fall River, Mass., Sept. 10, 1906; s. of Richard and Hannah (Rimmer) Eatough; ed. Brown U., B.S., 1926; M.S., 1927; Ph.D., 1929; final highest honors in chem. (1926); mem.: Sigma Xi; m. Priscilla Garland Greene, Apr. 12, 1930; ch.: Richard Henry, Sally Anne. 1929 to date with du Pont Co., chem. dept., exp. sta.. Res. chemotherapy of cancer. Mem.: A.C.S., A.A.A.S. Hobbies: singing, reading, gardening.

EBERHARDT, John Ernst, res. engr., Bethlehem Steel Co., Bethlehem, Pa.; res. 1240 Raymond Ave., Bethlehem.
Chem. engr.; b. Ames, Iowa, Dec. 5, 1911; s. of Edward A. and Almeda M. (Dufendach) Eberhardt; ed. Ch.E., U. of Cincinnati in 1933; Sc. D., M.I.T., 1936; m. Adda C. Foering, May 24, 1940; ch.: Linda F., John E., Jr. Inst. in chem. engrg., M.I.T. 1935-36; dir. Buffalo Station Schl. of Chem. Engrg. Practice, M.I.T., 1936-38; asst. prof., 1937-38; res. engr., Bethlehem Steel Co., 1938 to present. Mem.: Amer. Iron & Steel Inst., A.C.S., A.I.Ch.E., A.I.M.M.E., Sigma Xi, Alpha Chi Sigma, Tau Beta Pi. Clubs: Bethlehem, Saucon Valley Country. Hobbies: golf, music.

EBERL, James J., dir. chem. res., Scott Paper Co., Chester, Pa.; res. Rose Valley, Pa.
Chem.; b. Dunkirk, N.Y., Oct. 7, 1916; s. of George M. and Florence E. Eberl; ed. 1938, B. S. (cum laude), U. of Buffalo; 1941, Ph.D., U. of Buffalo; m. Margaret E. Schill, June 3, 1944. 1941-42, instr. chem., U. Delaware; 1942-43, group leader chg. res. and dev., Paper Makers Chem. Div., Hercules Powder Co.; 1943-48, dir. special prod. dev., Johnson & Johnson; 1948 to date, dir. chem. res., Scott Paper Co. Magnetic susceptibility, hydrocarbon cracking, process & treat. of soybean protein, process for prod. high strength plaster of Paris, process for prod. orthopedic bandages & other surgical & medical dev., paper coating, wet strength paper, pulp bleaching, wax paper, syn. fibers. 5 publ. & 12 pats. Mem.: A.C.S., A.I.C., Sigma Xi, T.A.P.P.I. Hobbies: gardening, sports.

ECKELMANN, Luis Enrique, mgr., metal finish. div., Pyrene Mfg. Co., 10 Empire St., Newark, N.J.; res. 145 Hicks St., Bklyn., N.Y.
Chem. engr., exec.; b. Ponce, Puerto Rico, May 17, 1893; s. of Luis Bernardo and Herminia Fournier (Del Toro) Eckelmann; ed. Bklyn. Poly. Inst., B.S. 1916; mem.: Phi Kappa Phi. Conslt. Otis Elevator Co., to date; Pyrene Co. Ltd., London, England, to date; 1920-47 Parker Rust Proof Co., Detroit, Mich.; 1935-39 Schlotter Process Corp., N.Y.; dir. Udylite Corp., Detroit, 1938-47. Res. dev. phosphate processes for rust proofing, bright nickel plating process, electrolytic tin strip plating. Mem.: Amer. Electroplaters Soc., Amer. Electrochem. Soc., A.I.Ch.E. Club: New York Athletic. Hobbies: travelling, painting.

ECKERD, James Wilson, sr. engr., Anthracite Inst., Wilkes-Barre, Pa.; res. 30 Evergreen St., Shavertown.
Chem., fuel tech.; b. New Bloomfield, Pa., Jan. 14, 1916; s. of G. W., Jr., and Gertrude M. Eckerd; ed. Gettysburg Coll., B.A. (chem.) 1938; Pa. State Coll., M.S. (fuel tech.) 1945, fuels eng. prof. 1950; mem.: Tau Kappa Epsilon; m. Rilla Sheaffer, July 19, 1939; ch.: James W., II, Richard E. Sept. 1939-Sept. 1941, Pa. Dept. of Highways Testing Lab., jr. chem.; Sept. 1941-Sept. 1946, Pa. State Coll., res. asst.; Sept. 1946 to date, Anthracite Inst., sr. engr. Res. on chem. of oxidation of bituminous coal; res. on gasification & combustion of Anthracite coal. Mem.: A.C.S., A.I.M.E., A.G.A., Phi Lambda Upsilon, Sigma Xi. Clubs: F. & A.M., I.O.O.F., Rotary Internatl. Hobbies: fishing, hunting, golf.

ECKERT, Samuel Baltz, exec. v.p., Sun Oil Co., 1608 Walnut St., Phila. 3, Pa.; res. Haverford.
Exec.; b. Phila., Dec. 24, 1884; s. of Samuel and Josephine (Baltz) Eckert; ed. Cornell U. 1908; mem.: Tau Psi Upsilon; m. Agnes Musser, 1914, (d. 1916); m. Mildred Longstreth, 1939; ch.: (by first m.); Josephine S. Chf. engr. Marcus Hook Refinery, 1909-12, gen. sales mgr. 1912-27, v.p. 1927-50, exec.v.p., 1950 to present, all Sun Oil Co.; Sun Shipbuilding & Dry Dock Co. (dir.). Mem.: major, U.S.A., W.W.I, (commanding 17th Aero Squad. attached to B.E.F. 1917-18). Clubs: Racquet, Corinthian Yacht, Gulph Mills Golf, Merion Cricket.

EDDY, Harrison P(rescott), Jr., partner, Metcalf & Eddy, 20 Providence St., Boston, Mass.
Consltg. engr.; b. Worcester, Mass., Feb. 17, 1895; ed. M.I.T., B.S. San. Engrg., 1917; mem.: Phi Gamma Delta. U. S. Naval Res. Force, Asst. Naval Constr., 1917-19; Metcalf & Eddy, asst. engr. 1919-26, partner 1926 to date. Author sec. on refuse collection & disposal, "Am. Civil Eng. Handbook," (1930). Mem.: Am. Public Wks. Assn., A.S.C.E. (Northeastern Sec. past pres.), A.S.M.E., A.W.W.A., Boston Soc. C.E. (past pres.), N. E. Water Works Assn., Calif. Sew. Wks. Assn.

EDISON, Charles, chmn. bd. dirs., Thomas A. Edison, Inc., West Orange, N.J.; res. Llewellyn Park, West Orange.
Exec.; b. West Orange. N.J., Aug. 3, 1890; s. of Thomas Alva and Mina (Miller) Edison; ed. Carteret Acad., (Orange, N.J.); Hotchkiss Schl., (Lakeville, Conn.), and M.I.T., (Cambridge, Mass.), 1909-13; mem.: Delta Psi; m. Carolyn Hawkins, Mar. 27, 1918. 1926, pres. and now chmn. bd. dirs., Thomas A. Edison, Inc. (prods. in chem. fld. include batteries and med. gases); Thomas A. Edison of Canada, Ltd. (pres., dir.); Pohatcong RR. Co. (pres., dir.); Thomas A. Edison, Ltd. (London, dir.); Edison Wood Prods. Inc. (pres., dir.); I.T. & T. Corp. (dir.); Sutphen Prods. Corp. (dir.). 1933 mem. N.J. State Recovery Bd. and Reg. Labor Bd. under N.R.A.; 1934 compliance dir. N.R.A. and state dir. N.J. Div., N.E.C.; Apr.-July 1, 1935, mem. N. I.R.B. (Wash., D.C.); 1936, Asst. Secy. of Navy; 1939, Secy. of Navy; Nov. 5, 1940, Gov. of N.J., serving Jan. 21, 1941-Jan. 17, 1944. Mem.: Natl. Municipal League (N.Y.C., pres.); United Service to China (N.Y.C., natl. chmn., hon. dir.); Thomas Alva Edison Foundation, Inc. (W. Orange, hon. pres., trustee); Citizens Comm. for Reorg. of the Executive Branch of the Govt. (N.Y.C., dir.); Junior Achievement Inc. (N.Y. C., dir.); Hotchkiss Schl. (Lakeville, Conn., trustee); Stevens Inst. of Tech. (Hoboken, N.J., trustee); Newark Museum (trustee); hon. degrees of LL.D., Eng. D., and D. Comm. Sc.; S.A.R. (N.J.); New Eng. Soc. of Orange; N.J. Welfare Council; Alumni Assoc., M.I.T.; Natl. Geog. Soc.; The Newcomen Soc.; N.J. Hist. Soc.; Natl. Probation Assoc.; John Ericsson Soc.; Natl. Recreation Assoc.; Pacific Coast Assoc. of Magicians; W. Orange Community Lg.; Phi Beta Kappa (hon., Alpha, N.J.); State Soc. of The Battleship N.J. (hon. pres.); Geo. Washington Carver Foundation (Tuskegee Inst., Ala., charter); N.J. Audubon Soc. (life); Natl. Comm. of Sponsors of Save-the-Redwoods Lg.; Navy Lg. of the U.S.; N.J. Comm. for Adequate Welfare and Educatl. Bldgs.; Acad. Polit. Sc. (N.Y. C.); Amer. Foundation for the Blind (N.Y.C.); Regional Plan Assoc., Inc. (N.Y.C.); Natl. Council for Hist. Sites and Bldgs. (Wash., D.C.); Natl. P.T. Vets Assoc. (Mass.; hon.); Naval Order of U.S. (N.Y.C., life); Met. Museum of Art (N.Y.C., life). Clubs: Essex (Newark); Essex County Country; Rock Spring; 1925 F St. (Wash., D.C.); St. Anthony (Boston, Mass.); Orange-W. Orange Kiwanis (hon.). Hobbies: deep-sea-fishing, improvising musical scores.

EDLUND, Karl Richard, assoc. dir. res., Shell Develop. Co., Emeryville, Calif.; res. 160 Southampton Ave., Berkeley 7, Calif.
Chem.; b. Fresno, Calif., Aug. 29, 1898; s. of Andrew G. and Hilma M. Edlund; ed. U. of Calif., A.B., 1919; M.S., 1920; Ph.D., 1922; m. Helen m. Harjes, 1920; ch.: Penelope Ann. Prof. of chem., Humboldt State Coll., Calif., 1922-23; prof. of chem., Albany, (Ore.) Coll., 1923-24; res. chem., Assoc. Oil Co., Calif., 1924-27; res. chem., Shell Oil Co., 1927-28; res. chem., Shell Dev. Co., 1928-33, asst. to dir. of res. 1933-37; dir. of res., Shell Oil Co., Wood River, Ill., 1937-43; assoc. dir. of res., Shell Dev. Co., Emeryville, Calif., 1943 to date. Mem.: A.C.S., A.A.A.S., Sigma Xi. Hobby: gardening.

EDMISTER, Floyd Harris, prof. of chem., U. of N.C., 121 Venable Hall; res. University Lake, Chapel Hill, N.C.
Teaching & adviser in Gen. Coll.; b. Canaseraga, N.Y., Oct. 30, 1881; s. of Winchell and Cornelia (Harris) Edmister; ed. Syracuse U., B.S. 1912, Ph.D. 1918; La. State U., M.S. 1913; mem.: Alpha Chi Sigma, Sigma Xi; m. Lida Payne Cleveland, June 27, 1916. Instr. in chem., Clemson Coll., 1913-14; prof. of sc., U. of Puerto Rico, 1918-23; U. of N.C., asst. prof. of chem. 1923-25, asoc. prof. of chem. 1925-47, prof. of chem. 1947 to date, adviser in Gen. Coll. 1939 to date.

EDMONDS, William John, asst. to comptroller, Standard Oil Co. (N.J.), 30 Rockefeller Plaza, N.Y. 20, N.Y.; res. 51 Woods Lane, Scarsdale, N.Y.
Financial exec.; b. Jan. 9, 1899; s. of Eben T. and Evalyn (White) Edmonds; ed. A.B., Transylvania Coll., 1919; M.S. (chem. eng. practice), M.I.T., 1922; M.B.H., Harvard Bus. Schl., 1934; mem.: Kappa Alpha; m. Mary Alice Talley, Oct. 9, 1928; ch.: John Talley, Nancy Ann. Eastman Kodak Co., ind. chem., 1922-24; Com. Solvents Corp., chem. engr., 1924-29; Humble Oil & Refining Co., dir. dev. div., 1929-32; Stand. Oil Co. (N.J.), refining coord. 1933-40; economics dept., asst. mgr. 1940-45; comptroller's dept. financial economist, 1945-48; comptroller's dept. asst. to comptroller 1948 to date. 30 pats. Mem.: A.I. Ch.E., Am. Management Assn.; Scarsdale Congregational Church (chmn. bd.); Town Club (Scarsdale, bd. govs.). Clubs: Scarsdale Golf, Harvard (N.Y.), For. Meadow Tennis. Hobbies: golf, photography.

EDSALL, John Tileston, assoc. prof. biological chem., Harvard U., U. Lab. of Physical Chem., 25 Shattuck St., Boston 15, Mass.; res. 46 Church St., Dedham.
Tchg. & res. in biophysical chem.; b. Phila., Pa., Nov. 3, 1902; s. of David Linn and Margaret H. Tileston Edsall; ed. Harvard, A.B., 1923, M.D., 1928 (both degrees, cum laude); Cambridge U., 1924-26; m. Margaret Dunham, May 1, 1929; ch.: James Lawrence Dunham, David Tileston, Nicholas Cranford. Tutor biochem. scs., Harvard, 1928; instr., 1928-32; asst. prof. biochem., 1932-38; assoc. prof., 1938 to date. Chmn., Bd. of Tutors in Biochem. Scs., 1931; Fellow, John Simon Guggenheim Memorial Foundation, at Calif. Inst. of Tech., 1940-41. Res. on physical chem. of amino acids, peptides and proteins; double refraction of flow; prepartion of Myosin from muscle and studies of its relation to muscle structure; Raman spectra, protein components involved in blood clotting; light scattering in protein solutions. Coauthor: "Proteins, Amino Acids and Peptides," (1943 with Edwin J. Cohn); editor (with M.L. Anson) "Advances in Protein Chem." Mem.: A. C.S. (secy. of div. of Biol. Chem., 1946-48, chmn.,

1948-49; member of edit. bd. J.A.C.S., 1948 to date); A.A.A.S., Am. Soc. Biol. Chem., Biochem. Soc. of Gr. Britain, N.Y. Acad. of Scs. (Fellow), Am. Crystallographic Assoc., A.A.A.S., Sigma Xi, Mem. of U.S. Natl. Comm. for UNESCO., 1950 (representing A.A.A.S.). Clubs: Harvard (Boston), Faculty of Harvard U. Hobbies: photography, walking.

EDWARDS, Carleton B., gen mgr., Reilly Tar & Chem. Corp., 1615 Merchants Bank Bldg., Indianapolis 4, Ind.; res. 6457 N. Illinois St., Indianapolis.
Chem.; b. Hamilton, Wash., Sept. 22, 1892; s. of Josiah P. and Ella B. Edwards; ed. B.S., Earlham Coll., 1915; M.A., 1917; m. Olive F. Modlin, Oct. 1, 1919; ch.: Richard M., Lois Edwards Guinnup. Hd. of chem. dept., Guilford Coll., 1916-18; chem. res., du Pont Co., 1918-21; res. chem., dir. of res., prod. mgr., gen. mgr., Reilly Tar & Chem. Corp., 1921 to date. Mem.: A.C.S. Earlham Foundation, (secy. bd. dir.); Town of Meridian Hills, Ind. (pres., bd. trusts.); Clubs: Columbia, Meridian Hills Country. Hobbies: golf, fishing.

EDWARDS, John C., lab. supvr., E. I. du Pont de Nemours & Co., Camden, S.C.; res. 508 Laurens St., Camden.
Chem.; b. Petersburg, Va., Nov. 10, 1913; s. of B. F. and Mary E. Edwards; ed. U. Richmond, Va., B. Sci. (chem.), 1936; mem.: The Chemistry Club, Sigma Phi Epsilon; m. Ruth Stephenson, June 8, 1940; ch.: John Lee, Alice E., David F., Stephen A.; 1936-41, The Solvay Proc. Co., Hopewell, Va., asst. chem.; 1941-47, U.S. Govt., Navy Dept., Portsmouth, Va., assoc. chem.; 1947-50, E. I. du Pont de Nemours & Co. Waynesboro, Va., res. chem.; 1950 to date, same co., at Camden, S.C., lab. supvr. Co-analyst on sev. Natl. Bur. of Stds. standard steel samples; anal. res. on dev. of meths. and techs. for proc. control of "Orlon" acrylic fiber. Author of sev. tech. papers pub. in sci. jls. on methods for metals anal. Mem.: A.C.S. Hobbies: fishing, chess.

EDWARDS, Junius David, asst. dir. res., Aluminum Co. of Amer., Aluminum Res. Labs., Box 772, New Kensington, Pa.; res. 536 Sixth St., Oakmont.
Res. chem.; b. Minneapolis, Minn., Mar. 17, 1890; s. of Edward Junius and Mary (Jordan) Edwards; ed. U. Minn., B.S., 1912; Ch.E. 1913; mem.: Sigma Xi, Alpha Chi Sigma; m. Jean Farrington Gray (dec.); ch.: David Gray. 1913-14 lab. asst. Natl. Bur. of Stds.; asst. chem. 1914-17, assoc. chem. 1917-19, same bur.; 1919-21 chf. phys. chem. div., 1921 to date asst. dir. res. Aluminum Res. Lab., Aluminum Co. of Amer.; res. an balloon fabrics, phys. chem. of gases at Bur. of Stds.; chem. and metal. of aluminum and its alloys, Aluminum Co. of Amer. Author: "Aluminum Paint and Powder," (1st ed. 1927; 2nd ed. 1936); co-author: "The Aluminum Industry" (with Frary and Jeffries, 1930); "Laboratory Glass Blowing" (with Frary and Taylor, 1926). Mem.: A.C.S. (award of Pittsburgh Sect. 1943), E.S., A.I.Ch.E., A.S.H.V.E., I.E.S., Pa. Chem. Soc. Club: Hillcrest Country. Hobby: philately.

EDWARDS, Leonard Joseph, mgr., Memphis plant, Heyden Chem. Corp., Memphis 8, Tenn.; res. 1746 Carruthers Ave., Memphis 12.
Chem. engr.; b. Auburn, N.Y., Dec. 14, 1901; s. of Harry N. and Bessie (Bell) Edwards; ed. Cornell U., 1920-22 (chem.); 1946 B.Ch.E.; m. Frances Wallace, Dec. 22, 1936; ch.: Harry W., Nancy J., Linda H. 1922-24, chem. Halcomb Steel Co., Syracuse, N.Y.; 1924-25, chem., lab. U.S. Bur. of Mines, Pittsburgh, Pa.; 1925-44, plant chem., Solvay Proc. Co., Syracuse, N.Y.; 1946-48, wks. mgr. Naylee Chem. Co., Phila., Pa.; 1948-49, chf. engr. Glyco Prods. Co., Natrium, W. Va.; 1949 to date, plant mgr. Heyden Chem. Corp., Memphis, Tenn. Res. in prod. electrolytic caustic and chlorine; chlorinated organic compds. Mem.: A.C.S.; A.I.Ch.E.; Cornell Soc. of Engrs.; Tenn. Soc. of Prof. Eng.; Natl. Soc. of Prof. Eng.; registered prof. engr. in W. Va. and Tenn. Club: Magnolia Yacht (New Martinsville, W. Va.).

EDWARDS, Robert L., sales mgr., oils dept., Distillation Products Industries, Rochester 3, N.Y.; res. 100 Ridgemont Dr., Rochester 13.
Exec.; b. Park Pl., Pa., Aug. 10, 1914; s. of George E. and Florence H. Edwards; ed. B.S. (chem.) Lebanon Valley Coll., Annville, Pa.; adv. studies in engr. at U. of Rochester; m. Iva Claire Weirick, May 13, 1939; ch.: Marjorie Anne, Mary Kathryn. Anal. chem., Republic Steel Corp., June 1936-Feb. 1937; org. res. 4 yrs., Distillation Products, Feb. 1937 to date; 4 yrs. pl. prod. super. bal. in sales and sales dev. having to do with new prods. Mem.: A.C.S., A.O.C.S. Trustee of Greece Baptist Church, Greece, N.Y. Club: Ridgemont Golf, (Rochester). Hobbies: reading, golf, gardening.

EDWARDS, Warrick Rigeley, Jr., prof. of chem., dept. of chem., Louisiana State U., Baton Rouge, La.; res. 512 Cornell Ave., Baton Rouge 14, La.
Prof. of chem.; b. Baltimore, Md., Oct. 9, 1901; s. of Warrick Rigeley and Edith Wallace (Keys) Edwards; ed. Johns Hopkins U., B.S. (chem.), 1922; Ph.D., 1928; mem.: Omicron Delta Kappa, Alpha Chi Sigma, Sigma Xi, Phi Lambda Upsilon; m. Carmen Fitzgerald Palmer, June 11, 1933; ch.: Warrick Rigeley III. 1922-23 chem., U.S. Ind. Chem. Co.; 1923-24 chem. James P. Hooper Mfg. Co.; 1929 to date with Louisiana State U. as asst. prof. 1929-32, assoc. prof. 1932-42, prof. 1942 to date; Lieut., U.S.N.R., 1943-45; Lt. Commander, 1945 to date (active duty, 1943-45; inactive status since 1945). Res. alicyclic compds.; furans; ion-exchange resins; nitroso compds.; okra seed oil and meal; properties of homologous series. Papers pub. in J1. of Am. Chem. Soc., and other sc. pubs.; reviews in New Orleans "Times-Picayune." Mem.: A.C.S. (councilor, 1946-49, Baton Rouge Sect.), A.A.A.S., La. Acad. of Sci. Hobbies: gardening, travel.

EGAN, James E., plant chem. engr., Procter & Gamble Mfg. Co., Port Ivory, Staten Island, N.Y.; res. 421 Henderson Ave.
Chem., chem. engr.; b. Neoga, Ill., Feb. 25, 1886; s. of James E. and Mary Krapp Egan; ed. De Pauw U., 1908, A.B.; U. Ill., M.S., 1910; Ph.D., 1912; m. Mildred Knapton, 1911; ch.: Patricia E. Sinclair, James D., Marjory E. Palmer, Eleanor J. De Pauw U., asst. prof. chem. 1912-13; Miami U., asst. prof. chem. 1913-18; Procter & Gamble Co., 1918 to date.

EGBERT, Robert Baldwin, v.p., Scientific Design Co., Inc., 2 Park Ave., New York 16, N.Y.; res. 74 Woodcut Lane, Roslyn Heights, N.Y.
Chem. engr.; b. Chosica, Peru, S.A., Dec. 13, 1916; s. of Robert Oscar and Elizabeth (Morgan) Egbert; ed. B.Ch.E., Cooper Union Inst. Tech. (summa cum laude) 1938; Sc.D., M.I.T., 1941; m. Emma Cook, Jan., 1941; ch.: Robert, Elizabeth, Louise. Res. asst., M.I.T., 1939-41; chem. prod. supvr., Carbide & Carbon Chem. Corp., 1941-43; design engr., same co., 1943-46; chf. engr., Scientific Design Co. Inc., 1946 to date. Managing partner, Chem. Engr. Consultants; v.p. and dir., Mid Century Corp. Res. wk. in fld. of radiant heat transmission from gases; prod. and design in fld. of mfr. of org. chems. from petroleum. Mem.: Tau Beta Pi, Sigma Xi, A.I.Ch.E., Assoc. of Conslt. Chems. and Chem. Engrs. Club: Chemists'. Hobbies: sports, mechanical crafts, photography.

EGLOF, Warren Kline, hd. dept. of chem., Niagara U., N.Y.; res. 3763 McKoon Ave., Niagara Falls, N.Y.
Educ., Sanitary chem.; b. Mar. 19, 1899; s. of Frederick E. and Eliza B. Eglof; ed. Ch.E., Rensselaer Polytech. Inst., 1921; M.S., 1935, and Ph.D., 1938, Niagara U.; m. Marguerite A. Frentz, Dec. 31, 1927; ch.: Marcia A. Instr. Rensselaer Polytech. Inst., 1921-24; sanitary chem., City of Newburgh, N.Y., 1924-26; hd. dept. of chem. Niagara U., 1926 to present. Mem.: A.C.S., A.W.W.A., N.Y. State Sewage and Indust. Wastes Assoc., Sigma Xi.

EGLOFF, Gustav, dir. res., Universal Oil Products Co., 310 S. Michigan Ave., Chicago 4, Ill.; res. 2100 Lincoln Park W., Chicago 14.
Chem.; b. N.Y.C.; s. of August and Mary (Schiller) Egloff; ed. Cornell, A.B., 1912; M.A., 1913; Columbia, Ph.D., 1915 (Barnard Res. Fellow); Hon. D.Sc., Poly. Inst. Bklyn., 1938; Hon. D.Sc., Ill. Tech., 1940; Hon. D.Sc., Phila. Coll. Phar. & Sc., 1944; m. Clara L. Mellor, 1915. U.S. Bur. Mines, 1915-16; Aetna Chem. Co., chf. chem., 1916-17; Universal Oil Prods. Co., dir. res., 1917 to date. Advisory comm., Office Naval Officer Procurement, 1942; Pet. Indus. War Council, Refining Comm., Dis. 2; adviser, Office Pet. Admin.; adviser & asst., W.M.C., "Handbook of Descriptions of Specialized Field in Chem. & Chem. Engrg.," for Natl. Roster Sc. & Specialized Personnel; adviser, oil resources & substitute fuels in Europe, B.E.W.; conslt., indus. res. & devel., Referee Bd., O.P.R.D., W.P.B., 1942; oil expert to War Dept., 1942; charter mem., Chem. Corps Advisory Bd.; adviser, indus. relationships, A.E.C., 1947; mem. Tour of Indus. Explor. of South Am., N.R.C., U.S. Govt. auspices; Permanent Council, World Pet. Congresses; hd., oil commission, The Natl. Resources Commission of China, 1946; Scandinavian Res. & Indus. Tour, Royal Swedish Acdy. of Engrg. Res., 1946; delegate to 11 internatl. meetings on sc. & tech. of pet., 1926-51, at Pittsburgh, Washington, London, The Hague, Rome, Tokyo, Berlin, Paris, Glasgow, St. Andrews, Lake Success, N.Y. (U.N. Sc. Conf. on Conser. & Utiliz. Resources); mem., U.S. Pat. Office Advisory Comm.; advisory or conslt. capacity with num. other natl. and internatl. bodies concerned with resources, oil & fuels, prewar, war & postwar. 600 articles pet. indus. & chem. hydrocarbs.; 300 pats., U.S. & abroad, pet., coal, shale oil, chem. derivs. hydrocarbs. Voted one of "1,000 Leading Men of Sc.," A.A.A.S.; one of "10 ablest chems. & chem. engrs.," Chicago Sec., A.C.S., 1947; one of "Modern Pioneers," N.A.M., 1940. Num. honors including: Cert. of Appreciation (Century of Progress, World's Fair, 1933), Octave Chanute Medal (West. Soc. Engrs., 1939-40), Medal for Excellence (Columbia U., 1943), Distinguished Service Award (N.R.C., 1941), Grande Diploma (Inst. Tech. Indus., Rio de Janeiro, Brazil, 1938), Cert. of Appreciation (War Dept., 1946); elected by U. Court, U. Edinburgh (Scot.) to give Romanes Lect. in Chem. for 1951. Author: "Earth Oil" (World's Fair Century of Progress Comm., 1933); "Thermal Reacts. Pure Hydrocarbs." (A.C.S. Monograph, 1937); "Catalysis" (1940); "Emulsions & Foams" (1941); "Isomerizations Pure Hydrocarbs." (1942); "Physical Constants Hydrocarbs." (A.C.S. Monographs, Vols. I-V, 1939-48); "Alkylation of Alkanes" (1948). Mem.: Colombian Chem. Soc. (hon.; Bogota), Nomads Club (hon.), Chem. Metall. & Mining Soc. S. Africa (Johannesburg, 1942-43 & 1944-45), A.G.S. (fellow; council), Pet. Inst. Gt. Britain (fellow), Royal Soc. Arts Gt. Britain (fellow), Sigma Xi (hon.), Phi Lambda Upsilon (hon.), N.Y. Acdy. Sc. (fellow), A.A.A.S. (fellow), A.I.C. (fellow; hon. mem.; past pres.). Chicago Engrs. Club, A.C.S. (ex-councillor-at-large), A.I.Ch.E. (ex-dir.), A.P.I. (Twenty-five Yr. Club), A.S.M.E., A.S.T.M., A.I.M.E., Chicago Tech. Council (ex-pres.), Chicago Chemists' Club (ex-pres.), Cornell Soc. Engrs., Franklin Inst., N.A.A.U.S.A., N.Y. Chemists' Club (ex-v.p.), West. Soc. Engrs. (ex-pres.), S.A.E., The Chem. Inst. Canada (fellow), Ill. Soc. Engrs., Am. Mus. Natl. Hist., Am. Inst. of City of N.Y., Chicago Acdy. Sc., Chaos Club (Chicago). Cosmos Club (Wash., D.C.), Cliff Dwellers (Chicago), Ill. Acdy. Sc., Hooker Sc. Library (advisory council), Natl. Acdy. Polit. Scs., Newcomen Soc., Navy League of U.S. S.A.M.E., A.O.A., Wash. Acdy. Scs., Economic Club (Chicago).

EHRENFELD, Louis, tech. dir., Red Top Brewing Co., 1747 Central Ave., Cincinnati 14, Ohio; res. 933 Avondale Ave., Cincinnati 29.
Exec., chem. engr.; b. Houston, Tex., Aug. 23, 1900; s. of Joe (dec.) and Stella Ehrenfeld; ed. Rice Inst., B.S. (with honors) 1921; fellow, Northwestern U. 1921-26, M.S., 1922; mem.: Sigma Xi, Tau Delta Phi (hon.); m. Alice Roos, June 7, 1927; ch.: John, Ann. 1926-27, instr., Northwestern U.; 1926-28, edit. staff, "Encycl. Britan."; 1926-30 conslt. chem.; 1930-37, curator of chem., Museum of Sc. & Indust. (Chicago); 1937-38, asst. to mgr. and dean, Wahl-Henius Inst.; 1938-44, mgr. Milwaukee div., Pabst Brewing Co.; 1944 to date, tech. dir., Red Top Brewing Co. Author: "The Story of Common Things" (1932); "Methods of Analysis" (editor), Am. Soc. Brewing Chem. Mem.: A.C.S.; Inst. of Food Tech. (charter); Inst. of Brewing (Gr. Britain fellow); Am. Soc. of Brewing Chem. (treas. 1942-44, edit. 1934-46); Malt Res. Inst. (dir. 1935-47). Isaac M. Wise Temple (trustee and secy.). Club: Chicago Chemists'.

EHRET, William F., prof. of chem., N.Y.U., New York 3, N.Y.; res. 559 Kinderkamack Rd., Oradell, N.J.
Prof. of chem.; b. New York, N.Y., July 18, 1902; s. of William and Frieda (Wagner) Ehret; ed. Coll. of the City of N.Y., B.S., 1923; Columbia U., M.S., 1924, Ph.D., 1927; mem.: Alpha Beta Gamma; m. Dorothy de la Mare, Oct. 30, 1926; ch.: Dorothy, Elisabeth. 1923, fellow chem., Coll. of the City of N.Y.; 1923-26, asst. chem., Columbia U.; 1926-29, instr. chem., N.Y.U.; 1929-32, asst. prof., 1932-36, assoc. prof., 1936 to date, prof. same univ.; 1943-44 visiting prof. Columbia U. Author: "Lab. Studies in Gen. Chem." (1932); "Physical Science" (1942); "Smith's College Chem." (1946); "Smith's Introductory Coll. Chem." (1950). Mem.: A.C.S., N.Y. Acad. Scs., Chem. Tchrs. Club of New York, N.E. Assoc. of Chem. Tchrs., Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon. Club: Lions Internatl.

EHRLICH, Jacob, conslt. chem., Ehrlich Consltg. Lab., 153 S. Doheny Dr., Beverly Hills, Calif.; res. 341 S. Linden Dr., Beverly Hills.
Conslt. chem.; b. N.Y.C., Jan. 6, 1892; s. of David and Rose (White) Ehrlich; ed. Columbia U., A.B. (chem.), 1914; A.M., 1916; Ph.D., 1917; Pulitzer Schol.; Goldschmidt Fellow; mem.: Sigma Xi, Phi Lambda Upsilon; m. Annie Weintraub, Aug. 14, 1915; ch.: Paul, Laura. 1917-38, chf. chem., Verona Chem. Co., Newark, N.J.; 1938 to date, owner, Ehrlich Consltg. Lab.; res. and prod. in field of synthetic org. chem.; various pats. and publs. in same field. Mem.: A.C.S., A.I.C. (fellow). Hobby: lawn bowling.

EICHELBERGER, William Custer, res. chem., Solvay Proc. Div., Allied Chem. & Dye Corp., Syracuse, N.Y.; res. 305 Brookford Rd., Syracuse, N.Y.
Res. chem., inorg. chem., physical chem.; b. Pana, Ill., Nov. 18, 1906; s. of William H. and Elizabeth (Custer) Eichelberger; ed. Oberlin Coll., A.B., 1927; Johns Hopkins U., Ph.D., 1930; m.

Esther Louise Dorr, June 29, 1935; ch.: Margaret Louise, William Dorr (dec.), John Charles. Columbia Natl. Res. Counc. fellow, 1930-31; res. asst. in chem. 1931-32, fall of 1933; res. chem. Solvay Proc. Div., Allied Chem. & Dye Corp., Syracuse, N.Y. from 1934 to date. Res. on osmotic press. of dilute benzene sols. by porous disk meth.; var. studies on anhydrous acetic acid; pubs. on same, with others. Mem.: A.C.S., Phi Beta Kappa, Sigma Xi, Syracuse Tech. Club, Amer. Scientific Affiliation. Clubs: Social Literary, Christian Business Men's Comm. Hobbies: gardening, photography.

EICKELBERG, Elmer William, dir. of res., Fairmont Canning Co., Fairmont, Minn.; res. 307 E. 1st, Fairmont.
Chem.; b. Cedar Falls, Iowa, Dec. 19, 1911; s. of William H. and Minnie A. Eickelberg; ed. Iowa State College, B.S. (chem.), 1933; M.S. (chem.), 1935; Ph.D. (food chem.), 1937; mem.: Alpha Chi Sigma, Phi Lambda Upsilon; m. Emma L., Sept. 26, 1936; ch.: Ruth Ellen, John Edwin. 1933-37, Iowa Agric. Expt. Sta., res. asst.; 1937-40, Fairmont Canning Co., lab. dir.; 1941 to present, res. dir. Welcome Agric. Chem. Co. (v.p.). Mem.: Ames Section, Inst. Food Technologist (pres.). Club: Toastmaster (pres.). Hobbies: photography, fishing.

EILERTS, Charles Kenneth, principal physical chem., Bur. of Mines, Bartlesville, Okla.; res. 1517 Dewey, Bartlesville.
Physical chem.; b. Charleston, Okla., Nov. 7, 1904; s. of Charles J. and Edna B. (Coffey) Eilerts; ed. Okla. A. & M. Coll., Stillwater, B.S., 1926; m. Velma Z. Elliott, 1925; ch.: Velma Ilyeene (Eilerts) Case, Charles Kenneth, Jr. (dec.), Edna Lauree. Res. chem., Ind. Process Co., Long Beach, Calif., 1927-29; res. chem., Baverstock & Payne, Los Angeles, 1929; res. supvr., Apache Powder Co., Benson, Ariz., 1929-30; physical chem., Bur. of Mines, Bartlesville, Okla., 1930 to date. Award of Excellence, Dept. of Interior, 1944, for res. on the phase relations of gas-condensate hydrocarbon mixtures. Publ. 18 tech. papers on the properties of natural hydrocarbon mixtures & problems relating to control of corrosion in gas wells. Mem.: A.C.S., Am. Gas Assn., A.I.M.E., Natl. Assn. of Corrosion Engrs. Hobby: gardening.

EISENBERG, Aaron A., pres., Southern Lacquer Co., 1426 Philpot St., Baltimore, Md.; res. 3723 Towanda Ave., Baltimore.
Chem. engr.; b. Russia, Feb. 25, 1899; s. of Morris and Belle Eisenberg; ed. Ch.E., Lehigh U., 1921; Baltimore Polytech. Inst.; m. Jean Shugar, Aug. 17, 1919; ch.: Arthur A. Eisenberg (Johns Hopkins, M.S., Ch.E.) Winnefred Celeste, Rhona Lea. Civil engr., Central Construction Co., Pittsburgh, Pa., 1917-18; chem. engr., Crown Cork Seal Co., Baltimore, 1918-20; chem. engr., Hanline Bros., Baltimore, 1921-26; chem. engr., Stewart Adams Co., Chicago, 1926-29; chem. engr., Southern Lacquer Co., Baltimore, 1929 to date. Res. in paint, protective coatings of all kinds, lacquers. Mem.: A.C.S., A.S.T.M., A.A.A.S., Military Engrs., Academy of Sc. (Md.); International, Acad. of Sc. (Md.). Reg. Prof. Engr. of Maryland. Clubs: Mecca Temple (Shrine) N.Y.; Yedz Grotto (Baltimore); St. Johns Lodge AF & AM, Baltimore; Cheaspeake Consistory, Md.; Gallow Birds (paint industry); Paint Prod. Clubs: Baltimore, American Legion. Hobbies: golf, swimming, gardening.

EISENSCHIML, Otto, chmn. bd., Scientific Oil Co., 1637 S. Kilbourn Ave., Chicago 23, Ill.; res. 2300 Lincoln Pk. W., Chicago 14.
Chem.; b. Vienna, Austria, June 16, 1880; s. of Alexander and Eleanor Eisenschiml; ed. Vienna Polytech., Chem. Engr.; m. Bertha Eisenschiml, Jan. 14, 1912; ch.: Rosalie, Gerald, Ralph. Chem., Carnegie Steel Co. Rankin, Pa. 1901-04; chf. chem., Am. Linseed Co., Chicago, 1904-11; owner Scientific Oil Co., 1911—later partner, pres. Sc. Oil Co., Inc., chmn. bd. Co-orig. Eisenschiml Copthorne methd. for determ. the presence of fish oils in veg. oils; dev. transparent envelopes, flex. paints for barb. wire, sweat-proof shoe filler. Author: "The Chemist in 3 Wars," "Popular Lecture on gas Defense." Mem.: A.C.S., (chmn. Chicago Sect., 1914); A.I.C.; Chicago Hist. Socy., Chicago Civil War Round Table, Natl. Paint, Oil, Lacq. Assn.; West Side Hist. Socy.; Illinois Commission, Purity of Paint Materials, (chmn. 1928-42). Dir. (former pres. and chmn. of govs.). Club: Chicago Chemists' Club, (pres., 1921); Standard (Chicago). Hobby: history, (author of several books on Lincoln and the Civil War era).

ELDER, Albert Lawrence, dir. of res., Corn Prods. Refining Co., Argo, Ill.; res. 612 S. Stone Ave., LaGrange, Ill.
Chem.; b. Lexington, Ill., June 19, 1901; s. of George Clinton (dec.) and Ann (Rowlands) Elder; ed. U. of Ill., A.B. 1923, M.S. 1925, Ph.D. 1928; mem.: Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma, Sigma Pi; m. Ruth Dixon, Aug. 31, 1925; ch.: John, Louise. 1928-30, Charles M. Hall res. instr., Oberlin Coll.; prof., Syracuse U., 1930-41; hd. chem. advisor, War Prod. Bd., Wash., D.C., 1941-44; dir. of res., Corn Prods. Refining Co., 1944 to date. Coordinator of penicillin program for War Prod. Bd. Author: "Lab. Manual of Gen. Chem." 1941; "Demonstrations & Experiments in Gen. Chem." 1937; "Textbook of Chem." 1941. Mem.: A.C.S., A.A.A.S., I.F.T., A.I.C., S.C.I. Club: LaGrange Country. Hobbies: golf, bridge.

ELDER, Lucius Williams, Jr., (Dr.), dir., prods. evaluation lab., Central Labs. Div., Gen. Foods Corp., Hoboken, N.J.; res. Green Hill Rd., Madison, N.J.
Physical chem.; b. Wayne, Pa., Mar. 26, 1900; s. of Lucius W. (dec.) and Margaret (Rutter) Elder (dec.); ed. Haverford Coll., Pa., 1920, A.B.; Harvard U., 1926, Ph.D.; Cambridge U., England; mem.: Alpha Chi Sigma, Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon; m. Helen M. Cox, Aug. 16, 1930; ch.: Margaret, Lucia, John Jay. 1927-30, assoc. in chem., U. of Ill., Urbana, teaching gen. & anal. chem., res. on instrumental meths. of anal., especially the glass electrode for pH measurement; 1930-32, E.I. du Pont Co., ammonia div., Charleston, W. Va., supt. process lab., in chg. of serv. & dev. lab., serving process engrg. group; Gen. Foods Corp., 1932-39, anal. chem. res. dept., Battle Creek, Mich., 1939-42; hd. phys. chem. div. res. dept., Central Labs., Hoboken. N.J.; 1942-46 dir., Phys. Res. Lab.; 1946 to date, dir., Prods. Eval. Lab. Numer. publs. in tech. jls. Mem.: A.C.S., A.A.T.C.C., I.F.T., Packaging Inst. (chmn. food sub-comm.), Hobbies: gardening, carpentry, choral music.

ELDER, Rufus Heartwell, chf. chem., Amer. Cast Iron Pipe Co., 2930 N. 16 St., Birmingham, Ala.; res. 1613 32 Ave., N. Birmingham 4.
Chem.; b. Truett, Ala., Oct. 23, 1901; s. of Dock C. and Mary (Phillips) Elder; ed. Alabama Polytech. Inst., B.S. Ch.E., 1926; m. Helen Smith, June 14, 1934; ch.: Helen Cornelia, William Heartwell. 1926-39 anal. chem., 1939-42 chf. chem., Amer. Cast Iron Pipe Co.; 1942-45 U.S.A. (C. W.S., capt. to lt. col.); 1945-49, staff writer, 1949 to date, chf. chem. Amer. Cast Iron Pipe Co. Mem.: A.C.S., Armed Forces Chem. Assoc. Hobby: pistol shooting.

ELDERFIELD, Robert C., prof. chem., Columbia U., N.Y. 27, N.Y.; res. 19 South Dr., Hastings-on-Hudson.
Chem. prof.; b. Niagara Falls, N.Y., May 30,

1904; s. of C.J. and Nellie (Cooley) Elderfield; ed. Williams Coll., A.B. 1926; M.I.T., Ph.D., 1930; mem.: Delta Kappa Epsilon, Alpha Chi Sigma; m. Mary E. Betts, 1930; ch.: Margaret H., Anne E. Instr. chem., Colby Coll., 1930; asst., Rockefeller Inst. for Med. Res., 1930-32, assoc. 1932-36; asst. prof., Columbia U., 1936-37, assoc. prof. 1937-41, prof. 1941 to date. Elderfield-Hartshorn Hardware Co., Niagara Falls (dir.). Structure & synthesis of cardiac drugs; synthesis of antimalarials; structure & synthesis of alkaloids & sugars; gen. heterocyclic chem. Author: "Heterocyclic Cmpds." 5 vol., beginning 1950. Mem.: N.A.S., A.C.S., A.S.Biol.C., Natl. Malaria Soc. Award: Presidential Cert. of Merit. Club: Men's Faculty, Columbia U. Hobbies: fishing, woodworking, gardening.

ELDRED, Fred H., dir. res., Curtis & Tompkins, Ltd., 236 Front St., San Francisco, Calif.; res. 425 Monticello St., San Francisco.
Consltg. chem., chem. engr.; b. Chicago, Ill., Sept. 7, 1892; s. of Fred E. and Celia T. (Huestis) Eldred; ed. Occidental Coll., Los Angeles, B.S., 1914; Leland Stanford Jr. U., Calif., A.M., 1916; Ph.D., 1928; m. Marguerite Marie Barbier, June 28, 1917; ch.: Fred H., Jr. Jr. chem., Insecticide Bd., Wash., D.C. 1916-17; res. chem., Gen Chem. Co., N.Y., 1917-23; instr., Central H.S. & Jr. Coll., El Centro, Calif., 1923-26; fellow, Food Res. Inst., Stanford U., 1926-28; Curtis & Tompkins, Ltd., San Francisco, 1929 to date. Mem.: A.O.C.S., I.F.T.

ELDRIDGE, Robert Walker, res. chem., U.S. Rubber Co., Passaic, N.J.; res. 194 Hillside Ave., Nutley 10.
Pat. liaison repr.; b. Moscow, Idaho, Jan. 24, 1903; s. of Jay Glover and Mary (Walker) Eldridge; ed. U. Idaho, B.S., 1923; Yale U., Ph.D., 1927; mem.: Phi Beta Kappa, Sigma Xi, Beta Theta Pi, Alpha Chi Sigma; m. Dorothy Daggett, Feb. 10, 1928; ch.: Donald Francis, Phyllis Jane, Marion Ruth. 1926 to date res. chem. with U.S. Rubber Co. General Labs. Mem.: A.C.S.; Nutley Symphony Soc. (dir. 1937 to date). Hobbies: music (amateur symphony orchestras), record collecting, photography, hiking.

ELFRED, Frank Stillman, Jr., gen. mgr., explosive div., Olin Industries, E. Alton, Ill.; res. Fairmount Addition, Alton.
Exec.; b. Denver, Colo., Dec. 12, 1893; s. of F.S., Sr. and Amelia Miller Elfred; ed. Mo. Schl. Mines, Rolla, Mo., B.S. Metall., 1917; mem.: Kappa Alpha; m. Bernice Wynn, Nov. 25, 1915; ch.: Jane (Mrs. Rodman A. St. Clair). After coll. employed Evans Wallower Zinc Co., to date. (org. Baxter Chat Co., 1923). Scott Mining Co. (dir., pres.); Evans Wallower Zinc Co., (dir., v.p.); Olin Industries, Inc. (dir., gen. mgr. explosives div.); Radiant Midwest Fuel Co., (dir.); Equitable Powder Mfg. Co., (gen. mgr., dir.); Liberty Powder Co., (gen. mgr., dir.); Egyptian Powder Co. (gen. mgr., dir.); Columbia Powder Co., (gen. mgr., dir.). Mem.: A.I.M.E. Club: Mining (N.Y.C.). Hobbies: hunting, fishing.

ELGIN, Joseph Clifton, prof. chem. engrg., dept. chmn., Dept. Chem. Engrg., Princeton U., Princeton, N.J.; res. 218 Prospect Ave., Princeton.
Edu., chem, engrg.; b. Feb. 11, 1904, Nashville, Tenn.; s. of John Clifton and Elizabeth (Vogely) Elgin; ed. U. Va., Ch.E., 1924; M.S., 1926; Princeton U., Ph.D., 1929; mem.: Sigma Phi Epsilon, Alpha Chi Sigma, The Raven Society; m. Anne Marjorie Wilkins, Sept. 18, 1929; ch.: Alice Ball, Sarah Elizabeth, Joseph Clifton, Jr. Acting asst. prof., U. Va., 1926-27; instruc., asst. prof., full prof. and dept. chmn., Princeton U., 1929 to date; res. fellow, A.P.I., 1929-31; official investgr. & conslt., N.D.R.C., 1940-44; chf. polymer equip. & devel. branches, Office of Rubber Dir., W.P.B., 1942-44; engr. asst. to assoc. dir., div. chf., and conslt., S.A.M. Labs., Manhattan Proj., Columbia U., 1944-45; on lve. of absence from Princeton, 1942-45.U.S. Rubber Reclaiming Co. (dir.). Res. synthet. rubber, solv. extraction, gas absorp., rubber reclaim., des. & mechs. of gas-liquid & liquid-liquid contactg. towers, removal sulfur from pet., flow solid particles, photochem., hetereogen. catal.; author and co-author num. papers and arts. in sci. and tech. jls., co-author, Secs. 4 and 11, "Chem. Engrs. Handbook" (Perry edit., McGraw-Hill, 3rd Ed., 1950); sev. pats. in flds of res. Mem.: and officer, A.I.Ch.E., A.C.S., A.S.E.E., A.I.M.M.E., S.C.I., Sigma Xi, Tau Beta Pi. Princeton County Day Schl. (trustee); (trust.) Assoc. Universities, Inc.; (chmn. Sec. Indus. & Engrg. chem.); XIIth Inter. Congress of Pure and Applied chem.; (comm. on Grants-in-Aid); Research Corporation consult., A.E.C. Hobbies: golf, tennis, gardening.

ELK, Benjamin R., pres., B.R. Elk & Co., Inc., 193 Palisade Ave., Garfield, N.J.; res. 357 Van Houten Ave., Passaic.
Mfg. chem.; b. N.Y.C., Oct. 11, 1897; s. of Samuel and Luba (Gordon) Elk; ed. C.C.N.Y., 1914; Yale U. (Sheffield Sc. Schl.), Ph.B., 1920; mem.: Phi Alpha; m. Janet R. Cohen, Oct. 26, 1930; ch.: Frances, Seymour. 1915-16 lab. chem. United Piece Dye Wks., Lodi, N.J.; 1916-17 chem., plant dept. mgr. Cenral Dyetuff & Chem. Co., Newark; 1920-32 gen. mgr., 1932 to date pres., B.R. Elk & Co., Inc., Garfield. Chemical Processors, Inc. (pres.); Insecticide Chem. Co. (v.p.); Spray-All Mfg. Co. (dir.). Prod. & packaging screening gases and chem. specialty prods. Beth Israel Hosp., Passaic, N.J. (1930-36 secy. and dir.); Civilian Defense Council, Garfield (1943-47).

ELKINS, Hervey Bertrand, lab. chf., Mass. Dept. Labor & Indus., 286 Congress St., Boston, Mass.; res. Belmont.
Chem.; b. Bath, N.H., Aug. 13, 1905; s. of Wendell P. and Ruth D. Elkins; ed. A.B. Harvard, 1928; A.M. 1930; Ph.D. 1933; m. Frances Torrey, Sept. 19, 1931; ch.: Bradford T. Asst. instr. chem. Harvard 1928-33; Sheldon Travelling Fellow Chem., Karlsruhe, Germany, 1933-34; chem., Mass. Dept. Labor, Industries, 1934-42; 1st. Lieut., Capt., Chem. Warfare Serv. 1942-45; chf. lab., Mass. Dept. Labor, Indus. 1946 to date. Res. maxim. allowable concentrations of toxic dusts, fumes. Author: "Chem. of Indust. Toxicol." (1950). Mem.: Phi Beta Kappa; A.C.S.; A.I.H.A.; Am. Conf. Govn. Ind. Hygien. Club: Nuttall Ornitholog. Hobbies: bridge, golf, ornithology.

ELKINTON, Thomas W(illiam), pres. Phila. Quartz Co., Phila., Pa., Public Ledger Bldg., Phila. 6, Pa.; res. 45 E. Maple Ave., Moorestown, N.J.
Chem. manuf.; b. Phila., Pa. Aug. 22, 1892; s. of William T. and Eleanor Rhoads Elkinton; ed. B.S., Haverford College, 1914; m. Elizabeth West Roberts, May 10, 1916; ch.: Dorothy (Mrs. Mulloy), Thomas, Herbert R. With Phila. Quartz Co. since 1914; works mgr., 1919; v.p., 1921; pres. & dir. 1930 to date. Phila. Quartz Co. of California, Berkeley, California (dir.); Natl. Silicates Ltd., Toronto, Canada, (pres., dir.).

ELLEY, Harold Walter, dir., tech. div., org. chems. dept., du Pont Co., Nemours Bldg., Wilmington, Del.; res. 716 Greenhill Ave., Wilmington.
Chem.; b. Madison, Neb., May 16, 1891; s. of Walter C. and Emeline Elley; ed. B.Sc., U. of Neb., 1912; M.A., 1913; Ph.D. Cornell U., 1916; mem.: Sigma Xi, Alpha Chi Sigma, Gamma Alpha; m. Sarah Caswell, Sept. 26, 1916; ch.:

Carolyn Palmer (Mrs. Littleton Long), Elizabeth Caswell (Mrs. George C. Newton). All posts held with du Pont Co., Eastern Lab: Feb.-June, 1916, res. chem.; June, 1916-19, hd., org. div.; Wilmington office, 1919-21, asst. to chem. dir.; Jackson lab., 1921-26, hd., intermediates Div.; 1926-29, assoc. dir.; Wilmington office, 1929-38, assoc. chem. dir., org. chems. dept.; 1938 to date, tech. dir., org. chems. dept. Author numerous papers and pats. Mem.: A.C.S., A.I.Ch.E., The Psychiatric Foundation, (pres.); Wilmington Community Concert Assoc. (pres.). Club: Wilmington Country. Hobby: music.

ELLIOTT, Stanley B., v.p., Ferro Chem. Corp., Box 349, Bedford, Ohio; res. 3644 Rolliston Rd., Shaker Heights.
Res. exec.; b. Cleveland, O. July 22, 1916; s. of Louis A. and Nellie C. Elliott; ed. Western Reserve U., Cleveland, B.A. (cum laude); mem.: Phi Mu Delta; m. Elizabeth Seitz, Nov. 21, 1941. Res. chem., Harshaw Chemical Co., 1939-41; tech. dir., Ferro Chem. Corp., 1941-45; asst. to pres., 1945-48; v.p., res. and prod. 1948 to present. Res. incendiary fuels and equipment for NDRC, alkaline earth and heavy metal soaps. Author: "Alkaline Earth and Heavy Metal Soaps," (1946); co-author (with W. Von Fischer) "Paint and Varnish Technology" (1948); co-author (with R. Kirk, D. Othoer) "The Encyclo. of Chem. Technology" (1949. Mem.: A.C.S., Am. Wood Preservers Assoc., Armed Forces Chemical Assoc., A.O.C.S., A.S.T.M. Hobbies: photography, porcelain enamelling.

ELLIS, James, gen. supt., Tennessee Eastman Corp.; res. 1708 Orchard Lane, Kingsport, Tenn.
Engr. exec.; b. Memphis, Tenn., Dec. 22, 1898; s. of Samuel J. and Elise Crockett Ellis; ed. Memphis Public Schools; m. Josephine Morris, Harriman, Tenn., Oct. 16, 1928. Vulcan Iron Works, Memphis, 1919-22, draftsman; Commercial Chem. Co., Memphis, 1922-25, draftsman; with Tenn. Eastman Corp., Kingsport, 1925 to date, as draftsman, mech. engr., supt. of engrg. & services div., gen. supt. in charge engrg. construc., power, W.W.II, deputy wks. mgr., Clinton Engrg. Works, Oak Ridge, Tenn.; W.W.I, U.S. Army 1917-19, served in France. Mem.: A.S.M.E. (Fellow), A.C.S., Am. Physical Soc., A.A.A.S., Tau Beta Pi, Tenn. Soc. Prof. Engrs. Regis. Engr., Tenn. & Texas. Clubs: Ridgefields Country, Am. Legion, V.F.W.; Mason. Hobby: photography.

ELLIS, Lillian N., chmn., chem. dept., Adelphi Coll., Garden City, N.Y.; res. 165-27 85 Ave., Jamaica 3.
Chem., teach.; b. Haverhill, Mass., 1906; d. of Elmer H. and Jessie C. (Lewis) Nelson; ed. A.B. (cum laude), Mt. Holyoke Coll. 1927; Ph.D. Columbia U., 1932; (div.) Samuel B. Ellis; ch.: Beatrice M., Grace J. Res. asst., Columbia U., 1927-39; chmn. chem. dept., Adelphi Coll. Mem.: A.C.S., A.A.U.P., N.E.A., Am. Inst. Nutr., A.A.A.S.

ELM, Adolf Caspar, chf. org. matls. sec., res. div., tech. dept., N.J. Zinc Co. (of Pa.), Palmerton, Pa.; res. 475 Lafayette Ave., Palmerton.
Res. chem.; b. Germany, Sept. 25, 1900; s. of Heinrich and Emilie (Thoms) Elm; ed. U. of Marburg, Germany, Ph.D., Dec., 1923; m. Myrtle Derr Munson, July 20, 1935; ch.: Gerhard W. Chem., finishes div., du Pont Co., Phila., Pa., 1924-26; asst. plant mgr., Am. Asphalt Pt. Co., Dunellen, N.J., 1926-28; asst. tech. dir., McCloskey Varn. Co., Phila., Pa., 1928-29; res. chem., N.J. Zinc Co., Palmerton, Pa., 1929-43; chf. org. matls. sec., 1943 to date. Publ. & pats. on drying oils, paints, pigments, testing. Mem.: A.C.S., (chmn. Lehigh Valley Sec., 1943-44; chmn. paint, varn., plastics div., 1944-46); A.I.C. (fellow), Lehigh Valley Engrs. Clubs: Phila. Paint & Varn. Prod.; Lehigh Valley Engrs. (pres., 1950-51). Hobbies: bridge, gardening, photography.

ELMORE, Kelly Lee, chf. of res. sect., T.V.A. Div. of Chem. Engrg., Wilson Dam, Ala.; res. 106 Village One, Sheffield, Ala.
Res. chem.; b. Gastonia, N.C., Route No. 2, Feb. 23, 1899; s. of Charles W. and Grace (Wells) Elmore; ed. Trinity Coll., Durham, N.C., A.B., 1922 (grad. with honors in chem.); Duke U., Durham, N.C., Ph.D., 1931 (Angier B. Duke Memorial Fellow); Columbia U., 1927-28; Harvard U. Summer Schl., 1923; m. Isabel McDowell, Aug. 19, 1925; ch.: Kelly Lee, Jr., Isabel Josselyn, Stanley McDowell. Tchr. of math. and sc., Roanoke Rapids, N.C. H.S., 1922-24; instr. chem. and res. fellow, Duke U., Durham, N.C., 1924-26; asst. prof. chem. and physics, State Tchrs. Coll., Memphis, Tenn., 1928-29; instr. in chem., N.C. State Coll., Raleigh, N.C., 1931-32; tchr. of sc. and math., Needham Broughton H.S., Raleigh, N.C., 1932-34; asst. chem., Tenn. Valley Authority, 1934-37, assoc. chem., 1938-40, chem., 1940-41, sr. chem., 1941-44, chf. of chem. res. section, Div. of Chem. Engrg., T.V.A., 1944 to date. Physical chem. and thermodynamics of phosphorus and its cmpds.; thermodynamics of aqueous HF solutions; mechanism of precipitation of aluminum hydroxide; thermodynamics of the system CaO-P2O5 H2O, and of fluorapatite and hydroxyapatite; kinetics of defluorination of rockphosphate, oxidation of phosphorus with steam. Mem.: A.C.S. (local chmn., 1937-38, councilor, 1939-40). Dir., Colbert County Red Cross. Clubs: Rotary Internatl. Local Club (pres. 1945-46). Hobby: vegetable gardening.

ELVEHJEM, Conrad Arnold, chmn., dept biochem., dean, Grad. Schl., U. Wisconsin, Madison 6, Wis.; res. 741 Oneida Pl., Madison.
Biochem. and grad. dean; b. McFarland, Wis., May 27, 1901; s. of Ole J. and Christine (Lewis) Elvehjem; ed. U. of Wis., B.S., 1923; M.S., 1924; Ph.D., 1927; D.Sc. (hon.), Ripon Coll., 1942; mem.: Delta Theta Sigma, Alpha Zeta, Phi Lambda Upsilon, Sigma Xi, Phi Sigma, Gamma Alpha, Phi Kappa Phi (hon.), Phi Beta Kappa (hon.); m. Constance Waltz, June 30, 1926; ch.: Peggy Ann, Robert Stuart. 1923-25 tchg. asst. biochem. dept., U. of Wis.; 1925-29 instr.; 1929-30 N.R.C. Fellow, Cambridge, England; 1930-32 asst. prof. biochem. dept., U. of Wis.; 1932-36 assoc. prof.; 1936 to date, prof.; 1945 to date, chmn.; 1946 to date, dean Grad. Schl.; res. in vitamins, specifically the B vitamins; characterized the antipellagra factor as nicotinic acid in 1937; traced elements in nutrition, esp. iron, copper, manganese, zinc, cobalt; relation of vitamins to enzyme systems in living tissues. Co-author of "Vitamin Content of Meat" (1941); co-author: "Respiratory Enzymes" (1939); author and co-author sevl. hundred res. papers. Mem.: N.A.S., A.Phil.S., A.C.S., A.S.Biol.C., Amer. Inst. of Nutri. Willard Gibbs M., Mead Johnson Award, Nicholas Appert M. and Osborne Mendel Award. Clubs: University, Chaos, Rotary.

ELVING, Philip J., prof. chem., The Pennsylvania State Coll., State College, Pa.; res. 616 Sunset Rd., State College.
Chem., tchr.; b. Bklyn., N.Y., Mar. 14, 1913; s. of Barnard David and Rose (Juliber) Elving; ed. A.B., 1934; A.M., 1935; Ph.D., 1937; all Princeton U.; du Pont Fellow 1936-37; mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon; m. Beulah L. Round, June 20, 1937; ch.: Elizabeth Round, Louise Juliber. Instr. chem., The Penn. State Coll., 1937-39; instr., asst. prof. chem., Purdue U., 1939-43; hd. anal. and physical div. & asst. dir. of chem. res., Publicker Industries, 1943-47; assoc. prof. of chem., Purdue U., 1947-49; prof. of chem., The Penn. State Coll.,

1949 to date. Published 40 papers in anal. org. and physical chem., and in chem. edu.; res. on physical behavior and properties of org. cmpds. usable in anal. chem. Mem.: A.C.S., A.S.T.M., Acad. of Sc. (Indiana), A.A.U.P. Hobbies: book collecting, reading.

EMANUEL Edward Cornell, mgr., glass & closure res., Armstrong Cork Co., Lancaster, Pa.; res. 547 N. President Ave., Lancaster.

Chem.; b. Pittsburgh, Pa., Aug. 18, 1899; s. of Louis E. and Emma (Hoover) Emanuel; ed. B.S., U. of Pitt., 1922; mem.: Alpha Chi Sigma; m. Elizabeth Reid, Oct. 4, 1927; ch.: Louis, III. Asst. physics, U. of Pitt. 1922-23; fellow Mellon Inst., 1923. With Armstrong Cork Co.: res. chem., 1923-25 (Pitt.); plant chem., (Lancaster), 1925; chf. chem., (Pitt.), 1925-30; asst. dir. tech. dev., 1930-32; res. sec. hd., 1932-38; chf. chem., glass & closure div., 1938-46; mgr. glass & closure res. 1946 to present. G.C.M.I., (Liner Standardization Comm.), W.P.B., tech. sub. comm. glass containers, vacuum closure advisory comm.); 3 pats. Mem.: A.C.S., Am. Ceramic Soc., A.A.A.S., Ceramics Assn. (Penn. dir. & treas.), Prof. Chem. Engrg. (Penn.). Hobbies: hunting, fishing, gardening.

EMBREE, Harland Caleb, chem., Technicolor Motion Picture Co., Hollywood, Calif.; res. 1992 Beverly Dr., Pasadena 7.

Chem.; b. Cedar Rapids, Iowa, Aug. 8, 1890; s. of Ezra B. and Annie W. Embree; ed. Cornell U., A.B., 1919; U. of Chicago, M.S., 1924; m. Neva Die Mond, Dec. 26, 1921; ch.: 2 sons. Monmouth Coll., asst. prof. chem., 1920-24; La. State Normal Coll., assoc. prof. chem., 1924-25; Coroners Chem. Lab., sr. chem., 1926-27; Youngstown Coll., prof chem. 1927-30; Flint Jr. Coll., prof. chem., 1930-36; 1936 to date, chem., Technicolor Motion Picture Co., Hollywood. 2d Lt., 68th Field Art. 1917-19. Res. on chem. behavior alcohol in human body. Mem.: A.C.S., A.A.A.S., A.A.U.P., Sigma Xi. Hobby: agriculture.

EMBREE, Norris Dean, dir. of res., Distillation Products Industries, Rochester 3, N.Y.; res. 177 Thomas Ave., Rochester 17.

Chem.; b. Kemmerer, Wy., Nov. 29, 1911; s. of R.H. and Mary W. (Scott) Embree; ed. U. Wy., B.A., 1931; Yale U., Ph.D., 1934; mem.: Sigma Chi; m. Jane I. Meyers, 1937; ch.: William Norris, Suzanne Scott, Thomas Dean. 1934-40, res. chem.; 1940-48, asst. dir. of res.; 1948 to date, dir. of res.; all Distillation Prods. Industries, Div. of Eastman Kodak Co. Specialist chem. of fatty oils, oil-soluble vitamins. Author of various sc. arts. and pats. Mem.: A.C.S., A.O.C.S., A.I.Ch.E., A.S.Biol.C., Sigma Xi. Club: Rochester Chamber of Commerce.

EMERY, Alden Hayes, exec. secy., Am. Chem. Soc., 1155 Sixteenth St. N.W., Wash., D.C.; res. 8101 Park Crest Dr., Silver Spring, Md.

Chem., adm.; b. Lancaster, N.H., June 2, 1901; s. of Vernon and Carolina (Hayes) Emery; ed. A.B. (magna cum laude), Oberlin Coll., 1922; A.M., Ohio State U., 1923; mem.: Alpha Chi Sigma, Phi Beta Kappa, Sigma Xi; m. Dorothy Radde, June 16, 1924; ch.: Alden Hayes, Jr., Robert Wilson. 1923-36, U.S. Bur. of Mines; asst. to chf. engr., exp. sta. div. 1927-35; asst. chf. engr. 1935-36; 1936 to date, Am. Chem. Soc.; asst. mgr. 1936-45; asst. secy. 1943-45; secy., bus. mgr. 1946-47; exec. secy. 1947 to date. Asst. edit., "Chem. Abstracts" (1930-37); sec. edit., "Metallurg. Abstracts" (1931-39). Mem.: A.C.S., A.A.A.S. Clubs: Cosmos, Torch (Wash., D.C.), Chemists' (N.Y.C.).

EMERY, John J., pres., Emery Industries, Inc., 4300 Carew Tower, Cincinnati, Ohio; res. "Peterloon," Hopewell Rd., Montgomery.

Exec.; b. New York, N.Y., Jan. 28, 1898; s. of John J. and Lela (Alexander) Emery; ed. Groton; Harvard, 1920; diploma in Economics, Oxford U., England, 1922; m. Irene Langhorne Gibson, Aug. 31, 1926; ch.: Irene, Lela (Mrs. Don R. Hinkley), Melissa, Ethan. Pres. of the following co's.: Emery Industries, Inc.; Thomas Emery's Sons, Inc.; Emery Carpenter Container Co.; Dayton & Michigan R.R. Mem.: Cincinnati Pub. Recreation (from its inception in 1927 until Apr. 23, 1935 when formal resig. was accepted); City Charter Comm. (dir. since 1925; v.p. 1928-35; pres. 1935-38); Cincinnati Inst. of Fine Arts (pres. and trustee); Cincinnati Art Museum (pres.); Cincinnati Childrens' Home (trust.); Cincinnati Area Council of Boy Scouts (v.p.); Cincinnati Equitable Fire Ins. Co. (dir.); Fifth-Third Union Trust Co. (dir.). Clubs: Queen City (Cincinnati), Commercial (Cincinnati), Camargo, Cincinnati Country, Brook, Racquet and Tennis (N.Y.), Marlborough (London). Hobbies: hunting, fishing.

EMMERICH, F.J., pres., Allied Chemical & Dye Corp., 61 Broadway, New York 6, N.Y.

EMMETT, Paul H., sr. fellow, Mellon Inst., Pittsburgh, Pa.; res. 115 Yorkshire Rd., Pittsburgh.

Chem.; b. Portland, Ore., Sept. 22, 1900; s. of J. and Vina (Hutchens) Emmett; ed. B.S., Oregon State Coll., 1922; Ph.D., 1925, Calif. Inst. of Tech., Pasadena, Calif.; D.Sc. (hon.) 1939, Oregon State Coll.; mem.: Phi Kappa Tau; m. Leila Jones, July, 1930. Instr., Ore. State Coll., 1925-26; asst. chem. to sr. chem., U.S. Dept. Agri., 1926-37; prof. of chem. engrg., Johns Hopkins U., 1937-44; Manhattan Proj., Columbia U., 1943-44; sr. fellow, Mellon Inst., 1945 to date; res. on mech. of catalytic reactions; measurement of catalyst surface areas by low temp. adsorption of inert gases, and meas. of gas solid equilibria. Contrib. numerous arts. to sc. jls. also many chapters for books. Mem.: A.C.S., A.I.Ch.E. (assoc. mem.). Club: University (Pitt.). Hobbies: trout fishing, golf.

ENDACOTT, Paul, exec. v.p., Phillips Petroleum Co., Phillips Bldg., Bartlesville, Okla.; res. 916 Cherokee Ave., Bartlesville.

Exec.; b. Lawrence, Kansas, July 13, 1902; s. of Frank C. and Rebecca L. (Herning) Endacott; ed. U. of Kansas, 1919-23, B.S. in Ch.E.; mem.: Sigma Xi (hon. sc.), Tau Beta Pi, Theta Tau (prof. engr.); m. C. Lucille Easter, Oct. 4, 1930; ch.: Donald Easter, Richard Rae. 1923 to date, has held following positions with Phillips Petr. Co.: 1923-27, civil and oil fld. const. engr.; 1927-34 mgr. LP Gas (Philgas) Distr.; 1934-36, dir. sales res.; 1937, mgr. employee relations dept.; 1938, asst. to pres. and vice chmn. operating comm.; 1939-43 asst. to pres. and chmn. operating comm.; 1943-49, v.p. and asst. to pres., dir., mem. exec. comm.; 1949 to date, exec. v.p., dir., mem. exec. comm. Phillips Chemical Co. (v.p., dir.); Phillips Natural Gas Co. (v.p., dir.); Amer. Independent Oil Co. (dir.).

ENDER, C.D., mgr., synthetics res. div., Hercules Experiment Station, Wilmington, Del.; res. 256-B Thomas Dr., Monroe Park, Wilmington.

Chem. engr.; b. Hokah, Minn., May 20, 1914; s. of John and Anna Ender; ed. La Crosse (Wis.) State Tchrs. Coll., 1930-31; U. Minn., 1931-35, B.Ch.E.; U. Minn. (Grad. Schl.) 1935-36; mem.: Alpha Chi Sigma; m. Peggy Harmon, June 29, 1950. 1936 with Northern States Power Co., La Crosse; 1936 to date, with Hercules Powder Co., Wilmington, Del. Mem.: A.C.S., A.A.A.S., T.A.P.P.I., N.P.V.L.A. Club: Hercules Country. Hobbies: photography, music, sports.

ENGDAHL, Richard Bott, supvr., Battelle Memorial Inst., Columbus, O.; res. 1165 Glenn Ave., Columbus 12.
Mech. engr.; b. Elgin, Ill., Apr. 16, 1914; s. of Walter F. and Emma (Bott) Engdahl; ed. Bucknell U., B.S. in M.E. (magna cum laude); U. of Ill., M.S.; mem.: Gamma Alpha; m. Helen Klaas, Nov. 21, 1940; ch.: Karen, Eric. 1936-39 spec. res. asst. mech. engr. & 1939-40 instr. mech. engr., U. of Ill.; 1940-45 res. engr., 1945-46 asst. supvr., and 1946 to date, supvr., Battelle Memorial Inst. Appl. high velocity jets to improve mixing in indust. boiler furnaces; combustion of pulverized coal for metallurg. furnaces and gas turbine. Mem.: A.S.M.E., A.S.H.V.E., Sigma Xi, Pi Mu Epsilon, Tau Beta Pi. Hobbies: photography, music, gardening.

ENGEL, Edward William, mgr., central res. dept., Ind. Tape Corp., New Brunswick, N.J.; res. R. 9, North Dr., New Brunswick.
Res. exec. chem. fld.; b. Amsterdam, N.Y., June 1, 1903; s. of Charles and Louise (Gerber) Engel; ed. B.S. (in chem.), Union Coll., 1925 (with hon.); A.M., Princeton, 1926; Ph.D., 1928; mem.: Omicron Delta Kappa; m. Gladys Cox, Sept. 17, 1925; ch.: Marilyn Joan. Tchg. fellow, Princeton, 1925-28; instr. chem., Amer. U., 1928-31; special expert, Natl. Inst. of Public Health, summer 1931; asst. prof. chem. 1931-37, assoc. prof. chem. 1937-40, hd. of dept. of chem. & prof. of chem. 1940-43, acting pres. of university 1940-41, adm. asst. to pres. 1941-42, dir. of evening & summer sessions 1940-43, Amer. U.; mgr., central res. dept., Ind. Tape Corp., 1943 to date. Conductivity of glass, vapor pressures of binary liquid mixtures, toxic effects of phenolic esters & their relation to chem. constituton, molecular refraction, heat of vaporization, pressure-sensitive adhesives. Articles publ. in tech. & sc. jls. Mem.: Sigma Xi, A.C.S. Hobbies: photography, golf.

ENGELDER, Carl John, prof. of anal. chem., U. of Pittsburgh, Pittsburgh 13, Pa.; res. 4323 Andover Terr., Pittsburgh 13, Pa.
Tchr.; b. Punxytawney, Pa., Jan. 11, 1890; s. of Conrad and Catherine (Grof) Engelder; ed. Cornell, A.B., 1913; B.Chem., 1914; Ph.D., 1917; mem.: Alpha Chi Sigma, Gamma Alpha; m. Dorothy Gross, Aug. 30, 1924; ch.: Catherine. Asst. instr. chem., Cornell, 1914-17; instr. chem., Illinois, 1917; asst. prof., U. of Pittsburgh, 1920-23; prof. of chem., 1923 to date. Notable wk.: developed the system of semi-micro qualitative anal. Author: "Elementary Qual. Anal.," 1927, 1933, 1942; "Elementary Quant. Anal.," 1929, 1936, 1943; "Gas Oil and Fuel Anal.," 1931; "Calculations of Qual. Anal.," 1933, 1937, 1942; "Calculations of Quant. Anal.," 1939; "Lab. Book of Qual. Anal.," 1930, 1931, 1938; "Lab. Book of Quant. Anal.," 1931, 1942; "Semi-Micro Qual. Anal." (with Dunkelberger and Schiller), 1936, 1940; "Fundamentals of Semi-Micro Qual. Anal.," 1947. Mem.: A.C.S., Tau Beta Pi, Sigma Xi, Phi Lambda Upsilon, A.A.U.P. Club: Authors (Pittsburgh). Hobbies: hunting, fishing, Indian Mound Excavation, gardening.

ENGELS, William Henry, conslt. to res. and dev. div., Merck & Co., Inc., Rahway, N.J.; res. 17 Bennett Pl., Westfield.
Assoc. dir. res. and dev.; b. Karlsruhe, Germany, May 25, 1885; s. of Gerhard A. and Annie (Oulton) Engels; ed. Technische Hochschule, Karlsruhe, Diplom Ingenieur, 1908; Dr. Ing., 1911; m. Estelle Lorance, Mar. 4, 1911; ch.: Eileen H. 1907-11 lab. and lect. asst. at Chem. Inst. and Chem. Tech. Inst. of the Technische Hochschule at Karlsruhe, Germany; 1911-15 prod. chem., 1915-17 dev. chem., 1917-36 dir. of appl. res.; 1936-50 assoc. dir. of res. and dev., Merck & Co., Inc.; since June 1, 1950, conslt. to this div. Mem.: A.C.S., Indus. Res. Inst., Inc.

ENGLE, Dorothy Gail, prof. chem., Albion Coll., Albion, Mich.; res. 614 Michigan, Albion.
Tchg.; b. Denver, Colo., Apr. 12, 1900; d. of Wiber Dwight and Emma (Agard) Engle; ed. U. of Denver, A.B., 1922; U. of Ill., A.M., 1924; U. of Mich., Ph.D., 1940; mem.: Pi Beta Phi. Continuous tchg. Albion Coll., 1925 to date, advancing from instr. to prof. Mem.: A.C.S., A.A.A.S., Iota Sigma Pi. Hobby: weaving.

ENGLE, Loy S., asst. dir of res., Interchem. Corp., 432 W. 45th St., New York 19, N.Y.; res. Harrington Pk., N.J.
Res. chem.; b. Hocking County, O., in 1909; s. of H.W. and Dora A. (Ruff) Engle; ed. Ohio U., A.B., 1932; post graduate wk., 1932-33; graduate asst., 1932-33; m. Mable R. Smith in 1934. Res. asst., Ault & Wiborg Corp., 1933-34; sr. res. chemist, Interchem. Res. Labs., 1934-42; group ldr., Interchem. Corp., Res. Labs., 1942-47; tech. co-ord., finishes div., Interchem., 1948-49; asst. dir. of res., Interchem., 1950 to present. Mem.: A.C.S., N.S.I.A., A.S.T.M. Club: N.Y. Paint and Varnish Production.

ENGLIS, Duane Taylor, prof. of chem., 321 Noyes Lab., U. Ill., Urbana, Ill.; res. 906 South Busey, Urbana.
Tchg., res.; b. Eureka, Ill., Apr. 29, 1891; s. of Frank and Harriet Emily (Taylor) Englis; ed. Eureka Coll., A.B., 1912; U. of Ill., A.M., 1914; Ph.D., 1916; mem.: Tau Kappa Epsilon, Gamma Alpha, Alpha Chi Sigma, Phi Lambda Upsilon, Omega Beta Pi, Sigma Xi; m. Louise Wiley Strickle, Sept. 29, 1916; ch.: Robert McLean. 1914-18, U. Ill. Agr. Exp. Station; 1918 to date, U. Ill. dept of chem., as instr., assoc., asst. prof., assoc. prof., prof.; consltg. and summer work with various indust. organizations. Anal. carbohydrate matls.; preparation of levulose syrup; spec. meths. of anal. Mem.: A.C.S., A.A.A.S., A.O.C.S., Opt. Soc. Am. Inst. Food Techs., A.O.A.C., Ill. Acad. Sc. Hobbies: fishing, books, woodworking, genealogy.

ENGLISH, Spofford Grady, chf. chem. branch, div. of res., U.S. Atomic Energy Commis., 1901 Constitution Ave., Washington, D.C.; res. 3009 P St., N.W., Washington 7.
Chem.; b. Mt. Pleasant, Tenn., Nov. 16, 1915; s. of Spofford G. and Ruby May (Warnock) English; ed. U. of Okla., B.S., 1938; M.S., 1940; U. Calif., Ph.D., 1942; m. Muriel Frodin, Sept. 18, 1942; ch.: Susan P., Elizabeth H., Helen W. 1936-40, chem., Okla. Geol. Survey; 1940-42, tchg. asst., U. Calif.; 1942-43, grp. ldr., metallurg. lab., U. Chic.; 1943-46. sec. chf., Clinton labs., Oak Ridge, Tenn.; 1946-47, asst. prof. chem., U. Calif., Berkeley; 1947 to date, chf., chem. br., div. of res., U.S. A.E.C. Wk. and res. in fields of inorg. & phys. chem., radiochem. Mem.: Sigma Xi, Phi Beta Kappa, A. Phys. S., A.A.A.S. Hobby: photography.

ENLOE, Cortez F., Jr., M.D., pres. Cortez F. Enloe, Inc., 500 Fifth Ave., New York 18, N.Y.; res. 97 Aldershot Lane, Manhasset, Long Island.
Physician, exec.; b. Jefferson City, Mo., June 1, 1910; s. of Cortez F. Sr., M.D. and Margaret Louise (Hammett) Enloe; ed. Culver Mil. Acad., 1927; U. of Mo., 1932, A.B.; degree in med. (cum laude) U. of Berlin Schl. of Medicine. 1937; mem.: Phi Delta Theta; m. Harriett Goodridge, 1933; ch.: Cynthia, David. 1938-39, Winthrop Chem. Co. Inc., (N.Y.), asst. med. dir.; 1939-41, G.F. Harvey Co., (Saratoga Springs, N.Y.), v.p. and gen. mgr.; 1941-42, William R. Warner & Co. (N.Y.), dir. of Prof. Service Dept.; 1942, volunteered for commis. in Medical Corps, A.U.S., subsequently Flight Surgeon; 1946, Breese-Enloe-Elliott-Smith, (N.Y.), partner, med. dir. and v.p.; 1947 to date, pres. Cortez F. Enloe, Inc.,

Medical Advertising Agency. Directed comprehensive report, "The Effect of Bombing on Health & Med. Care in Germany," completed in Nov., 1945; this study incl. a complete survey of German pharmaceut. indus. Mem.: A.M.A. (Fellow), Mo. State Med. Assn., N.Y. State Med. Soc., The Royal Soc. of Med., Assn. for the Study of Internal Secretions, A.C.S., A.A.A.S., Aero-Medical Soc., N.Y. Acad. of Medicine, Assn. of Military Surgeons of the U.S. Clubs: N.Y. Yacht; Manhasset Bay Yacht; Army and Navy (Washington); Overseas Press (N.Y.).

ENSOR, Elwood Henderson, supt. chem. mfg., G.D. Searle & Co., Skokie, Ill.; res. 1705 Highland Ave., Wilmette.
Chem.; b. Balt., Md., Feb. 1, 1918; s. of John Bosley and Ruth R. Ensor; ed. B.S., Northwestern U., 1938; M.A. Boston U. 1939; Ph.D., Northwestern U., 1942; U. Ill. 1939-40; m. Mary Louise Allen, Feb. 14, 1941; ch.: Nancy Joan, Susan Elizabeth, Thomas Richard. Tchg. fellow org. chem., Boston U. 1938-39; chem. tutor, Northwestern U., 1940-41; res. chem., Hercules Powder Co., 1942-46; res. chem., G.D. Searle & Co., 1946-48; supt. chem. mfg., G.D. Searle & Co., 1948 to date. Lecturer, org. chem., De Paul U. 1947-48; inorg. chem., 1948-49; lecturer, org. chem., Northwestern U., 1947 to date. Res. in phar. pyrolysis, chem. of morpholine, org. reactions, resins, plastics, big ring compds. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S. Clubs: Wilmette Round Table, Northwestern U. Golf. Hobbies: golf, handball.

ENTEMANN, Charles E., chf. chem., Lucidol Div., Novadel-Agene Corp., Buffalo 5, N.Y.; res. 62 Wabash Ave., Kenmore 17, N.Y.
Org. chem.; b. N.Y.C., Feb. 6, 1906; s. of Charles E. and Della E. (Stikeleather) Entemann; ed. Cornell U., A.B., 1929, Ph.D., 1933; mem.: Alpha Chi Rho; m. Irma Beyer, June 22, 1935; ch.: Carl W., Eric A. Instr. chem., Essex County Jr. Coll., Newark, N.J., 1933-35; chem., Ekroth Labs., Inc., Bklyn., N.Y., 1935-36; res. chem., Pyridium Corp., Nepera Park, N.Y., 1936; res. chem., Zonite Products Corp., New Brunswick, N.J., 1936-41; res. chem., General Chem. Co., Laurel Hill Lab., Long Island City, N.Y., 1941-44; asst. chf. chem., Lucidol Div., Novadel-Agene Corp., 1944-46; chf. chem., same, 1946 to present. Mem.: A.C.S., A.I.C., A.A.A.S. Hobbies: chem., children.

ENTRIKIN, John B(ennett), prof., hd. of chem. dept., Centenary Coll., Shreveport, La.; res. 244 Forrest St., Shreveport.
Coll. tchr., conslt. chem.; b. Canton, Kansas, Oct. 6, 1899; s. of James Bennett and Addie Mae (Powers) Entrikin; ed. Southwestern U. (Texas), A.B., 1922; M.A., 1923; State U. Iowa, Ph.D., 1929; mem.: Kappa Alpha, Alpha Chi Sigma; m. Minnie Sue Stewart, July 29, 1924; ch.: Jean Marie (Mrs. W.S. Harwell), Connie Mae. 1924-26, instr. chem. Southwestern U., Georgetown, Tex.; 1926-27, prof. chem. and biol., Temple Jr. Coll., Temple, Tex.; 1927-29, grad. asst. in chem., State U. Iowa, Iowa City; 1929 to date, prof., hd. of chem. dept., Centenary Coll.,; conslt in chem. 1930 to date. Co-author (with N.D. Cheronis), "Semimicro Qualitative Org. Anal.," (1947, Crowell Co., N.Y.). Mem.: A.C.S., (chmn. Ark-La-Tex Sect. & for 1950, chmn. of Natl. Local Sect. Off. Grp., A.A.A.S., A.I.C. (fellow), Sigma Xi, Phi Lambda Upsilon, Omicron Delta Kappa; First Methodist Church, Shreveport (mem. off. bd.); Louisiana Acad. of Scs. (past pres.). Hobbies: helping college students, popularizing sc., church activities.

EPELBERG, Jack, hd. chem. proc. sec., res. and dev. div., Cluett Peabody & Co., 116 St. and 7th Ave., N. Troy, N.Y.; res. 247-8th St., Troy.
Res. chem.; b. Poland, Oct. 7, 1913; s. of Benjamin and Yetta Epelberg; ed. U. Pitt. B.S., 1936; Ph.D., 1940; m. Pearl Toppal, Feb. 24, 1946; ch.: Bruce David. 1936-40 grad. asst. U. of Pittsburgh; 1940-42 hd. chem. Royal Mfg. Co., Pittsburgh; 1942-44 res. chem., 1944-46 grp. ldr., 1946-50, asst. dir. res., Cluett Peabody and Co.; Several pats. rayon stabilization (U.S. and Britain), Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S., A.A.T.T., A.A.T.C.C., (past chmn. Hudson Mohawk. Sect.).

EPPELSHEIMER, Daniel Snell, prof metallurg. engrg., Missouri School of Mines & Metallurgy, Rolla, Mo.; res. 1016 Morrell Ave., Rolla.
Metallurg. engr.; b. Chicago, Ill., Mar. 17, 1909; s. of Daniel and Florence Irvina (Snell) Eppelsheimer; ed. B.S. (cum laude); D.Sc., Harvard, 1935; m. Marion Elizabeth Vaughn, Apr. 11, 1936; ch.: Daniel Snell, II, David Vaughn. Asst. metal. dept., Harvard U., 1933-35; res. metallurg., Union Carbide & Carbon Res. Labs., Niagara Falls, 1935-38; res. assoc. prof. indus. engr.; hd. engrg. exptl. sta., 1938-39; res. prof. indus. engr. since 1939; acting dir. engr. exptl. sta. 1940-46; all U. of New Hampshire; sales mgr., chf. physical metallurg., Metal Hydrides, Inc., Beverly, Mass., 1946-47; prof. metallurg. engrg., Mo. School of Mines & Metallurgy, 1947 to present. Res. extraction, refining and properties of titanium and zirconium. Mem.: Sigma Xi, A.S. F.M., A.S.M.M.E., A.C.S., Am. Fdryman. Soc., Am. Soc. Promotion Engrg. Edn., A.S.T.M., Am. Soc. X-ray and Electron Diffracton, The Franklin Inst., British Iron & Steel Inst., British Inst. Metals, Inst. of Physics. Clubs: Harvard (Boston & St. Louis), Chemists' (New York). Hobbies: philately, rifle shooting.

EPSTEIN, Elias, dir. chem. res., Novocol Chem. Mfg. Co., Inc., 2921 Atlantic Ave., Bklyn., N.Y. (7); res. 74-04 255th St., Glen Oaks, Queens, N.Y.
Chem.; b. N.Y.C., Oct. 21, 1914; s. of George and Rae Epstein; ed. Bklyn. Coll., B.S.; Polytech. Inst. of Bklyn., M.S.; candidate for Ph.D.; mem.: Phi Lambda Upsilon; m. Adrienne Smallen, Apr. 13, 1947; ch.: Joan Eve. 1935-41, Motion Pict. Lab., Fort Lee, N.J.; 1941-43, res. chem., Novocol Chem. Mfg. Co., Inc.; 1943 to date, chf. chem. and dir. of chem. res. Res. local anesthetics, penicillin, germicide, hemostats and org. synth. Has pub. 5 tech. papers. Mem.: A. Pharm.A., A.C.S. Clubs: Polytech. Inst. of Bklyn. Alumni Assoc., Knights of Pythias. Hobbies: tennis, chess.

ERASMUS, Hendrick de Wet, res. group leader, Union Carbide & Carbon Res. Labs., Inc., P.O. Box 580, Niagara Falls, N.Y.; res. Lewiston Hghts., Lewiston, N.Y.
Chem. engr.; b. Sterkstroom, Union of South Africa, June 19, 1899; s. of Willem J. and Amelia C.J. de Wet Erasmus; ed. B.S. (cum laude), U. of Stellenbosch, 1918; M.Sc. (cum laude) 1919; Dipl. Ing. (magna cum laude), Technische Hachschule, Berlin, 1928; m. Amy E. Erasmus, 1934; ch.: Beth. Lect. physics, Huguenot U. Coll., Wellington, S.A., 1920; lect. math., U. Pretoria, S. Africa, 1921-22; lect. math., U. Witwatersrand, S. Africa, 1925-28; 1928-29, South African Railways, London Office; 1929-39 & 1941 to date, Union Carbide & Carbon Res. Labs., Inc., L.I.C., and Niagara Falls, N.Y.; Linde Air Products Co., Tonawanda Labs., 1939-40. Invent. & dev. of solid-phase vacuum process for low-carbon ferrochromium and other metals and alloys.

ERGIN, Cemal, dir., Yesil direk Anbarci Han, No: 12 Istanbul, Turkey; res. Fevzi, Pasa Caddesi, No: 158/6 Edirnekapi. Istanbul.

Dir. of ASTAS, du Pont Div.; b. 1904, Istanbul, Turkey; s. of Osman Nuri and Sidika Ergin; ed. Istanbul U. Schl. of Pharmacol.; M.S. (chem. engr.) same U.; m. Semahat, 1938; ch.: Melda. Chem., Istanbul State Lab., 8 yrs.; indust. colorist chem. in Turkish State textile mills, 10 yrs.; dir. of ASTAS, du Pont Div. (org. chem., rubber chem., electrochem., Grasselli dept., nylon div., fabrics div.). Turkish Govt. sponsored training in foreign countries, for 16 mos., incl. var. Russian textile mills, in dyeing, finishing and printing (1935); two months' training in I.G. Farben Industrie, Frankfurt; four months in Imperial Chem. Indust. in Manchester; one month in Ciba Farben Indust. in Basel. Author: "Textile Technology" (Vol. I., 500 pp., Turkish Govt. pub.). Mem.: Amer. Colorist Chem., Internatl. Verein Colorist Chem. (Europe), Turkish Farmacologycal and Chem. Engrg. Soc.

ERICKSON, J(ulius) L(yman) E(dward), prof. chem., La. State U.; res. 400 Laurel St., Baton Rouge.
Univ. prof.; b. Lake Charles, La., Oct. 8, 1901; s. of Charles Edward and Ella Jessie (Finlayson) Erickson; ed. Rice Inst., B.A. 1923, M.S. 1926; Harvard U., A.M. 1927, Ph.D. 1932; m. Olivia Bradshaw, Aug. 28, 1928; ch.: Jane Vincent. 1930-32 instr. in chem. La. State U.; 1932-37 asst. prof.; 1937-44 assoc. prof.; since 1944 prof. org. chem. same U. Contribr. articles to prof.; jls. Holds pats. on macrocyclic musk compds. (U.S., British, Canadian). Res., org. chem., dealing with synth., mechanism of reactions, and natural products. Mem.: The Chem. Soc. (London, Fellow). A.I.C., A.A.A.S., La. Acad. Sci.; A.C.S., Sigma Xi, Phi Lambda Upsilon, Kappa Sigma. Democrat. Presbyterian. Clubs: Harvard (New Orleans); Faculty (La. State U.).

ERICKSON, Wallace A., pres., Wallace A. Erickson & Co., 842 N. Wells St., Chicago 10, Ill.; res. 7332 Ridge Ave.
Chem.; b. Chicago, Ill., Aug. 4, 1911; s. of Alfred and Anna (Berg) Erickson; ed. U. of Chicago, B.S., 1932, Ph.D., 1936; m. Gwendolyn Bauer, Dec. 24, 1935; ch.: Dolores, Dorothea, Arthur, David, Elizabeth. Res. chem., E.I. du Pont de Nemours & Co., Jackson Lab.; v.p., Motloid Co., 1940-42; pres., Wallace A. Erickson & Co., 1943 to date; pres., General Color Co., 1946 to date; pres., Hafner Mfg. Co., 1950 to date. Mem.: A.C.S., A.I.C., Chem. Arts Forum, Sigma Xi.

ERICSSON, Ralph L., sales mgr., Sumner Chemical Co., Inc. 52 Wall St., New York 5, N.Y.; res. 31 Haddonfield Rd., Short Hills, N.J.
Chem.; b. Ridgway, Pa., Sept. 20, 1908; s. of Louis F. and Florence (Siggins) Ericsson; ed. B.S., Carnegie Inst. Tech., 1933; m. Ruth E. Jacobson, Oct. 18, 1941; ch.: Carol A. Westvaco Chlorine Products Corp., analytical chem., chf. chem., mgr. tech. serv. div., 1933-41; Commercial Solvents Corp., asst. mgr., tech. serv. div., asst. sales mgr. pharmaceutical div., asst. to v.p. in chg. of sales, 1941-48; 1948 to date, Sumner Chemical Co., Inc., sales, mgr.

ERIKSON, David Junkin, pres. & dir., Hagan Corp., 323 Fourth Ave., Pittsburgh 3, Pa.; res. 211 Woodhaven Dr., Mt. Lebanon, Pittsburgh 16, Pa.
Sales Exec.; b. Pittsburgh, Pa.; s. of Edward E. and Julia J. Mitchell Erikson; ed. High Schl.; m. Grace Famariss, Aug. 25, 1920; ch.: David Junkin, Jr. Draftsman, Combustion Engrg. Corp., 1916-17; U.S. Army, 1917-19; service engr., Hagan Corp., 1919-21; sales engr., Hagan Corp. 1921-23; sales mgr., Hagan Corp., 1923-31; asst. to pres., Hagan Corp. 1931-39; v.p., in chg. of sales, Hagan Corp., 1939-48, pres. Hagan Corp., 1948 to present. Calgon, Inc., (pres. & dir.), The Buromin Co., (pres. & dir.), Hall Labs., Inc. (pres. & dir.), Hagan Corp. of Canada Ltd. (pres. & dir.). Mem.: Engineers Soc. of Western Pa. Clubs: Duquesne, Pittsburgh Athletic Assn., St. Clair Country, Sales Executives, Shrine. Hobby: photography.

ERIKSON, Gustav Leonard, exec. v.p., The Braden Sutphin Ink Co., 3800 Chester Ave., Cleveland 14, O.
Exec.; b. Sweden, Nov. 17, 1898; ed. Chicago H.S.; m. Ruth C. Olson, June 26, 1918; ch.: 1 son. Sherwin-Williams Co., Chicago, res. lab., 1916-19; Sunbeam Chem. Co., Cable, Wis., factory supt., 1920-21; Manz Corp., Chicago, supt. ink dept., 1921-25; Am. Bread Wrapper Co., Chicago, supt. ink dept., 1925-26; with The Braden Sutphin Ink Co., 1927 to date, supt., chf. chem., and exec. v.p. Mem.: A.C.S., A.O.C.S., Inter Soc. Color Council, Opt. S.A., Pt. & Var. Production Club, Printing House Craftsmen. Hobby: athletic activities.

ERNST, Robert Craig, dean, Speed Sc. Schl., U. Louisville; pres., dir., U. Louisville Inst. of Ind. Res., Louisville 8, Ky.; res. 3315 Oriole Dr., Louisville.
Dean, prof., res. dir., conslt.; b. Cincinnati, O., Sept. 27, 1900; ed. B.S. (chem. engrg.), N. C. State Coll., 1921; M.S. (chem. engrg.), U. Minn. 1923; Ph.D. (major, chem. engrg.), 1930; mem.: Sigma Xi, Sigma Tau, Phi Kappa Phi, Phi Lambda Upsilon, Gamma Sigma Epsilon, Theta Chi Delta, Gamma Alpha; m. Sarah Warren Carter, Jan. 3, 1924; ch.: Robert Craig, Jr., Richard Thomas. 1921-26, grad. asst., instr. chem. engrg., U. Minn.; 1926-31, asst. prof. chem. engrg., U. Louisville; 1931-33 assoc. prof. chem. engrg.; 1933-47, prof. chem. engrg.; 1933-47 hd., dept. chem. engrg., 1940-44, dir. div. of ind. res.; 1945-47, dir., exec. v.p., U. Louisville Inst. of Ind. Res.; 1947 to date, dean, Speed Sc. Schl., U. Louisville; 1947 to date, pres., dir., U. Louisville Inst. of Ind. Res. Numerous publ. in chem. jls. Mem.: A.I.Ch.E., Am. Soc. for Engrg. Ed., A.C.S., A.A.U.P., Ky. Soc. of Prof. Engrs., Federation of Prod. Men's Club, N.R.C., A.A.A.S., Southern Assn. of Sc. & Ind., Ky. Acad. of Sc., Ky. Chamber of Com. (ind. dev. comm.), Soc. for Engrg. Ed. (regional conf. on coop. with atomic energy). Clubs: Pendennis, Filson, Audubon Country, Rotary (Louisville), Chemists' (N.Y.C.). Hobby: golf.

ESKEW, Roderick Koenig, hd., chem. engrg. & dev. div., Eastern Regional Res. Lab., Chestnut Hill Station, Phila. 18, Pa.; res. 636 E. Willow Grove Ave., Glenside.
Exec. chem. engrg. res.; b. Charleston, W. Va., Aug. 26, 1897; s. of John Garnett and Juliette (Laidley) Eskew; ed. U. of Ariz., 1914-17; M.I.T., 1917-22; B.S. & M.S.; m. Milene Morosini, June 23, 1937; ch.: Roderick Hamilton Bruce. 1922-25, chf. chem., Parlin, N.J., plant, Hercules Powder Co.; 1925-34, res. chem. engr., du Pont Viscoloid Co., Arlington. N.J.; 1934-39, tech. sales rep., Brown Co., 500 Fifth Ave., N.Y.C.; 1939-40, asst. chf. chem., Tubize Chatillon Corp., Rome, Ga.; 1940 to date, hd., chem. engrg. & dev. div., Eastern Regional Res. Lab., Phila. Dev. of viscosity reduction processes for cellulose nitrate by pressure digestion; processes for nitration of wood pulp; introd. of hard wood pulps into Japanese rayon indust.; resp. direction of the dev. of new processes for producing rutin from buckwheat, feed & flour from white potatoes, recovery & utilization of the volatile flavors of fruit. Mem.: A.I.Ch.E. Hobbies: photography, genealogy.

ESSELEN, Gustavus John, v.p., Esselen Res. Div., U.S. Testing Co., Inc., 857 Boylston St., Boston 16, Mass.; res. 437 Puritan Rd., Swampscott 4.
Chem. res. and dev.; b. Roxbury, Mass., June 3,

1888; s. of Gustavus J. and Joanna (Blyleven) Esselen; ed. Harvard, A.B. (magna cum laude), A.M., Ph.D.; mem.: Sigma Xi, Alpha Chi Sigma; m. Henrietta W. Locke, Sept. 18, 1912; ch.: Rosamond (Mrs. Bradford K. Backrach); Josephine (Mrs. George B. Hansen); Gustavus J., III. 1912-14, res., Gen. Elec. Co.; 1914-18 mgr., Chem. Prods. Co.; 1918-21 res., Arthur D. Little; 1921-30, v.p., dir. of res., Skinner, Sherman & Esselen; 1930-46, pres., dir., Gustavus J. Esselen, Inc.; 1946-49, pres., Esselen Res. Corp.; 1949 to date, v.p. U.S. Testing Co., Inc. Chem. Devel. Corp. (v.p.). Mem.: A.A.A.S., A.I.C., A.C.S. (trust., permanent trust funds, Northeastern Sec.), A.I.Ch.E., S.C.I., A.C.C. & Ch.E., Lynn Council Religious Educ. (past pres.); Swampscott Pub. Library (chmn., bd. of Trust., 1928-38). Clubs: Harvard (Boston); Union (Boston); Cosmos (Wash., D.C.); Chemists' (N.Y.); Rotary (Boston, pres. 1937-38); Boston Congregational (past pres.).

ESSELSTYN, Albert J., prof. of chem., Otterbein Coll., Westerville, Ohio; res. Westerville. Tchr.; b. Lansing, Mich., Feb. 4, 1892; s. of William S. and Princess M. Esselstyn; ed. Alma Coll., B.S., 1915; Cornell U., M.S., 1926; m. Edna L. O'Bryan, June 29, 1916; ch.: William J. Otterbein Coll., prof. chem., 1928 to date. Thymoltetrachlorophthalein. Mem.: A.C.S. Clubs: Masonic bodies, Lions.

ESSEX, Harry, prof. physical chem., Syracuse U., Syracuse, N.Y.; res. 855 Lancaster Ave., Syracuse 10.
Chem. tchg.; b. Meadville, Pa., Nov. 2, 1884; s. of Henry and Linda R. Essex; ed. A.B., Cornell U., 1907; Ph.D., Gottingen, Germany, 1914; m. Kathryn Buterbaugh, June 15, 1918; ch.: Anne Kathryn. Instr. chem., U. Ky. 1907-10; chem. & physics tchr., Salt Lake City H.S., 1910-11; res. fellow, Mellon Inst., Pittsburgh, 1914-18; res. chem., du Pont Co., Wilmington, Del., 1918-20; prof. physical chem., Syracuse U., 1920 to date. Res. synthesis of glycols and amyl acetate from petroleum prods.; compressibility of liquids and solids; thermodynamic properties, kinetics; radiation chem. Mem.: A.C.S., Sigma Xi, A.A.A.S., A.A.M.P.

ESSEX, Jesse Lyle, conslt., 4003 N. New Braunfels Ave., San Antonio 9, Tex.; res. same.
Consltg. chem. engr.; b. Lebanon, Ind., Oct. 24, 1890; s. of Charles Westly and Sarah Lucinda Essex; ed. A.B., Wabash Coll., 1914; M.S., Purdue U., 1917; fellow, Syracuse U., 1918; mem. Lambda Chi Alpha; m. Clara Louise Williams, Nov. 14, 1914; ch.: Thelma Louise, Herbert Phillip (dec.). Instr. chem., Wabash Coll., 1914-15; Purdue U., 1915-17; N.Y. State Coll. of Forestry, 1917-18; staff chem., E. I. du Pont de Nemours & Co., 1918-22; res. chem., Stand Oil Co. Ind., 1922-24; raw matls. engr., Western Elec. Co., 1924; indus. engr., Grice Associates, Inc., 1924-25; chf. chem., Universal Oil Prods. Co., 1925-31; consltg. chem., 1931-35; chf. engr., Ill. Clay Prods. Co., 1935-39; chf. insulation & paint dept., Armco Internatl. Corp., 1939-45; consltg. engr., San Antonio, Tex., 1945 to date; 3 yrs. serv. in Mexico, Puerto Rico, Venezuela, Brazil & Argentina; sev. pats. issued on processes dev.; refining pet. distillates; drilling muds; insulation & lightweight aggregates. Reg. Prof. Engr. Texas, Major, O.R.C. Mem.: Texas Soc. of Prof. Engrs., Reserve Officers Assn. Clubs: Reserve Officers, Masonic. Hobbies: golf, building construction.

ETHEREDGE, Mahlon Padgett, hd., dept. chem. & chem. engrg., Miss. State Coll.; State Chem. of Miss., Miss. State Chem. Lab., State Coll., Miss.
Chem.; b. Saluda Co., S.C., Sept. 27, 1897; s. of Joseph Wolfe and Ella (Padgett) Etheredge; ed. B.S., Clemson Coll., (4 yr. compet. scholarship 1918; M.S., Miss. St. Coll., 1940; Ph.D., M.I.T., (G.E.B., grant-in-aide) 1945; mem.: Alpha Chi Sigma (hon. chem.), Alpha Epsilon Delta; m. Lucile Davis, Sept. 30, 1926; ch.: Sarah, Dot. 1918-23, asst. chem., Miss. St. Chem. Lab.; 1923-45, asst. State Chem., Miss. St. Chem. Lab.; 1935-45, lect., dept. chem.; 1945 to date hd., dept. chem. & chem. engrg.; 1945 to date, State Chem. of Miss. Councilor from Miss. St. Coll. to Oak Ridge Inst. for Nuclear Studies. Won permanent poss. for Miss. St. Chem. Lab. two cups (6 wins) from A.O.C.S. for best wk. on oil, ammonia determination; for Master deg. made a survey of meths. for starch determination which resulted in adoption by A.O.A.C.; wkd. imp. disacchar., probl. for doctorate, M.I.T., which was presented at A.C.S. meeting, Chicago, 1946; Contrib. extens. to sc. and tech. jls. Mem.: A.C.S., A.O.C.S., A.A.A.S., AS.T.M., Assn. Am. Feed Contr. Off. (v. pres.), Assn. Am. Fert. Contr. Off. (investigator on nitro.), Assn. F. & D. Off. U.S.A., A.O.A.C., (gen. ref. on feeds); Southern Feed. Contr. Off. Southern Assn. Sc. & Ind. (v.pres.), N.E.A. Miss. Agri. Ind. Bd. (bd. dirs.). Hobbies: golf, bridge.

EUBANK, William Roderick, ceramic conslt. 1637 Michelson Lab., U.S. Naval Ordnance Test Station, Inyokern, Calif.; res. 214 A Ellis St., China Lake.
Res. chem., ceramics; b. Cynthiana, Ky., Jan. 21, 1919; s. of Holly Witherspoon and Martha (Haggard) Eubank; ed. U. Ky.; B.S., 1940; M.S., 1941; 1941-42, Pa. State Coll.; Ph.D. (physical chem.), 1947, Johns Hopkins U.; mem.: Alpha Sigma Phi; m. Clare Burkle, 1945; ch.: William Roderick II, Martha Holly. 1940-41, grad. asst., physical chem., U. Ky., Lexington; 1941-42, res. asst., ceramics, Pa. State Coll., State Coll.; 1942-43, res. physical chem., Keasbey & Mattison Co., Ambler, Pa.; 1943-44, fellow of ind. res., Mellon Inst., Pitts., Pa.; 1944-48, res. assoc., Natl. Bur. of Stand., Wash. D.C.; 1948 to date, ceramic conslt., U.S. Naval Ordnance Test Station. Electrode potentials in non-aqueous mixtures, phase equilibrium studies of systems of portland cement incl. a quinary system, flame photometry, temp. control, physical properties of explosives, growth of ferroelectric crystals & ceramics, calcination of magnesium oxides, refractories, enamels. Mem.: Alpha Chi Sigma, R.E.S.A., A.C.S., Am. Ceramic Soc., A.A.A.S., A.I.C. Club: Isaak Walton League of Am. Hobbies: hunting, fishing.

EUSTIS, Augustus Hemenway, pres., Va. Smelting Co., 131 State St., Boston, Mass.; res. 1426 Canton Ave., Milton, Mass.
Exec., engr.; b. Milton, Mass., Oct. 7, 1877; s. of W.E.C. and Edith (Hemenway) Eustis; ed. Harvard Coll., A.B. 1901, A.M. 1902; M.I.T. 1 yr. no degree; m. Elizabeth Bowditch, Oct. 30, 1923; ch.: Elizabeth Bowditch, Margaret Swann, Frederic Augustus, 2nd. Dir., Eustis Mining Co., 1910-38, pres., 1932-44; dir., v.p., Va. Smelting Co., 1909-32, dir., pres. 1932 to date. Mem.: A.I.M.E., Electrochem. Soc., Am. Soc. of Refrigeration Engrs. Clubs: Union (Boston), Harvard (N.Y. & Boston), Hoosic-Whisick (Milton, Mass.), Beverly Yacht (Marion, Mass.). Hobbies: yachting, tennis, skating, horseback riding.

EUSTIS, Warner, dir. of res., c/o The Kendall Co., 140 Federal St., Boston 10, Mass.; res. 260 Franklin St., Newton 58.
Res. dir.; b. Newton, Mass., June 8, 1895; s. of John Peltz and Mary Miner Warner Eustis; ed. Harvard U., 1918, S.B.; mem.: Alpha Sigma Phi; m. Edith Richmond Fisher, Sept. 17, 1927. Served 8 yrs. with J.P. Eustis Mfg. Co., Cambridge, Mass.; since July, 1927, The Kendall Co. Contrib. exten. to sc. and tech. jls. Mem.: A.C.S.,

A.A.A.S. (Fellow), Am. Physical Soc., Ind. Res. Inst., Textile Res. Inst. Clubs: Harvard (Boston), Brae Burn Country (West Newton, Mass.), Boothbay Yacht & Southport Yacht (Maine). Hobbies: travel, flowers, politics, dogs, boats, music, photography.

EVANS, Earl Alison, Jr., prof. & chmn. dept. of biochem., U. Chicago, Chicago 37, Ill.; res. 900 N. Michigan Ave., Chicago 11.
Biochem.; b. Baltimore, Md., Mar. 11, 1910; s. of Earl Alison and Florence (Lewis) Evans; ed. B.Sc., Johns Hopkins U., 1931; Ph.D., Columbia U., 1936. Asst. pharmacol., Schl. of Med., Johns Hopkins, 1931-32; instr. biochem., U. Chicago, 1937-39; asst. prof. 1939-41; assoc. prof. & acting chmn., 1941-42; prof. & chmn. dept., 1942 to date; chf. scientific officer, U.S. State Dept., London, 1947-48. Chem. of insulin & toad poisons, etiology of tetanus poisoning, metabolism of malaria parasite, carbon dioxide fixation in mammalian tissues, carbohydrate & protein metabolism, radioactive isotopes, bacteriophage. Scientific publ. Mem.: A.C.S., A.A.A.S., S.E.B.M., Am. Soc. of Biolog. Chem. (treas. 1947 to date), Biochem. Soc. (Brit.), Chaos Club, Sigma Xi, Tau Beta Pi. Clubs: Quadrangle & University (Chicago), R. A.C. (London). Hobbies: music, art.

EVANS, Henry D., dir. of res., Pepperell Mfg. Co., Biddeford, Me.; res. Saco.
Chem.; b. Bristol, Me., Sept. 14, 1879; s. of Lewis D. and Hester A. (Huston) Evans; ed. Bowdoin Coll., B.A., 1901; M.A., 1903; mem.: Phi Beta Kappa, Beta Phi Pi; m. Elizabeth Vickery; ch.: Hester E. Chem. instr., Bowdoin Coll., 1901-02; sc. teacher, Thornton Acad., 1902-05; chem., State Dept. of Health, Augusta, Me., 1906-18; dir. of State Labs. 1910-18; chem., Bates Mfg. Co., Lewiston, Me., 1919-26; chem., Franklin Rayon Dyeing Corp., Providence, R.I., 1926-28; chem., Pepperell Mfg. Co., Biddeford, Me., 1928 to date, res. dir., 1936 to date. Mem.: A.C.C., A.A.T.C. C., A.S.T.M, A.S.O. Club: Rotary. Hobbies: photography, fly fishing.

EVANS, James William, dir. of res., American Maize Prods. Co., Roby, Indiana.
Res. chem.; b. Chilhowee, Johnson County, Mo., Sept. 21, 1908; s. of George W. and Lucy (Webb) Evans; ed. Central Missouri State Coll., B.S., 1928; Grad. Schl., U. Mo., 1929; U. Minn. 1940; mem.: Sigma Xi, Phi Lambda Upsilon, Gamma Alpha, Kappa Delta Pi, Phi Sigma Pi; m. Helen Hughes, Aug. 31, 1930; ch.: James, Jr. Union Starch & Refining Co., Granite City, Ill., res. chem., 1930-37; U. Minn., res. asst., 1938-39; instr., 1939-40; Union Starch & Refining Co., res. chem., 1940-43; General Mills, Inc., Minneapolis, res. dept., head of food and carbohydrate sec., 1943-50; Am. Maize Products Co., dir. res., 1950. Corn starches, wheat starches, corn syrups and sugars, caramel coloring, moisture methods for syrups and sugars, composition of starch hydrolysates, dev. of packaged foods as soups, cake mixes, pie crust mix, breakfast cereals, biscuit mix. Mem.: A.C.S., I.F.T., A.A.C.C., Hobbies: gardening, fishing, photography.

EVANS, Mildred Williams, prof. chem., hd. dept., Wheaton Coll., Norton, Mass., res. Monument Rd., Orleans.
Tchr.; b. Aug. 18, 1896, So. Easton, Mass.; d. of William Arthur and Lilla Anne (Williams) Evans; ed. A.B. 1918; A.M. 1927; Ph.D., 1929; all Radcliffe Coll.; mem.: Phi Beta Kappa; 1918-19, E. I. du Pont, anal.; 1919-20, Gillette Safety Razor Co., res.; 1920-24, Lehn & Fink Co., anal. res.; 1924-26, D.E.H. Chem. Co., part owner; 1929-32, asst. prof. chem., Wheaton Coll.; 1932-38, assoc. prof. chem., hd. dept.; 1938 to date, prof. chem., hd. dept. Res. on free radicals, new anal. meths. on phenolic subs., rates of reactions. Mem.: A.C.S., A.A.A.S. (fellow), N.E. Chem. Tchrs. Assn.

EVANS, Ralph Liggett, pres., Evans Chemetics, Inc., 250 E. 43rd St., New York 17; res. Garner Lane, Bay Shore, Long Island.
Chem. exec.; b. Texarkana, Ark., Apr. 15, 1895; s. of William Henry and Sarah Elizabeth (McCarrell) Evans; ed. S.B., U. Chicago, 1919; Ph.D., Columbia U., 1925; mem.: Tau Kappa Epsilon; m. Nancy C. Lawrence, Apr. 7, 1923; ch.: Ralph, Nancy E., Lawrence W. Lectur. Columbia U., 1920-24; chem., v. p., Inecto, Inc., 1923-46, pres., 1946 to date; Marinello Corp., 1927-32; v.p. Sales Affiliates, Inc., 1929-46, pres. since 1946; dir. Evans Chems., Ltd., since 1939; pres. Evans Chemetics, Inc., since 1940; prop., Ralph L. Evans Assoc., since 1941; pres., Evans Res. and Dev. Corp., since 1946. Notox Ltd. (pres.), Canada; Natl. Schl. of Cosmeticians, Inc. (pres.). Res. in org. chem., hair, cosmetics, pharmaceuticals, chem. specialties. Holds abt. 25 U.S. and many foreign pats. an permanent waving, hair dyeing, and org. proc. Medal Award, Soc. of Cosmetic Chems., 1949; apptd. mem. cosmetic and toiletries adv. comm., W.P.B., 1942; mem. (1950) Natl. Res. Council, Adv. Bd. on QM. Res. and Dev. (Comm. on Chems.) fellow, A.I.C. Mem.: A.C.S., A.A.A.S., A.C.C.C.E., Am. Ord. Assoc., Armed Forces Chem. Assoc., Soc. Cos. Chem., Soc. Chem. Ind., Columbia Chem. Alumni Grp., Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon. Club: Chemists'.

EVANS, Raymond F., pres., Diamond Alkali Co., 300 Union Com. Bldg., Cleveland 14, Ohio; res. Little Mountain Rd., Mentor, Ohio.
Industrialist; b. Pitts., Pa., Dec. 23, 1908; s. of Thomas R. and Ida (Flaccus) Evans; ed. Princeton, B.S. 1931; m. Elizabeth R. Whitney, Sept. 21, 1934; ch.: Thomas R., Whitney, Nona, Michael, Andrew. Entire career with Diamond Alkali Co., 1931-38 res. asst., 1938-41 mgr. of res., 1941-47 v.p., gen. mgr.; pres. 1947 to date and a dir. Cleveland Trust Co., dir.; Mellon Natl. Bank & Trust Co., dir. Clubs: Duquesne (Pitts., Pa.), Union (Cleveland, Ohio), Rolling Rock Country. Hobbies: golf, hunting.

EVANS, Theodore William, dir. res., Shell Development Co., Emeryville, Calif.; res. 5500 Proctor Ave., Oakland, Calif.
Res. exec.; b. Aberdeen, Wash., June 26, 1907; s. of V. T. and Catherine (Grossman) Evans; ed. B.S., Coll. of Puget Sound, 1927; Ph.D., U. Wash., 1930; m. Sue Phelps, Nov. 12, 1930; ch.: Elizabeth, Edward. 1930-34, Shell Development Co.; 1934-36, Shell Chemical Co.; 1936 to present, Shell Development Co.

EVANS, William Lloyd, emeritus prof. of chem., The Ohio State University; res. 1975 Indianola Ave., Columbus 1, Ohio.
Chem.; b. Columbus, O., Dec. 22, 1870; s. of William Henry and Anne (Lloyd) Evans; ed. Ohio State U., B.Sc., 1892; M.Sc., 1896; Ph.D., U. of Chicago, 1905; LL.D., Ohio State U., 1948; D.Sc. (hon.), Capital University, 1950; m. Cora Ruth Roberts, Mar. 9, 1911; ch.: Lloyd Roberts, Jane Anne (Mrs. A.H. Nielsen), William Arthur (lost in action in the Pacific, U.S.N., 1944). Amer. Encaustic Tile Co., 1892-94; asst. in ceramics, Ohio State U., 1896; instr. in chem., high schl., Colorado Springs, 1898-1902; asst. prof. chem., 1905-08; assoc. prof., 1908-11; prof., 1911-41; chmn., Dept. of Chem., 1928-41; prof. emeritus since 1941, Ohio State U., 1905-41. Commd. Captain, Officers Reserve Corps, U.S.A., Oct. 11, 1917; Major, C.W.S., Offense Div., July 19, 1918; hon. discharge Dec. 30, 1918. Res. in fld. of carbohydrate chem.; chemical reviews. Author: "Text-

book in Qualitative Analysis" (with J.E. Day, Alfred B. Garret, U.L. Quill & H.H. Sisler); "Laboratory Manual" (with Wm. McPherson & W.E. Henderson). Mem.: Ohio Acdy. of Sc. (pres., 1939-40), Amer. Acdy. of Arts and Scs., A.C.S. (pres., 1941), Natl. Research Council Div. of Chem. & Chem. Tech. (1934-40). William H. Nichols Medal, 1929; Gold Medal, A.I.C., 1942. Clubs: Torch (Columbus, O.), Faculty (Ohio State U.), Mason (32 deg.), Sigma Xi, Phi Beta Kappa (hon.), Sigma Chi, Engrs. (Dayton, Ohio).

EVERETT, Mark Reuben, prof. biochem., dean U. Okla. Schl. of Medicine, supt. University Hospitals, 800 NE 13th St., Oklahoma City 4, Okla.; res. 1302 NW 21st St., Oklahoma City 6.
Biochem., med. adminis.; b. Slatington, Pa., Nov. 2, 1899; s. of Alexander D. and Mary M. Everett; ed. Bucknell U., B.Sc. in Ch.E., 1920; Harvard U., Ph.D. (biochem.), 1924; D.Sc. (hon.). Bucknell U., 1948; Oklahoma Hall of Fame, 1946; Penn. Ambassador, 1948; m. Alice G. Allen, 1924; ch.: Mark Allen, Kathleen Elizabeth. 1920, chem., N.J. Zinc Co.; 1920-24, tchg. fellow, Harvard Med. Schl.; 1924-35, prof. biochem. & phar.. U. Okla. Schl. of Med.; 1936 to date prof. biochem., U. of Okla. Schl. of Med.; 1947 to date dean of Schl. of Med. and supt. of University Hospitals. Mem. bd. of dirs. Okla. Med. Res. Foundation; Adminis. John Archer Hatchett Memorial Fund; Okla. Comm. for Crippled Children; Okla. State Mental Health Bd. Contrib. approx. 80 papers in various natl. jls., chiefly on chem. and metabolism of carbohydrates. Author: "Oxidation of Carbohydrates," (1936); "Medical Biochemistry" (sev. editions 1942-46); "Keturonic Acids; Salt Catalysis" (1944). Mem.: A.S.Biol. C.; A.C.S.; Soc. Exptl. Biol. & Med.; Okla. Acad. Sci.; Okla. City Acad. Med.; Okla. Co.; Med. Soc.; A.A. Cancer Res.; A.A.A.S.; A.A. U.P.; Blue Cord, Okla. City Clin. Soc.; Sigma Xi; Phi Beta Pi. Hobbies: landscape painting, history of the southwest Indians.

EVERHART, W(illiam) Alfred; assoc. prof. chem., Denison U., Granville, Ohio; res. Burg St. Hill, Granville.
Tchr. chem.; b. Jan. 21, 1891; s. of N.L. and Mary (Shaw) Everhart; ed. A.B. (magna cum laude), Miami U., Oxford, Ohio, 1914; M.S., 1922, Lehigh U., Bethlehem, Pa.; Ph.D., 1930, Ohio St. U., Columbus; mem.: Phi Kappa Tau; m. Mary Elder Lough, Dec. 19, 1914; ch.: Donald Lough, David Leslie. Sc. tchr., high schls., Greenfield, Ohio, 1914-16; Troy, Ohio, 1916-18; instr. chem. Lehigh U., 1918-20; asst. prof. chem., Denison U. 1920-30; assoc. prof. chem. 1930 to date: acting hd., dept. chem., 1930-31, 1944-46. Ed. "Jl. Sc. Labs." (Denison U.), molecular dimensions of some organ. molecules (notably, mesitylene). Mem.: Phi Beta Kappa, Phi Lambda Upsilon, A.C.S., A.A.A.S., Ohio Acdy. Sc. (fellow); Alpha Epsilon Delta. Club: F.&A.M. Hobby: gardening.

EVEROTE, Warren Peter, assoc. producer, Encyclopaedia Britannica Films, 1150 Wilmette Ave., Wilmette, Ill.; res. 1525 Woodland Dr., Deerfield.
Educatnl. motion pictures; b. Farmington, Minn., Oct. 12, 1913; s. of Peter and Gladys Everote; ed. B.A., M.A., U.C.L.A.; Ph.D. Columbia; mem.: Phi Delta Kappa; m. June Meriam, Mar. 18, 1940. Instr. in chem., Los Angeles City schools, 1938-42; res. assoc., Bur. Edu. Res. in Sc., Teachers Coll., Columbia, 1942-43; instr. in sc., Lincoln School, New York City, 1942-43; Bur. of Ordnance, U.S. Navy, 1943-45; assoc. res. and prod., Encyclopaedia Britannica Films, 1945-48; assoc. producer, science, 1949 to date. Mem.: Natl. Assoc. Res. in Sc. Edu., A.A.A.S. Hobbies: stamps, antiques.

EVERSOLE, James Frank, supt. of res. and dev., Linde Air Prods. Co., East Park Dr. and Woodward Ave., Tonawanda, N.Y.; res. 66 Leicester Rd., Buffalo 17.
Chem.; b. Caledonia, Mo., Oct. 14, 1903; s. of Dr. George H. and Mamie (Amonette) Eversole; ed. Westminster Coll., Fulton, Mo., A.B. (magna cum laude), math., 1924; U. of Iowa, Iowa City, M.S., chem., 1927; State U. of Iowa, Iowa City, Ph.D., phys. chem., org. chem. and physics, 1928; m. Edna Adelle Drew, June 24, 1929; ch.: Harriet Joanne, Marilyn Frances, Nancy Jane. 1928-29, prof. of phys. chem. U. of S. Dak.; 1929-31, res. chem., Carbide & Carbon Chems. Corp., Unit of U.C.C., Niagara Falls, N.Y.; 1931-38, res. chem., Carbide & Carbon Chem., S., Charleston, W. Va.; 1938-43, res. chem., Linde Air Prods. Co., Unit of U.C.C., Tonawanda, N.Y.; 1943 to date supt of res. and dev. Pub. two academic artls. Mem.: A.C.S., Alpha Chi Sigma, Gamma Alpha, Sigma Xi, Phi Lambda Upsilon. Club: Chemists' (N.Y.). Hobbies: woodworking, photography.

EWELL, Raymond H., mgr., Chem. Economics Service, Stanford Res. Inst., Stanford, Calif.; res. 189 Walter Hays Dr., Palo Alto.
Chem. econ.; b. Brockton, Mass., June 18, 1908; s. of Robert G. and Arvilla H. (Thompson) Ewell; ed. B.S., U. Toledo, 1928; M.S., Purdue U., 1930; M.A., George Washington U., 1935; Ph.D., Princeton U., 1937; m. Libuse Sallerova, Dec. 22, 1945; ch.: Jeffrey Raymond, Randolph Bartlett. 1930-35, jr. chem., Natl. Bur. of Stds.; 1937-41, instr. and asst. prof., Purdue U.; 1941-45, sr. tech. aide, Div. 11, N.D.R.C.; 1945-48, chem. economist, Shell Chem. Corp.; 1948-50, chmn., dept. of chem. & chem. engrg., Stanford Res. Inst.; since Feb., 1950, mgr., Chem. Economics Service, Stanford Research Inst. Author of many papers in chemistry of silicates, viscosity of liquids and glasses, applied chem. thermodynamics, azeotropic distillation, chem. economics. Mem.: A.C.S., A.I.Ch.E., Soc. of Rheology, Sigma Xi, Phi Lambda Upsilon, Sigma Pi Sigma, recip. of U.S. Medal for Merit. Hobbies: mountain climbing, foreign languages, gardening.

EWING, Alfred M., exchange prof. of chem., U. Philippines, Manila, P.I.; res. U.S. Ed. Foundation, Amer. Embassy, Manila, P.I., APO 928, c/o Postmaster, San Francisco, Calif.
Tchr.; b. Gallipolis, O., Aug. 10, 1900; s. of William Edgar and Corlie (Price) Ewing; ed. Rio Grande Coll., Rio Grande, O., B.A., 1921; O. State U., 1922-23; U. Colorado & O. State U., 1926-28; M.Sc., 1928; Ph.D., 1934; Colorado State U., Ed.D., 1945. Div. freshman inorg. chem., O. Northern U., Ada, O., 1928-32; chem., U.S. D.A., Bur. Forestry, Div. of Soils, Lake City, Fla., 1934-35; prof. chem., Texas Wesleyan Coll., Fort Worth, 1935-46; chmn., div. of sc., 1941-46; U. Georgia, Athens, Ga., div. freshman chem., 1946-47; visiting prof., Memphis State Coll. (summer, 1946), U. Mississippi (summer, 1947), Alabama (summer, 1948); chmn., dept. chem., U. Alaska; assoc. prof., div. freshman chem., N.D. Agr. Coll., Fargo, N.D.; exchange prof., Seoul Natl. U., Seoul, Korea, until driven out by current war; at present, exchange prof., U. Philippines. Specialty the field of freshman chem. Author: "Reading Readiness, Psycholog. & Ed. Measurements" (1945); "Qualitat. Chem. Anal., 'Q-A-Easy Way'," (1935; revised, 1949); "Seeing America First," travel series (1924, 1931, 1936); "Individualized Chem. Experiments" & "Alaska Guide Series" (in preparation). Mem.: A.C.S., Alpha Chi Sigma, Phi Delta Kappa, Kappa Delta Pi, Natl. Sc. Tchrs. Assn., N.E.A., Texas State Assn. of the Scs., A.A.U.P., A.A.A.S.

EWING, Clare Olin, chf. chem., Rexall Drug Co., 3901 N. Kingshighway, St. Louis 15, Mo.;

res. 605 Country Club Dr., Pasadena Park, St. Louis 21.
Chem.; b. Bluffton, Ohio, Aug. 17, 1889; s. of Jay Dolson and Elizabeth (Flick) Ewing; ed. Ohio State U., B.Sc., 1912; M.Sc., 1913, George Washington U.; mem.: Sigma Xi, Kappa Psi; m. Marie Murphy, June 27, 1914; ch.: Robert Arno, Clare Olin, Jr., John Jay, Philip Martin. Columbus Pharmacal Co., chem., 1912; Bur. of Chem., U.S.D.A., chem., 1913; pharmacognosist, 1915; chf. pharmacognosist, 1917; Rexall Drug Co., asst. chf. chem., 1919; chf. chem. 1940 to date. Referee A.O.A.C.; mem.; U.S.P. Conventions; U.S.P. & N.F. Revision Subcomms.; chmn. Drug Ind. Tech. Comms. 40 scientific & tech. papers. Author: "Drug & Cosmetic Industries" (Vocational Guidance Series, 1942). Mem.: A.A.A.S. (fellow), A.I.C. (fellow), A.C.S., St. Louis Acad. of Sc. A.Ph.A., (life mem.), Sigma Xi, I.F.T. Alumni Advisory Bd. O.S.U. (chmn.); O. & E. Comm., N. W. District St. Louis Council B.S.A. (chmn.); Quincy, Mass., Council (past pres.); Quincy, Mass., Community Chest (past pres. & chmn.); Masons. Clubs: Cosmos (Wash., D.C.), Acacia (Quincy, Mass.). Hobbies: music, poetry, golf, social service.

EWING, Dwight Tarbell, prof. physical chem., 111 Kedzie Chemical Lab., Michigan State Coll., East Lansing, Mich.; res. 513 Ardson Rd., East Lansing.
Coll. chem. prof.; s. of Frederick Walter and Effe Jane Ewing; ed. Parsons Coll., B.S., 1911; U. of Chicago, M.S., 1915; Ph.D., 1920; m. Grace Sandiland, 1915; ch.: Elizabeth, John, Jeanette, Richard, Robert. Carroll, Iowa, H.S., 1911-14, principal & chem. tchr.; chem. dept., Mich. State Coll., 1914 to date; instr., 1914-17; asst. prof., 1917-23; assoc. prof., 1923-30; prof., 1930 to date. du Pont Fellow & National Res. Council Proj., U. of Chicago, W.W. I; Manhattan Proj., W.W. II. Meritorious Research Award, 1948. Numerous electrochem. pats.; dir. eight fellowship projects. Mem.: A.C.S., A.Phys.S., E.S., Opt. Soc. of Amer., A.A.A.S. Clubs: Economic, Sigma Xi, Alpha Chi Sigma. Hobby: photographic chem.

EWING, Warren W(alter), prof. physical chem., Lehigh U., Bethlehem, Pa.; res. 106 W. Langhorne Ave., R. 2.
Educator; b. Winterset, Ia., Nov. 4, 1889; s. of Frederick Walter, M.D. and Effie Jane (Tarbell) Ewing; ed. Parsons Coll., B.S., 1912; U. Chicago, M.S., 1918; Ph.D., 1920; m. Adah Shawver, July 25, 1929; ch.: Sally. Mission H.S., Fatehgarh, India, 1912-15, mgr., tchr.; British East Africa Expedit. Force, 1916, Warrant Off.; Marshalltown, Ia., High Schl., 1916-17, chem., physics; Y.M.C.A. High Schl., Chicago, 1917-18, chem.; C.W.S., Edgewood Arsenal, 1918, sergt.; U. Chicago, 1919-20, asst. chem.; Lehigh U., asst. prof., 1920-27; assoc. prof. 1927-37; prof. 1937 to date. N.J. Zinc Co. of Pa., investigator, summers of 1928, 1929 and 1943 to 1945. Res. in surf. tension of mercury, cal. electrode, phase equil., vapor pressures, thermal data, density and partial molal volumes of concentr. aqueous solutions; heats of adsorp., spec. surf., densities and dispersion of pigm., dyeing of wool, prep. of titanium tetra chlor. Mem.: A.C.S., A.A.A.S., Sigma Xi, Phi Kappa Phi. Hobbies: travel, horticulture.

EYRING, Henry, dean of grad. schl., prof. of chem. & metallurgy, U. of Utah, Salt Lake City, Utah; res. 1922 E. 9th South, Salt Lake City.
Chem.; b. Colonia Juarez, Chihuahua, Mexico, Feb. 20, 1901; s. of Edward Christian and Caroline (Romney) Eyring; ed. B.S. in mining engrg., U. of Ariz., 1923; M.S. in metallurg. engrg., U. of Ariz., 1924; Ph.D. in chem., U. of Calif., Berkeley, 1927; mem.: Sigma Xi, Phi Kappa Phi; m. Mildred Bennion, Aug. 25, 1928; ch.: Edward Marcus, Henry Bennion, Harden Romney. Instr. chem., U. of Ariz., 1924-25; instr. chem., U. of Wis., 1927-28; res. assoc. chem. 1928-29; Natl. Res. Fellow, Kaiser Wilhelm Inst., Berlin, Germany, 1929-30; lecturer chem., U. of Calif., 1930-31; asst. & assoc. prof. chem., Princeton U., 1931-38, prof. chem., 1938-46; dean of grad. schl. & prof. of chem. & metallurgy, U. of Utah, 1946 to date. Radioactivity; application of quantum mechanics to chem.; theory of reaction rates; theory of liquids. Co-author: "The Theory of Rate Processes," (with Samuel Glasstone, Keith J. Laidler) McGraw-Hill, 1941; "Quantum Chem.," (with John Walter, George Kimball), John Wiley & Sons, Inc., 1944. Assoc. edit., "Textile Res. Journal"; bd. of dirs., "Annual Reviews." Awards: 1932, Ninth Award, A.A.A.S.; May, 1947, Alumni Achievement Award, U. of Ariz.; Feb., 1949, Res. Corp. Award; Feb., 1950, Bingham Medal, Soc. of Rheol. Mem.: Textile Foundation (dir., 1944-46), A.A.A.S. (v.p., chmn. of chem. sec., 1946), Soc. of Rheol. (v.p., 1946), A.C.S. (chmn., div. of physical & inorg. chem., at present dir., 6th District), Am. Phil. Soc., Utah Acdy. Sc. Clubs: Aztec, Timpanogas. Hobby: mt. climbing.

F

FAIN, Jacob Mitchell, res. group dir., Foster D. Snell, Inc., 29 W. 15 St., N.Y.; res. 201 Crown St., Bklyn., N.Y.
Chem., chem. engr.; b. Bklyn., N.Y., Sept. 15, 1901; s. of Julius and Sarah K. Fain; ed. 1917-21, Columbia Coll., A.B. 1921; 1921-23, Columbia U. Schl. of Engrg., Ch.E. 1923; 1931-32, Columbia U. Grad. Schl., Ph.D. 1932; m. Frieda Lowenstein, June 30, 1929. Chem., Paramount Prods. Co., 1923-24; asst. supt., Neidich Elec. Mfg. Co., 1924-26; chem. engr., Flintkote Co., 1926-31; consltg. chem., private practice, 1931-33; assoc., Foster D. Snell, Inc., 1933-36; res. dir., 1936-42; active duty, U.S.A. & Air Force 1942-46; chem. officer Ninth Air Force 1942-43; Western Flying Training Command 1943-46; released in grade of col.; res. group dir., Foster D. Snell, Inc., 1946 to date. Res., dev. & consulting wk. asphalt, emulsions, artificial aging whisky, ind. colloids coatings, elastomers, flameproofing; numerous articles in these flds. Author: "Household Guide to Wines & Liquors" (1934). Mem.: A.C.S., A.I.Ch.E., A.S.T.M., Sigma Xi. Hobbies: bridge, golf.

FAIR, William F., res. engr.; Mellon Inst., Pittsburgh, Pa., Koppers Co., Westfield, N.J.; res. 704 Springfield Ave., Cranford, N.J.
Res. chem.; b. So. Natick, Mass., Nov. 11, 1903; s. of W.F. and Mary L. Ring Fair, Sr.; ed. A.B. Harvard, 1925; M.A. Columbia 1927; Ph.D. 1930; m. Katherine A. Herron, Feb. 12, 1928; ch.: Joan Catherine, Patricia Mary. Res. chem., Barrett Co. 1929-30, 1932; chf. chem., Bridges Asphalt Co. 1931; prof. chem., Manhattanville Coll. of the Sacred Heart, 1932-37; adv. fellow, Mellon Inst., res. engr. Koppers Co., tar prod. div., 1937 to date. Res. in bituminous compositions, rheol. corrosion. Mem.: A.C.S., A.S.T.M., N.A.C.E., Cath. Round Table of Sc., Soc Rheology (pres. 1945-49 Bingham Medal Award, 1950), Am. Inst. Physics (bd. govs. 1945 to date), A.I.C. Clubs: Harvard (Boston), Harvard (Western Pa.), Chem. (Pittsburgh), Chem. (N.Y.), Pittsburgh Athletic Assn.

FAIRBANKS, Sumner Cushman, dir. of res., The Hamersley Mfg. Co., 65 River Rd., Garfield, N.J.; res. 259 Brook Ave., Passaic, N.J.
Chem.; b. Norwood, Mass., Sept. 3, 1902; s. of Daniel and Anna (Wiggen) Cushman; ed. Amherst Coll., 1925; m. Priscilla Hill, Feb. 23, 1924; ch.: Roger, Richard. Chf. chem., Mt. Tom Sulphite Pulp Co.; dir. of res., The Hamersley Mfg. Co. Mem.: A.C.S., T.A.P.P.I.

FAIRHALL, Lawrence Turner, Scientist Dir., U.S. Public Health Serv., Wash., D.C.; res. 406 Fairfax Rd., Bethesda 14, Md.
Chem., ind. toxicol.; b. Chicago, Ill., Aug. 30, 1888; s. of Joseph, M.D. and Elizabeth (Sandys) Fairhall; ed. U. of Ill., B.S. 1911, M.S. 1912; Harvard U., M.A. 1915, Ph.D. 1918; mem.: Alpha Chi Sigma, Gamma Alpha; m. Florence Wade, Apr. 2, 1918; ch.: Richard Sandys. U.S.A. 1917-19; Harvard U., 1920-36, faculty mem.; U.S. Public Health Serv., 1936 to date. Microchem., ind. toxicol. Author: "Ind. Toxicology" (1949); co-author: "Lead Poisoning" (with Aub, Minot, & Reznikoff, 1926). Mem.: A.C.S., Soc. of Biol. Chemists', A.A.A.S., A.I.C. (fellow), Roy. Microscopical Soc. (fellow), Sigma Xi. Clubs: Army & Navy (Wash., D.C.), Harvard (Wash., D.C.).

FAITH, William Lawrence, dir. engr., chem. div., Box H., Corn Prods. Ref. Co., Argo, Ill.; res. 513 S. Wash. St., Hinsdale, Ill.
Chem. engr.; b. Hancock, Md., May 12, 1907; s. of Eugene F. and Bernadette Murray Faith; ed. B.S., U. Md., 1928; M.S., U. Ill., 1929; Ph.D., 1931; mem.: Phi Kappa, Alpha Chi Sigma; m. Mildred Eunice Dixon, Sept. 2, 1932; ch.: Michael Dixon, Mary Eunice, Roger Lawrence. Spec. res. asst. chem. engr., engr. exp. sta., U. Ill., 1931-33; chem., Natl. Alum. Corp., Chicago, Ill., 1933; asst. prof., prof., hd. dept. chem. engrg., Kans. St. Coll., Manhattan, 1933-42; prof. chem. engrg. St. U. Ia., Iowa City, (on leave) 1942-44; conslt., off. prod. res., dev., W.P.B., 1942-43; asst. dir. 1944; deputy dir. 1944-45; dir. dev. engr., Corn Prods. Ref. Co., Argo, Ill., 1945-48; dir. engrg., chem. div., 1948 to date. Co-author: "Appli. Chem. Engrg." (1940); "Indust. Chems." (1950). Mem.: A.C.S., A.I.Ch.E., Sigma Xi. Club: Edgewood Valley Country (La Grange, Ill.). Hobby: golf.

FAJANS, Kasimir, prof. chem., chem. dept., U. Michigan, Ann Arbor, Mich.; res. 1016 Lincoln Ave., Ann Arbor.
Chem. prof.; b. Warsaw, Poland, May 27, 1887; s. of Herman and Wanda (Wolberg) Fajans; ed. U. Leipzig, 1907; Heidelberg, Dr. phil. nat., 1909; res. at Zürich, 1909-10; U. Manchester, 1910-11; m. Salomea Kaplan, M.D., 1910; ch.: Edgar L., Stefan S. Asst. & privatdozent for physical chem., Tech. Hochschule, Karlsruhe, 1911-17; U. Munich, 1917-35; assoc. prof., 1917-25; prof., 1925-35; dir., Inst. for Physical Chem., 1932-35; prof. chem., U. Mich., 1936 to date; non-res. lect. in chem., Cornell U. 1930; lects. in Austria, Belgium, Canada, Denmark, England, Germany, Holland, Norway, Poland, Russia, Spain, Sweden, Switzerland, U.S.A.; sc. collab., Glass Science, Inc., 1944-47; sc. conslt., Owens-Illinois Glass Co., Toledo, O., 1948 to date. Experi. & theoret. res. in gen. chem., radioactivity, isotopes, thermochem., theory of chem. forces, photochem., light absorption, refractivity, soluts. of electrolytes, adsorption, volumetric anal., structure of glass. Victor Meyer Prize, Heidelberg, 1909; Medal of U. of Liége, 1948. Author: "Radioktivität und neueste Entwicklung der Lehre von den Chemischen Elementen" (1919; 4th edit., 1922; revised, 1930; trans. English & Russian); "Physikalisch-chemisches Praktikum," with J. Wüst (1929; 2d. edit., 1935; trans. English & Russian); "Radioelements & Isotopes. Chem. Forces & Optical Properties of Substances" (1931). Contrib. to bks.: "Adsorptionsindikatoren für Fällungstitrationen" (1935; 2d. edit., 1937; trans. English); with N. Bauer, "Refractometry" (1945; 2nd edit., 1949); num. arts. in chem., physical, crystallograph. jls. Editor, Elektrochemie in "Handbuch der Experimentalphysik" (Vols. X11/1 & X11/2, 1932-33); co-edit., "Zeitsch. für Kristallographie" (1924-39); assoc. edit., "Jl. Physical & Colloid Chem." (1948-49). Mem.: Faraday Soc., A.C.S. (exec. comm. div. physical & inorg. chem., 1942-44; council, 1944; chmn., U. Mich. sec., 1947), Sigma Xi, Am. Phys. Soc., A.A.A.S., Am. Soc. X-ray Electron Diffraction, Soc. Freedom in Sc., Acdys. Sc. (Leningrad, Munich, Cracow), Polish Inst. Arts & Scs. in Am., Chem. Soc. Karlsruhe (hon.), Soc. of Doctors of Madrid (hon.), Spanish Soc. for Physics & Chem. (hon.), Royal Inst. of Great Britain (hon.), Phi Lambda Upsilon (hon.), Deutsche Chem. Gesellsch. (council, 1921-22), Deutsche Bunsengesellsch. (council, 1929-32).

FALL, Paul Henry, pres., Hiram College, Hiram, Ohio; res. Buckingham Pl., Hiram, O.
Coll. pres.; b. Fountain City, Ind., May 8, 1892; s. of William Lincoln and Emma C. (Fisher) Fall; ed. B.A. and M.A., Oberlin Coll.; Ph.D., Cornell U.; LL.D., Houghton Coll., 1937; LL.D., Williams Coll., 1940; LL.D., Oberlin Coll., 1942; attended Houghton Coll., U. Chicago, M.I.T.; m. Dorothy Jennings, Sept. 4, 1916; ch.: David Jennings, William Arthur. Tchr. of sci., St. Charles H.S., St. Charles, Ill., 1914-15; Houghton Coll., 1915-16; asst. in chem., Oberlin Coll., 1916-18; res. chem., du Pont Co., Wilmington, Del., 1918-20; prof. of chem., hd. of dept., Hiram (O.) Coll., 1920-36; assoc. prof. of chem., William Coll., 1936-40; pres., Hiram Coll., since July 1, 1940. Awarded Palmolive Fellowship, Cornell U., 1923-25. Mem.: A.C.S. (sec., Div. of Chem. Educ.). Trustee, Doctors Hosp., (Cleveland, Ohio). Club: Union (Cleveland).

FANSELOW, John Ray, chf. paper div., Kimberly-Clark Corp., Neenah, Wis.; res. 921 E. Alton, Appleton, Wis.
Chem.; b. Dows, Iowa, Dec. 13, 1892; s. of Henry C. and Catherine G. Fanselow; ed. Ph.D., U. of Wis., 1927; m. Ruth Lyman, Apr. 26, 1937; ch.: Jack L., Dan L., Catherine. Instr. chem., U. of Wis.; res. chem., Kimberly-Clark Corp., supt. of res.; tech. staff supt.; now chf. of paper div.

FARAGHER, Warren Fred, tech. conslt., Houdry Process Corp., Box 427, Marcus Hook, Pa.; res. Swarthmore Apts., Swarthmore.
Res. petr. engr.; b. Sabetha, Kans., Apr. 25, 1884; s. of William H. and Delphine A. (Davis) Faragher; ed. A.B., 1905; Ph.D., 1910, U. Kansas; mem.: Sigma Gamma Epsilon, Sigma Xi, Phi Beta Kappa, Alpha Chi Sigma, Phi Lambda Upsilon; m. Nina M. Poole, June 9, 1909; ch.: Robert Vance and William Arthur. Instr. chem., U. Kansas, 1905-07; indus. fellow, U. Kansas, 1907-09; res. chem., Alden Speare's Sons Co., Chic. & Boston, 1909-18; sr. fellow (pet.) Mellon Inst., Pittsburgh, 1918-24; prof., head dept. Petro. Refinery Engrg. (founded by W.F.F.), U. Pittsburgh, 1921-26; asst. dir., Mellon Inst. Pittsburgh, 1924-26; res. dir., Universal Oil Prod. Co., Chic., 1926-31; asst. chf., res. and dev., Vacuum Oil Co., Paulsboro, N.J., 1931-33; dir. res., Houdry Process Corp., Marcus Hook, Pa., 1933-44; tech. conslt., Houdry Process Corp., 1944 to present. Catalytic Conversion Corp. (dir.). Numerous pats., and papers on petr. cracking, refining, catalytic processing. Tech. Oil Mission, Germany, 1945; field chf. (Germany), liquid, fuels, and lubricants, F.I.A.T., 1946-47. Chapters in Rogers "Industrial Chemistry" and "Chemical Engineering Principles." Mem.: A.C.S., Am. Pet. Inst., Acdy. of Sc. (Kansas).

FARBER, Eduard, chf. chem., Timber Engrg. Co., Wash. D.C.; res. 4530 Brandywine St., N.W., Wash. 16, D.C.
Chem.; b. Brody, Austria, Apr. 17, 1892; s. of Samuel and Cecilie (Gottlieb) Farber; ed. U. Leipzig, Germany, Ph.D. 1916; m. Dora Schmidt, 1922; ch.: Elisabeth E. Lanzl, Irene Aikin, Viola. 1916, 1919-20, res. chem., Kaiser Wilhelm Inst., experim. therap.; 1916-18, indust. chem. war serv.; 1920-38, chf. chem., D. Bergin A.G., Holzhydro-

lyse A.G., Germany; 1939-43, dir. res., Polyxor Chem. Co., New Haven, Conn.; 1942-45, conslt., Overly Biochem. Res. Found., New York; 1943 to date, chf. chem., Timber Engrg. Co. Hydrolysis of natural carbohydrate matls. mainly wood, by hydrochloric acid; regeneration of org. and inorg. acids; recovery and separation of sugars, mono- and polymeric, fermentations, prod. of yeast, synth. resins, pulp, lignin utilization, wood derivatives. Author: "Die geschichtliche Entwicklung der Chemie," (Berlin, 1921); Robert Boyle's "der Skeptische Chemiker," (Oswald's Klassiker, 1928). Mem.: A.A.A.S., A.C.S., A.I.C. (fellow); Forestry Assoc., Forest Prods. Res. Soc., Hist. of Sc. Soc., N.Y. Acad. Sc. Hobbies: studies in the hist. of chem.

FARINACCI, Nicholas Thomas, owner, dir., Scien.-Tech., 1819 Broadway, New York 23, N.Y.; res. 3 E. 9th St., New York 3.
Sc. & tech. conslt.; b. Brewster, N.Y., Mar. 4, 1903; s. of Frank and Mary Farinacci; ed. B.S., Ph.D., Columbia U.; mem. Phi Lambda Upsilon, Sigma Xi; m. Louise Michel, Aug. 10, 1931. Res. fellow, American Tobacco Co., 1937; res., Hercules Powder Co., 1940; hd. of res. & dev., including rocket res., U.S. Naval Engrg. Div., Chem. Construc. Div., American Cyanamid, 1943; owner & dir. Scien.-Tech., 1945 to present. Res. in polymolecular solvolysis, thermodynamics of rockets, hormone synthesis. Mem.: A.C.S., A.I.C., A.A.A.S., Acad. of Political Sc., Sigma Xi, Am. Men of Sc. Hobbies: music, literature.

FARLEY, Eugene Dodson, consltg. chem. & pat. lawyer, 1108 Equitable Bldg., 421 S.W. Sixth Ave., Portland 4, Ore.; res. 5115 N.E. Multnomah St., Portland.
Chem. & lawyer; b. Oshkosh, Wis., Aug. 29, 1910; s. of Albert A. and Mary D. Farley; ed. A.B., U. Wis., 1931 (cum laude); M.S., U. Ill., 1933; Ph.D., 1935; LL.B., Fordham U., Schl. of Law, 1943; mem.: Sigma Nu; m. Sarah Rives Dean, Sept. 9, 1939; ch.: David Dean, Susan Alice, James Allison, Darryl Dodson. 1931-35, asst. instr. chem., U. Ill.; 1935-36, res. chem., Shell Dev. Co., Emeryville, Calif.; 1936-39, instr. chem., Rollins Coll., Winter Park, Fla.; 1939-43, tech. lib., Stand. Oil Dev. Co. (N.J.), Elizabeth, N.J.; 1943-44, pat. attorney, Shell Dev. Co., San Francisco, Calif.; 1944 to date, consltg. chem. & pat. lawyer, Portland, Ore. Studies on rearrangement of polyynes, U. Ill.; recovery of by-prods. from pet. distillates, Shell Dev. Co.; utilization of wood components & prods. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S., Forest Prods. Res. Soc., T.A.P.P.I., Federal, State (Ore.) & Pat. Bars, Multnomah Co. Bar Assn., Ore. Pat. Law Assn. (pres. 1949-50). Club: City Club of Portland, Aero (Ore.). Hobbies: fishing, camping, gardening.

FARLEY, Franklin, v.p, Internatl. Minerals & Chem. Corp., 20 N. Wacker Dr., Chicago 6, Ill.; res. 490 Orchard Lane, Winnetka, Ill.
Corp. exec.; b. Bellaire, Ohio, Sept. 1, 1895; s. of Samuel Franklin and Catherine (Blamey) Farley; ed. U. Kans., B.S. (chem. engrg.), 1918; mem.: Sigma Xi, Tau Beta Pi, Alpha Chi Sigma (hon.), Sigma Alpha Epsilon; m. Florence Graham Mulligan, Jan. 18, 1930; ch.: Susanne. 1918, C.W.S., U.S.A., chem. engr.; 1919-21, Wash. Marine Ins. Co., N.Y., engr.; 1921-23, Arthur D. Little, Inc., Cambridge, Mass., chem. engr.; 1923-41, Phosphate Mining Co., N.Y., asst. treas. & treas.; 1941 to date, Internatl. Minerals & Chem. Corp., Chicago, v.p. Mem.: A.I.Ch.E., A.I.M.E A.A.A.S. Clubs: University (Chicago), Exmoor Country (Highland Park, Ill.), Engineers (N.Y.), Chemists' (N.Y.), Oglethorpe (Savannah, Ga.), Electric (Chicago).

FARQUHAR, Bruce Straub, spec. textile fiber dev., E. I. du Pont de Nemours & Co. Rayon Dept., Acetate Div.; res. Marshallton, Del.
Chem.; b. Bethlehem, Pa., July 12, 1910; s. of Edward Franklin and Mabel (Straub) Farquhar; ed. U. of Ky., B.S., 1928-32; U. of Cincinnati, 1932-34, M.A.; 1934-36, Ph.D.; mem.: Delta Tau Delta, Alpha Chi Sigma; m. Emma Hobson, Dec. 31, 1948; ch. (by former m.): John, Janet, Margaret. 1928, chem., Ky. Agr. Exp. Sta.; 1936 res. chem., E. I. du Pont de Nemours & Co.; 1941, mgr. cellulose acetate flake & vinyl acetate sect., du Pont; 1948 to date, spec. textile fiber dev., du Pont. Preparation of mixed ethers, thioureas, thiuram disulfides, commercial prod. of cellulose acetate and vinyl acetate, dev. of markets for cell. acet., vinyl acet., and textile fibers. Mem.: A.C.S., A.A.A.S., Sigma Xi. Club: du Pont Country. Hobbies: music, golf, modelcraft, sports.

FARRELL, F. Dan, secy., treas., sales mgr., Taylor Chem. Co., Box 337, Aberdeen, N.C.; res. Box 456, Aberdeen.
Chem. mfg. exec.; b. Moncure, N.C.; s. of J. G. and Dixie Farrell; m. Faye Spinks, June 16, 1940; ch.: F. D., Jr., George S., Margaret. Taylor Chem. Co., Aberdeen, N.C. as corp. officer, 1933 to date; now sales mgr. Taylor Chem. Co. of S.C. (pres.), Taylor Chem. Co. of Ala. (v.p.; Taylor Chem. Co. of Ga. (v.p.); Aberdeen Airport, Inc. (pres.); York Orchard Supply Co. (pres.). Clubs: Lions, Airplane Pilot. Hobbies: fishing, flying.

FASIG, Edgar W., gen. supt., tech. dir., The Lowe Bros. Co., 424 E. Third St., Dayton 2, Ohio; res. 845 Broadview Blvd., Dayton 9.
Exec.; b. Allen County, Ohio; s. of Charles Sumner and Cynthia Anne (Spyker) Fasig; ed. Ohio State U., A.B., chem.; mem.: Phi Lambda Upsilon, Sigma Xi, Acacia; m. Lydia M. Wolff, Sept. 2, 1933; ch.: June Anne, Edgar William, Jr. 1917-18, lab. chem., Lowe Bros. Co.; 1918, C.W.S., U.S.A., Edgewood Arsenal, Md.; 1918-20 res. chem.; 1920-26 asst. gen. supt.; 1926 to date, gen. supt. & tech. dir., Lowe Bros. Co. Mem.: Engineers Club (Dayton); Fed. of Paint, Varnish Prod. Clubs (past pres.); A.S.T.M. (dir.); A.C.S. (past pres. of Dayton sec.); A.I.C. (fellow), (past pres. of Dayton and Miami Valley sec.); Oil and Colour Chems. Assoc. of Gr. Britain; Natl. Paint, Varnish, and Lacquer Assoc. (sc. sec. comm.); Coord. Tech. Comm. of Paint Indust. (A.S.T.M., A.C.S., Federation, N.P.V.&L. Assoc.) Clubs: Scottish Rite Mason; Soc. of Gallows Birds; Civitan (past pres. Dayton, lt.-gov. North-Central distr.); Amer. Legion Post 89; Chamber of Commerce (Dayton).

FAULL, J. Horace, Jr., conslt., 72 Fresh Pond Lane, Cambridge, Mass.
Chem.; ed. Harvard, A.B., 1927; Ph.D., 1931; Munich, 1933; mem.: Alpha Chi Sigma, Gamma Alpha, Sigma Xi. Instr. physical chem., Harvard, 1927-29; act. prof. chem., U. Memorial Coll., St. Johns, Newfoundland; res. chem., Latex Rubber, Kaysam Corp., 1935; Firestone, 1937; Gen. Latex & Chem., 1941; tech. supt., synthetic rubber div., Gen. Tire, Baytown, Texas, 1943; hd. sc. sect. Boston branch, Off. Naval Res., U.S.N., 1946; dir. res., Gen. Latex & Chem. Corp., 1948; chem. conslt. 1949 (Gen. Latex, Gen. Tire, Navy, Off. Rubber Res.).

FAUST, Charles Lawson, supvr., hd. electrochem. engrg. div., Battelle Memorial Inst., Columbus, Ohio; res. 460 Brevoort Rd., Columbus.
Electrochem. engr.; b. St. Louis, Mo., Nov. 8, 1906; s. of Charles M. and Edna V. Faust; ed. St. Louis U., B.S. (chem. engrg.), 1930; Washington U., M.S. (chem.), 1931; Ph.D. (chem. engrg.), U. of Minn., 1934; mem.: Alpha Chi Sigma; m. Florence Louise Paradeau, 1934; ch.: Charles Dean, John Lawson, Teri-Louise. Southwestern Bell Tel. Co. & Western Electric Co., 1928-29; res. fellow, Wash. U., 1930-31; asst

instr., U. of Minn., 1931-34; res. engr., Battelle Mem. Inst., 1934-41; asst. supvr., 1941-44; supvr., 1944 to date. Res. in chem. and electrolytic processes, particularly for metal finishing, bearings, forming, and metallurgy. Author: chapters in "Silver in Industry" and "Modern Electroplating." Mem.: The Electrochem. Soc. (pres. 1950; v.p., 1947-49; bd. dir. 1941-44, 1947-52), A.C.S., Am. Electroplaters' Soc., Electrodepositors' Tech. Soc., Sigma Xi, Tau Beta Pi, Phi Lambda Upsilon, Pi Mu Epsilon. Hobbies: sketching, painting, handicraft, Boy Scout activities.

FAWKES, Charles Elliott, secy., Pyroxlin Prods. Inc., 4581 S. St. Louis Ave., Chicago 32, Ill.; res. 1221 E. 57th St., Chicago 37.
Exec.; b. Dubuque, Iowa, July 28, 1900; s. of Presley S. and Mary (Woodruff) Fawkes; ed. U. of Wis., B.S., 1922; mem.: Sigma Alpha Epsilon; m. Beth Grover, Feb. 22, 1922; ch.: Mary G., Elizabeth G., Daniel, Stephen. 1918-21, Res. Lab., Eastman Kodak Co., Rochester, N.Y.; 1922-23, Cutler Hammer Mfg. Co., resin mfr., Milwaukee, Wis.; 1924, Miner Labs., consultg., Chicago; 1925 to date, Pyroxlin Prods. Inc., Chicago, operating and executive (secy. and dir.); v.p. and dir. Continental Res. Corp. Paper coatings; moistureproofing; greaseproofing; heat sealing and laminating compositions; plastic tile; plastic glazing. Mem.: A.C.S., Packaging Inst.; T.A.P.P.I., I. F.T. Clubs: Chicago Chemists'; Chemists' (N.Y.).

FEHR, Harold H., pres., Mulford Colloid Laboratories, 9-11 S. 38th St., Phila. 4, Pa ; res. Millbank Rd., Bryn Mawr.
Pharmaceutical mfr.; b. Pemberville, O., Mar. 18, 1900; s. of Charles A. and Anna H. Fehr; ed. A.B., Ohio Wesleyan U.; M.S., U. Pa.; mem.: Sigma Chi; m. Lillian Mulford, June 18, 1925; ch.: Gretchen Mulford. National Drug Co., Phila., Pa., 1934; Mulford Colloid Laboratories, 1934 to date. Clubs: Merion Cricket, Haverford, Pa.

FEINBERG, Benjamin George, owner, B. G. Feinberg, Chemicals, 112 W. 44th St., N.Y. 18; res. 601 W. 160th St., New York 32.
Chem., conslt.; b. New York City; s. of Sion and Fanny (Mosher) Feinberg; ed. C.C.N.Y., B.S.; Columbia U., M.A.; Ph.D., 1913; mem.: Phi Epsilon Pi. Chem., 1907, Tide Water Oil Co.; instr. dept. of chem., C.C.N.Y., 1907-18; explosives chem. & 1st lt., Ord. Dept., U.S.A., 1918-19; owner of B. G. Feinberg, Chemicals, 1919 to date. Capt. & Major ,U.S.A., 1940-45; asst. chf., military trng. 6th Service Command; bomb disposal officer & mine expert; Subox Inc., 1945-50, conslt. & dir. res. Author: "A Study of Some Methods for the Anal. of Aldehydes," "A Quantitative Study of Aldehyde Reactions." U.S. Pat. No. 2,-167,528. Chem. expert in many tech. cases. Mem.: A.A.A.S. (fellow), A.C.S., Am. Ord. Assoc., Acdy. of Political Sc. Clubs: N.Y. Alumni, Phi Epsilon Pi. (City Coll.). Hobbies: astronomy, canoeing, mountain climbing, tennis.

FEIRER, William Anthony, exec. v.p. & dir., Sharp & Dohme, Inc., 640 N. Broad St., Phila. 30, Pa.; res. 918 Bryn Mawr Ave., Penn Valley, Narberth.
Physician, exec.; b. Roselle Park, N.J., Jan. 18, 1900; s. of Frank and Mary Ann (Salzmann) Feirer; ed. B.S., Rutgers U., 1918-22; D.Sc., Johns Hopkins U., 1922-25; M.S., 1927-30; Sc.D. (hon.), Phila. Coll. Phar. & Sc., 1943; m. Jeanne Corrington, Feb. 10, 1932. Asst. to assoc. bacteriol., Johns Hopkins U., 1924-30; Sharp & Dohme, 1930-32; instr. med. staff, Dispens., Hopkins, 1932-34; Sharp & Dohme, dir. biolog. labs., 1936-37; dir. med. div., 1937-40; dir. med. res. div., 1940 to date; v.p., 1942-47; exec. v.p., 1947 to date. Mem.: A.A.A.S., S.A.B., A.M.A., A.Phar.A., Amer. Coll. Physicians, So. Med. Assn., Alpha Omega Alpha, Sigma Xi, Delta Omega Clubs: Racquet (Phila.), University (N.Y. & St. Louis).

FEKULA, George Michael, res. engr., Calif. Research Corp., Richmond, Calif.; res. 2444 Virginia St., Berkeley 9.
Chem. engr.; b. Pittsburgh, Pa., Apr. 9, 1917; ed. U. of Pa., 1933-37, B.S.; U. of Mich., 1938-42, M.S. & Ph.D.; mem.: Alpha Chi Sigma. Gulf Research and Dev. Corp., 1937-38, chem.; Shell Oil Co., 1942-44, tech.; Union Oil Co., 1944-46, process engr.; Calif. Research Corp., 1946 to date, res. engr. Influence temp. & press. on enthalpy of hydrocarbon mixtures. Mem.: A.I.Ch.E., Sigma Xi. Club: Sierra. Hobbies: stage photography, choral music, gliding.

FELLINGER, Lowell Lee, asst. dir. res., Monsanto Chem. Co., 1700 S. 2nd St., St. Louis 4, Mo.; res. 343 Longview, Kirkwood 22.
Chem. engr.; b. Norris City, Ill., Sept. 7, 1915; s. of A. Paul and Mary Clo Fellinger; ed. U. Ill., B.S. chem. engrg., 1937; M.I.T., Sc.D. (chem. engrg.), 1941; m. Elizabeth Maxine Sievers, Oct. 30, 1941; ch.: William Lowell. 1941-44, res. chem. engr.; 1944-47, grp. ldr.; 1947 to date, asst. dir. res. Monsanto Org. Div. at St. Louis. Mem.: A.C.S., A.I.Ch.E. Hobby: electronics, music.

FELLOWS, Albert Thomas., res. chem., Res. & Dev. Labs., Socony-Vacuum Oil Co. Inc., Paulsboro, N.J., res. Willow, N.Y.
Chem.; b. Carbondale, Pa., Aug. 11, 1903; s. of Albert Henry and Sophia (Lutes) Fellows; ed. Rutgers U., B.Ss., 1923; M.Sc., 1924; U. Nancy, Nancy, Frances, 1924-25; U. Ill., 1926-27; m. Elfrida Rose Ruppe, May 28, 1929. Union Carbide & Carbon Res. Labs., 1925-32; Socony-Vacuum., tech. serv. labs., 1934-36; Barrett Co., Edgewater, N.J., 1938-42; Stone & Webster Engr. Corp., Boston, Mass., 1942-45; Socony-Vacuum., res., dev. labs., 1947 to date. Mem.: A.C.S., E.S., Sigma Xi. Club: Chemists' (N.Y.). Hobbies: fishing, hunting, dogs.

FELSING, William August, prof. chem., U. Texas, Austin, Tex.; res. 3007 Washington Sq., Austin.
Tchr., res. wkr.;b. Denton, Tex., May 19, 1891; s. of William and Anna Judith (Kurner) Felsing; ed. B.A., 1913; M.A., 1915, U. of Tex.; Ph.D., 1918, M.I.T.; mem.: Phi Beta Kappa, Acacia; m. Stella Elizabeth Scorgie, Sept. 8, 1920; ch.: Barbara Ann, William A. Jr. Tchg. fellow, U. of Texas, 1913-16; 1st lt. and capt., C.W.S., U.S.A., 1918; asst. prof., 1919, through var. grades to full prof. and grad. prof. at U. Texas to date. Underwater Sound Lab. at Harvard U., 1943; assoc., Defense Res. Lab., U. Texas, since 1947; abt. 70 arts. on res. in var. jls. Author (with Schoch), "Notes on Descriptive Applied Chem., Gen. Chem.," (1931, 1935, 1938). "General Chem." (Schoch, Felsing and Watt, 1946). Mem.: A.C.S., Tex. Acdy. of Sc., Sigma Xi, Phi Lambda Upsilon. Clubs: Kiwanis, Masonic Lodge. Hobbies: books, athletics.

FENAUX, Louis Edmond Frédéric, asst. prof., dept. of chem., New Bedford Textile Inst., New Bedford, Mass.; res. 51 Borden St., New Bedford.
Coll. prof.; b. Lynn, Mass., Sept. 15, 1914; s. of Pierre Paul Fenaux and Blanche E. R. (Renaud) Fenaux; ed. B.S. (chem.), Boston Coll., 1938, M.S. (chem.), Boston Coll. Graduate Schl.; m. Marie Therese L'Esperance, July 3, 1943; ch.: Virginia, Marie, Claire. Engr., General Elec. Co., June 1940 to Jan. 1946; chf. chem., Somerville Smelting Co., Jan. 1946-Sept. 1946; instr., New Bedford Tex. Inst. Sept. 1946 to present. Author: "Selected Experiments in Colloid Chemistry" (Jan. 1950). Mem.: A.C.S., Delta Kappa Phi Fraternity,

National Geographic Society. Clubs: Chemists' (New York). Hobbies: philately, bowling.

FENN, John Bennett, v.p., Experiment, Inc., Box 1-T, Richmond 2, Va.; res. 28 Club Dr., Richmond 25.
Res. chem., exec.; b. N.Y.C., June 15, 1917; s. of Herbert B. and Jeanette Clyde (Dingman) Fenn; ed. A.B. (chem.), Berea College, Berea, Ky., June, 1937; Ph.D. (physical chem.), Yale U., June, 1940; m. Margaret Elizabeth Wilson, Mar. 6, 1939; ch.: Margaret Marianne, Barbara Leigh, John B., Jr. Res. chem., Monsanto Chem. Co., Anniston, Ala., 1940-42; res. chem., Sharples Chemicals, Inc., Wyandotte, Mich.; 1942-45; v.p. Experiment, Inc., Richmond, Va., 1945 to present. Mem.: A.C.S. Hobbies: photography, gardening.

FENSKE, Merrell Robert, res. prof. chem., chem. engr., dir. Pet. Refining Lab., Pa. State Coll., State College, Pa., res. Glennland Apts., State College.
Prof., chem. engr.; b. Michigan City, Ind., June 5, 1904; s. of William A. and Minna (Glassman) Fenske; ed. DePauw U., D.Sc., 1946; M.I.T., D.Sc. 1928; mem.: Alpha Tau Omega Alpha Chi Sigma, Phi Beta Kappa, Tau Beta Pi, Sigma Xi, Phi Lambda Upsilon, Sigma Pi Sigma. Asst. prof. chem. engrg., Pa. State Coll., 1929-34; prof., 1936 to date. Res. in pet. refin., tech.; chems. from pet; spec. fuels, lubricants; distillation, extrac. separat. procs.; specifications spec. prods., appl. chem. Numerous tech. papers. publications, patents on appl. chem., chem. engrg., pet. tech. Mem.: A.C.S., A.I.Ch.E., A.S.T.M., Inst. Pet. (fellow, London), N.D.R.C. (official investigator, 1941-45), Baruch Rubber Survey Comm. (conslt. 1942-43), Metal. Lab. (U. Chicago, 1944-45). Naval Ord. Dev. Award 1945; Cert. Merit, O.S.R.D., 1945. Club: Chemists' (N.Y.C.). Hobby: golf.

FERGUSON, Howard Peter, chf., refining control div., mfg. dept., Stand. Oil Co. (Ohio), Midland Bldg., Cleveland 15, O.; res. 20700 Almar Dr., Shaker Heights.
Chem. engr.; b. Paterson, N.J., July 9, 1905; s. of Peter G. and Katharine M. Ferguson; ed. B.S. Ch.E., M.I.T., 1923-27; mem.: Phi Kappa, Tau Beta Phi; m. Cecelia S., 1932; ch.: John, Ann. 1927-29, res. chem., Stand. Oil Dev. Co.; 1929-32, engr., Dorr Co.; 1932 to date, engr., Stand. Oil Co. (Ohio). Mem.: A.S.T.M. (Award of Merit, 1950).

FERGUSON, Hugh Edward, plant test engr., The Peoples Gas Light & Coke Co., 120 S. Michigan Blvd., Chicago, Ill.; res. 8233 Indiana Ave., Chicago 19.
Chem. engr.; b. Boston, Mass.; s. of Dr. Charles J. and Rose G. Ferguson; ed. Catholic U. of Amer., Wash., D.C., B.S. (chem.), 1917; m. Lydia G. Loar, Aug. 18, 1928; ch.: Hugh Edward, Jr., Donald Jerome. C.W.S., American U., 1917-19; sr. chem., Peoples Gas Light & Coke Co., Chicago, 1920-26; supt. of plant testg. sec., Peoples Gas., 1926 to present. Tech. arts. related to public utility gas ind. Mem.: Am. Gas Assoc., Western Soc. of Engineers, Instrument Soc. Amer. (natl. treas. 1946 to date), Chicago Soc. Measurment & Control (pres. 1945). Club: American Legion.

FERGUSON, L(lewellyn) Ray, res. assoc., Donald K. Tressler and Assocs., North Compo Rd., Westport, Conn.; res. 74 Seaton Rd., Stamford.
Conslt. food tech.; b. Buffalo, N.Y., Dec. 6, 1886; s. of Fred Herbert and Mary (Hinkley) Ferguson; ed. Cornell U., A.B. (chem.), 1908; mem.: Alembic frat.; m. Florence Lockwood Wright, Apr. 26, 1911; ch.: Marcia, Elizabeth, Anne, Wright. 1908-39 chf. chem., Jello-O div., Gen. Foods Corp., LeRoy, N.Y.; 1939-43, asst. to v.p. in chg. of res. and dev., Gen. Foods, N.Y.C.; 1943-44, asst. to staff dir., central labs., Gen. Foods, Hoboken, N.J.; 1944-47, conslt. & dir. sc. personnel, central labs., Gen. Foods; 1948 to date, res. assoc. Donald K. Tressler & Assocs.; 1946, instr., Stevens Inst. of Tech.; 1946-48, Cooper Union; 1948 to date, adj. assoc. prof. chem. engrg., N.Y.U. Mem.: A.C.S., Inst. of Food Techn. (charter mem.). Club: Cornell (N.Y.). Hobby: photography.

FERGUSSON, Alexander C., chmn. of bd., Alex. C. Fergusson Co., 44 E. Oregon Ave., Phila., Pa.; res. Edgewater Park, N.J.
Exec.; b. Phila., Pa., May 31, 1874; s. of Alex. C., Sr. and Mary A. (Morris) Fergusson; ed. Rittenhouse Acdy.; m. (1st) Linda Wilson Cook (dec.), 1895; m. (2nd) Mabel M. Carter, 1912; ch.: (by first wife), Barbara (Fergusson) Newbaker; (by 2nd wife) A. Carter Fergusson, Mrs. Robert E. Manley, Mrs. A. LeConte Moore (dec.). Entered chem. busines with father in 1892 (bus. founded by father in 1855); to date, chmn. of bd. Elder, Beverly Pres. Ch. Clubs: Union League (Phila., N.Y.); St. Andrew's (Phila., past-pres.); Order of Magna Charta; Colonial Soc. of Pa. (Phila., surety); Kiwanis (Phila, past-pres., founder); Chemical Club of Phila. (founder and past-pres.); Historical Soc., Genealogical Soc.; Meridian Club (founder and past-pres.).

FERGUSSON, Alexander Carter, pres., Alex. C. Fergusson Co., 44 E. Oregon Ave., Phila. 48, Pa.; res. 916 Black Rock Rd., Gladwyne.
Exec.; b. Edgewater Park, N.J., Sept. 26, 1923; s. of Alex. Cuthill and Mabel M. (Carter) Fergusson; ed. Yale U., B.A.; mem.: Beta Theta Pi, Elihu, Torch; m. Ruth Huston Coe, Sept. 10, 1949 Employed with Alex. C. Fergusson Co., Sept. 8, 1947 to present. Mem.: St. Andrews Soc. (Phila.), Chemical Club (Phila.). Clubs: Merion Cricket (Haverford, Pa.), Riverton Country (Riverton, N.J.).

FERKEL, Albert J., planning & tech. asst. to plant mgr., The Atlantic Refining Co., 3144 Passyunk Ave., Phila., Pa.; res. 1101 N. 63rd St.
Chem. engr.; b. Los Angeles, Calif., July 4, 1902; s. of Charles and Mary Ferkel; ed. Calif. Inst. Tech., B.S. (chem. engrg.); mem.: Sigma Alpha Pi. Stand. Oil Co. of Calif., dev. engr., 1925-28; The Atlantic Refining Co., dev. engr. 1928-29; asst. supt. Brunswick, Ga. refinery, 1929-37; process supvr., Atreco, Tex., refinery, 1937-38; spec. engr., Phila., Pa., refinery, 1938-43; chf. proc. sup. Atreco, 1943-46; planning & tech. asst. to mgr. of Phila., refinery 1946 to date. Mem.: Acdy. Natural Sc. (Phila.).

FERNELIUS, W(illis) Conard, prof., hd. dept. chem., Penn. State Coll., State Coll., Pa.; res. 305 Adams Ave., State College.
Prof.; b. Riverdale, Utah, Aug. 7, 1905; s. of George T. (dec.) and Mrs. Jed H. Hodson; ed. Carnegie Inst. Tech., 1922-24; Stanford U., 1924-28; A.B., 1926; A.M., 1927; Ph.D., 1928; U. of Munich, summer, 1930; m. Naomi Baker, Apr. 10, 1931; ch.: Nils Conard, Sigrid. 1928-42, Ohio State U. 1928-32, instr.; 1932-36, asst. prof.; 1936-40, assoc. prof.; 1940-42 prof.; 1942-47, Purdue U.; prof. on leave with Monsanto Chem. Co., Dayton, Ohio, 1943-46, atomic bomb proj.; 1947-49, Syracuse U., prof., chmn. dept. chem.; 1949 to date, Penn. State Coll., prof., hd. dept. chem. Res. on reactions in liq. ammonia, less familiar elements, radiochem., coord. compds.; pats. on insecticides and recovery of sulfur from sour gas; asst. edit., "Chem. Abstracts" (1939-49); edit. bd., "Chem. Reviews" (1939-41); chmn., Div. of Phys. and Inorg. Chem., A.C.S., 1941-42; comms. on nomenclature, A.C.S. & N.R.C.; conslt., A.E.C. Co-author (with W. E. Henderson), 'A Course in Inorg. Preparations" (1935); (with others) "Inorg. Synth." (Vol. I, 1939; Vol. II, 1946; Vol.

III, 1950); (with W. McPherson, W. E. Henderson, & E. Mack), "Chemistry—A Textbook, for Colleges" (1940); (with A. B. Garrett and L. L. Quill), "Fundamentals in Chem. for the Lab." (1941, rev. 1950); (with W. McPherson, W. E. Henderson & L. L. Quill), "Introd. to College Chem." (1942). Mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, Gamma Alpha, Alpha Chi Sigma, Sigma Pi Sigma, A.C.S., A.A.A.S. (fellow), A.I.C. (fellow). Club: Centre Hills Country. Hobbies: travel, reading, music, stamp collecting.

FERRIS, S(eymour) W(ashington), sec. chf., res. & dev. dept., Sun Oil Co., Marcus Hook, Pa.; res. Rancocas Rd., R.F.D., Mount Holly, N.J. Chem. engr.; b. Hunter, N.Y., Feb. 22, 1900; s. of George Fletcher and Nancy Avery (Beach) Ferris; ed. Cornell U., B.Chem.; m. Lucretia G. Davis, Apr. 10, 1925; ch.: Marjorie Ruth, Gilbert Nelson, Seymour Beach. Tchr., Camden, N.J., H.S., 1922-23; res. chem., The Atlantic Refining Co., 1923-36; chf. res. chem., 1936-45; chem. engr., supvsr., Sun Oil Co., 1945-48; section chf., 1948 to present. Res. in composition and crystal behavior of pet. waxes, dewaxing, solvent extraction, pyrolysis, molecular distillation. Mem.: A.A.A.S., Acdy. Sc. (N.Y.), Cornell Soc. Engrs., Franklin Inst., T.A.P.P.I., A.S.T.M. Club: Cornell of Phila.

FERRY, Clayton Walton, chf. control chem., Burroughs Wellcome & Co., Inc., Tuckahoe, N.Y.; res. 345 Grand View Blvd., Tuckahoe. Org. chem.; b. Pingree, N.Dak., June 9, 1908; s. of R. H. and Mable (Walton) Ferry; ed. Coll Puget Sound, Tacoma, Wash., 1927-29; U. of N. Dak., 1929-31; John Hancock Fellowship, The Johns Hopkins U., B.A. (chem.); Johns Hopkins, 1931-35, Ph.D. (chem.), m. Dorothy G. Ries, 1934; ch.: Margaret Morris, Gardner Walton. With the Burroughs Wellcome & Co., Inc. since 1935.; res. asst., 1935-36; dev. chem., 1937-39; sr. dev. chem., 1939-41; chf. of chem. dev., 1941-46; chf. control chem., 1946 to present. Publications on synthesis of substituted aromatic amines, ureas, guanidines and sulfones in org. synthesis, in sc. & tech. jls. Mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, A.C.S., A. Phar. A., Acdy. of Scs. (New York). Combined Phar. Contact Commission., Mayfair Acres Civic Association (secy., 1939); Crestwood Community Chest (campaign chmn., 1950). Club: Leewood Golf. Hobbies: gardening, amateur movie making.

FERRY, John Douglass, prof., dept. chem. U. of Wis., Madison 6, Wis.; res. 4130 Nakoma Rd., Madison 5. Chem. prof.; b. Dawson, Canada, May 4, 1912; s. of Douglass Hewitt and Eudora Beaufort (Bundy) Ferry; ed. Stanford, A.B., 1932; student, U. of London, 1932-34; Stanford, Ph.D., 1935; mem.: Alpha Chi Sigma; m. Barbara Norton Mott, Mar. 25, 1944; ch.: Phyllis Leigh, John Mott. 1932-34, attached worker, Natl. Inst. for Med. Res., London, Eng.; 1935-36, private asst., Hopkins Marine Sta., Stanford U.; 1936-38, instr. & tutor biochem. scs., Harvard; 1938-41, Soc. of Fellows, Harvard; 1941-45, assoc. chem., Woods Hole Oceanographic Inst.; 1942-45, res. assoc., Harvard.; 1946, asst. prof. U. Wis.; 1946-47, assoc. prof.; 1947 to date, prof. Res. in the physical chem. substances of high molecular weight. Mem.: A.C.S. (Eli Lilly Award, 1946), A. Phys. S., A. S. Biol. C., Soc. of Rheology, Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon.

FERTIG, George Joseph, pres., George J. Fertig, Consltg. Chems. and Metallurgs., Comer Bldg., Birmingham, Ala.; res. 4301 Cliff Rd., Birmingham 5. Consltg. chem., metallurg.; b. Louisville, Ky., Oct. 29, 1899; s. of Charles Edgar and Anna (Wolf) Fertig; ed. Purdue U., B.S. Ch.E., 1921; Harvard U., 1922; M.I.T., 1924; mem.: Delta Tau Delta, Tau Beta Pi, Phi Lambda Upsilon, Theta Delta Chi, Scabbard & Blade; m. Rosamond Hunt Mills (dec.), Oct. 15, 1928; ch.: Cynthia Hunt. 1926-27, metallurg., Tenn. Coal, Iron & R. R. Co.; 1928-30, chem. engr., Birmingham Slag Co.; 1930-33, dir., south. div., Pittsburgh Testing Labs.; 1933 to date, pres., George J. Fertig, Consltg. Chems. and Metallurgs. Res. in atomic weight of titanium, copper steels, natural spices, Puzzolan cements, Bessemer steels, Southern red ores, ice plant brines. Mem.: A.C.S. (Ala. sec. pres., 1929-31); Ala. Acdy. of Sc. (pres., 1932). Birmingham Jr. Chamber of Com. (pres., 1931); Birmingham Res. Off. Assoc. (pres., 1932). Clubs: Rotary, Harvard (Birmingham).

FESSLER, William Alfred, sr. res. chem., Solvay Process Div., Allied Chem. & Dye Corp., Hopewell, Va.; res. 409 Prince George Ave., Hopewell. Res. chem.; b. Harriman, Tenn., Oct. 17, 1914; s. of William A. and Annie Lee (Pitchford) Fessler; ed. U. of Tulsa, B.S. (hons.), 1934; U. of Ill., M.S., 1935; Ph.D., 1937; mem.: Alpha Chi Sigma; m. Marianne Hawley, June 25, 1938; ch.: Robert William. 1937 to date, Solvay Proc. Res. in improvements mfr. large tonnage org. chems., syntheses & processing new types surface-active agents. Mem.: Sigma Xi. Hobby: growing timber.

FETTERLEY, Guy Hastings, res. engr., Norton Co., Chippawa, Ont., Canada; res. Lamont St., Chippawa. Chem. engr.; b. Toronto, Ont., Apr. 5, 1913; s. of James B. and Gladys M. (Guy) Fetterley; ed. B.A.Sc. (chem. engrg. hons.), U. of Toronto, 1935; m. Mabel L. McCalla, July 4, 1936; ch.: Norman Guy McCalla. Norton Co., Chippawa, Ont., Canada, jr. engr., May, 1935; res. engr., hd. product res. sec., Norton Co. Res. Lab., 1947. Res. on high temp. electrical insulators, especially MgO Commercial methods of preparation of refractory carbides, nitrides & borides; design electrical equip. for spectroscopy, materials testing. Mem.: Electrochem. Soc., Chem. Inst. of Canada, Assoc. Prof. Engrs. of Province of Ontario, A.A.A.S., Soc. for Engrg. Ed., Amer. Radio Relay League. Clubs: Niagara Falls Badminton & Tennis (Ont.), Oaklands Golf Club (Niagara Falls, Ont.), Niagara Radio Club (Niagara Falls, N.Y.). Hobbies: tennis, golf, amateur radio, theoretical psychology, applied mathematics.

FETTES, Edward MacKay, mgr. dev. dept., Thiokol Corp., Trenton 7, N.J.; res. 616 Latona Ave., Trenton 8. Chem.; b. Brooklyn, N.Y., Jan. 10, 1918; s. of E. M. and A. Evelyn (Clarke) Fettes; ed. M.I.T., S.B., 1940; mem.: Delta Upsilon; m. Frances J. McKean, Apr. 14, 1941; ch.: Evelyn, Carole, William. Dev. chem., U.S. Rubber Co., 1940-41; res. chem., Kendall Co., 1941-42; res. chem., Thiokol Corp., 1942-44; asst. mgr. dev., Thiokol, 1945-47; mgr. dev. dept., 1947 to present. Mem.: A.C.S., A.I.C., A.A.A.S., Soc. of Rheology, Phi Lambda Upsilon. Hobby: photography.

FETZER, Walter Raymond, chf. chem., Clinton Food Inc., Clinton, Iowa; res. 754 5th Ave. South, Clinton. Chem.; b. July 13, 1895; s. of Amos and Alice (Borton) Fetzer; ed. B.A., Nebr. Wesleyan U.; Toronto, Ont., Canada; m. Hulda I. Haining; ch.: Marion. 1922-25, res. chem., Miner Labs., Chicago; 1925-29, chf. chem., A. P. Callahan & Co., Chicago; 1929-43, chf. chem., dir. of res., Union Starch and Refining Co., Granite City, Ill.; 1943 to date, chf. chem., Clinton Foods Inc. Author of numerous papers and pats. on starch, dextrose corn syrup refining. Editor, "Chemical Bulletin" (Chicago, 1925, 1926); Contrib., "Encyc. of Chem. Tech." Mem.: A.C.S., I.F.T., A.C.S. (councillor; chmn. sugar div., Natl. Comm.; Internatl. Comm. for Uniform Sugar Analysis). Club: Engineers' (Clinton). Hobbies: photography, stamps.

FEUCHTER, Charles F., asst. to pres., Pan American Refining Corp., 122 E. 42nd St., New York, N.Y.; res. 220 Thompson Shore Rd., Manhasset, N.Y.
Chem. engr.; b. Cairo, Ill., Nov. 6, 1912; s. of Charles Feuchter, Jr., and Adessa L. Feuchter; ed. B.S. & M.S., M.I.T., 1930-35; mem.: Beta Theta Pi, Tau Beta Pi, Sigma Xi, Alpha Chi Sigma; m. Emma A. Johnson, July 3, 1941; ch.: Charles H. Chem. engr., Standard Oil Co. (Ind.), 1935-38; group ldr., Pan American Refining Corp., 1938-42; asst. to gen. mgr. of mfg., 1942-49; asst. to pres., 1949 to present. Mem.: A.I.Ch.E., A.C.S. Hobbies: golf, gardening.

FEUSTEL, Irvin Carl, hd., natural rubber extrac. & processg. investigs., U.S. Natural Rubber Research Sta., Salinas, Calif.; res. 1266 First Ave., Salinas.
Chem.; b. Spokane, Wash., Feb. 3, 1906; s. of Otto F. and Louise E. Feustel; ed. B.S., Washington State Coll., 1927; M.S., Geo. Washington U., 1929; Ph.D., American U., 1934; m. Ruby R. Roberts, Aug. 22, 1928; ch.: Doris M., Nancy L. Sci. aid, Bur. Public Roads, U.S.D.A., Wash., D.C., 1926-28; jr. chem., 1928-29, asst. chem., Bur. Chem. & Soils, 1929-38; assoc. chem., 1938-39; chem., Bur. Agric. & Engr. Chem., Albany, Calif., 1939-40; sr. chem., Bur. Agric. & Indust. Chem., 1940-47; principal chem., Salinas, Calif., 1947 to present. Res. on fermentation and antibiotic prod.; dev. process extraction rubber from domestic rubber-bearing plants. Mem.: A.C.S., Sigma Xi. Hobby: photography.

FIALA, Oliver John, gen. tech. dir., Durkee Famous Foods, 2670 Elston Ave., Chicago 47, Ill.; res. 2500 Logan Blvd., Chicago 47.
Chem.; b. Chicago, Ill., Nov. 30, 1910; s. of James and Anna Fiala; ed. Armour Inst. of Tech. (now Ill. Inst. of Tech.), B.S. (chem. engrg.), 1931; mem.: Alpha Chi Sigma; m. Margaret C. Smith, Sept. 27, 1939; ch.: James O., John E. Chf. chem., Chicago Plant, Durkee Famous Foods 1932-39; tech. dir., Louisville, Ky., plant, 1939-42; tech. dir. Elmhurst, N.Y., plant, 1942-47; gen. tech. dir., 1947 to date. Mem.: A.C.S., A.O.C.S., A.A.C.C., I.F.T. Hobbies: photography, fishing.

FICKETT, Elmer Edward, hd., dept. chem., textile coloring & finishing, Lowell Textile Inst., Lowell, Mass.; res. 162 Hovey St., Lowell.
Chem. prof.; b. Chelsea, Mass., May 19, 1884; s. of Mariner S. and Susan J. Fickett; ed. Chelsea H.S., 1900-04; Tufts Coll., 1904-08, B.S.; mem.: Alpha Chi Sigma, Phi Psi (textile). 1908-09, asst. chem., Walworth Mfg. Co., South Boston; 1909-11, supt.-assayer, U.S. Nickel Co.; 1911-15, instr. indust. chem., U. N. Dak.; 1915-17, instr. chem. Wash. U., St. Louis; 1917 to date, with Lowell Textile Inst.; summer, 1917-19, inspector, French and Italian armies; summer, 1942, expert consIt., Off. of QMG, U.S.A. Mem.: A.C.S., A.A.T.C.C. Club: Appalachian Mountain. Hobbies: mountain climbing, photography, travel.

FIEGER, Ernest A., hd. dept. agric. chem. & biochem., Louisiana State U., Baton Rouge, La.; res. 2148 Government St., Baton Rouge.
Res., tchg.; b. St. Paul, Minn., May 16, 1897; s. of August and Mathilda (Rusch) Fieger; ed. U. of Minn., B.S., 1920; Ch.E., 1921; Ph.D., 1924; mem.: Alpha Chi Sigma; m. Gladys A. Spear, July 29, 1925; ch.: Ethel V., Audrey C. La. State U., instr., 1924-27; asst. prof., 1927-31, assoc. prof., 1931-36; prof., 1936-44; prof. & hd. dept., 1944 to date. Pat. rice fortification. Mem.: A.C.S., Sigma Xi, I.F.T.

FIEKERS, (Rev.) Bernard Albert, S.J., dept. chem., College of the Holy Cross, Worcester 3, Mass.; res. same.
Clergyman, chem., prof.; b. Cambridge, Mass., Jan. 19, 1906; s. of Anton R. and Mary H. (Schmitt) Fiekers; ed. Boston Coll., A.B., 1927; A.M., 1933; M.S., 1934; Clark U., Ph.D., 1942. Instr. anal. chem., Boston Coll., 1934-35; theological student, Ignatiuskolleg, Valkenburg L., Netherlands, 1935-39; St. Robert's Hall, Pomfret, Conn., 1939-40; Coll. of the Holy Cross, on lve. 1940-42; chmn. for chem., Coll. of the Holy Cross, 1942 to date. Editor: "Jesuit Science Bulletin" (1948 to date); extensive contrib. to sc. and tech. jls. largely in the fld. of chem. calculations, devices and methods. Mem.: A.C.S.; Chemical Soc. (London); New England Assn. Chem. Tchrs.; A.I.C. (fellow); Am. Electrochem. Soc.; Faraday Soc.; Franklin Inst.; Am. Assoc. Jesuit Scientists (pres., Eastern States Div., 1947-48); Worcester Chemists' Club (pres., 1946-47); Catholic Round Table Sc.

FIELD, Hugh William, v.p., dir., gen. mgr. res. & dev. dept., The Atlantic Refining Co., 2700 Passyunk Ave., Phila. 1, Pa.; res. Concord Rd., Glen Mills.
Chem. engr.; b. Indianapolis, Ind., Aug. 21, 1906; s. of Frederick Hugh and Sara Cynthia (Ehrich) Field; ed. B.S. (chem. engrg.), U. of Pa.; mem.: Alpha Chi Sigma, Tau Beta Pi; m. Mildred Mosser, Aug. 2, 1930; ch.: Frederick Hugh, Patricia. The Atlantic Refining Co. res. & dev. dept., jr. engr., July 2, 1928; asst. engr., May 1, 1935; supv. engr., June 26, 1938; asst. mgr., Jan. 21, 1940; gen. mgr., Oct. 1, 1947; dir., Mar. 5, 1946; v.p., May 3, 1949. Mem.: A.C.S., A.I.Ch.E., A.P.I., Inst. of Petroleum, Engineers Club (Phila.), S.C.I., Indus. Res. Inst. Clubs: Phila. Exchange. Hobbies: woodworking, photography.

FIELD, John Albert, prod. mgr., Carbide & Carbon Chem. Div., Union Carbide & Carbon Corp., 30 E. 42nd St., New York, N.Y., res. Port Wash., L.I., N.Y.
Chem. engr.; b. Bayside, L.I., N.Y., Aug. 5, 1914; s. of Russell Ambler and Laura (Willard) Field; ed. Yale U., 1935, B.A. (honors. chemistry). Oxford U., 1936, Henry fellow; mem.: Berzelius Sr. Hon. Soc.; m. Jane Mercer Abbott, July 12, 1941; ch.: Hilary Dean, Susan Mercer. 1936-39, Carbide & Carbon Chem. Corp., So. Charleston, W.Va., prod. frmn.; 1939-41, Mellon Inst. of Ind. Res., sales res. syn. org. chem.; 1941, Carbide & Carbon Chem. Corp., N.Y., prod. dev.; 1941-44, Carbide & Carbon Chem. Corp. Inst., W.Va., dept. hd. Butadiene plant; 1944-46, R.F.C., Off. Rubber Res., mgr., Butadiene from alc. sec. & prod. contr. sec.; 1946 to date, prod. mgr. fine chem. dept., Carbide & Carbon. Mem.: A.C.S. (alternate conslt.); A.I.Ch.E., Phi Beta Kappa, Sigma Xi, Manhasset Cong. Ch. (Deacon). Clubs: Chemists', Port Wash. Yacht. Hobbies: swimming, tennis, boating, taking care of house.

FIELDNER, Arno Carl, chf., fuels & expl. div., U.S. Bur. Mines; U.S. Dept. of Interior, Wash. 25, D.C.; res. Cosmos Club, Wash. 5.
Chem. engr.; b. Ney, Ohio, Dec. 12, 1881; s. of Charles and Ellen (Ginther) Fieldner; ed. Ohio State U.; B.Sc. Chem. Engrg., 1906; Chem. Engr., 1923; D.Sc. 1944; U. Ala., D.Sc. (hon.), 1936. Fuel engr., Denver Gas & Elec. Co., Denver, Colo. 1906; chem., assayer, Am. Zinc & Chem. Co., Denver, Colo., 1907; asst. chem., U.S. Geol. Survey, Tech. Branch, 1907-09; chem. chg., fuels chem. lab., U.S. Bur. Mines, Pitts., Pa., 1910-July, 1917; chem. gas mask res., Major, C.W.S., July-1917-Jan. 1919; supvg. chem., Pitts. Exp. Sta.,

U.S. Bur. Mines, Jan. 1919-May 1921; supt., Pitts. Exp. St., U.S. Bur. Mines, June 1921; chf. engr., exp. sts., U.S. Bureau of Mines, Wash., D.C., July 1927-July 1936; chf., tech. branch, chf. engr., coal div., U.S. Bur. Mines, Wash., D.C., July 1936-42; chf., fuels & expl. div., U.S. Bur. Mines, Wash., D.C., 1942 to date. Res. in dev. apparatus, meths. for anal., testing of coal, coke, gases, gas masks, gas absorbents; chg. U.S. Bur. Mines res. conducted for designing the ventilation Holland Tunnel under Hudson River, N.Y.; inaug. res. prog. composition, prop., classifications, utilization of Amer. coals, by carboniz., gasification, liquefaction; dir. comprehensive res. on use of odoriferous or irritating chem. subs. as warning agents for toxic or inflammable gases; contrib. extens. to sc. and tech. jls. Lamme Medal, Ohio State U., 1931; Joseph Sullivant Medal, Ohio State U., 1940; Melchett Medal, Inst. of Fuel of Great Britain, 1942; Percy Nicholls Award (joint act. of coal div. of A.I.M.E. and fuels div. of A.S.M.E.), 1946; hon. memberships Amer. Soc. Heat. & Vent. Engrs., 1944, and A.S.T.M., 1947. Mem.: A.C.S. (councillor-at-large, 1935-40); A.S.T.M. (pres., 1936-37; chmn., comm. D.-5, Coal, Coke, 1923-48; chmn., sec. comm. classific. coals, 1926-39; chmn., comm. D-3 gaseous fuels, 1934-40); Am. Gas Assn. (chmn. chem. comm. 1923-26); Engrs. Soc. Western Pa. (chmn., steel wks. sec. 1926); Coal Mining Inst. of Am.; A.I.M.E.; A.I.Ch.E. Clubs: Cosmos (Wash., D.C.), Univ. (Pitts., Pa.); Chem. (N.Y.C.). Hobbies: fishing, golfing, hunting, canoeing in Canada.

FIELDS, Victor Hugo, prof., chmn. dept. chem., Hampton Inst., Hampton, Va.; res. Hampton Inst.
Tchr.; b. Milwaukee, Wis., July 11, 1907; s. of James A. and Willie (Finley) Fields; ed. Fisk U., Nashville, Tenn., B.A., 1931; M.A., 1935; Marquette U., Milwaukee, Ph.D., 1944; mem.: Omega Psi Phi; m. Carrie Nicholas, Mar. 24, 1941; ch.: Victor Hugo, Jr. 1935-44 inst. chem., Fisk U.; 1944-47 asst. prof. chem. same U.; 1947-49 prof. and hd. dept. of chem. Fla. A. and M. Coll.; 1949 to date prof. and hd. dept. of chem.Hampton Inst. Res. in preparation and properties substituted brom methyl fluoresceins. Mem.: A.C.S., Natl. Inst. of Sc.; Va. Acdy. of Sc.; Natl. Technical Assoc.; N.A.A.S.; Beta Kappa Chi. Hobby: sports.

FIERO, George W(illiam), mfg. dept., Esso Stand. Oil Co., 15 W. 51st St., N.Y. 19, N.Y.; res. 70 Betsy Brown Rd., Port Chester.
Chem.; b. Detroit, Mich., Feb. 7, 1906; s. of William W. and Margaret Erskine Fiero; ed. U. So. Calif., Ph.G., 1925; Ph.C., 1926; B.S. (cum laude) 1927; M.S., 1928; U. Buffalo; Phar.D. 1931; U. Wis. Ph.D., 1932; mem.: Kappa Psi, Sigma Xi, Phi Kappa Phi, Phi Sigma, Rho Chi; m. Helen R. Mautz, June 10, 1928; ch.: Joan Helen, George W., Jr., Donald Charles. Instr. phar., U. Buffalo, 1925-28; instr., asst. prof., assoc. prof., materia medica, U. Buffalo, 1928-42; chf., phar., insecticide & cosmetic chems. unit, off. Civilian Requirements, W.P.B. 1942-45; tech. adv. to pres. Stanco, Inc., res. dir., Daggett & Ramsdell (Stand. Oil Co. (N.J.) subsidiaries), 1945-48; Esso Stand. Oil Co. 1948 to date. Res. in dev. hydrogen. castor oil for use in phar., cosmetics, lubricating greases. Author: "Review of Pharmacy" (6th ed., 1949). Mem.: A.C.S., A. Phar. A., N.Y. Acdy. Sc., A.A.A.S. Club: Coveleigh (Rye, N.Y.).

FILLINGER, Harriett Huldah, prof. chem., chmn. dept., Hollins College; Hollins College, Va.
Teaching; b. Bristol, Va.; d. of William Hale and Ann Eliza Lincoln Fillinger; ed. U. Chicago, S.B.; M.S., grad. wk. U. Chicago, grad. high dept., gen. hons., hon. grad. scholarship, elected Sigma Xi; mem.: Kappa Mu Sigma (grad. hon. chem.). Hd. sc. dept., Sullins Coll., prior to 1921; prof. chem., hd. dept., Hollins Coll. 1921 to date. Res. wk. on amino sulphonic acid, lab. wk., appl. of chromatog., adsorp. meths. to inorg. anal. Contrib. extens. to sc. and tech. jls. Author: "Exps. Gen. Chem. for Colleges" 1928, several revs., latest 1947. Mem.: A.A.A.S., (fellow), Sigma Xi, A.C.S. (several offs. in Va. Blue Ridge Sec.), Va. Acdy. Sc., A.A.U.W. (Roanoke Br.), A.A.U.P.

FILZ, Frank R., tech. supvr., The Mead Corp., Wheelwright Div., Leominster, Mass.; res. 105 Electric Ave., Fitchburg.
Chem.; b. Fitchburg, Mass., Oct. 25, 1906; s. of Frank M. and Theresia K. (Mauerer) Filz; ed. I.C.S., Mass. Ex. U.; m. Charlotte J. Docekal, July 16, 1928; ch.: James M., Robert C. 1927-30, asst. chem., Geo. W. Wheelwright Paper Co.; 1930-34, chf. chem., Wheelwright Paper Co.; 1934-40, chf. chem., 1940 to date, tech. supv., The Mead Corp., Wheelwright Div. Res. in determ. paraffin in paper; modification of meth. for differentiation of bleached, unbleached fibers; water purification, control. Mem.: A.C.S., T.A.P.P.I., A.A.A.S. (fellow). Hobby: photography.

FINGER, Glenn Charles, chem. and hd., Fluorspar Div., Illinois State Geological Survey, Urbana, Ill.; res. 1502 S. Lincoln Ave., Urbana.
Org. chem.; b. Bloomington, Ill., May 3, 1905; s. of Charles William and Sophie Caroline Finger; ed. Ill. State Normal U., 1924; B.S., U. of Ill., 1927; M.S., 1928; Ph.D. 1938 (org. chem.); Purdue U., 1928-30; mem.: Alpha Chi Sigma. Asst. in chem., Purdue U., 1928-29; J. K. Lilly res. Fellow, Purdue U., 1929-30; asst. in chem., U. of Ill., 1930-32; asst. chem., Ill. Geological Survey, 1933-39; assoc. chem., Ill. Geol. Surv., 1939-43; chem., Ill. Geol. Surv., 1943-45; chem. and hd., Fluorspar Div., Ill. Geological Survey, 1945 to date. Res. in synthesis, properties, uses of organic fluorine cmpds. N.D.R.C., Office of Naval Res. Contract. Mem.: A.C.S., Acdy. of Sc. (Illinois), Phi Lambda Upsilon, Sigma Xi. Clubs: Urbana Golf, Country. Hobbies: golf, fishing, flowers.

FINK, Gail J., exec. secy., Oxychloride Cement Assn., Inc., 1028 Connecticut Ave., N.W., Wash. 6, D.C.; res. 5429 Connecticut Ave., N.W., Wash. 15.
Exec.; b. Yountsville, Ind., June 19, 1887; s. of C. E. and Emma Fink; ed. A.B., Wabash Coll., 1909; Ph.D. Cornell U., 1914; m. Elizabeth Thomas, 1911; ch.: William J. Fink, M.D. Asst. prof. chem., Iowa State Coll.; res. chem., Hooker Electrochem. Co.; chem. dir., Natl. Lime Assn., tech. dir., Natl. Aluminate Corp.; exec. secy., Oxychloride Cement Assn. Tech. publications on water conditioning, lime mfr., building tech. Pats. on chem. processes, water treatments. Mem.: I.Ch.E., A.C.S., Phi Beta Kappa, Sigma Xi. Hobbies: farming, plant nutrition.

FINKELMANN, John Lewis, v.p., dir. of res., The Warren Refining & Chem. Co., 750 Prospect Ave., Cleveland 15, Ohio; res. 2865 Lander Rd., Pepper Pike.
Chem. engr.; b. Holley, N.Y., Nov. 15, 1911; s. of John and Grace Finkelmann; ed. Case Inst. of Tech., 1933, B.S. Ch.E.; 1935, M.S. Ch.E.; mem.: Phi Kappa Tau, Alpha Chi Sigma; m. Eleanor Priebe, 1938; ch.: John L., Susan M. 1933-35 and 1937-38, instr., Case Inst. of Tech.; 1935-39, res. and dev. chem., The Lubrizol Corp.; 1939-43, chf. chem., The Warren Refin. and Chem. Co.; 1943 to date, v.p. and dir. of res. same co.; v.p. and dir. McFerron-Myers Prods. Co. Res. in dev. of lubricants for the petroleum ind. Mem.: S.A.E., Am. Soc. Lubrication Engrs. Clubs: Al Koran

Shrine, Al Sirat Grotto, Shrine Luncheon Club of Cleveland. Hobbies: photography, golf.

FINKLE, Raymond D., radiochem., Nuclear Instrument & Chemical Corp., 223 W. Erie St., Chicago 10, Ill.
Radiochem.; b. Chicago, Ill., July 15, 1912; ed. B.S., 1933; Ph.D., 1937, U. of Chicago. Res. chem., Vita-sol Products Co., Chicago; grp. ldr., Metallurgical Lab., U. Chicago; grp. ldr., Argonne Natl. Lab., Chicago; instr., Oak Ridge Institute of Nuclear Studies, Oak Ridge, Tenn.; radiochem. and health physicist, Cedars of Lebanon Hospital, Los Angeles, Calif.; radiochem., Nuclear Instrument & Chemical Corp., Chicago, to present. Res. in vitamins, nutrition, radioisotopes, health physics. Mem.: A.C.S.

FINN, John, conslt. chem. and chem. engr., 2035 46th Ave., San Francisco, Calif.; res. same.
Chem. engr.; b. Berkeley, Calif., Feb. 28, 1895; s. of John and Eva Finn; ed. Tamalpais Union H.S., U. of Calif.; m. Madelyn Lee, 1939; ch.: Patricia Jayne, Douglas Lee. Anal., Smith Emery Co., San Francisco; bullion assayer and chem., Am. Smelting & Refin. Co., Selby; opened lab., Oceanic Bldg., San Fran., 1920; to China, chf. chem., Wing Sea Wai Co.; conslt. pract. on return; retained to wk. for Army, Navy, Coast Guard, U.S. Steel, Pacific Gas & Elec. Co. and many gold and copper mines; dir., trustee, John Finn Metal Wks., 384 Second St., San Franscisco. Many chem. inventions (holds 12 pats.) on meths. for testing gases & for use against gases; ammonia gas canister, against ammon. gas filters for smoke and fumes; used on both Bay Bridges; eliminators for carbon monoxide. Author: "Anthology for Best Amer. One Act Plays"—Fan Tan; many arts. in sc. & tech. jls. Mem.: Amer. Military Engrs. Seismological Soc. of Amer., A.C.S., Calif. Acad. of Sci., A.A.A.S., Assoc. of Cert. Chems. Hobbies: paint pictures, lecture on metaphysics, surf bathing, build houses, gardening.

FINNEGAN, Thomas (Joseph), chem. engr. Niagara Mohawk Power Corp., Electrical Bldg., Buffalo 3, N.Y.; res. 66 Summer St., Buffalo 9.
Chem. engr.; b. Waterbury, Conn., June 11, 1901; s. of Thomas and Emma (Riordan) Finnegan; ed. Polytech. Inst. of Bklyn., evening session, 1928-39; m. Adeline Daigle, Sept. 15, 1930. 1918-24, lab. asst. Scovill Mfg. Co.; 1924-29 asst. chem., 1929-38 chem. in chg., N.Y.Steam Corp.; 1938-42, res. assoc., Consolidated Edison Co. of N.Y., Inc.; 1942-50, chem. engr., Buffalo Niagara Elec. Corp. & chem. engr., Central N.Y. Power Corp. (both merged into Niagara Mohawk Power Corp. 1950); 1950 to date, chem. engr. Niagara Mohawk Power Corp. Res. corrosion of boilers, steam operated equipment; treat. water for steam generation; prod. of pure steam, meths. of measuring steam purity; chem. features of power plant design; combustion problems. Mem.: A.C.S., A.S.M.E., A.I.C. (fellow); Prime Movers Comm., Edison Elect. Inst. (power sta. chem. sub-comm. chmn. 1950). Hobbies: music, languages, mathematics.

FISCHER, Anthony Joseph, dev. engr., Dorr Co., Barry Pl., Stamford, Conn.; res. 53 Stonehenge Rd., Manhasset, N.Y.
Chem. engr.; b. Phila., Pa., Jan. 8, 1902; s. of Roman and Emma Fischer; ed. U. of Pa., B.S. in Ch.E., 1924; Rutgers U., M.S., 1926; Ph.D., 1928; m. Marguerite J. Walsh, Sept. 28, 1929; ch.: Anthony J., Jr., Mary Ellen. Jr. chem., Sewage Investigations Lab., N.J. Agric. Expt. Station, 1925; Dorr Res. Fellow, Rutgers U., 1925-28; dev. engr., Dorr Co., 1928 to date; June-Sept. 1945, Fld. Investigator, Foreign Economic Adm., European Theater. Special. in sanitary engrg. dev.; publ. many tech. papers in water & sewage fld.; many issued pats. in U.S. & foreign countries. Mem.: A.I.Ch.E., A.S.C.E., Fed. Sewage Wks. Assn. (Kenneth Allen Award 1936). Hobbies: philately, civic affairs.

FISCHER, Earl K(nudt), tech., Natl. Bur. of Stds., Washington 25, D.C.; res. 3172 Plyers Mill Rd., Kensington, Md.
Res. phys. & colloid chem.; b. Milwaukee, Wis., Nov. 21, 1905; s. of Charles and Augusta (Yunker) Fischer; ed. B.A. (cum laude), 1927; M.A., 1928, U. Southern Calif.; Ph.D., 1931 U. Wis.; m. Catherine Ernsberger, dec., Sept. 2, 1933; Stieglitz Res. Fellow, phys. chem., U. Chicago, 1930-33; res. chem., 1933-45, Interchem. Corp., N.Y.; hd., Phys. Chem. Div., Inst. of Textile Tech., Charlottesville, Va., 1945-49; tech., Natl. Bur. of Stds., Wash. 25, D.C., 1949 to date. Res., monomolecular surface films, prep. colloidal dispersions, rheolog. measurements and instrumentation, use of surface-active agents in colloidal systems, surface tension; photographic techs. in res. (high-speed motion pictures, X-ray microradiography). Author: "Colloidal Dispersions" (1950, John Wiley & Sons, Inc.). Assoc. editor, "Textile Res. Jl.," 1945 to date; editor, "Interchemical Review," 1942-45. Mem.: A.C.S.; A.A.A.S. (fellow); A.A.T.C.C.; Amer. Inst. Physics; Soc. of Rheology (secy. 1947-49); T.R.I.; Fiber Soc.; N.Y. Acad. of Scs.; Va. Acad. of Sc.; N.Y. Printing Ink Prod. Club (hon. life mem.); Soc. of Motion Picture Engrs.; Phi Beta Kappa, Phi Lambda Upsilon, Sigma Xi, Bibliographical Soc. (U. of Va.). Club: Chemists' (N.Y.C.). Hobbies: photography, music (piano).

FISCHER, Kermit, pres., Fischer & Porter Co., County Line Rd., Hatboro, Pa.; res. Dogtail Rd., Doylestown, R.D. 3.
Ind. instrument mfr.; b. Phila., Aug. 1, 1905; s. of Adelbert W. and Helene (Koerting) Fischer; ed. Germantown Friends Schl., Phila.; 1924-25, Engrg. Schl., U. Pa.; 1925-30, Evening Mech. Engrg. Schl., Drexel Inst. Tech.; m. Margaret Louise Roess, Sept. 12, 1931; ch.: Ralph, Betty Jo, James Harold. 1925-26, engrg. dept., Atlantic Elevator Co., Phila.; 1927-37, dev. dept., sales dept., Schutte & Koerting Co., Phila.; 1937 to date, pres., Fischer & Porter Co. Dev. of precision bore glass & dev. of variable area type fluid meters for use in chem. process fld. Fischer & Porter Ltd., (Toronto, Canada pres.); Allied Steel Casting Co., (Willow Grove, Pa., dir.); Vibro-Mixer Corp. of Am., (Hatboro, Pa. dir); Solway Flowrators Ltd., (London, England, dir.); Otic-Fischer, (Clermont-Ferrand, France, partner); Fischer & Porter Pty. Ltd., (Melbourne, Australia, dir.). Trustee, Warminster Foundation; treas., Welcome House for the care of children of Asian-Am. origin. Mem.: A.S.M.E., A.I.Ch.E., Instrument Soc. of Am., Franklin Inst. of Pa. Clubs: Chemists' (N.Y.C.), Engineers (Phila.), Phila. Art Alliance. Hobbies: travel, internatl. affairs, race relations.

FISCHER, Richard, emeritus prof. chem., U. of Wis., Madison, Wis.; res. 1 Langdon St., Madison 3.
Retired: b. New Ulm. Minn., Nov. 18, 1869; s. of Richard and Anna Fischer; ed. B.S., U. Mich., 1894; Ph.D., U. Marburg (Germany), 1900; mem.: Alpha Chi Sigma. Asst. in chem., U. Mich., 1892-94; instr., U. Wis., 1894-98; asst. prof., 1900-09; Wis. State Chem., 1903-09; prof. chem., U. Wis., 1909-40; emeritus prof. chem., 1940 to date. Celon Co. (dir.). Res. on chem. of foods, alkaloids, dyes. Mem.: Sigma Xi, A.C.S., A.A.A.S., Wis. Acad. of Letters, Sc. & Arts. Club: Madison Univ. Hobbies: hunting, fishing, gardening.

FISCHER, William F., asst. v.p., chg. of sales, Magnus, Mabee & Reynard, 16 Desbrosses St.,

New York 13, N.Y.; res. 113-14 72nd Rd., Forest Hills.
Sales mgr.; b. N.Y.C.; s. of Benjamin Franklin and Barbara (Kipp) Fischer; ed. high schl.; m. Isabel E. Sprouls, Dec. 31, 1910; ch.: Kenneth A., Shirley J., Dorothy W. 1907 to date, with Magnus, Mabee & Reynard.

FISH, Floyd Hamilton, prof., Va. Poly. Inst., Blacksburg, Va.; res. Blacksburg.
Prof.; b. Camden, N.Y., Oct. 7, 1889; ed. Clarkson Tech., B.S. in Ch.E., 1916; Ch.E. 1922; U. Ill., M.S., 1926; m. (1st), Dec. 22, 1916, Jean Hubbard (dec.); m. (2nd.), Vivian M. Fish, June 15, 1921; ch.: Stewart Allison, M.D., Floyd H., Jr., Robert Gair Co., asst. chem., 1916-17; Texas Co., chf. of tests, 1917-18; Gt. West. Sugar Co., res. chem., 1918-20; U. of Ill., engrg. exp. sta., Jan.-Aug., 1920; A. & M. Coll., Texas, Coll. Sta. Tex., assoc. prod. chem., 1920-25; U. Ill., asst. chem. dept., 1925-26; Va. Poly. Inst., asst. prof., assoc. prof., prof. anal. chem., exper. engrg., 1925 to date. Author: "The First Course in Quantitative Anal.," (1931); "Tech. Anal.," (1933). Mem.: Theta Epsilon Theta, Sigma Xi, Phi Lambda Upsilon, Sigma Delta, Va. Acad. of Sci., A.C.S. (chmn. Blue Ridge Sect., 1930-31), A.I.Ch.E. Clubs: Mason (secy. Hunters Lodge No. 156), A.F. & A.M.; Science (v.chmn., 1928), Lions (bd. dirs. 1935-36), Boy Scouts (council, 1935-37), University (v.p., treas. 1935-36, bd. dirs.). Hobbies: raising, training, and racing homing pigeons; lake fishing; tennis.

FISHBURN, Victor E., pres., Burgess Cellulose Co., Freeport, Ill.; res. Lazy Hollow, Cedarville.
Exec., chem. engr.; b. Golden, Colo.; s. of Robert L. and Mary Ann (Juchem) Fishburn; ed. U. of Mich., B.Ch.E., 1915; mem. Chi Phi; m. Francelia Evans, Apr. 3, 1920; ch.: Breard E., Lyman L. 1915-16, Watab Paper Co., Sartell, Minn., chem. engr.; 1916-18, command. off., Stanford Plant, Edgewood Arsenal, C.W.S.; 1919-27, mgr., Groveton Paper Co., Groveton, N.H.; 1927-28, mgr., Gilman Paper Co., Gilman, Vt.; 1928 to date, v.p., gen. mgr. and pres. Burgess Cellulose Co., Freeport, Ill. On Freeport, Ill., Water and Sewer Commis.; dir. at large, Boy Scouts of Amer. Mem.: A.C.S., T.A.P.P.I., Amer. Pulp and Paper Mill Supts. Assoc. Clubs: Freeport Country; Freeport Consistory (Masonic Scottish Rite); Freeport B.P.O.E.

FISHER, Aiken Wood, pres., Fisher Scientific Co., 711 Forbes St., Pittsburg, Pa.
Exec.; b. Pittsburgh, Pa., Mar. 19, 1908; s. of Chester G. and Margaret A. Fisher; ed. Yale U., BS., 1929; m. Jane I. Marshall, Feb. 25, 1933; ch.: Joan M., Constance A. 1929 to date, pres. & dir., Fisher Scientific Co.; pres. & dir., Eimer & Amend. Res. and dev. of lab. apparatus and instruments. Mem.: A.C.S., Pittsburgh Chemists' Club, Scientific Apparatus Makers Assoc. Clubs: University, Yale (N.Y.), Duquesne. Hobbies: golf, model making.

FISHER, Arthur James Jr., mgr., chem. sales dept., U.S. Industrial Chems. Inc., 60 E. 42 St., N.Y. 17, N.Y.; res. West Rd., New Canaan, Conn.
Exec.; b. Rochester, N.Y., Aug. 5, 1914; s. of Arthur J. and Mary E. (Fowler) Fisher; ed. Phillips Exeter Acdy., 1932; Princeton U., 1936, A.B. (chem.); mem.: Tiger Inn; m. Elizabeth A. Roberts, Nov. 24, 1938; ch.: Ann Elizabeth, Thomas Roberts. 1936 to date, U.S. Industrial Chems. Inc. Mem.: A.C.S., Commercial Chem. Dev. Assn. (secy. 1947-48; dir., 1949-50), Chem. Market Rest. Assn. (secy. 1946-48; councillor 1949-50). Clubs: Chemists' (N.Y.), Country (New Canaan). Hobbies: fishing.

FISHER, Charles Harold, dir. Southern Regional Res. Lab., U.S. Dept. of Agric., 2100 Robert E. Lee Blvd., New Orleans, La.; res. 1624 Mirabeau Ave., New Orleans, La.
Chem., res. admin.; b. Hiawatha, W. Va., Nov. 20, 1906; s. of Lawrence D. and Mary (Akers) Fisher; ed. Roanoke Coll., B.S., 1928; U. Ill., Ph.D., 1932; mem.: Alpha Chi Sigma, Gamma Alpha; m. Nona Elizabeth Dye, Nov. 4, 1933. Summers 1931 and 1932, chem., Penna. Coal Prods. Co., Petrolia, Pa.; 1932-35, instr. org. chem., Harvard U.; 1935-40, chem., U.S. Bur. of Mines, Pittsburgh, Pa.; 1940-49, Eastern Regional Res. Lab.; Jan., 1950, to date, dir., Southern Regional Res. Lab., U.S.D.A. Indust. utilization of carbohydrates; acrylic resins; synth. elastomers; co-inventor of a commercial acrylic rubber. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S., A.A.A.S., Southern Assoc. Sci. and Ind. Club: Cosmos. Hobbies: work, music, color photography.

FISHER, Chester G., chmn. bd., Fisher Scientific Co., 717 Forbes St., Pittsburgh 19, Pa.
Exec.; b. Pittsburg, Pa., 1881; s. of John C. and Mary (Weber) Fisher; ed. U. Pitts., M.E.; m. Margaret Aiken, 1905; ch.: Aiken W., Benjamin R., James A. Founder Fisher Sc. Co. 1902; pres. until 1948, when son Aiken W. Fisher succeeded pres.; 1948 to date, chmn. bd.; also chmn. bd. of Eimer & Amend, N.Y., a subs. of Fisher Scientific Co. Owner of "Fisher Collection of Alchemical, Hist. Pictures." (painting, engraving, old prints, re. early history of chem., the largest, most complete collection in existence). Designed, mfg. many sc. instruments, chem. apparatus, inc. Fisher Burner; rec'd Pitts. Award for Outstanding Contribs. to Chem. V.p. Children's Hosp. (Pitts.); adv., Pitts. & Allegh. Home for Friendless Children; trustee, Shadyside Presby. Ch. Mem.: A.C.S., (former chmn. Pitts. sect.), A.A.A.S. (fellow), A.S.T.M., Pa. Chem. Soc., Am. Hosp. Assn.. Clubs: Duquesne, Univ., Fox Chapel Golf, Chemists' (N.Y.). Hobby: collecting pictures pertaining to early history of chemistry.

FISHER, Harry Chester, dir. res., Gardner Board & Carton Co., Middletown, Ohio; res. 6203 Beech View Circle, Cincinnati 13.
Chem., chem. engr.; b. Cincinnati, O., Aug. 20, 1900; s. of Jonathan Herbert and Helen (Fluck) Fisher; ed. U. Cincinnati, Chem. Engr.; m. Alberta May Vogel, June 16, 1923; ch.: Muriel Helen, Ronald Meredith. 1920 to date, with same Co. or its predecessors, Richardson Co., 1920-32, chem., chf. chem.; Gardner-Richardson Co., 1932 date, dir. res.; Gardner Board & Carton Co. (change in name only). Res. in colored slate gran. for roofing; bituminous-bearing papers, boards; mineral coatings for paper, board. Mem.: T.A.P.P.I., Internal. Club of Printing House Craftsmen; A.P.P.M.S.A. Hobby: music, (piano, organ; church organist, choir dir. (Episc. cont. since 1920).

FISHER, Harry Linn, adm. asst., div. chem. & chem. tech., National Research Council, 2101 Constitution Ave., Washington 25, D.C.; res. 200 N. Wayne St., Arlington, Va.
Res. org. chem., admin.; b. Kingston, N.Y., Jan. 19, 1885; s. of George Edwin and Emma Adelia (Bray) Fisher; ed. Williams Coll., A.B., 1909; Columbia U., A.M., 1910; Ph.D., 1912; m. Nellie Edna Andrews, June 7, 1910; ch.: Helen, Ruth (Mrs. Francis B. Rosevear), Robert Andrews. Instr. in chem., Cornell U. Med. Coll., New York, 1911-12; instr. in org. chem., Coll. U., 1912-19; res. chem., B.F. Goodrich Co., Akron, Ohio., 1919-26; res. chem., U.S. Rubber Co., New York, N.Y., and Passaic, N.J., 1926-36; dir. of Organic Chem. res. Air Reduction Co., 1936-44 and U.S. Industrial Chemicals, Inc. (formerly U.S. Industrial

Alcohol Co.), Stamford, Conn., and the last yr. Baltimore, Md., 1936-50; National Res. Council, 1950; consult., office of rubber dir., 1943-44; Office of Rubber Res. 1944. Inventor of rubber isomers used in vulcalock process, other processes for attaching rubber to metal; processes of non-sulfur vulcanization; processes of synthesis of org. compounds, methionine, lysine. Author: "Laboratory Manual of Organic Chemistry," (1920; 2nd rev. ed., 1924; 3rd rev. ed., 1931; 4th rev. ed., 1938.). "Rubber and Its Use" (1941). School bd., Leonia, N.J. (1929-36; v.p. 1931-36). Mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon (natl. sec., 1913-16; natl. pres. 1916-18), Alpha Chi Sigma; A.C.S. (org. div. secy. 1915-19; Akron sec., chmn., 1926; rubber div., chmn. 1927-28; West. Conn. sec., chmn. 1940-41; Charles Goodyear Medal Award rubber div., 1949. Eighth International Congress of Applied Chem. (organic sec., secy., N.Y., 1912); A.I.C. (pres., 1940-42; hon. member, 1949.) A.S.T.M. (Edgar Marburg Lecturer, 1941; recipient of a Modern Pioneer Award for developments in attaching rubber to metal 1940); Inst. of the Rubber Industry (Great Britain fellow), A.A.A.S. (fellow).

FISHKIND, David, prod. mgr. & purchasing agent, Verona Chem. Co., 26 Verona Ave., Newark 4, N.J.; res. 306 Highland Rd., So. Orange.
Chem.; b. New York City, Feb. 28, 1895; s. of Jacob and Esther Fishkind; ed. B.Chem., Cornell, 1915; N.J. Law Schl., LL.B., 1926; m. Voltairine Blume, Mar. 27, 1921; ch.: Mrs. Barbara J. Schiller, John Jacob Fishkind. With Verona Chem. Co., from 1935 to present. Mem.: A.C.S., A.I.C., Sigma Xi.

FISKE, Cyrus Hartwell, prof. of biol. chem., Harvard Med. Schl., 25 Shattuck St., Boston 15, Mass.; res. 1155 Massachusetts Ave., Lexington 73.
Biol. chem.; b. St. Paul, Minn., Sept. 22, 1890; s. of Frederick William and Isabella Tiffany Hartwell Fiske; ed. A.B., (cum laude); U. Minn., 1910, M.D. (cum laude), Harvard Med. Schl., 1914; mem: Nu Sigma Nu; m. Josephine K. Bissman, 1917; ch.: Catherine (Mrs. James Higgins), Robert Hartwell. Asst. biol. chem.. Harvard Med. Schl., 1914-15; assoc. biochem., Western Reserve Med. Schl., 1915-17; asst. prof. 1917-18; asst. prof. of biol. chem., Harvard Med. Schl., 1918-29; assoc. prof. 1929-35; prof. 1935 to present. Res. in microanal. methods for sulfur, phosphorus, total base, calcium, potassium, phosphocreatine, purine bases; various papers on metabolism; discovery of phosphocreatine, adenosinetriphosphate; dev. of parenteral liver extract (Lederle.). Mem.: A.A.A.S. (fellow), A.I.C., Am. Soc. of Biol. Chems. (treas., 1931-35, A.C.S., Sigma Xi, Alpha Omega Alpha.

FISKE, Robert Bishop, dir., v.p., American Cyanamid Co., 30 Rockefeller Plaza, New York 20, N.Y.; res. 71 Five Mile River Rd., Darien, Conn.
Lawyer; b. Auburndale, Mass., July 18, 1900; s. of Jonathon Parker Bishop and Lucy (Adams) Fiske; ed. B.A., Yale Coll., 1924; LL.B., (magna cum laude), Yale Law School, 1926; mem.: Psi Upsilon; m. Lenore Seymour, June 1, 1929; ch.: Robert B. Jr., McNeil Seymour, John Adams. Root, Clark, Buckner & Ballantine, 1 Nassau St.,; N.Y.C., Oct. 1926 to Sept. 1932; R.F.C., Wash., D.C., Sept. 1932 to June 1933; Root, Clark, Buckner & Ballantine, June, 1933 to Jan. 1934; American Cyanamid Co., N.Y.C., Jan. 1934 to present. Mem.: M.C.A. (chmn. pat. comm.), Order of the Coif, Yale Law School Ass'n. (mem. exec. comm.). Clubs: University Club (New York), Graduates' (New Haven), Wee Burn Country, (Darien, Conn.), Anglers' (New York), Balsam Lake (Turnwood, N.Y.), Phelps Ass'n. Hobbies: sailing, fishing.

FISTERE, Joseph, pres., dir. Mallinckrodt Chem. Wks., Second & Mallinckrodt Sts., St. Louis 7, Mo.; res. 26 Fair Oaks, Ladue, St. Louis Co.
Exec.; b. N.Y.C., Nov. 7, 1895; s. of Joseph and Mary Jane (Scott) Fistere; ed. Cornell U., 1915-17; m. Hermione S. Duane, Aug. 18, 1923; ch.: Joanne H. Butler. U.S.A. 1917-19; Natl. Aniline div., Allied Chem. & Dye Corp., 1920-42; Far Eastern mgr. 1927-42; Mallinckrodt Chem. Wks., 1942 to date. Clubs: Noonday, Missouri Athletic, Algonquin Golf (St. Louis), Cornell (N.Y.).

FITCH, Elliot Bryant, ass't. to dir. res., The Dorr Co., Westport, Conn.; res. 71 Kings Highway, Westport.
Chem. engr.; b. Apr. 30, 1910, Los Gatos, Calif.; s. of Jas. F. and Blanche B. Fitch; ed. B.S., Calif. Ins. of Tech., 1932; m. Mary Elizabeth Botkin in 1938; ch.; Mary Jill, James Anthony. American Potash & Chem. Corp., 1933-44; 1933-36, production; 1936-44, res. engr.; sales engr., The Dorr Co., 1944-46; 1946 to date, research. Mem.: A.I.Ch.E., A.C.S.

FITZPATRICK, J.D., dept. hd., new prods. res., Emery Industries, Inc. Carew Tower, Cincinnati 2, Ohio; res. Box 560, R.R. 14, Cincinnati 11.
Res. chem.; b. Kenova, W. Va., Oct. 27, 1909; s. of Charles and Ida Fitzpatrick; ed. U. Cincinnati, Chem. Engr., 1935; m. Catherine C., Aug. 22, 1936; ch.: Gerald L., Jay Dennis, Karen Dianne. 1934-37 anal. chem. & 1937-43, res. chem., Emery Indus., Inc.; 1943 to date, hd. new prods. res., Emery. Dir. and treas., The Miami Heights Civic Assoc., Cincinnati 11, O. Res. and dev. fatty derivatives; oxidation unsaturated fatty bodies; electrolytic cell for chromic acid regeneration. Mem.: A.C.S., E.S. Hobbies: mineralogy, gemology.

FITZ-SIMONS, Ogden, chf. engr., Ciba Prods. Corp., Kimberton, Chester Co., Pa.; res. Kimberton.
Chem. engr.; b. Rochester, N.Y., June 1, 1906; s. of Curtis and Mildred (Englehardt) Fitz-Simons; ed. pub. schls. Rochester, N.Y.; U. Rochester, B.S. (chem. engrg.), 1927; M.I.T., S.M. (chem. engrg. pract.), 1929; mem.: Delta Kappa Epsilon; m. Sara Helen Gaston, Dec. 7, 1933; ch.: Sharon, Elaine, Douglas. 1929-35, res. engr. Standard Oil Co. (Ind.); 1935-40, tech. dir. Floridin Co., Warren, Pa.; 1940-42, sr. engr., Barrett Div., Allied Chem. & Dye Corp.; 1942-50, sr. proj. engr., Monsanto Chem. Co.; 1950, chf. engr., Ciba Prods. Corp. Res. carbon formation automobile engines; prod. anti-knock gasoline; solvent extraction processes; propane deresining of lube oils; design plastic mfg. units; design large continuous detergent mfg. plant; design of ester, acid anhydride, formaldehyde, textile sizing, and other miscel. units. Holds 12 pats. and has contrib. 11 tech. publications to fld. Reg. prof. engr., Penn., Missouri. Mem.: A.C.S., (sec. chmn. 1938-40), A.I.Ch.E. Club: Rotary (Warren, Pa. past pres.). Hobbies: hunting. fishing, music reproduction, ornithological art.

FLANAGAN, George William, tech. serv. mgr., internatl. sales, B.F. Goodrich Chem. Co., Cleveland 15, Ohio; res. 7799 Oakhurst Circle, Brecksville.
Chem. engr.; b. St. Paul, Minn., Nov. 13, 1910; s. of Geo. W. (dec.) and Tena Marie Flanagan; ed. U. Minn., B.Ch.E., 1932; grad. wk. 1933; mem.: Alpha Chi Sigma, Alpha Tau Sigma. Aug., 1933, Brown & Bigelow, St. Paul, techn.; Mar., 1934, photoengraver; July, 1942, B.F. Goodrich Co., res. chem.; Jan., 1944, B.F. Goodrich Chem. Co., dev. engr.; Sept., 1945, mgr. prod. dev. lab.; Feb., 1949, to date, mgr. tech. serv. internatl. sales.

FLECK, Louis Carl, supt. Basic Res., Kimberly Clark Corp., Neenah, Wis.; res. 723 Carver Lane, Menasha, Wis.
Chem.; b. Oct. 25, 1895; s. of Gustave and Louise Fleck; ed. U. Wis., B.S., 1917; M.S., 1923; Ph.D., 1928; m. Phoebe Kimball, Oct. 7, 1947; ch.: Robert. 1917-18, chem., N.J. Zinc Co., Palmerton, Pa.; 1918-19, chem., U.S. Nitrate Plant No. 2, Muscle Shoals, Ala.; 1919-21, chf. chem., Frankfort Grain Prods. Co., Frankfort, Ky.; 1921-29, chem., U.S. Forest Prods. Lab., Madison, Wis.; 1929 to date, chem., Kimberly Clark Corp. Res. in forest prods. chem., chem. of wood and cellulose. Mem.: A.C.S., Sigma Xi. Club: Ellis. Hobby: golf.

FLEGE, Raymond Kennett, asst. to pres., Stonecutter Mills, Spindale, N.C.; res. Spindale.
Chem. engr.; b. Williamstown, Ky., Mar. 17, 1905; s. of John M. and Frances (Blain) Flege; ed. 1925, 1927, A.B., M.S. (chem.), U. Ky.; 1932, M.S. (chem. engrg.), M.I.T.; mem.: Alpha Chi Epsilon, Sigma Xi; m. Mary Louise McCormick, Oct. 1, 1937. Diamond Alkali Co., 1929-30, chem. engr.; Kendall Co., 1932-44, chem. engr.; North Star Woolen Mill Co., 1944-48, plant mgr.; Stonecutter Mills Corp., 1948 to date, asst. to pres. Div. dir., R.L.A.C., M.I.T. Mem.: A.C.S., I.S.C.C., A.A.T.C.C.

FLEISCHER, Joseph, chem. and pat. conslt., Winchester Repeating Arms Co., Div. Olin Industries, Inc.; res. 197 Augur St., Hamden, Conn.
Chem., pat. conslt.; b. Bridgeport, Conn., Dec. 27, 1905; s. of Julius and Flora (Reinitz) Fleischer; ed. Yale U., 1927 (summa cum laude); Ph.D., 1930; mem.: Sigma Xi; m. Pearl Frischman, Aug. 27, 1939; ch.: Lanie Flora, Miriam Theresa. 1928 and 1929 (summers), anal. and res. chem., Raybestos; 1930-32, res. chem. Frigidaire Corp., 1932-34, chem. conslt. 1934-36, res. chem. Western Cartridge Co.; 1936-44, res. chem. and pat. atty., Western Cartridge Div. of Olin Indus., Inc.; 1944 to date, chem. and pat. conslt. Winchester Div. of Olin Indus., Inc. Res. in phenolic resins; sulfur dioxide addition compds. and absorbents; properties and solubilities of halofluoride refrigerants; fluids for absorption refrigeration; congealing solutions; compression refrigerating system; purification and esterification of cellulose; initiating explosives; dry cells and components. Mem.: A.C.S., Conn. Patent Law Assoc. Club: Chemists' Hobbies: reading, golf, bowling.

FLEISCHER, Leo, dir. of res. & dev., Crystal Tissue Co., Middletown, Ohio; res. 737 Chalfonte Pl., Cincinnati 29.
Paper tech.; b. Macon, Ga., Mar. 25, 1906; s. of Dave and Esther (Weilman) Fleischer; ed. U. Cincinnati, Cincinnati, Ohio, 1923-26; Friedrichs Polytechnicum, Coethani Anhalt, Germany, 1930; mem.: Sigma Alpha Mu; m. Janet S. Fleischer, 1935; ch.: Ellen L. 1926-28, Seidenpapier Fabrik Fleischer, Germnay; 1929, L. G. Farben A. G. & Cellulose Fabrik, Walsum, Germany; 1929-30, Seidenpapier Fabrik Fleischer, Germany; 1930-34, N.Y. & Pa. Co., Lock Haven, Pa.; 1934 to date, Crystal Tissue Co., Middletown, Ohio. Assisted in dev. of various tech. papers during W.W. II (binder twine, breathing tissue for silica gel bags, tea bags). Mem.: T.A.P.P.I. Hobby: photography.

FLEISCHMANN, Meyer, chf. chem., Real Silk Hosiery Mills, Inc., Indianapolis, Ind.; res. 5822 E. Washington St., Indianapolis.
Textile chem.; b. Manchester, N.H., May 7, 1897; s. of Simon and Lena Mary Fleischmann; ed. B.T.C., Lowell Textile Inst., 1920; mem.: Sigma Omega Psi; m. Reva M. Hulse, July 12, 1927. Asst. chem., Brightwood Mfg. Co., North Andover, Mass., 1920-22; chf. chem., Real Silk Hosiery Mills, Indianapolis, Ind., 1923 to present. Mem.: A.A.T.C.C., Natl. Geographic Soc. Clubs: Athaeum (Turnverein), Marion Lodge 35 (F. & A.M.), Pleasant Run Golf Course (all Indianapolis, Ind.) Hobbies: books, music, golf.

FLEMING, Charles L., Jr., asst. dir. Res. Div., Standard Oil Development Co., P.O. Box 51, Linden, N.J.; res. 955 Boulevard, Westfield, N.J.
Chem.; b. Penns Grove, N.J., May 16, 1914; s. of Charles L. and Florence A. Fleming; ed. A.B., Dartmouth Coll., 1935, Ph.D., U. of Ill., 1938; mem.: Phi Sigma Kappa; m. Margaret M. Carleton, Aug. 29, 1935; ch.: Margaret A., Thomas C., Barbara L. Chem., Standard Oil Dev. Co., 1938 to present. Mem.: Phi Beta Kappa, Sigma Xi, A.C.S., Soc. of Automotive Engineers.

FLENTJE, Martin Ernest, res. engr., American Water Wks. Service Co., 121 So. Broad St., Phila. 7, Pa.; res. 108 Colwick Rd., Merchantville 9, N.J.
Chem. engr.; b. Sibley, Iowa, May 20, 1897; s. of Rev. H. and Sophia Flentje; ed. B.S., U. of Iowa, Iowa City, Iowa, 1920; M.S., 1921; mem.: Sigma Phi Epsilon, Alpha Chi Sigma, Tau Beta Pi; m. Rose L. Durst, Dec. 28, 1921; ch.: Jane Marie. Water analyst, Inst., U. of Iowa & Ia. Health Dept., Iowa City, Iowa, 1921-22; chem., K. I. Herman Chem. Co., Matteson, Ill., 1922-24; chem. and inspector, C.N.W.Ry., Chicago, Ill., 1924-26; supt. purification, City Water Dept., Oklahoma City, Okla., 1926-27; supt. Purification, Community Water Service Co., N.Y.C., 1927-36; sanitary engr., Amer. Water Wks. & Electric Co., N.Y.C., 1936-47; res. engr., Amer. Water Works Service Co., Phila., Pa. 1947 to present. Numerous articles and reports in public water supply field. Mem.: Amer. Water Wks. Assoc., Natl. Assoc. of Corrosion Engineers.

FLETCHER, Charles Leonard, supt. Cellulose Esters Div., Tenn. Eastman Corp., Kingsport, Tenn.; res. 1536 Fairidge Dr., Kingsport.
Chem. engr.; b. Columbus, O., Sept. 30, 1907; s. of Alfred and Florence (Jones) Fletcher; ed. Ohio State U., B.Ch.E., 1930, Ch.E., 1939; mem.: Chi Phi, Tau Beta Pi; m. Mildred E. Kiehl, June 7, 1930; ch.: Charles Alfred, Sarah Jane. 1930-33 Cellulose Esters Div., Eastman Kodak; 1933-34 Cell. Est. Tech., Tenn. Eastman; 1934-41 asst. supt. Cell. Est. Div., Tenn. Eastman, 1941 to date supt. same div. Res. in dev. of procs. for mfg. and improvement of cellulose acetate, acetate propionate and acetate butyrate for use in safety film, plastics, rayon, lacquers, etc. and mfg. of same. Holds numerous U.S. pats. Mem.: A.I.Ch.E. Clubs: Rotary (Kingsport), past pres.; Ridgefields Country. Hobbies: rose culture, golf, hunting, cabinet making.

FLETCHER, Frank A., prof. & hd. chem. engrg., Drexel Inst. of Tech., Phila. 4, Pa.; res. 533 Strathmore Rd., Havertown, Pa.
Tchr. chem. engrg.; b. Hudson, Mass., Feb. 12, 1900; s. of Arthur L. and Grace R. Fletcher; ed. S.B., M.I.T., 1922; S.M., 1923; Ph.D., U. of Pa., 1936; m. Frances M. Dimick, July 6, 1929; ch.: Arthur, Malcolm, Marjorie. Instr. chem., U. Vermont, 1923-25; instr. chem. & chem. engrg., Drexel Inst., 1925 to date; currently prof. & hd. chem. engrg.; lectr., Phila. Coll. of Phar. & Sc., 1937 to date. Mem.: A.C.S., A.I.Ch.E., Tau Beta Pi, Phi Kappa Phi, Sigma Xi.

FLETCHER, Leslie Seekell, tech. dir., Sam Tour & Co., Inc., 44 Trinity Pl., N.Y. 6, N.Y.; res. 36 Judson Pl., Rockville Centre, N.Y.
Engr.; b. Providence, R.I., Feb. 17, 1899; s. of Arthur Leslie and Hattie Seekell Fletcher; ed. U.S.M.A. (West Point), B.S., 1924; M.I.T. B.S., 1933; m. Alice Tattrie, Aug. 24, 1927; ch.: Har-

riet Jane, Elizabeth Seekell, Margaret Ann, Allen Leslie. Off. U.S. Army 1924-47 (field artillery 1924-27, ordnance 1927-47) retired Col. 1947; tech. dir., pres., Sam Tour & Co., Inc., 1947 to date; tech. dir., Am. Stand. Testing Bur., Inc. Mem.: A.I.M.E., A.S.M.E., Metal Sc. Club (New York). Hobby: Boy Scouts.

FLETCHER, Robert James, chf. azo dev. chem., Calco Chem. Div., Am. Cyanamid Co., Bound Brook, N.J.; res. 328 Park Pl., Irvington, N.J. Chem. engr., chem.; b. New Britain, Conn., Nov. 7, 1892; s. of James Robert and Mary Emma Fletcher; ed. Cornell U., Ithaca, N.Y., 1912-17; mem.: Alembic, Theta Delta Chi; m. Katherine Agnes Murphy, Feb. 15, 1919; ch.: Elizabeth Ann Mueller, Katherine Agnes Coll, Jean Marie. Asst. res. dir. azo colors, E. I. du Pont de Nemours & Co., Wilmington, Del., 1917-20; chf. chem., mgr., Amalgamated Dye & Chem. Wks., Newark, N.J., 1920-36; chf. azo dev. chem., Calco Chem. Div., Am. Cyanamid Co., Bound Brook, N.J., 1936 to date. Res. & dev. of new azo colors & intermediates for same. Mem.: A.I.Ch.E. Club: Theta Delta Chi (N.Y.C.). Hobbies: woodworking, gardening.

FLETCHER, Worth A., prof. of chem., and registrar, U. of Wichita, Wichita 14, Kansas; res. 911 N. Topeka, Wichita 5.
Prof. of chem.; b. Randolph County, Ind., May 8, 1900; s. of Robert Henry and Nettie L. Fletcher; ed. Indiana U., A.B., 1925, M.A., 1926, Ph.D., 1927; mem.: Alpha Chi Sigma, Acacia; m. Edith Futlz, Dec. 22, 1931; ch.: Carolyn. 1927 assoc. prof. chem. The Municipal U. of Wichita; 1931 to date prof. of chem. and registrar, same U. Mem.: A.C.S., Kansas Acdy. of Sc., Indiana Acdy. of Sc., Phi Lambda Upsilon, Sigma Xi. Hobby: stamp collector.

FLETT, Lawrence, dir., New Prods. Div., Natl. Aniline Div., 40 Rector St., N.Y. 6, N.Y.; res. 15 Beechwood Lane, Scarsdale, N.Y.
Chem.; b. Melrose, Mass., Mar. 26, 1896; s. of Charles Frederick and Alvina Flett; ed. B.S., M.I.T., 1918; mem.: Kappa Sigma; m. Dorothea Elizabeth Kellough, Nov. 24, 1920; ch.: Sally, Ruth. Dir., New Prods. Div., Natl. Aniline Div. Dev. first detergent from pet.; dev. first stable syn. detergent; many pats. & publ. Author: "Maleic Anhydride Derivatives—Reactions of the Double Bond" in preparation. Mem.: A.I.C. (fellow), A.C.S., A.A.A.S., C.C.D.A., C.M.R.A., N.Y. Acdy. Sc., hon. mem. Mining & Metallurg. Soc. of S. Africa, S.C.I., Schoellkopf Medalist, 1942. Clubs: Chemists', Bonnie Briar, Downtown Athletic, M.I.T. (N.Y.), Town (Scarsdale). Hobbies: golf, swimming, sailing, skiing.

FLEYSHER, Maurice Henry, res. chem., Natl. Aniline div., Allied Chem. & Dye Corp., Buffalo, N.Y.; res. 67 Admiral Rd., Buffalo.
Res. chem.; b. Phila., Pa., Jan. 1, 1898; s. of Hamshey and Sophia (Kolomoytzeff) Fleysher; ed U. of Pa., B.S. chem., 1921, M.Sc., 1922, Ph.D., 1924; m. Molly Helper, May 28, 1939; ch.: Daniel Ellen. Instr. in physics & chem., Central H.S., Phila., Pa., 1924; res. chem., Natl. Aniline div., Allied Chem. & Dye Corp., 1925 to date. Dyestuffs & intermediates, particularly vat dyes & sulfide dyes. Mem.: A.C.S. (1920 to date), A.I.C. (fellow, 1945 to date). Hobbies: photography, music.

FLINT, E(inar) P(hilip), chmn., Ceramics & Minerals Dept., Armour Research Foundation, 35 W. 33rd St., Chicago, Ill.; res. 500 Hawthorn Lane, Winnetka, Ill.
Chem.; b. Wardner, Idaho; s. of Oscar Frederick F. and Matilda Charlotte Flint; ed. B.S., U. of Washington, 1930, M.A., Geo. Washington U., 1932, Ph.D., U. of Maryland, 1936; m. Adele Cavanagh, Nov. 6, 1937; ch.: Robert Bryan, James Frederick. Chem., Natl. Bur. of Standards, Washington, D.C., 1930-44; supvr. inorg. chem., Armour Res. Foundation, 1944-46; chmn., Ceramics and Minerals Dept., 1946 to present. Investigations on chem. of formation and setting of portland cement Mem.: Am. Ceramic Soc., A.C.S., Phi Kappa Phi, Phi Lambda Upsilon, Alpha Chi Sigma. Club: Chemists' (Chicago).

FLINT, J. Howard, conslt., Natl. Press. Bldg., Wash. 4, D.C.; res. 4643 17th St., North, Arlington, Va.
Tech. conslt.; chem. engr.; b. Athens, N.Y., Nov. 13, 1896; s. of Orin Q. and Emma (Kiltz) Flint; ed. Cornell U., B.Chem., 1920; George Wash. U., LL.B., 1928; mem.: Alpha Chi Sigma; m. Ida L. Kaufmann; ch.: J. Howard and Carlon. Chem. engrg. resp. fld. exper., chem. plant oper., prod. from kelp (seaweed) Calif., 1920-22; pilot plant dev., nitrate, Chile, 1922-24; exam., U.S. Pat. Off., 1924-27; pvt. pat. pract. and tech. conslt., spec. in engrg. and legal prob. in chem. indust., 1928 to date; negot., pat. and trade secret releases for post-war operation commercially of Govt. ammonia and other chem. plants. Mem.: A.I.Ch.E., N.Y. & D.C. Bars and var. Fed. Cts. Prof. Engr, N.Y.S. Club: Chemists' (N.Y.C.). .

FLORY, Paul J(ohn), prof. of chem., Dept. of Chem., Cornell U., Ithaca, N.Y.; res. 711 Hanshaw Rd., Ithaca.
Tchg. and res.; b. Sterling, Ill., June 19, 1910; s. of Ezra and Martha (Brumbaugh) Flory; ed. Manchester Coll., B.Sc., 1931; hon. Sc.D., 1950; Ohio State U., M.Sc., 1931; Ph.D., 1934; Joseph Sullivant M., Ohio State U., 1945; Baekeland Award, A.C.S., 1947; m. Emily Catherine Tabor, Mas. 7, 1936; ch.: Martha Susan, Melinda Ann, Paul J., Jr. 1934-38 res. chem. Exper. Sta., E. I. du Pont de Nemours & Co., Wilmington, Del.; 1938-40 res. assoc., U. of Cincinnati; 1940-43 res. chem., Esso Labs., Std. Oil Dev. Co., Elizabeth, N.J.; 1943-48 sect. hd. in chg. of fundamental res., Goodyear Tire & Rubber Co., Akron, O.; 1948 to date prof. of chem., Cornell U.; res. on high polymers and polymerization; synth. fibers, synth. rubber, plastics, etc. Mem.: Sigma Xi, A.C.S., A.A.A.S. Hobbies: swimming, sailing.

FLUMERFELT, Walter Edson, Chem. Div. v.p., General Mills, Inc., 400 2nd Ave. S., Minneapolis 1, Minn.; res. 4911 Sunnyside Rd., Edina, Minneapolis 10, Minn.
Dir. of soy bean oil sales; b. Ararat, Penn., Jan. 26, 1900; s. of Edwin N. and Sarah Isabel (France) Flumerfelt; ed. Cornell U., A.B., 1923; (Binghamton Central H.S. 1917); mem.: Alpha Chi Sigma, Kappa Delta Rho; m. Helen Zuck Loring, Oct. 1, 1924; ch.: Mary Jean, Richard Loring. 1924-26 with Rhodia Chem. Co., N.Y.C. and Chicago; 1926-29 with Burkett Flumerfelt Motor Co., Des Moines, Iowa; 1929-33 with Central States Chem. Co., Monticello, Ill.; 1936-42 with Soy Bean Proc. Co., Waterloo, Iowa; 1943 to date with Gen. Mills, Inc., Chem. Div., Belmond, Ia., and Minneapolis. Mem.: A.C.S., A.O.C.S., former dir. Natl. Soybean Processors Assoc.

FOEHR, Edward Gotthard, res. chem., Calif. Research Corp., Richmond, Calif.; res. 43 Billou St., San Rafael, Calif.
Chem.; b. Philadelphia, Pa., Sept. 22, 1917; s. of Gotthard and Nellie Foehr; ed. Penn. State Coll., B.S. and M.S. in chem. engrg.; Ph.D. in organic chem.; m. Catharine Frederick, June 15, 1940. 1938-44, res. asst., Petroleum Refining Laboratory of Penn. State Coll.; 1944 to present, res. chem., Calif. Research Corp. Mem.: A.C.S., Phi Lambda Upsilon (chem. honorary), Pi Mu Epsilon (math. honorary).

FOERSTER, Edward L., chem. engr. Development, Merck & Co. Inc., Elkton, Va.; res. 342 Monticello Ave., Harrisonburg, Va.
Chem. engr.; b. Chicago, Ill., Sept. 17, 1919; s. of Arthur Henry (dec.) and Lillian (Behm) Foerster; ed. B.S. Ch.E., U. of Ill., 1941 (high honors); Ch.E., U. of Va., 1942; mem.: Alpha Chi Sigma; m. Lois Mason Claybrook, Dec. 30, 1948; ch.: Gerald Andrew Claybrook, Lelia Jean. Merck & Co. Inc., Development, chem. engr., 1942 to date. Mem.: A.I.Ch.E., A.C.S. Clubs: Elks, Lodge No. 450; Spottswood Country; Central Virginia Chem. Engrs. Club: Hobby: fishing.

FOGELBERG, John Marshall, tech. dir., R. T. French Co., Rochester 9, N.Y.; res. 25 Meadowbrook Rd., Rochester.
Chem.; b. Wis., Aug. 24, 1906; s. of William and Bertha Fogelberg; ed. U. of Wis., B.S., 1928 sr. honors, Ph.D., 1931; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi, Phi Beta Kappa. R. T. French Co., res. chem. 1932, tech. dir. 1949 to date; U.S.N., 1942-45, Lt. Commander, Naval Res. Lab. Wk. primarily in food fld. Mem.: A.C.S., I.F.T. Clubs: University (Rochester), Monroe Golf.

FOGG, Wendell Gilman, exec. engr., Air Reduction Co. Inc., 60 E. 42nd St., N.Y. 17, N.Y.; res. 6 Elm Pl., Glenbrook, Conn.
Exec. engr.; b. Medford, Mass., Nov. 7, 1894; s. of Arthur G. and Marie E. (Culton) Fogg; ed. Columbia U., A.B., 1915, Ch.E., 1918; mem.: Phi Beta Kappa, Tau Beta Pi, Sigma Xi, Phi Lambda Upsilon; m. Viola Barber, 1921; ch.: Marjorie Viola, Evelyn Marie. Air Reduction Co. 1918 to date, chf. chem. 1925-44, chf. chem. & mgr. tech. serv. div. 1944-48, exec. engr. res. & engrg. dept. 1948 to date. Mem.: A.C.S., A.I.Ch.E, S.C.I., Armed Forces Chem. Assn. Club: Chemists'.

FOGLER, Mayor Farthing, v.p., Solvay Process Div., Allied Chem. & Dye Corp., 61 Broadway, New York 6, N.Y.; res. 1192 Park Ave., New York 28, N.Y.
Exec. chem.; b. Loogootee, Ill., Nov. 15, 1896; s. of William E. and Mazie B. Fogler; ed. B.S., 1920, M.S., 1921, Ph.D., physical chem., 1923., U. of Ill.; mem.: Sigma Xi, Phi Kappa Phi, Phi Lambda Upsilon; m. Mary Withworth Willson, Aug. 11, 1932. West. Elec. Co., dev. engr., 1923-25; Fixed Nit. res. lab. 1925-26; res. chem., chf. chem., asst. gen. supt., asst. gen. mgr., Atmos Nit. Corp., 1926-34; asst. to dir. dev., Solvay Process Co. (now div. of A.C.&D.), 1934-40; dir. of dev., 1940-45; v.p., 1945 to date; A.T.M. Nit. Corp., asst. to v.p., v.p., 1941-48. Res. on thermodynamics, phys. properties of metals, Nit. oxides, nitricacid, nitrates. Mem.: A.C.S. Clubs: Chemists' (New York), Wee Burn Country (Darien, Conn.), Canadian Club (New York), Whitehall (New York). Hobby: early American furniture.

FOGLESONG, John Edward, prof. of anal. chem., U. of Miss.; res. 420 N. 14th St., Oxford, Miss.
Teacher of chem.; b. Lucerne, Ind., July 20, 1885; s. of Peter John and Mary Adaline (Long) Foglesong; ed. B.A., Wabash, 1910; M.A., Ohio State, 1912; Ph.D., Cornell, 1919; mem.: Alpha Chi Sigma, Gamma Alpha, Phi Delta Chi, Sigma Xi; m. Florence Eugenia Young, June 2, 1915; ch.: William Peter. du Pont 1912-13; Union Carbide 1913-16; instr., Cornell, 1917-19; Barrett Co., 1919-21; assoc. prof., U. of the South, 1921-23; asst. prof. Trinity (Conn.), 1923-28; asst. prof., U. of Miss., 1928-30, assoc. prof. 1930-44, prof. 1944 to date. Res. on nitrocartechols, phenanthraquinone & the Azine reaction. Mem.: A.C.S., Sigma Xi. Hobbies: Masonic work & study.

FOLEY, Francis B., conslt. metallurg., The Internat. Nickel Co., Res. Lab., Bayonne, N.J.; res. 3418 Warden Dr., Phila. 29, Pa.
Metallurg.; b. Germantown, Phila. Pa., July 7, 1887; s. of Dennis J. and Margaret A. (Gribbin) Foley; ed. Girard Coll., Phila., 1904; m. first, Anne M. Flaherty, Apr. 10, 1915 (dec.); m. sec., Katherine Campbell, Aug. 8, 1938; ch.: Gerard M., Frances Campbell. 1905-17 with Midvale Steel Co.; 1917-19 asst. in metallography, U. of Minn.; 1918-24 metallurg., U.S. Bur. of Mines; 1924-26 metallurg., Lucey Mfg. Corp., Chattanooga, Tenn.; 1926-49 dir. of res., The Midvale Co., Phila.; 1949 to date conslt. met., The Internat. Nickel Co.; Mem. comm. investigating prod. of FeMn in blast furnaces and collab. with Army Ord. on Ord. Steels, W.W. I; War Prod. Bd., Steel Div., Dollar a Year, W.W. II. Mem.: A.S.M. (pres. 1947-48), A.I.M.E. (dir. 1950-53); mem. Comm. on Sc. and the Arts, Franklin Inst.; fellow, A.I.C.; mem. Amer. I. & S. Inst.; A.S.T.M.; I. & S. Inst. (London); H. M. Howe Memorial Lecturer, A.I.ME. 1950; Sauveur Lecturer, A.S.M., Phila. 1950.

FOLEY, John D., plant mgr., Pantasote Co., 26 Jefferson St., Passaic, N.J.; res. Smoke Rise, R.F.D. 2, Butler, N.J.
Engr.; b. N.Y.C., Apr. 4, 1916; s. of John J. and Anna C. Foley; ed. N.Y.U., B.S. in M.E.; mem.: Psi Upsilon; m. Kathleen Sweeney, Aug. 5, 1946; ch.: Ellen Gale. Supt. of prod., Remington Arms Co.; plant mgr., H. O. Canfield Co., Bridgeport, Conn.; plant mgr., Pantasote Co., Passaic, N.J.; v.p. of mfg., H. O. Canfield Co., Bridgeport, Conn. Club: University (Bridgeport, Conn.).

FOLEY, Thomas S., branch mgr., Monsanto Chem. Co., 445 Park Ave., N.Y.C., res. 180 Cabrini Blvd.
Sales mgt.; b. Springfield, Mo., Mar. 17, 1891; s. of William E. and Mary Ann Foley; ed. publ. schl., high schl., Springfield, Mo.; m. Edith Winifred Bowman, June 9, 1915; ch.: Mary Martha, Winifred, Colleen. Swan Chem. Co. 1925-35, when merged with Monsanto Chem. Co.; 1935 to date Monsanto Chem. Co., branch mgr. Mem.: A.C.S. Club: Chem. (N.Y.).

FOLKERS, Karl August, dir. of org. and biochem. res., Merck & Co., Inc., Rahway, N.J.; res. 617 Belvidere Ave., Plainfield, N.J.
Chem. (res.); b. Decatur, Ill., Sept. 1, 1906; s. of August William and Laura Susan (Black) Folkers; ed. B.S., U. of Ill., 1928, Ph.D., U. of Wis., 1931; post doctorate res. Yale U., 1931-34; mem.: Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma; m. Selma Leona Johnson, July 30, 1932; ch.: Cynthia, Carol, Richard Karl. Sherwin-Williams Co., Chicago, summer, 1928; Commercial Solvents Corp., Terre Haute, Ind., summer 1930; Merck & Co., Inc., Rahway, N.J., summer 1933. With Merck & Co., Inc., since June, 1934, asst. dir. of res., 1938-45; dir. org. and biochem. res. since 1945. Res. in org. chem., vitamin B complex, catalytic hydrogenation, pyrimidines, alkaloids, vitamins, synthetic medicinals, antibiotics. Mem.: A.C.S., Natl. Acdy. Sc., (N.Y.) Acdy. of Sc. A.A.A.S., Am. Soc. Bio Chem; co-recipient of The Mead Johnson & Co, award for res. on Vitamin B12 Complex, 1940 and 1949, A.C.S. award in pure chem., 1941; Presidential Certificate of Merit, 1948, Natl. Defense Res. Comm. 1943-46; Comm. Revision of the U.S. Pharmacopeia, 1950-60. Hobby: photography.

FOOTE, Paul D(arwin), exec. v.p. & dir. of res., Gulf Research & Dev. Co., P.O. Drawer 2038, Pittsburgh 30, Pa.; res. 1020 Hulton Rd., Oakmont, Allegheny County, Pa.
Physicist; b. Andover, Ashtabula Co., Ohio, Mar. 27, 1888; s. of Howard Spencer and Abbie Littie (Tourgee) Foote; ed. A.B., Western Reserve U., 1909; A.M., U. of Nebraska, 1911; Ph.D., U. of Minn., 1917; m. Berenice C. Foote, Feb. 3, 1913,

died June 10, 1939; m. Miriam Sage, June 26, 1940; ch.: C. Jane Halliwell and William Spencer; stepchildren, Comdr. R. Sage, Evan Sage, Jr. Began as Asst. Physicist, U.S. Bureau of Stands., Washington, D.C., 1911; sr. physicist 1924-27; appointed sr. fellow, Mellon Institute of Indus. Res., 1927-29; organized Gulf Research Lab. and has directed its activities to date; v.p., Gulf Oil Corp. and Gulf Refining Co. Author: "Pyrometric Practice" 1921; co-author "The Origin of Spectra," 1922 (with Fred Loomis Mohler); "Physics in Industry" 1937, collaborated with others. Mem.: A. Phys. S. (fellow, pres. 1933), A.A.A.S., Opt. S. A., A. Phil. S., N.A.S., A.P.I., Washington Acdy. Sc. (v.p. 1936), I.P.T., A.I.M.E., A.G.U. N.R.C., numerous other organizations, Phi Beta Kappa, Sigma Xi, Sigma Pi Sigma. Clubs: University (Pgh.), Chemists' (New York), Oakmont Country. Hobbies: motor boating, bridge.

FORBES, George Shannon, prof. of chem. (emer.) Harvard U., prof. of chem. (part time), Northeastern U., 12 Oxford St., Cambridge 38, Mass.; res. 8½ Ash St. Pl., Cambridge 38, Mass.
Educ.; chem. conslt.; b. Boston, Mass., Mar. 17, 1882; s. of George Fairfield and Elizabeth L. P. (Shannon) Forbes; ed. A.B. (summa cum laude), Harvard, 1902; A.M., 1904; Ph.D., 1905; postdoctoral study at the Univs. of Berlin and Leipzig, 1906-07; mem.: Phi Beta Kappa (Jr. eight), 1901; m. Marie Louise Hersey, June 1, 1918; ch.: Richard Warren, Elizabeth Shannon, George Fairfield. Asst., or tchg. fellow, Harvard, 1900-05; lecturer on chem., 1905-06; assoc. in chem., Bryn Mawr Coll., 1907-09; instr., Harvard, 1909-13; asst. prof., Harvard, 1913-20; assoc. prof., 1920-26; prof. of chem., 1926-48; emeritus since 1948, Harvard; chmn. of Dept. of Chem., Faculty of Arts & Scs., Harvard, 1944-47; prof. of chem. (part time), Northeastern U., 1948 to date. Chmn. of Div. of Physical and Inorg. Chem., A.C.S., 1926-27; chmn. of Northeastern Sect., A.C.S., 1920. Author of about 75 papers on photochem., phys. and inorg. chem., pub. in sc. jls. Mem.: Amer. Acdy. Arts and Scs., A.C.S., A.A.A.S. Clubs: Harvard Mountaineering; Harvard Faculty; Harvard Musical Assoc. Hobbies: photography, hiking, music.

FORBES, John Campbell, prof. of res. biochem., Medical College of Va., Richmond, Va.; res. 4812 Rodney Rd., Richmond.
Res. and tchg.; b. Medford, N.S., Canada, Aug. 27, 1894; s. of Allan and Mary (Campbell) Forbes; ed. U. of Saskatchewan, B.A., 1920; M.A., 1922; McGill U., Ph.D., 1925; mem.: Phi Beta Pi; m. Irene Duval, June 22, 1926; ch.: Allan Louis. 1925-26 res. chem. Biological Bd. of Canada; 1926-27 instr. in chem., Haverford Coll., Haverford, Penn.; 1927-32 asst. prof. biochem., Med. Coll. of Va.; 1932-44 assoc. prof., 1944 to date prof. of res. biochem. same coll.

FORBES, Madison Chastine, pres., Aquatrol, Inc., P.O. Box 12233, Houston 17, Texas; res. Houston, Texas.
Chem.; b. Hopkinsville, Ky., June 13, 1916; s. of William H. and Metabeth Forbes; ed. B.S., ind. chem., U. of Ky., 1939, M.S., chem., Ohio State U., 1940; mem.: Alpha Chi Sigma; m. Beth Butler, July 18, 1942; ch.: William B., Metabeth. Res. chem., Pan American Refining Corp., Texas City, Texas, 1940-47; water engr., Celanese Corp. of America, Bishop, Texas, 1947-49; pres., Aquatrol, Inc., Houston, Texas, 1949 to present. Mem.: A.C.S., Alpha Chi Sigma, A.W.W.A., Natl. Assoc. Corrosion Engineers.

FORBES, William Chamberlain, chf. chem., New Bedford Rayon Co., 194 Riverside Ave., New Bedford, Mass.; res. 117 Clinton St., New Bedford.
Chem.; b. Manchester, N.H., Jan. 28, 1898; s. of William Wells and Caroline Chamberlain Forbes; ed. Dartmouth Coll., 1915-18 (Phi Beta Kappa); S.B., M.I.T., 1920; S.M., 1921; Universite de Grenoble, Grenoble, France, summer schl., 1921; Ph.D., Lehigh U., 1939; mem.: Sigma Phi Epsilon; m. Glenna Ross Curtis, June 18, 1928. Cocoa Products Co., charge shift, 1922; chem. chg. lab., Amoskeag Mfg. Co., Manchester, N.H., 1922-25, asst. supt., cotton dyeing & bleaching 1925, in charge plant & dir. res. Viscose Rayon Mfg. Plant, 1925-29; asst. chem. dir., A. M. Johnson Rayon Mills, 1929; res. chem., Meigs, Bassett & Slaughter, Inc., Phila., Pa., 1929-31; chem., New Bedford Rayon Co., New Bedford, Mass., 1931-36, charge lab. 1933-36; res. fellow, Lehigh U., Devoe & Raynolds, 1936-40; res. chem., New Bedford Rayon Co., 1940-44; chf. chem. 1944 to date (direct. res.). Mem.: Phi Beta Kappa, Sigma Xi, A.C.S., Textile Res. Inst.

FORD, Henry LeRoy, asst. v.p., Tenn. Eastman Corp., Kingsport, Tenn.; res. 1409 Linville St., Kingsport.
Attorney, asst. v.p. in chg. chem. sales, purch. & traffic; b. Baltimore, Md.; s. of Henry A. and Emma (Volkman) Ford; ed. McDonogh Schl., McDonogh, Md., Johns Hopkins U.; m. Mabel Estelle Fisher, Aug. 17, 1924; ch.: Henry Raymond. With Tenn. Eastman Corp. in numerous capacities 1922 to date. Mem. of various War Prod. Bd. advisory comm. Mem.: A.C.S. Clubs: Chemists' (N.Y.C.), Ridgefields Country (Kingsport, Tenn.), Johnson City Country (Johnson City, Tenn.). Hobbies: tennis, boating.

FORD, Jared Hewes, res. chem., The Upjohn Co., Kalamazoo, Mich.; res. 1324 Maple St., Kalamazoo.
Res. chem.; b. Oberlin, Ohio, June 14, 1911; s. of Jesse E. and Clara (Hewes) Ford; ed. Oberlin Coll., A.B., 1931; U. of Ill., Ph.D., 1936; m. Katherine Hudson, Oct. 2, 1938; ch.: Warren Thomas, Martha Louise. 1935-41 res. chem., Kilgore Dev. Corp., Washington, D.C.; 1941 to date res. chem., The Upjohn Co., Kalamazoo. Dev. work on Indalone (an insect repellent) and penicillin O.; proc. dev. for manufacture of vitamins and antibiotics. Mem.: A.C.S., A.A.A.S., Sigma Xi, Phi Lambda Upsilon, Phi Beta Kappa. Hobbies: gardening, music, fishing, stamp collecting.

FORD, John Battice, Jr., dir., sev. companies, 1622 Ford Bldg., Detroit 26, Mich.; res. 16638 E. Jefferson Ave., Grosse Pointe 30, Mich.
Dir.; b. Wyandotte, Mich., Mar. 3, 1897; s. of John Battice and Helen (Sloane) Ford; ed. Detroit U. Schl., The Hill Schl., Yale U., 1918, B.S.; mem.: Chi Phi; m. Katharine Tanner, Oct. 4, 1920; ch.: John B. III, Gordon T. 1919 to resig. in 1942 with Michigan Alkali Co. (now Wyandotte Chems. Corp.); re-entered U.S.N. 1942; dir. in Ford Collieries Co., Huron Portland Cement Co., Huron Transportation Co., Natl. Bank of Detroit, Parke, Davis & Co., Wyandotte Transportation Co., Wyandotte Chems. Corp. (also v.p. 1927, exec. v.p. 1937 of last mentioned corp.). Dir. Greater Detroit Hosp. Fund, Little Traverse Hosp. Assoc., United Foundation. Clubs: Country (Detroit), Detroit, Grosse Pointe, Yondotega, N.Y. Yacht, Chicago Yacht, Bayview Yacht.

FORD, Leonard A., chmn. Div. Sc. and Math., State Tchrs. Coll., Mankato, Minn.; res. 522 Record St., Mankato, Minn.
Tchr.; b. Valley Springs, S.Dak., Oct. 19, 1904; s. of John H. and Mary Christine (Ringdahl) Ford; ed. Gustavus Adolphus Coll., A.B., 1925; State U. of Iowa, M.S., 1928; Ph.D., 1931; mem.: Alpha Chi Sigma, Phi Lambda Upsilon; m. Anne Albertina Swanson, Aug. 14, 1932; ch.: Barbara Jean, Joyce Anne. 1931-36 princ. and sc. instr., Roosevelt Military Acdy., Aledo, Ill.; 1936-39

chmn. Chem. Dept., Sioux Falls Coll., Sioux Falls, S.Dak.; 1939 to date chmn. of sc. and math. div., Mankato State Tchrs. Coll., Mankato, Minn. Assisted in estab. a meth. of canning fresh water fish; has pub. numerous arts. on sc. curricula in tchrs. colleges and curriculum organiz. in liberal arts and tchrs. coll. Mem.: Minn. Educ. Assoc., Minn. Acdy. of Sc., A.C.S. On bd. of dirs. of Minn. Acdy. of Sc.; on budget comm. of Minn. Conference of Augustana Lutheran Ch. Club: Lions. Hobbies: canoeing on the border lakes in northern Minn.

FORDYCE, Reid George, mgr. of prod. dev., Monsanto Chem Co., Plastics Div., Springfield 2, Mass.; res. 49 Bennington St., Springfield. Res. chem.; b. Regina, Sask., Canada, Apr. 14, 1914; s. of William George and Anne C. Fordyce; ed. U. of Brit. Columbia, 1929-36, B.A.Sc. & M.A.Sc.; McGill U., 1936-39, Ph.D.; m. Alice E. M. Martin, Dec. 30, 1949; ch.: Reid Duncan, Meredith Ann, Alastair David. Res. chem., Central Res. Dept., Monsanto, Dayton, Ohio, 1939-44, group leader 1944-47, mgr. of prod. dev. plastics div., Springfield, Mass., 1947 to date. Numerous publ. in tech. jls. Mem.: A.C.S. Hobbies: chess, skiing, golf.

FOREMAN, Emanuel Leon, res. dir., Special Milk Products, Inc., 11500 Tennessee Ave., Los Angeles 64, Calif; res. 115 Palmetto Dr., Alhambra, Calif. Chem.; b. Nashville, Tenn., July 23, 1908; s. of J. H. and Minnie Matison Foreman; ed. Vanderbilt U., U. of Ill., B.S., 1930; M.S., Inst. of Paper Chem., 1931, Ph.D., U. of Wisconsin, 1940; m. Rose Ann Marshall, Dec. 30, 1931; ch.: Elsa Lee, Jacqueline Harriet, Louise Joan. Lakeside Labs., Inc., 1940-47; Sterol Derivatives, Inc., 1947-49; E. S. Miller Labs., Inc., 1949-50; Special Milk Products, Inc., 1950 to present. Mem.: A.C.S., A.Phar.A., Chem. Soc. (London), Chem. Indus. (London), A.A.A.S., Swiss Chem. Soc. Hobbies: floriculture, esp. roses and camellias.

FORREST, Willie, hd. of Dept. of Physical Sc., Miss. State Coll. for Women, Columbus, Miss.; res. 1107 N. 12th St., Columbus. Chem., prof.; b. Rose Hill, Miss., Feb. 3, 1902; s. of J. O. and Nannie (Gibson) McCormick; ed. Jasper Co. Miss. A.H.S., 1919; B.S., Millsaps Coll., 1925; M.S., La. State U., 1927; Ph.D., Pa. State Coll. 1932; mem.: Alpha Chi Sigma, Gamma Sigma Epsilon; m. Irene Watkins Kroenke, June 14, 1929. Grad. asst., L.S.U., 1926-28, instr. 1928-29; grad. asst., Pa. State, 1929-32; hd. dept. chem. & physical sc., Miss. State Coll. for Women, 1932 to date; prof. chem., Delta State Teachers Coll., summer 1942; prof. chem., L.S.U., summer 1944; prof. chem., Ga. Tech., summer 1946; prof. chem., Florence State Teachers Coll., summers 1948, 1950. Measurement of energy requirements for drying paper, oxidation of turpentine, conversion of sulfur dioxide to sulfur trioxide in the presence of vanadium catalysts. Mem.: A.C.S., Southern Assn. of Sc. & Ind., Miss. Ed. Assn. Club: Rotary.

FORRESTER, Jay H(artley), mgr. Mfg. Dept., Stanolind Oil & Gas Co., P.O. Box 591, Tulsa 2, Okla.; res. 1344 E. 26th Pl., Tulsa 5. Exec.; b. Hillsboro, Texas, Dec. 10, 1906; s. of Jay and Myrtle (Hartley) Forrester; ed. U. of Wis., B.S. in Ch.E., 1928; M.I.T., S.M. in Ch.E., 1932; mem.: Chi Phi; m. Lillian Childers, 1935; ch.: Millicent Ann, Jay William. Stand. Oil Co. (Ind.), Chicago, Ill., chem. engr. 1929-34, group leader 1934-38, asst. dir. of tech. serv. 1938, asst. dir. of res. 1938-40, assoc. dir. of res. 1940-46; Stanolind Oil & Gas Co., Tulsa, Okla., dev. supt. mfg. dept. 1946, mgr. mfg. dept. 1947 to date. Mem.: A.C.S., A.I.Ch.E., Am. Pet. Inst, Mid-Continent Oil & Gas Assn., Alpha Chi Sigma, Tau Beta Pi.

FORT, Charles A(therton), chem., U.S. Dept. of Agr., 2100 Robert E. Lee Blvd., New Orleans 19, La.; res. 430 Florida Blvd., New Orleans 19. Sugar tech.; b. Mechanicsville, N.Y., Dec. 22, 1892; s. of Edgar and Harriet (Briggs) Fort; ed. Middlebury Coll., Middlebury, Vt., B.S., 1915 (cum laude); McGill U., Montreal, Que., Canada, M.S. 1916; mem.: Phi Beta Kappa, Kappa Delta Rho; m. Hazel H. Harding, 1917. 1916-20 res. chem. Insulating Matls., Gen. Electric Co.; 1920-28 chem. in chg. Hardwood Distillation, Forest Prods. Chem. Co.; 1928 to date sugar tech. Res. cane and beet sugar, U.S. Dept. of Agr.; res. in method of cooling storage piles of sugar beets; contrib. sev. arts. to sc. jls. Mem.: A.C.S.; A.I.C.; Internat. Soc. Sugar-cane Technologists; Amer. Soc. Sugar Beet Technologists. Hobbies: golf, bowling.

FORTUNE, William Brooks, dir. of Control Div., Eli Lilly & Co., Indianapolis, Ind.; res. 1125 East 57th St., Indianapolis. Chem.; b. Holmesville, Ohio, July 2, 1913; s. of Richard L. and Alba S. Fortune; ed. Mt. Union Coll., Alliance, Ohio, B.S., 1934; Purdue U., Lafayette, Ind., M.S., 1936; Ph.D., 1938; m. Joan H. Whitlock, Mar. 1, 1941; ch.: Susan Ann, Robert William, John Bradley. 1938-41 res. chem., Eli Lilly & Co., Indianapolis, Ind.; 1941-46 U.S.A. Military Intelligence, Lt. Col.; 1946 to date with Eli Lilly & Co. in following positions: 1948-49 supt. Antibiotics Dev. and Prod.; 1950 dir. of Control Div. Holds pats. on bedside test kits for blood sugar, urine albumin, urine acetone, blood sulfonamides; contrib. sev. arts. to sc. jls. Author of Chapt. 3, "Color Comparimeters," of "Analytical Absorption Spectroscopy," edit. by Dr. M. G. Mellon, John Wiley & Sons, 1950. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S., Indiana Chem. Soc. Hobbies: photography, aviation.

FOSDICK, Leonard Samuel, prof. chem., Northwestern U. Dental School, 311 E. Chicago Ave., Chicago, Ill.; res. 4035 Bunker Lane, Wilmette, Ill. Prof. chem.; b. Chagrin Falls, O., Nov. 7, 1903; ed. Wooster Coll., Wooster, O., 1923-24; B.S., Southern Coll., Lakeland, Fla., 1925-27; M.S., Ph.D., Northwestern U., 1927-32; m. Elizabeth Carter, Oct. 30, 1931; ch. William McGuffy, Elizabeth Carter, Margaret Eleanor. 1927-29, asst. in chem., Northwestern; 1929-34, instr. in chem., Northwestern Dental School; 1934-38, asst. prof. of chem.; 1938-42, assoc. prof.; 1942, prof. Res. in chem. of dental caries, chem. of pyorrhea, role of sugar in dental caries. Mem.: International Association of Dental Research (pres.-elect), Sigma Xi, Northwestern U. Chapter (treas. 1940-42), A.C.S., A.A.A.S., A.A.U.P.

FOSS, Noel E., dean, U. of Maryland, Schl. of Pharmacy, 32 S. Greene St., Baltimore 1, Md.; res. 954 Argonne Dr., Apt. 2-C, Baltimore 18, Md. Pharmacy educator; b. Henry, S.D., Sept. 14, 1905; s. of Ludvig E. and Gertrude K. Foss; ed. Ph.C. (1929), and B.S. in pharmacy (highest honors), S.D. State Coll.; M.S. in pharmaceut. chem., U. of Md., 1932; Ph.D. in pharmaceut. chem., U. of Md., 1933; mem.: Phi Delta Chi; m. Mildred L. Elsberry, 1936. 1930-34, U. of Md., Dunning Fellowship; 1934-37, Duquesne U., Pittsburgh, Pa., prof. of pharmacy; 1937-42, Burroughs Wellcome & Co., Tuckahoe, N.Y., wks. chem.; 1942-43, Army Med. Purchasing Off., St. Louis, Mo.; 1943-45, Army Medical Purchasing Off., N.Y.C.; 1945, European Theatre of Operation, Paris, France, and Frankfort, Germany; 1945-46, Army-Navy Med. Procurement Off. N.Y.C.; 1946-47, Calco Chem. Div., Amer. Cyanamid Co., Bound Brook, N.J., tech. dir. of Pharmaceut. Dept.; 1947-49, U. of Ill., Coll. of Pharmacy, asst. dean and prof. of pharmacy; 1949 to date, U. of Md., Schl. of Pharmacy, dean and prof. of phar. Mem.: Rho Chi, Sigma Xi, A.Phar.A., Md. Pharmaceutical Assoc.

FOSSUM, John Herbert, res. chem., Com. Solvents Corp., Terre Haute, Ind.; res. 2122 S. 10½ St., Terre Haute.
Org. chem.; b. Minneapolis, Minn., Dec. 31, 1919; s. of Herbert M. and Florence V. Fossum; ed. B.Chem., U. of Minn.; Ph.D., State U. of Iowa; mem.: Acacia, Alpha Chi Sigma; m. Janet Laura Anderson, Apr. 5, 1940; ch.: Janet Mary, Bette June, Patricia Jo, Barbara Ellen. Natl. Lead Co., Titanium Div., St. Louis, Mo., control chem.; Gopher Ordnance Wks., Rosemount, Minn., water chem.; Twin Cities Ordnance Wks., Federal Cartridge Co., New Breighton, Minn., anal. chem. Res. in org. polarography. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S., A.A.A.S. Hobbies: photography, music.

FOSTER, Earl Robert, prof. of chem., hd. of dept., Central Mo. State Coll., Warrensburg, Mo.; res. Warrensburg.
Prof.; b. Warrensburg, 1889; s. of Fred L. and Flora Foster; ed. Central Mo. State Teachers Coll., grad. 1909; M. deg., Kansas U., 1926; one year Chicago U., 1915; additional grad. study Kansas U. 1948; m. Jean Turnbull 1912; ch.: Robert T. Sc. teacher, Nevada, Mo., H.S., 1909-12, principal 1912-15; chem. teaching, Central Mo. State Coll. 1915 to date; asst. chem., Kansas U. 1926. Mem.: A.C.S., A.A.U.P., Past Exalted Ruler of Elks; Mo. Acdy. of Sc. Clubs: Natl. Rifle Assn., Warrensburg Golf (pres. various years), Warrensburg Rifle (pres.). Hobbies: golfing, fishing, hunting, athletic sports.

FOSTER, Harry Emerson, retired, Fairmont Hotel, San Francisco, Calif.
M.D.; b. Ithaca, N.Y., Aug. 18, 1881; s. of Newel K. and Jane S. (Smiley) Foster; ed. U. of Calif. Med. Schl., 1908, M.D.; post grad. in bact., Harvard, 1909; Cornell, 1910; mem.: Sigma Alpha Epsilon, Nu Sigma Nu (med.), Delta Omega (pub. health); m. Eve M. Cody, Feb. 28, 1911; ch.: Jane. Intern, St. Luke's Hosp., San Francisco; asst. clinical path., U. of Calif. Med. Schl.; asst. dir. 1911, dir. 1911-46, Cutter Lab.; 1917-19, U.S.A., Major, Chf. Lab. Service, Letterman Gen. Hosp., San Francisco; part time Health Officer, Oakland, Calif. Mem.: Alameda Co. Med. Soc., Calif. Med. Assn., Am. Med. Assn., Calif. Acdy. Med.; Am. Assn. Immunologists, Soc. Am. Bacteriols. Am. Pub. Health Assn. Hobby: fishing.

FOSTER, John C., works mgr., Hercules Powder Co., Carthage, Mo.; res. 1412 S. Main St., Carthage.
Exec.; b. Denver, Colo., Oct. 6, 1907; s. of William R. and Alice E. Foster; ed. U. of Denver, B.S., 1937; U. of Calif.; mem.: Beta Kappa; m. Roberta A. Scott, Feb. 4, 1934; ch.: Roberta Ann. 1937 to date has held fol. positions with Hercules Powder Co.: 1937, anal. chem., 1938 shift supv. smokeless powder, 1939 res. chem. smokeless powder, 1940 dynamite supv., 1941 smokeless supv., 1942-45 smokeless powder supt., 1945 to date wks. mgr. Mem.: A.C.S., Am. Ordn. Assoc., Chamber of Commerce, Carthage, Mo. Rotary.

FOSTER, John Farley, supvr., Fuels Res., Battelle Mem. Inst., Columbus 1, Ohio; res. Hyatts Rd., R.R. No. 4, Delaware, Ohio.
Phys. chem.; b. Toledo, Ohio, June 29, 1910; s. of Dr. Sidney D. and Daisy (Farley) Foster; ed. Ohio Wesleyan U., B.A. (with honor), 1931; Syracuse U., M.S., 1932; Stanford U., Ph.D. 1935; mem.: Phi Beta Kappa, Sigma Xi, Omicron Delta Kappa, Sigma Pi Sigma, Pi Mu Epsilon, Chi Gamma Nu; m. Edna Marie Bratton, July 15, 1933; ch.: David Farley, Sidney Vincent, Sara Carolyn, Susan Marie. 1934-43 res. chem., Pittsfield Works Lab., Gen. Electric Co.; 1943 to date res. engr., asst. supvr., supvr., Fuels Res., Battelle Memorial Inst., Columbus. Co-author with R. J. Lund, of "Economics of Fuel Gas from Coal." McGraw-Hill Book Co., 1950. Mem.: A.C.S., Am. Gas Assoc.

FOSTER, Laurence Standley, phys. chem., Lab., Watertown Arsenal, Watertown, Mass.; res. 16 West St., Belmont 78, Mass.
Phys. chem.; b. Beverly, Mass., Mar. 17, 1901; s. of Robert Standley and Mary Foye (Knight) Foster; ed. Clark Coll., Worcester, Mass., A.B. (with honor), 1922; Clark U., A.M., 1923; Brown U., Providence, R.I., Ph.D., 1926; mem.: Delta Mu (loc. frat. at Clark); Alpha Chi Sigma (at U. of Utah); m. Ursula Millett, Oct. 3, 1931; ch.: Laurence Standley, Jr., Caroline Ursual. 1923-24 instr. in chem., U. of Vt.; 1926-27 instr. in chem., U. of Utah; 1927-43 instr. and asst. prof. of chem., Brown U.; 1942-45 investigator and grp. ldr., Manhattan Proj. at Brown U., U. of Chicago and M.I.T.; 1945 to date metallurg. and phys. chem., Watertown Arsenal Lab. Assoc. edit. Jl. of Chem. Educ.; edit. "Report," N.E. Assoc. of Chem. Tchrs., 1942-43; 1946 to date. Co-author (with Elbert C. Weaver), "Chem. for Our Times," McGraw-Hill Book Co., 1947. Mem.: A.C.S., A.A.A.S., A.S.M., N.E. Assoc. of Chem. Tchrs., Sigma Xi.

FOSTER, Nathaniel, pres. Ellis-Foster Co., 4 Cherry St., Montclair, N.J.; res. 30 Gates Ave., Montclair; Coconut Grove, Fla.
Lawyer, bus. exec.; b. Feb. 19, 1874, Concord, N.H.; s. of George A. and Georgia Ladd Foster; ed. B.S., Dartmouth, 1896; Harvard Law Schl. 1899; mem.: Sigma Chi, Sphinx; m. Florence Walker, June 11, 1904; ch.: Marcella Burrows, Jean Robinson. Pract. law, Boston, 7 years; since then secy., treas., pres., Ellis-Foster Co., other chem. cos. Author: one act plays, misc. Mem.: Montclair Forum (form. chmn.). Clubs: Monclair Golf; North Fork Country (Cutchogue, L.I.); Montclair Athletic (former mem.); Drug & Chem.; Chemists' (N.Y.).

FOSTER, Robert Nicholls, Charlotte Mgr., Textile Chems. Dept., Monsanto Chem. Co., 1117 Johnston Bldg., Charlotte, N.C.; res. 200 N. Laurel, Charlotte, N.C.
Textile Chems. Sales; b. Tuscaloosa, Ala., Oct. 25, 1905; s. of James H. and Mary Adair (Cochrane) Foster; ed. U. of Ala., B.S., Ch.E., 1926; mem.: Alpha Tau Omega, Gamma Sigma Epsilon; m. Ellen Douglass Agee, Nov. 2, 1929; ch.: Ellen Douglass. June, 1926, chem., Swann Chem. Co. (acquired by Monsanto, 1935); 1929, res. chem., Swann Chem. Co.; about 1944, grp. ldr., res., Monsanto Chem. Co.; 1945, Text. Chems. Sales, Monsanto Chem. Co.; Apr. 1, 1950, Charlotte Mgr., Textile Chems. Dept., Monsanto Chem. Co. Mem.: A.C.S., A.A.T.C.C., Southern Assoc. of Sc. & Industry, Natl. Geographic Soc. Club: Anniston Country (Anniston, Ala.). Hobbies: golf, hunting, photography, home.

FOSTER, Sherid Judson, master chem., Chem. Div., John Sexton & Co., 568-580 S. Aiken Ave., Pittsburgh, Pa.; res. 201 S. Fairmount Ave., Pittsburgh 6, Pa.
Chem. engr.; b. Elmer, N.J., Nov. 21, 1908; s. of Hubert S. and Della (Judson) Foster; ed. B.S. in chem., Temple U., Phila., 1927; m. Charlotte

Z., Oct. 1, 1944; ch.: Elizabeth Anne, Robert Judson. Res. prod. and engr., Chemical Service Co., Sept. 1940 to Apr. 1948; production and engineering, John Sexton and Co., May 1948; with same company, master chem. to present. Mem.: A.C.S. (Pittsburgh). Hobby: photography.

FOSTER, Stuart Brooks, prof. of chem. and hd. of dept., State Teachers Coll., Framingham, Mass.; res. 1 Maynard Rd., Framingham.
Teacher; b. Somerville, Mass., July 12, 1891; s. of Willie F. and Ella E. (Butcher) Foster; ed. Mass. Agr. Coll., B.Sc., 1914, A.M., Ph.D., Columbia U., 1925; mem.: Kappa Sigma; m. Jane McLaughlin, Sept., 1921; ch.: Cynthia Ann. Chem., Westfield Labs., Westfield, Mass., 1915-17; 1st Lt. San. Corps, U.S. Army, 1917-19; grad. student, Columbia U., 1919-21; Dept. of Chem., State Teachers Coll., Framingham, Mass. Author: "Manual Organic and Food Chemistry," 1930. Mem.: A.C.S., Sigma Xi, A.A.A.S. Trustee, Framingham Town Library. Hobby: stamps.

FOTHERGILL, Robert Enos, res. chem., du Pont Co., Wilmington, Del.; res. 804 Woodsdale Rd., Wilmington.
Res. chem.; b. Eagle Grove, Iowa, Sept. 26, 1902; ed. Iowa State, B.S., 1924; M.S., 1926; Ph.D., 1929; m. Grace Myers, Mar. 19, 1927; ch.: Marjorie R. (Fothergill) Mabrey; Robert A.; with Empire Ref. Co., chem. eng., 1924-25; Iowa State Coll., grad. asst. 1925-27, instr., 1927-29; du Pont Co., res. chem., 1930 to date. Mem.: A.C.S., Phi Lambda Upsilon, Tau Beta Pi, Sigma Xi, Bower Lodge, A.F.&A.M. Club: du Pont Country. Hobby: golf.

FOULDS, Henry William, pres., The Permutit Co. and the Simplex Valve & Meter Co., 330 W. 42nd St., New York 18; res. 22 Taunton Rd., Scarsdale, N.Y.
Exec.; b. Edinburgh, Scot., Jan. 10, 1891; ed. U. Pa., 1914, B.S. Chem. Engrg. Pres. and dir. of following companies: The Permutit Co., The Permutit Co. of Canada, Ltd., Simplex Valve & Meter Co., Simplex Valve & Meter Co. of Canada, Ltd., Warlo Corp., Amer. Zeolite Corp., General Water Treatment Service Corp.

FOULKE, D(onald) Gardner, chf. chem., Hanson-Van Winkle-Munning Co., Matawan, N.J.; res. Johnston Drive, Watchung, N.J., and Black Beach, West Falmouth, Mass.
Chem.; b. Burnham, Pa., Aug. 19, 1912; s. of C. A. and Cora (Gardner) Foulke; ed. Juaniata Coll., B.S., 1934; Rutgers U., M.S., 1937; Ph.D. in chem, 1941, U. of Munich, special, 1937; m. Virginia Thompson, June 22, 1940; ch.: Helene Kathryn, Nancy Thayer. 1935-40 instr. in chem., Rutgers U., New Brunswick, N.J.; 1940-42 asst. prof. of chem., Beaver Coll., Jenkintown, Pa.; 1941-42 Res. Assocs., A. Kenneth Graham and Assoc., Jenkintown, Pa.; 1942 res. chem., United Eng. and Foundry Co., Jenkintown, Pa. (Lab.); 1942 asst. chem., Eastern Regional Res. Lab., Dept. of Agr., Wyndmore, Pa.; 1942-43 asst. chf. chem., Republic Steel Corp., Warren, Ohio; 1943-45 chf. chem., Garfield Div., Houdaille Hershey Corp., Decator, Ill.; 1945-47 dir. anal. dept., Foster D. Snell Inc., Bklyn., N.Y.; 1946-47 instr. Polytech. Inst., Bklyn, N.Y.; 1947 to date proc. electrochem. and chf. chem. (1949), Hanson-Van Winkle-Munning Co., Matawan, N.J. Dev. acid tin plating electrolyte for strip tin plating. Author of numerous papers on colorimetric meths., particularly as appl. to the analysis of electroplating solutions. Chmn., Res. Dir. Comm., Proj. No. 2, sponsored by the A.E.S.; dir. Laboratorium, Matawan. Mem.: A.C.S., A.E.S., A.S.M., E.S, Phi Lambda Upsilon, Sigma Xi; Gold M, Amer. Electroplaters' Soc. (1945). Club: Chemists'. Hobbies: gardening, woodworking.

FOX, Arthur Lawrence, Dir. Res. and Dev., Colgate-Palmolive-Peet, 105 Hudson Street, Jersey City, N.J.; res. 36 Montview Ave., Short Hills, N.J.
Chem.; b. Apr. 25, 1899, Chicago; s. of William A. and Ella S. Fox; ed. New Trier H.S., Kenilworth, Ill.; B.S., U. of Ill., 1923; M.S. (cum laude) 1923; Ph.D., Northwestern U., 1927; mem.: Phi Lambda Upsilon, Sigma Xi; m. Verla J. Blacker, June 11, 1923; ch.: William Arthur, Kenneth Eugene. 1923-24 U.S. Dept. Agr., res. chem.; 1927-42 E. I. du Pont, chem., group leader; 1942-48 Gen. Aniline & Film, dir. res.; 1948 to date Colgate-Palmolive-Peet, dir. res., dev. Res. in and discovered taste blindness; wk. in dyes, textile auxil., plastics, agr. chem., soaps, synthetics. Mem.: A.C.S., A.A.T.C.C., Natl. Assn. Mfgrs. Res. Comm. Club: Chem. Hobbies: stamps, gardening, woodworking

FOX, Edward Jackson, chem., B.P.I.S.A.E., U.S. Dept. Agr., Beltsville, Md.; 112 Revere Pl, Silver Spring, Md.
Chem. res. fert, matls.; b. Mathews County, Va., Aug. 31, 1895; s. of William Pierce and Mary Ellen (Digges) Fox; ed. Mathews H. Schl., 1913; B.A., U. of Richmond, 1917; M.S., George Washington U., 1924; m. Grace Elizabeth Mitchell, Oct. 29, 1919; ch.: Elizabeth (Fox) Doyle, Edward J., Jr. Asst. prin., Smithfield, Va., H.S., 1917; corporal, Ord. dept., U.S. Army, 1918; chem. Ord. Dept. at large, 1919; chem., U.S. Dept. of Agr. (by transfer of fixed nitro. res. lab. from War Dept.) 1921 to date. Res. on methods of analyses, prod. and utilization of fertilizer matls. and by-prods., including nitgrogen, potash, phosphorus, and fluorine. Contrib. extens. to sc. and tech. jls. Holds several U.S. pats. in his field. Mem.: A.C.S. Club: Masonic fraternity. Hobby: genealogical res.

FOX, Kenneth R., text. res., Burlington Mills Corp., Greensboro, N.C.; res. 208 Irving Pl., Greensboro.
Textile Res.; b. Lowell, Mass., Feb. 14, 1916; s. of Russell M. and Minnie B. (Callahan) Fox; ed. B.T.E., Lowell Textile Inst., 1938; S.M., M.I.T., 1940; mem.: Omicron Pi; m. Eleanor Pihl, June 19, 1941; ch.: Karen Elisabeth, Stephen Russell, Linda Pearson, Janet Wilson. Res. asst., M.I.T., 1940-41, 1941-43, asst. prof. 1943-45; pres., Lowell Textile Inst., June 15, 1945-June 30, 1950; Burlington Mills Corp., 1950 to date. Numerous publ. in scientific journals. Contr. to "Am. Cotton Handbook" & Matthew's "Textile Fibers." Award: Scholastic M., Natl. Assn. of Cotton Mfrs. Mem.: Sigma Xi, Tau Epsilon Sigma, Brit. Textile Inst. (fellow), Boston Microchem. Soc. (past pres.), A.A.T.C.C. (natl. councillor), A.Phys.S., Am. Assn. of Textile Technologists, Natl. Res. Comm. A.A.T.C.C., Natl. Ed. Assn. of U.S. (N.E.A.), Dept. of Higher Ed., Tech. Intelligence Ind. Comm., Textiles, Germany 1945, Natl. Council of Textile Schl. Deans, State Recess Commis. to study Higher Ed. in Mass. 1948. Former mem., Nurses' Ed. Comm., Lowell Gen. Hosp., Lowell, Mass.; former trustee, Moses Greeley Parker Lecture Fund; past pres., Internatl. Inst., Lowell, Mass. Hobbies: photography, painting.

FOX, Robert K., pres., Lancaster Lens Co., 220-226 W. Main St., Lancaster, Ohio; res. 1215 N. High St., Lancaster, Ohio.
Chem.; b. Covington, Ohio, Apr. 1, 1907; s. of Ammon L. and Josephine K. Fox; ed. Ohio State U., A.B., 1929, M.A., 1930, Ph.D., 1932; m. Dorothy Carroll Bush, Aug. 28, 1934; ch.: Susan Elizabeth, Hannah Carroll, Robert Lester. Dept. of chem., Bethany Coll., Bethany, W.Va., 1932-36; dept. of chem., Hiram Coll., Hiram, Ohio, 1936-41; partner, Fox Chem. Co., Coshocton, Ohio, 1941-45; pres., dir., Lancaster Lens Co.,

Lancaster, Ohio, 1945 to date; pres. and dir., Bush Woolen Mills, Inc., dir., Hocking Valley Natl. Bank. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S., Am. Cer. Soc. Mem., bd. of trustees, Denison Foundation. Clubs: Rotary, Order of Symposiarchs, Lancaster Country. Hobbies: riding, photography.

FOX, Robert Lee, asst. chf. Res. Branch, Res. Engr. Div., Office of Chf. Chem. Corps, Army Chem. Center, Maryland; res. 5812 Kipling Ct., Baltimore 12, Md.
Chem.; b. Fayette, Iowa, April 11, 1907; s. of Austin J. and Helen C. Fox; ed. Upper Iowa U., 1924-28, A.B.; Columbia U., A.M., Ph.D., Lydia C. Roberts Fellow; mem.: D.C.U., Acacia; m. Eleanor Parker, 1931. Columbia U., N.Y.C., statuatory asst., 1928-34; Robert Coll., Istanbul, Turkey, prof. of chem., 1934-41; Columbia U., N.Y.C., res. asst., O.S.R.D. contract, 1941-42; U.S.A., chem. corps, 1942-46; asst. chf. res. branch, 1946 to date. Trivalent columbium, incendiary matls. Mem.: Phi Lambda Upsilon, Sigma Xi, A.C.S., U.S.A. Commendation Ribbon.

FOX, Sidney W., prof. chem., Chem. Dept., Iowa State Coll.; res. 301 Lynn, Ames, Iowa.
Chem.; b. Los Angeles, March 24, 1912; s. of Jacob and Louise Burman Fox; ed. B.A., U.C.L.A. 1933; Ph.D., Calif. Inst. of Tech., 1940; m. Raia Joffe, Sept. 14, 1937; ch.: Jack Lawrence, Ronald Forrest, Thomas Oren. Tech. asst. Rockefeller Inst. 1934-35; res. asst. Calif. Inst. Tech. 1935-37; teaching fellow, 1937-39; res. fellow, 1939-40; res. chem. Cutter Labs. 1940-41; Upjohn Co. Fellow, U. Mich. 1941-42; res. chem. F. E. Booth Co. 1942-43; asst. prof., Iowa State Coll. 1943-46; assoc. prof. 1946-47; prof. 1947 to date. Basic stud. in chem. of amino acids, peptides, proteins with emphasis on their contrib. to an understanding of biolog. manifest. Contrib. extens. to sc. and tech. jls. Mem.: A.C.S. (officer); Sigma Xi (officer); Iowa Acdy. Sc. (officer); A.A.A.S.; A.S.Biol.C.; S.E.B.M.; Phi Lambda Upsilon. Club: Lions Internatl. Hobbies: music, tennis, frolicking with children.

FOY, John R(ichard), dir., Biolog. Labs., Nopco Chem. Co., Harrison, N.J.; res. 83 W. 14th St., Bayonne, N.J.
Chem.; b. Titusville, Pa., Feb. 27, 1913; s. of John R. and Lillian M. Foy; ed. Fordham U., B.S., M.S., Ph.D.; m. Emily Frevert, June 28, 1941; ch.: J. Richard. Instr. biochem., Fordham U., 1939-41; res. chem. Anheuser Busch, St. Louis, 1941-42; chmn. Sc. Dept., Marymount Coll., 1942-43; Nopco Chem. Co., res. chem., hd. Bioassay Lab., hd. Biol. Res. Lab., dir., Biol. Lab. 1943 to date. Res. on nutritional wk. B-complex vitamins, vitamins A & B, vitamin assays, vitamin stability. Contrib. extens. to sc. and tech. jls. Mem.: A.C.S., A.A.A.S.

FRAGEN, Nathan, dir. of Chem. Prods. Div., Stand. Oil Co. (Ind.), Box 431, Whiting, Ind.; res. 1916 Superior Ave., Whiting, Ind.
Chem. engr.; b. Kansas City, Mo., May 10, 1908; s. of Samuel & Fannie Fragen; ed. B.S., U. of Wash., 1929; Ph.D., U. of Mich., 1935; m. Ruth S. Seitzick, Aug. 6, 1933; ch.: Robert J., Ronald A. U.S. Bur. of Mines, 1929-32, asst. physical chem.; Stand. Oil Co. (Ind.), 1934 to date. Mem.: Phi Beta Kappa, Tau Beta Pi, A.C.S., A.I.Ch.E.

FRALEY, Frederick William, Jr., v.p. Sales, Diamond Alkali Co., 300 Union Commerce Bldg., Cleveland 14, O.; res., 17300 Shaker Blvd., Cleveland 20.
Sales exec.; b. Marshall, Tex., July 12 1900; s. of Fred W. and Ethel (McCutchan) Fraley; ed., Rice Inst., Houston, 1920, B.S.C. chem. engrg.; m. Katyruth Stricker, April 11, 1929; ch.: Frederick W. III, Mary Jo. 1920-21 salesman, Certainteed Prods., Houston; 1921-22, chem. operator, Sinclair Refining Co., Houston; 1923-27, salesman, American Window Co., N.Y.; 1928, pres., Gulf Coast Chem. Co., Houston; 1932, asst. mgr., sales, Diamond Alkali Co., Pittsburgh, Pa.; 1938, dir. sales; 1943, v.p., Sales; 1948 to date, v.p., Sales, Diamond Alkali Co., Cleveland, O. Member Board Directors of Diamond Alkali Co., U.S. Alkali Export Ass'n. Inc. & The Chlorine Institute Inc.

FRANCES, Saul, dir., Wells Labs. Inc., 28 Concourse E., Journal Square, Jersey City, N.J.; res. 50 Park Terr. E., New York 34, N.Y.
Exec.; b. N.Y.C., Dec. 13, 1910; s. of Samuel and Anna Frances; ed. B.S., Coll. of City of N.Y., 1935; M.S. U. of Minn., 1937; Ph.D., Columbia U., 1946; m. Jane Ruth Bearman, Nov. 2, 1941; ch.: David Jonathan, Sally Ann. 1923-35 various positions; 1935-37, chem., Minneapolis Chem. Co., Minneap., Minn.; 1937-40, res. bacteriolog. and chem., Skin Res. Labs., Minneapolis; 1940-42, res. bacteriolog. and asst. dir., Pease Labs. Inc., N.Y.C.; 1942-43, dir., Cocoanut Processing Corp., N.Y.C.; 1943-49, mem. of Dept. of Bacteriology, Coll. of Phys. and Surgeons, Columbia U.; 1949 to date, dir. Wells Labs. Inc., Jersey City, N.J. Mem.: A.A.A.S.; S.A.B.; Am. Pub. Health Assoc.; N.Y. Acad. of Scs.; A.C.S.; Research Soc. of Amer.; The Soc. of Industrial Microbiologists; Fellow of the Dazian Foundation; Sigma Xi. Hobbies: music, art.

FRANCIS, Alfred West, res. assoc., Socony-Vacuum Oil Co., Inc., Paulsboro, N.J.; res. 31 S. Evergreen Ave., Woodbury, N.J.
Res. chem.; b. Brookfield, Conn., Mar. 11, 1896; s. of Cyrus West and Ida (Terry) Francis; ed. Worcester Polytech. Inst., B.S. chem., 1947; grad. scholarship prize at Commencement; Ch.E., 1929; Yale U., Ph.D. in chem., 1924; mem.: Phi Sigma Kappa, Alpha Chi Sigma, Tau Beta Pi, Sigma Xi; m. Dorothy Hardy, June 26, 1918; ch.: Edward Hardy (dec.), Mary Margaret Hillenbrand, Diantha Jane Paré, Nancy Jean. 1917-18 asst. biochem., U.S. Dept. of Agric.; 1918-22 res. chem. E.I. du Pont de Nemours & Co.; 1924-25 Natl. Res. Fel., M.I.T.; 1925-31 res. chem. Arthur D. Little, Inc., Cambridge, Mass.; 1931 to date res. chem. and res. assoc., Socony-Vacuum Oil Co., Inc. Four long correlations of Properties of Hydrocarbs. in Ind. Eng. Chem.; Investigations on critical solution temperatures of hydrocarbs.; directive influence in the benzene ring; Friedel Crafts reactions; now collaborating with Dr. Seidell in a new edit. of his "Solubilities." Contrib. a chapter "Thermochem. of Hydrocarbs." in "Sc. of Petroleum," Vol. III, 1938; also a chapt. "Solvent Extractions" in Farkas' "Phys. Chem. of Hydrocarbs." 1950. Mem.: A.C.S., A.A.A.S., Sigma Xi. Past Chmn. S.J. Section, A.C.S., Chmn. bd. of deacons of Central Baptist Ch. of Woodbury. Club: Woodbury Tennis. Hobbies: tennis, bridge, motor trips.

FRANCIS, Parker Browne, pres., Puritan Compressed Gas Corp., 2012 Grand Ave., Kansas City 8, Mo.; res. 2015 Drury Lane, Kansas City 2, Mo.
Exec.; b. Hartford, Conn., June 18, 1886; s. of Parker Browne and Elinor Camille (Van Amringe) Francis; ed. Harvard Coll., A.B., 1908; mem.: Harvard Round Table; m. Mary Bainbridge Love, May 17, 1916; ch.: John Byers, Parker B., III, Richard Love. Began in June, 1908, as a chem. engr.; identified with Puritan Compressed Gas Corp. since 1913 when became secy. and part owner; elected v.p. 1923; pres. and owner since 1932. Notable wk.: pioneered the use of compressed gases in W.W. I; associated with W.P.B. in W.W. II; estab. first oxygen plant west of

Mississippi and one of first in U.S. Mem. Exec. Bd. of Compressed Gas Assoc., N.Y.; trustee, Midwest Res. Inst. Mem.: A.A.A.S., A.C.S., Am. Electro-Chem. Soc., Assoc. of Harvard Chemists. Trustee or dir. of Kansas City Art Inst., Kansas City Better Business Bureau, Kansas City Philharmonic Orchestra. Clubs: Kansas City Country; University (Kansas City); Harvard (New York). Hobbies: a little of everything.

FRANCIS, Richard J(ohn), consltg. engr., 105 S. 33 St., Newark, Ohio; res. same.
Consltg. chem. engr.; b. Newark, Ohio, June 10, 1910; s. of John W(illiam) and Ethel (Brill) Francis; ed. U. of Cincinnati, 1929-34, Ch.E.; pres. of Engrg. Tribunal; mem. of Student Council; mem. of Co-op Cabinet; mem.: Phi Delta Theta, Alpha Chi Sigma. 1928-29, Holophane Glass Co., Newark, Ohio, prod. worker; 1929-30, Am. Agric. Chem. Co., Cincinnati, Ohio, jr. control chem.; 1930-36, Emery Industries, Inc., Cincinnati, Ohio, chem. engr. dev. & selling Sanitone dry cleaning & dev. textile sizes & detergents from alkyl & aryl sulfonates; 1936-37, Owens-Illinois Glass Co., Newark, Ohio, chem. engr. dev. prods. of fibrous glass mats bonded with syn. resins & elastomers; 1937-38, Morgenthau's, Inc., Tuscaloosa, Ala., gen. mgr. secy., dir.; 1938-40, conslt.; 1940-42, Plaskon Div., Libbey-Owens-Ford Glass Co., Toledo, Ohio, chem. engr. dev. plastics formulations, molding meths. & uses for reinforced plastics; 1942-44, Plastics Sec., Naval Ordnance Lab., Silver Springs, Md., chem. engr. dev. naval ordnance parts of plastics; 1944-47, Owens-Corning Fiberglas Corp., Newark, Ohio, chem. engr. dev. fibrous glass reinforcements, molding meths. & uses for reinforced plastics; 1947-49, Lexmor, Inc., Toledo, Ohio, tech. dir., v.p.; 1947 to date, consltg. engr. Awards: as a result of wk. as civilian during W.W. II, received in 1946 2 Naval Ordnance Dev. Awards for dev. meths. of molding plastics & for dev. reinforcements for plastics. Registered prof. engr. in Ohio & Ind. in chem. & mech. engrg. Coauthor: "Textbook for Stinson Dry Cleaning Schl." 1939; "Law Pressure Laminating of Plastics" 1947. Mem.: A.C.S., A.I.Ch.E., Soc. of Plastics Ind., Soc. of Plastics Engrs., Natl. Soc. of Prof. Engrs., Ohio Soc. of Prof. Engrs., A.S.M.E. 1950 to date, natl. dir. of Soc. of Plastics Engrs.; 1945 to date, policy committeeman of Soc. of Plastics Ind. Clubs: Masonic Blue Lodge (Farmers Lodge No. 153, Fredonia, Ohio), A.A.S.R. (Valley of Columbus, Ohio), Shrine (Aladdin Temple, Columbus, Ohio.). Hobbies: photography, home workshop.

FRANCIS, Wm. J. F., asst. (gen.) sales mgr., Pa. Salt Mfg. Co. of Wash., 2901 Taylor Way, Tacoma, Wash.; res. 12404 Nyanza Rd., Tacoma.
Sales management; b. Sunderland, England, Jan. 8, 1915; s. of Wm. Henry and Edith Maude (Flett) Francis; ed. U. of Calif., Berkeley, Calif., B.S., 1936, M.S., 1937, entomology; mem.: Delta Chi, Phi Phi; m. Alice M. Burke, June 10, 1939; ch.: Burke W. F., Valerie Katherine, Gary Timothy, Deborah Anne. Tech. sales repr., Calif. Spray-Chem. Corp., 1937-42, district sales mgr. 1942-43; tech. sales repr., Ag. Chem. Div., 1943-45, asst. sales mgr. Ag. Chem Div. 1945-46, western sales mgr. Ag. Chem. Div. 1946 to date; asst. (gen.) sales mgr. 1950 to date, Pa. Salt Mfg. Co. of Wash. Mem.: Am. Assn. of Econ. Entomologists. Club: Tacoma Country & Golf. Hobbies: sports, gardening, hunting, fishing, music.

FRANK, Charles Edward, assoc. prof., U. of Cincinnati, Cincinnati 21, Ohio; res. 6887 Kenwood Rd., Cincinnati 27.
Chem. prof.; b. Philipsburg, Pa., May 1, 1914; s. of Charles O. and Rebecca C. Frank; ed. Penn. State Coll., (1931-35), B.S.; Ohio State U. (1935-36) M. Sc.; (1936-38) Ph.D.; du Pont Fellow (Ohio State U.) 1937-38; mem.: Gamma Alpha; m. Betty Jane Sipher, Apr. 15, 1939; ch.: Diane, Galen. 1935-37 grad. asst. Ohio State U.; 1937-38 du Pont Fellow, same U.; 1938-48 res. chem. du Pont Exper. Sta., Wilmington, Del.; 1948 to date assoc. prof. Appl. Sci. Res. Lab., U. of Cincinnati. Res. on antoxidation; polymerization; hydrocarbon synth.; formaldehyde chem.; free-radical reactions; org. coatings. Mem.: A.C.S., Sigma Lambda Upsilon, Phi Kappa Phi. Hobbies: gardening, music.

FRANK, Harry Edward, chf. chem., Gulf Mobile & Ohio R.R. Co., Bloomington, Ill.; res. 1101 N. Clinton Blvd., Bloomington.
Chem.; b. Kalamazoo, Mich., May 15, 1919; s. of Herman and Gertrude Frank; ed. Western Mich. Coll., Kalamazoo, Mich., 1937-41. du Pont Co., Charlestown, Ind., chem., 1942-43; U.S. Rubber Co., Joliet, Ill., chem., 1943-45; G.M.&.O.R.R. Co., Bloomington, Ill., water treat. supervisor 1945-48, chf. chem. 1948 to date. Mem.: Kappa Delta Pi, A.C.S., A.A.A.S., A.I.C. Hobby: photography.

FRANKENBURG, Walter Gustave, dir. of res., Gen. Cigar Co., Inc., Res. Lab., Lancaster, Pa.; res. 148 Kready Ave., Millersville, Pa.
Res. chem.; b. Nuernberg, Germany, Sept. 7, 1893; s. of Max and Maria Frankenburg; ed. U. Munich, Ph.D. (summa cum laude), 1922; m. Elizabeth Goetz, 1923; ch.: Peter Edgar, William Kurt. I.G. Farben, 1923-38, hd. Res. Section at Res. Lab. in Oppau.-Ludwigshafen; photochemistry, catalysis; Johns Hopkins U., 1940-42, res. assoc. in catalysis; Hydrocarbon Res. Inc., 1944-47, consult. on catalytic questions; Socony Vacuum, 1947 to date, consult. on catalytic questions; General Cigar Co., Inc. Res. Lab., 1942 to date, dir. of res. 17 pubs. on catalysis; 21 pubs. on photochemistry; 7 pubs. on tobacco; 1 general pub.; approx. 25 pats. in photochem., hydrocarbs., tobacco and miscel. subjects. Author. "Catalytic Reactions in Homogeneous and Enzymatic Systems," Akademische Verlagsgesellschaft, Leipzig, 1937; "Advances in Catalysis," Yearly Series, 1948-, Academic Press, N.Y. Mem. of var. German associations of chemistry and physics; A.C.S., A.A.A.S., Conferences of Tobacco Chemists. Clubs: Torch, Lancaster A.A.A.S. Hobbies: skiing, horseback riding, stamp collecting.

FRANKLIN, John C., exec. v.p., General Dyestuff Corp., 435 Hudson St., New York City; res. 1165 Fifth Ave., N.Y.
Business exec.; b. Palo Alto, Calif., Dec. 8, 1904; s. of Edward Curtis and Effie June Scott Franklin; ed. B.A. Physics (chem.), Leland Stanford U., 1926; Harvard Grad. Schl. for Business Adm., 1929, M.B.A.; mem.: Phi Delta Theta; m. Frances Snyder, Apr. 1, 1933; ch.: Peter Scott, Edward Curtis. Radio engr., Trans World Airline (formerly Transcontinental & Western Air, Inc., and Western Air Express) in 1929; held positions of chf. communications engr., supt. of communications, asst. to pres. and corporate secy., supt., of engineering, v.p.—Engineering and Maintenance, until resigned in June 1947; mgr., Oak Ridge Operations, U.S. Atomic Energy Comm., Oak Ridge, Tenn., Sept. 1947 to June 1949; exec. v.p., General Dyestuff Corp., 435 Hudson St., N.Y.C., Aug., 1949 to present.

FRANTA, William Alfred, section manager, Polychemicals Dept., DuPont Experimental Sta., Wilmington, Del.; res. Pembrey, Faulk Rd., Wilmington.
Chem.; b. Lidgerwood, N. Dak., Mar. 26, 1913; s. of John J. and Rose K. Franta; ed. U. of N. Dak.,

B.S. in chem. engrg., 1933, M.S. chem. engrg., 1934; Oxford U., England, honours B.A. chem. 1937; mem.: Kappa Sigma, Sigma Tau, Sigma Xi; m. Virginia Ellis, Sept. 7, 1940; ch.: Richard Ellis, Laura LaRue. 1935-37 Rhodes Scholar, Oxford U.; 1937-38 sales engr. Superior Steel Corp.; 1938-42 res. chem. Columbia Chem. Div., Pittsburgh Plate Glass Co., Barberton, O.; 1942-46 active duty res. off. C.W.S.; res. chem. (now section manager.). Polychemicals Dept., E.I. du Pont de Nemours and Co. Res. in dev. of allyl synth. resins, low pressure laminating; dev. of pyrotechnic filling for incendiary bombs; dev. of polymers and copolymers of ethylene and chem. derivatives thereof; applications research.

FRAPS, George S., retired State Chemist of Texas; res. 304 Walton Dr., College Station, Texas.
Retired chem.; b. Raleigh, N.C., Sept. 9, 1876; s. of Anton W. and Margaret Elizabeth Lumley (Stonebanks) Fraps; ed. N.C. Coll. of A. & M. Arts, B.S., 1896; Johns Hopkins U., Baltimore, Md., Ph.D., 1899, Fellow, 1898-99; m. Ellen Hale Saunders, June 17, 1903; ch.: George Saunders, Mary B. (Fraps) Tinus, Richard (dec.). N.C. Agri. Expt. Sta., asst. chem. 1899-1903; Tex. Agri. Expt. Sta., asst. chem., 1903-04; assoc. chem. 1904-05; chem. 1905 to date of retirement, 1945; N.C. A. & M. Coll., asst. prof. chem. 1899-1903; Agri. & Mech. Coll. Tex., assoc. prof. chem. 1903-05, acting prof. 1905-06, assoc. prof. agri. chem. 1906-13; Agri. & Mech. Coll. Tex., state chem., Tex., 1905-45. Deleg. from U.S. to 1st Internatl. Cong. Soil Sci. 1927. Res. in soil anal., feed anal., vitamins. Author: "Principles of Dyeing," 1903; "Prin. Agri. Chem.," 1913, rev. 1916; also contrib. abt. 250 bulletins and arts. to sc. jls. Mem.: Phi Beta Kappa, Phi Kappa Phi, A.C.S., Assoc. Off. Agri. Chem. (pres. 1913), Assoc. Am. Feed Control Off. Hobby: flower growing.

FRARY, Francis Cowles, dir. of res., Aluminum Co. of America, P.O. Box 772, New Kensington, Pa.; res. 1218 Hulton Rd., Oakmont, Pa.
Res. dir.; b. Minneapolis, Minn., July 9, 1884; s. of Francis Lee and Jeanette (Cowles) Frary; ed. U. of Minn., A.C., 1905, M.S., 1906, Ph.D., 1912; U. of Berlin, 1906-07; mem.: Alpha Chi Sigma (hon.); m. Alice Hall Wingate, June 12, 1908; ch.: Faith Margaret, John Loveland. 1903-05 asst. chem.; 1905-11 instr.; 1911-15 asst. prof.; 1915-17 res. chem. Oldbury Electrochem. Co.; 1918 Capt. Ord., O.R.C. and Major, C.W.S. 1918; to date dir. of res., Aluminum Co. of Amer. Phosgene prod., W.W. I. Author, (with J.D. Edwards and Zay Jeffries), "The Aluminum Industry," 1930. Mem.: A.C.S., E.S. (v.p. '18, '25, press. '29); A.I.Ch.E. (dir. 1938-40, pres. 1941); A.I.M.E., Inst. of Metals, Faraday Soc. Pittsburgh Award (A.C.S.) 1937, Acheson M. (E.S.) 1939, Perkin M. 1946, Gold M. of A.S.M., 1948; James Douglas Metallurg. Medal. (A.I.M.E.), 1950. Clubs: Chemists', Oakmont Country.

FRASCATI, Anthony T., tech. dir. Perfumery Associates, Inc., 135 Fifth Ave., N.Y.C. 10; res. 45 Christopher St., N.Y. 14.
Chem.-perfumer; b. Italy, July 7, 1892; s. of Cosmo and Nancy Frascati; ed. Syracuse U., B.S. in chem., 1917, summa cum laude; Johns Hopkins U. Grad. Schl. 1917-19 not compltd.; mem.: Alpha Phi Delta; m. Rosetta C. Caliva, June 24, 1919; ch.: Richard Anthony. 1919-20 res. chem. E.I. du Pont de Nemours; 1920-22 res. chem. Allied Chem. and Dye Corp.; 1922-25 prod. chem. Perfumery St. Denis and Tokalon Co.; 1925-26 perf. res. Givaudan-Dellawana; 1926-29 chem. in chg. prod. and perf., Perfumery St. Denis; 1929-32 perf. Ungerer and Co.; 1933-36 perf. and res. co-ord. Max Factor and Co.; 1936-49 tech dir. Firmenich and Co.; 1949 to date, tech. dir. v.p., Perfumery Assoc., Inc. Res. in dyes and dye intermediates, accelerators; perfumery and cosmetic res. and consltg., org., and managemt. of same. Pub. various arts. on spec. subjects in fld. of perfumery, theory and practice, in sev. trade jls. in U.S.A. and England. Fellow A.I.C.; founding mem. and past pres. A.S.P. Club: Tiro a Segno (N.Y. Rifle Club.). Hobbies: fishing, gardening, elucidating theory of olfaction.

FRASER, Oliver B. J., asst. mgr. Dev. & Res. Div., Internatl. Nickel Co. Inc., 67 Wall St., N.Y. 5, N.Y.; res. 207 Sinclair Pl., Westfield, N.J.
Metallurg. engr.; b. Brockville, Ontario, Canada, Dec. 22, 1895; s. of Oliver K. and Margaret A. (Braniff) Fraser; ed. B.Sc., 1916, Queens U., Kingston, Ontario, Canada, in metallurg. engrg.; m. Evelyn J. LeFebvre, Sept. 11, 1923; ch.: Malcolm James. 5 mos. in Can. Fld. Arty., 1916; Imperial Ministry of Munitions as explosives inspr. (in Can.), 1916-17; Internatl. Nickel Co. Inc. & Internatl. Nickel Co. of Can. Ltd., with 9 mos. exptl. wk. on fume precipitation at Orford Wks., Bayonne, N.J., 1917; supt. of fume precipitation plant at Pt. Colborne (Ont.) Wks., 3½ yrs. & night wks. supt. & res. engr.; 1½ yrs. in corrosion res. on nickel & nickel alloys at Mellon Inst. of Indus. Res., Pitts., Pa.; in chg. of res. lab. at Bayonne, N.J., 9 yrs.; liaison wk. with petrol. indus. 1½ yrs.; dir. of tech. serv. on mill prods., Internatl. Nickel Co. Inc., N.Y.C., 1934-47, asst. mgr. dev. & res. div. 1947 to date. Numerous publ. in scientific jls. Mem.: A.I.M.E., A.S.M.E., A.A.A.S., A.S.T.M., A.S.M., A.I.Ch.E., A.C.S., S.C.I. (Am. Sect.), Am. Welding Soc. (pres. 1949-50), E.S., A.P.I. (tech. sect.), Am. Gas Assn. (tech. sect.), Electroplaters & Depositors Tech. Soc., Com. Chem. Dev. Assn., Chem. Market Res. Assn., Chem. Inst. of Can., Canadian Inst. of Mining & Metallurgy. Clubs: Chemists' (N.Y.), Engineers (N.Y.), Mining (N.Y.), University (Pitts.).

FRASER, Ralph E., v.p., Summers Fertilizer Co., 194 Exchange St., Bangor, Maine; res. 160 Broadway.
Exec.; b. Presque Isle, Maine, Jan. 4, 1894; s. of William D. and Mary Knowlen Fraser; ed. B.S. Mech. Engr., U. Maine, 1917; mem.: Phi Eta Kappa; m. Lena J. Boeswald. Nov. 28, 1925. Varous positions 1917-24; Summers Fertilizer Co. 1925 to date, asst. supt., prod. mgr., branch mgr., v.p.; v.p., Northern Chem. Industries. Dir., N.E. Council, dir. Natl. Fertilizer Assn. Club: Penobscot.

FRAZER, John, asst. sec. and sec. comm. of Sc. and the Arts, Franklin Inst., Phila. 3, Pa.; res. 8015 Navajo St., Phila. 18
Chem. and educat.; b. Feb. 5, 1882, Paris, Fr.; s. of Persifor and Isabella Nevins (Whelen) Frazer; ed. U. of Pa., B.S. in Ch., 1903; A.M., 1904; Ph.D., 1907; mem.: Delta Psi, Sigma Xi, Sphinx, Phi Beta Kappa; m. Mary F. Tilghman, June 9, 1915; ch.: Tilghman (dec. 1925), Isabel, John Jr., Tench. Instr. chem., 1904-06, 1907-09, asst. prof., 1909-21, prof., 1921-33, mem. bd. of deans, 1912-18, 1919-28, sec. bd. of deans, 1921-22, chmn. faculty comm. on university policy, 1920-21, res. in chem., 1928-33, all at U. of Pa.; Amer. Exchange Prof. of Appld. Sc. to French Universities acad. yr. 1922-23, lects. at Grenoble, Lyons, Marseilles, Toulouse, Bordeaux, Strasbourg, Nancy, Paris (Sorbonne, Conservatoire des Arts et Métiers, Ecole de Physique et Chimie), Lille, and Rennes; medals from Strasbourg and Nancy and testimonial Inst. de Chimie Appliquée, Sorbonne; dean 1912-18, 1919-28, in chg. of all exec., admin. and office wk. Towne Scientific Schl.; currently asst. sec. Franklin Inst., Phila.; mem.: First

Troop, Phila. City Cavalry since 1903 (hon. mem. in 1921, historian 1912-16); U. of Pa. Faculty Mil. Trng. Class (sec.), 1916-17; chmn. U. of Pa. bd. Intercol. Intelligence Bur., 1917 to Aug., 1918; capt., C.W.S., U.S.A., Aug. 9, 1918; overseas Aug. to Dec., 1918 as Asst. Corps Gas Officer, First Army Hq. assigned to 78th and 6th Divs. in the Argonne and Hq. C.W.S. Defense Div. at Tours; hon. disch. Jan. 10, 1919; 1st col., O.R.C., C.W.S., U.S.A., Mar., 1923-29; Mil. Advisory Comm. U. of Pa., 1917-18, 1919-28. Mem.: A.A.A.S. (Life Fellow); A.C.S.; College Entrance Exam. Bd. 1912-18, 1919-21, Sociètè de Chimie Industrielle (Paris 1923-26). Clubs: University 1903-36), Lenape (1930), Mask & Wig (Phila., Life, Sec. Elect. Comm. 5 yrs.), St. Anthony (Phila. & N.Y.), Mil. Order Loyal Legion of U.S. (Pa.), Soc. of War of 1812, Pa. Prison Soc. (Life), Hist. Soc. of Pa.

FREAR, Donald Elisha Harding, prof. of agric. and biolog. chem., Penn. State Coll., 309 Frear Labs., Penn. State Coll., State Coll., Pa.; res. 311 East Park Ave., State College.
Agric. biochem.; b. Tunkhannock, Pa., Sept. 16, 1906; s. of S. Arthur and Letitia (Miller) Frear; ed. Penn. State Coll., B.S., 1926; U. of N.H., M. S., 1928; Penn. State Coll., Ph.D., 1937; mem.: Alpha Chi Sigma, Alpha Gamma Rho, Alpha Zeta, Phi Lambda Upsilon, Gamma Sigma Delta, Sigma Xi; m. Hazel W. Eaton, Oct. 5, 1928; ch.: Donald Stuart, Scott Eaton, Joann Elizabeth. 1926-28 asst., Dept. Agric. Chem., U. N.H.; 1928-30 asst. chem., R.I. State Coll.; 1930-33 asst. in nutri., Penn. State Coll.; 1933-36 instr., Agri. Biol. Chem., Penn. State Coll.; 1936-43 asst. prof. same dept., same Coll.; 1943-45 assoc. prof., 1945 to date prof., same dept., same Coll.; pres., State Coll. Labs. Inc. Res. on plant nutri. and plant chem.; chem. of insecticides, fungicides and herbicides; relation of chem. structure to biolog. properties of chems.; conslt. on the chem. of pesticides. Author: "Chem. of Insecticides and Fungicides," 1942; "Catalogue of Insecticides, and Fungicides," Vol. I, 1947; Vol. II, 1948; "Chem. of Insecticides, Fungicides and Herbicides," 1948; "Agricultural Chem." Vol. I, Principles, 1950. Mem.: A.C.S., A.S.Bio.C.; A.S. Econ. Entomologists, A.S. for Horticultural Sc. Club: Centre Hills Country. Hobbies: philately, photography.

FREAR, George Lewis, physical chem., The Barrett Div., Allied Chem. & Dye Corp., 40 Rector St., New York 6, N.Y.; res. Old Amwell Road, Neshanic, N.J.
Phys. chem. of fertilizers and heavy chems.; b. State College, Pa., Sept. 29, 1901; s. of William and Julia (Reno) Frear; ed. 1923 Penn. State, B.S.; 1926 Yale U., Ph.D.; mem.: Phi Kappa Psi, Alpha Chi Sigma, Gamma Alpha, Phi Lambda Upsilon, Phi Kappa Phi, Sigma Xi; m. Esther Wilson, Aug. 14, 1928; ch.: Ann Evelyn, George Lewis, Jr. 1926-27 res. fellow, Yale U.; 1927-29 res. assoc. Amer. Sheet and Tin Plate Co.; 1929-33 assoc. phys. chem., U.S. Bur. of Mines; 1933-45 assoc. to sr. chem., Tenn. Valley Authority; 1945-48 supvr. of carbide res., Air Reduction Co.; 1948 to date phys. chem. of fertilizers, The Barrett Div., Allied Chem. & Dye Corp. Res. in equilibria in carbonate solutions; oxidation of phosphorus; chem. of calcium phosphate, ammonia, calcium carbide, and ammoniated fertilizers. Mem.: A.C.S., A.A.A.S.

FREDERICK, Donald S., v.p. in chg. of sales, Rohm & Haas Co., 222 W. Washington Sq., Phila. 5, Pa.; res. 103 Wooded Rd., Baederwood, Jenkintown, Pa.
Chem., v.p. in chg. of sales; b. Hamilton, Ohio, Nov. 13, 1910; s. of Charles S. (dec.) and Mrs. Ray Jones; ed. Miami U., Oxford, Ohio, A.B., 1913; U. of Ill., Urbana, Ill., M.A., 1932; Ph.D., 1934; mem.: Phi Kappa Tau, Phi Beta Kappa, Phi Eta Sigma, Phi Kappa Phi, Phi Lambda Upsilon; Sigma Xi; m. Ruth Eisenhart, June 20, 1936; ch.: Daniel, Donna Ruth, Katherine, Constance. 1934 to date has held following positions with Rohm & Haas Co.: 1934-36 res. chem.; 1936-43 sales mgr. Plastics Dept.; 1943 to date v.p. in chg. of sales and dir. 1942 received John Wesley Award for disting. contrib. to plastics industry. Mem.: Plastic Matls. Mfrs. Assoc. (pres.); A.C.S., Soc. of the Plastics Industry. Club: Manufacturers Golf & Country (Oreland, Pa.). Hobbies: ornithology, gardening, golf.

FREDERICK, Emile, Jr., dir. of Marrero Tech. Dept., The Celotex Corp., Marrero, La.; res. 7924 S. Claiborne Ave., New Orleans, La.
Chem. engr.; b. Covington, La., Nov. 29, 1901; s. of Emile Sr., and Mary Amelia (McManus) Frederick; ed. Covington H.S., 1919; grad. Audubon Sugar Schl. of La. State U., 1924 B.S. in sugar engrg.; mem.: Alpha Chi Sigma; m. Valery Verna Vidou, July 8, 1931; ch.: Betty Ann, Amy Charlotte, Paul Emile. 1924 chem., Carribbean Sugar Co., Manopla, Cuba; 1925 chf. chem. same co.; 1926 res. engr. The Celotex Corp., Marrero, La.; 1941 dir. of Tech. Dept. same co. Mem.: A.C.S., T.A.P.P.I., chm. "Finished Prods. Testing Sub-Comm." of T.A.P.P.I.; "Structural Fibrous Matls. Comm."

FREDERICKS, Carlton, exec. dir., Inst. of Nutrition Res., 62 W. 45th St., N.Y.C.; res. 98-25 64th Rd., Rego Park, L.I., N.Y.
Nutrition res. conslt.; b. N.Y., Oct. 23, 1910; s. of David and Blanche Fredericks; ed. U. of Ala., B.A., Phi Beta Kappa, fellowship, 1931; N.Y.U., M.A., 1949; mem.: Omicron Omega Nu, Rho Theta Alpha, Alpha Epsilon Pi; m. Betty Schacter, Oct., 1949; ch.: April. Natl. Phenochrome Corp., 1931-35, mfg. chem.; McKesson & Robbins, Bridgeport, Conn., Professional Div., 1936; Universal Phar., N.Y.C., 1937, tech. dir.; U.S. Vitamin Corp., N.Y.C., 1938-45, conslt., chem. of foods & nutrition; Dugan Bros., Newark, N.J., 1945-46, conslt., chem. of foods & nutrition; Foods Plus, Inc., N.Y.C., chem. dir.; Inst. of Nutrition Res., exec., and pres., 1946 to date; faculty N.Y.U., chem. of foods & nutrition, 1949 to date; faculty Post Grad. Schl., Queens Gen. Hosp., auspices Tenth District Dental Soc., N.Y., 1950 to date, chem. of foods & nutrition. Experimental res. in biochem. aspects of myoneuropathies; biochem. of lipotropic factors in arterio sclerosis; chem. function of lipotropic factors in diabetes; pharmaco dynamics of nutrition. Author: "Lessons in Living" 1942; "Living Should Be Fun" 1945; papers & monographs on pharmacodynamics of nutrition, metabolism in arterio sclerosis, biochem. approach to the sub-acute liver deficiency syndrome in diabetes, mellitus (in press). Mem.: Am. Acad. of Applied Nutrition, Am. Acad. of Dental Medicine, A.C.S., N.Y. Acad. of Sc., A.A.A.S. Club: East Side Forum. Hobby: radio broadcasts on public health.

FREDIANI, Harold A., mgr. anal. res., Merck & Co., Inc., Rahway, N.J.; res. Box 908A R.R. 1, Rahway, N.J.
Chem.; b. New York, N.Y., Dec. 23, 1911; s. of Hugo and Mary (Ceruti) Frediani; ed. U. of Iowa, B.A., 1934; M.S., 1935; Louisiana State U., Ph.D., 1937; mem.: Alpha Chi Sigma, Phi Lambda Upsilon; m. Lois C. Hough, Sept. 4, 1935; ch.: Marita Ilene, Judith Lois, Harold A. Jr., Dale Steven. 1937-40 instr. anal. and indust. chem., Louisiana State U.; 1940-41 asst. dir. dev., Fisher Sc. Co. (Pittsburgh); 1941-46 chf. chem., dir. of labs., Eimer & Amend (New York); 1946 to date mgr. anal. res. Merck & Co., Inc. Res. in instrumental methods of analysis, infrared, ultraviolet,

emission spectroscopy, polarography, potentiometric methods of analysis. Mem.: A.C.S.; Soc. Pub. Analysts (London); A.Phar.A.; Sigma Xi; Soc. Applied Spectroscopy; chmn. Anal. Group, N.Y. Sect., A.C.S. 1949-50. Club: Chemists' (N.Y.). Hobbies: golf, woodworking.

FREDRICK, William George, dir., Bur. of Industrial Hygiene, Detroit, Mich. Detroit Department of Health.
Industrial hygienist; b. Lockland, O., Jan. 25, 1909; s. of George H. and Emma Fredrick; ed. U. of Mich., B.S., M.S., Sc.D.; mem.: Alpha Chi Sigma; m. Ethel Smithling, 1936; ch.: William George Jr., Janet. Mallinckrodt Chemical Works, res. chem., 1934-35; U. of Mich. Hospital, res. chem., 1935-36; Detroit Dept. of Health, ind. hygienist and chf. chem., 1936-45; Dept. of Health, dir., Bur. of Ind. Hygiene, 1945 to present. Contrib. extens. to pubs. articles on analytical chemistry, industrial toxicology and industrial hygiene. Mem.: A.C.S., Am. Ind. Hyg. Assoc., Am. Pub. Health Assoc., Assn. of Analytical Chemists, Mich. Ind. Hyg. Soc., Engineering Soc. of Detroit.

FREED, Meyer L., owner., dir., Freed Research Labs., 169 Main St., Seymour, Conn.; res. Chatfield St., Seymour.
Conslt. and res. chem.; b. N.Y.C., Aug. 5, 1896; s. of Abraham and Bella Freed; ed. Bklyn. Polytech. Inst., B.S. chem., 1919; m. Byrdie Dulfon, Oct. 4, 1925; ch.: Jerome James Freed. 1920-25, Golwynne Chem. Corp., N.Y.C.; 1925-26, Research Assoc., Bur. of Stds., Washington, D.C.; 1926-32, Golwynne Chem. Corp.; 1932-49 Rufert Chem. Co., Seymour, Conn.; 1949 to date with Freed Res. Labs., Seymour, Conn. (owner, dir.). Developed cyanite as a mullite superrefractory while at the Bur. of Stds. in 1925; dev. "Rufert" flake nickel catalyst; dev. "Seymour" bright nickel plating processes. Contr. to sc. jls. Holds eight pats. Mem.: A.C.S., A.O.C.S., A.E.S., A.I.C. (fellow). Clubs: Masons, Ceres Union, B'nai B'rith, Amer Leg., Jewish War Vets. Hobbies: research reading, fishing.

FREEDMAN, Ephraim, dir., Macy's Bur. of Stds., R. H. Macy & Co., Inc., Herald Square 1, N.Y.C.; res. 285 Lincoln Pl., Bklyn 17, N.Y.
Chem., prof. engr.; b. Rochester, N.Y., July 5, 1892; s. of Hayman and Ella (Dunn) Freedman; ed. Columbia U. Coll. of Pharmacy, grad. 1910, awarded Cert. of Proficiency as a Food & Drug Anal.; evening courses at Bklyn. Polytech. Inst.; mem. (founder), Tau Epsilon Phi, mem.: Sigma Xi; m. Mildred Saul, Apr. 12, 1919; ch.: Mrs. Claire Freedman Eichelbaum. Chem. for Francis H. Leggett & Co., 1911-16; Lt. Sanitary Corps, W. W. I; after engaging in production, plant construction and dev. for 8 years, joined Macy's in 1927 where he started Macy's Bur. of Stds.; during W.W. II served as conslt. to Hazeltine Electronics Corp., collaborated with the Q.M.C., U.S.A. and Bklyn. Poly. in testing plastcis and in dev. of Test Procedures, worked with A.S.A. Comms. on dev. of Amer. War Stds. Mem.: A.S.T.M.; past chmn. N.Y. Sect., A.A.T.CC.; past pres., A.A.T.T.; fellow, A.I.C.; mem. A.C.S.; Exec. Comm., Textile Sect., N.Y. Bd. of Trade; bd. of dirs., T.R.I.; adv. bd. Bedding Div., N.Y.S. Dept. of Labor; collab. on Cotton Projs., U.S. Dept. of Agr.; mem. Kings County Chapt., N.Y.S. Soc. of Prof. Engrs. Clubs: Textile Square, Chemists'. Hobbies: fishing, golf.

FREEDMAN, Louis, v.p. and dir. of res., U.S. Vitamin Corp., 250 E. 43rd St., New York 17; res. 1, Parkway East, Mt. Vernon, N.Y.
Bio-chemist; b. New Haven, Conn., Jan. 28, 1894; s. of Joseph and Paulina Freedman; ed. Yale, Ph.B., 1915; M.S., 1917; Columbia U., 1922, Ph.D.; m. Bertha F. Gallup, July 24, 1923; ch.: Joel G., David D., Paul G. Sheffield Fellow, Yale, 1915-16; Indust. Fellow, Yale, 1916-17; res. chem., Calco Chem. Co., 1917-19; H. A. Metz Labs., 1919-32; Winthrop-Metz Res. Labs., 1932-36; asst. tech. dir., U.S. Vitamin Corp., 1936-39; dir. res., 1939-47; v.p. in chg. res., 1947 to date. Res. in Vitamin A absorption in man and animals; res. and dev. in phar. and med. chem. Contrib. between 25 and 30 arts. to sc. jls.; holds more than 20 pats. Mem.: A.A.A.S., A.C.S., fellow, A.I.C., S.E.B.M., N.Y. Acdy. of Sc. Club: Chemists'. Hobbies: golf, photography.

FREEMAN, Kenneth Alfrey, chf., Color Certification Branch, F.S.A.-Food & Drug Adm., Wash. 25, D.C.; visiting lctr., Georgetown U.; res. 4504 Conifer Lane, P.O. 5936, Bethesda 14, Md.
Chem., prof.; b. McAllaster, Kan., June 29, 1912; s. of Oscar L. and Blanche Freeman; ed. Stetson U., DeLand, Fla., B.S., 1934, M.S., 1935; U. of Fla., 1936-38; Ph.D., Georgetown U., 1948; mem.: Gamma Sigma Epsilon, Sigma Nu; m. Mary Lou Cragin, Jan. 30, 1938; ch.: Lucretia Anne, Katharine Alfrey. 1936-38, Naval Stores Res. Fellowship, U. of Fla.; 1938-39, teaching, Arcadia H.S., Arcadia, Fla.; 1939-42, chem., U.S. Food & Drug Adm., New Orleans, La. & Wash., D.C.; 1942-46, military service, U.S.N., Lt. Commander; 1946 to date, chf., color certification branch, U.S. Food & Drug Adm., Wash., D.C.; 1948 to date, visiting lecturer, Georgetown U. Grad. Schl., Wash., D.C., subj. org. chem. & qualitative org. anal. Numerous papers on prep., anal., & identification of certifiable coal-tar colors; gen. referee on coal-tar colors, A.O.A.C. Mem.: A.C.S., Assn. of Official Agr. Chemists, S.E.B.M. (Wash. Sec.). Hobbies: philately, woodworking, gardening.

FREEMAN, Leonard Mohr, mgr., Works Tech. Group, The B. F. Goodrich Co., 500 S. Main St., Akron, Ohio; res. 94 Goodhue Dr., Akron 13, Ohio.
Chem.; b. N. Lewisburg, Ohio; s. of M. F. and Pauline R. Freeman; ed. Miami U., A.B., 1924; U. of Ill., M.A., 1926; mem.: Alpha Chi Sigma; m. Doris P., Sept. 4, 1926; ch.: Wayne F. 1924-25 tchr. sc., New Vienna H.S.; 1926 to date with B. F. Goodrich Co. in following positions: chem., mgr. of Pigment Inspection and Dev.; mgr. of Gen. Chem. Labs.; mgr. of Raw Matls. Inspection and Dev.; prod. supt. Latex Prod.; tech. supt., Lone Star Ordnance Plant; mgr. Works Tech. Group. Mem.: A.C.S., A.I.Ch.E. Hobbies: golf, fishing.

FREEMAN, Monroe Edward, chf. Dept. of Chem., Army Med. Dept. Res. and Grad. Schl., Qtrs. 203, Army Med. Center, Washington 12, D.C.
Biochem.; b. Washington, D.C., April 1, 1906; s. of Edward M. and Grace D. Freeman; ed. U. of Minn., B.A., 1928; M.S. 1929; Ph.D., 1931; mem.: Delta Upsilon; m. Christine Gray, Aug. 31, 1929; ch.: Mary Gray, Monroe E., Jr. 1929-30 instr. chem., U. of Arizona; 1930-36 asst. prof. biochem., U. of Maine; 1936-47 res. prof. chem., U. of Mass.; 1942-45 Army of U.S., Major Sn.C.; 1947 to date A.M.D.R.G.S., Lt. Col., M.S.C. Dept. of Chemistry. Mem.: A.C.S.; Soc. for Experimental Biol. & Med.; Sigma Xi; A.A.A.S.

FRENCH, C(harles) Clement, dean of the College, A. and M. College, Texas; res. College Station, Texas.
College adm.; b. Philadelphia, Pa., Oct. 24, 1901; s. of Harry Sailer and Gertrude Comly (MacMillan) French; ed. U. of Pa., B.S. in Ch.E., 1922; M.S. (chem.), 1923; Ph.D. (phys. chem.), 1927; mem.: Alpha Chi Sigma; m. Helen A. Black, Dec. 25, 1925; ch.: Jane, Richard Clement. 1922-30 instr. in chem., U. of Pa.; 1930-49 prof. of chem., hd. of dept., Randolph-Macon Woman's

Coll., Lynchburg, Va.; 1936-49 dean of the coll., R.M.W.C., Lynchburg; 1949-50 v.p., Va. Polytech. Inst., Blacksburg, Va.; 1950 dean of the Coll., A. and M. College of Texas, College Station, Texas. Mem.: A.C.S., A.A.A.S., Sigma Xi, Tau Beta Pi, Omicron Delta Kappa.

FRENCH, Dudley Kimball, conslt. chem. and engr., P.O. Box 185, Winnetka, Ill.; res. 503 Hawthorn Lane, Winnetka, Ill.
Conslt.; b. Chicago, Ill., May 1, 1881; s. of Harry D. and Ellen M. (Kimball) French; ed. U. of Chicago, 1905; mem.: Sigma Alpha Epsilon; m. Helen M. Nind, 1910; ch.: Margaret (Mrs. J. H. Mueller), Katherine (Mrs. H. F. Nolan). 1905-07 with Buckeye Cotton Co., and short periods with Swift & Co. S. & S., until 1907; 1907-32 with Dearborn Chem. Co. (17 years as chem. dir.); 1932 to date active conslt. on Indust. Water and Power Plant Conservation. Author of many arts., two in Ind. & Eng. Chem.; others in trade jls.; chapter "Water Anal." in "Std. Meths. of Chem. Anal.," W.W. Scott; has abstracted for nearly 40 years. for Chem. Abstracts. Mem.: A.C.S.,—1906 Chicago Sect., chmn., trustee, dir., councillor, edit. of Bulletin, all at some time since 1909; A.S.T.M., mem. of Comm. D-2, C-7 and D-19 at diff. times; still on D-19; A.S.M.E., Feed Water Studies Comm. Amer. Water Wks. Assoc. Served 11 years on Winnetka Libr. Bd., three years as treas. Winnetka Community Chest. Clubs: Rotary, Izaak Walton, Ill. Athletic, Skokie Country. Hobbies: recorded music, compiling a library and card catalogue of my own and allied flds.

FRENCH, Helen Somersby, prof. emeritus of chem., Wellesley Coll., res. 5 Audubon Rd., Lexington 73, Mass.
Chem. tchr. emeritus; b. Lynn, Mass., Oct. 21, 1884; ed. Wellesley, B.A., 1907; M.A., 1910; U. Zurich, Ph.D., 1913. Wellesley, instr. chem., 1910-11, 1913-17; asst. prof. chem., 1917-20; assoc. prof., 1920-25; prof., 1925 to retirement; to date prof. emeritus. Res. in adsorption spectra. Mem.: A.C.S., A.A.A.S. (fellow), N.E. Assn. Chem. Tchrs., N.E. Assn. Schls. & Colls., Phi Beta Kappa, Sigma Xi.

FRENCH, Kendrick S., pur. agt., Oils Dept., Distillation Prods. Ind., Rochester 3, N.Y.; res. 153 Newfield Dr., Rochester 16.
Purch. and sales vitam. concent.; b. Morris, N.Y., Oct. 18, 1914; ed. U. of N.H., B.S., 1935, M.S., 1937; mem.: Phi Mu Delta, Alpha Chi Sigma, Phi Kappa Phi; m. Marjorie I. Dennett, Nov. 2, 1935; ch.: Gordon S., Peter L. 1935-38 instr. U. of N.H.; 1938-40 chem. Eastman Kodak Co.; 1940-41 res. chem. Distillation Prods. Inc.; 1941-45 U.S.A.; 1945 to date pur. agt., Oils Dept., Distillation Prods. Industries. Mem.: Alpha Chi Sigma, A.O.C.S.

FRENCH, Sidney James, dean of faculty. Colgate U., Hamilton, N.Y.; res. 56 Payne St., Hamilton, N.Y.
Dean; b. Superior, Wis., Mar. 1, 1894; s. of James B. and Fannie (Coffin) French; ed. Superior pub. schls.; Superior Tchrs. Coll., 1913-16; U. of Chicago, 1921-22, B.S.; U. of Wis., 1925-28, M.S., Ph.D.; mem.: Sigma Xi, Alpha Chi Sigma, Phi Lambda Upsilon, Phi Beta Kappa, Acacia; m. Florence Felton, Aug. 17, 1929; ch.: Ronnie Lou. 1916-17, 1919-22 tchr., Superior H.S.; 1922-25 tchr. chem., Superior Tchrs. Coll.; U. of Wis., asst. Chem. Dept., 1925-28; Franklin Coll., prof. chem., 1928-32; Colgate U., prof. chem., 1932 to 1943; Colgate U., Coordinator of Naval Flight Preparatory Schl., also of V-7, 1943-44; Colgate U., Acting Dean of Faculty, 1944-45; Colgate U., Dean of Faculty 1945 to date; 1950-51, visiting expert to the Institute for Educational Leadership in Tokyo. 1st Lieut. in chg. Intelligence Service 312th Inf., A.E.F., 1917-19; has written between 56-60 arts. of tech., semi-tech. and popular nature; holds pat. on chem. models. Author: "The Drama of Chemistry," 1938; "Torch and Crucible, The Life and Death of Antoine Lavoisier," 1941; 'Atoms, Rocks and Galaxies" (with others) 1938, 2nd edit., 1942; "The American Idea" (with others), 1942. Mem.: A.C.S., Natl. Educ. Assoc., A.A.U.P., Alpha Chi Sigma, Phi Beta Kappa. Clubs: Hamilton; Colgate Faculty. Hobby: sailing.

FRERICHS, Frederick William, Jr., conslt. for Cupples Co., St. Louis, Mo. (formerly chf. chem. and tech. supt.), 600 Spruce St., St. Louis 2, Mo.; res. 10 Frontenac Dr., Clayton 24, Mo.
Chem. engr.; b. St. Louis, Mo., Aug. 8, 1887; s. of Frederick W. and Amelia D. Zeller Frerichs; ed. Washington U., St. Louis, Mo., B.S. in chem. engineering, 1910; res. in org. chem., U. of Berlin, 1913-14; res. in inorganic and physical chem., Columbia U., 1915-16; mem.: Sigma Nu; m. Lydian Williams Wheeler, Oct. 23, 1916; ch.: Katharine Amelia (Mrs. Robert H. Hurst), Eugene Zeller. Bell Telephone Co., St. Louis, Mo., 1910-11; Municipal Testing Laboratory, City of St. Louis, Mo., 1912-13; post graduate study, 1913-16; Laclede Gaslight Co., St. Louis, Mo., 1916-19; Cupples Co., manufacturers, St. Louis, Mo., 1919 to present. Automobile tire design, construction, manuf. and compound dev.; manuf. of inner tubes, rubber heels, and fruit jar rings; dev. of cmpds. used for their production; manuf. and cmpd. dev. of "strike anywhere" matches. Mem.: A.C.S., A.I.Ch.E. Club: Chemists' (New York). Hobbies: golfing, fishing and propagating beautiful and unusual flowers in the summer months; independent res. on rubber during the winter.

FREUD, Benjamin Ball, emeritus prof. chem., Ill. Inst. Tech., Chicago, Ill.; res. 5858 Magnolia Ave., Chicago 40.
Prof. chem.; b. Chicago, Ill., Feb. 12, 1884; s. of Adolph B. and Annette Ball Freud; ed. B.Sc., U. Chicago; Ch.E., Armour Inst. Tech.; Ph.D., U. Chicago; mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma; m. Henrietta Zollman. Instr., prof., chmn., Dept. of Chem., Ill. Inst. Tech., now emeritus; visit. prof. physical sc., U. Ill. Undergraduate Div. at Chicago; Capt. to Col., Chem. Corp, U.S.A., now Col. Hon. Res., A.V.S.

FREUHAUF, Hubert F. V., plant mgr., Bay City Div., The Dow Chem. Co., 801 Andre St., Bay City, Mich.; res. 5553 Gaertner Court, Bay City.
Ind. adm.; b. Cleveland, Ohio, Mar. 4, 1905; s. of Charles and Mary Freuhauf; ed. B.S. mech. engrg., Case Inst. of Tech., Cleveland, Ohio; mem.: Theta Tau; m. Hazel L. Theobald, Aug. 6, 1927; ch.: Charles Jacob, Victor. Mech. engr., plant supt., aniline, diphenyl & other misc. org. processes, mem. Co. Bargaining Comm., plant mgr., Bay City Div., The Dow Chem. Co. Wk. on continuous process for mfr. of aniline, continuous process for mfr. of diphenyl, process dev. salicylic acid, para phenyl phenol & other org. cmpds. Mem.: Am. Foundrymen's Assn. Club. Kiwanis. Hobbies: fishing, gardening.

FREUNDLICH, Leo, chf. chem., Hooton Chocolate Co., 351 No. 5th St., Newark 7, N.J.; res. 129 No. Walnut St., East Orange, N.J.
Chem.; b. Schifferstadt, Germany, Feb. 4, 1899; s. of Isidor F. and Lina (Wolf) Freundlich; ed. U. of Heidelberg, U. of Wuerzburg, Ph.D. magna cum laude; mem.: K.I.V.; m. Illa Weiler, May 2, 1948. Royal Labs., chem. 1924; Auramine Corp. of Am., res. and control chem. 1924-25; Ekroth Labs., res. chem. 1925-30; **Runkel Bros., chf.** chem. 1930-31; Hooton Choc. Co., chf. chem., 1931

to date. German Army, 1917-18. Var. pubs. in trade and sc. jls. pertaining to cocoa and chocolate. Mem.: A.C.S., A.I.C., Assoc. of Am. Candy Tech. Club: Jewish Unity (Newark). Hobby: collecting stamps.

FREY, Charles N., dir. sc. relations, Standard Brands, Inc., 595 Madison Ave., N.Y. 22, N.Y., res. 45 Cambridge Rd., Scarsdale, N.Y. Dir. sc. relations; ed. Mich. St. Coll., B.S. M.S.; U. Wis., Ph.D.; Mich. St. Coll., D.Sc (hon); m. Julia Lenore Leary, 1920; ch.: Martha Anne, Florence Elizabeth, Charles Frederick. Taught So. Haven, Mich. H. Schl.; asst. U. Wis. 1915; U.S. Dept. Agr., biol. 1915; instr. U. Wis. 1917; St. Dept. Agr., Wis. 1917; 1st Lt., Sanitary Corps, U.S.A., 1918; Capt. 1919-20; fellow, Mellon Inst. 1920-22; res. chem., Ward Baking Co., 1923-24; res. chem., Fleischmann Labs., 1924-26; dir. Fleischmann Labs., chg. res., Stand. Brands, Inc., 1926-44; 1944 to date dir. sc. relations. Dev., res. in process prods. of interest such as dry yeast, use of cane molasses and vitamins in yeast growing; B1 as an accel. of yeast fermentation; prod. vitamin D from yeast, ergosterol, use of yeast for inverting cane syrups, fermentation of green coffee; stud. action of proteolytic enzymes, effect of oxidants in doughs, prod. of high B1 yeast, its use in enrichment of bread; melanine reactions; Co-author: "Colloidal Aspects of Baking Tech."; contrib. to sc. and tech. jls.; mem.: A.A.A.S. (fellow), A.C.S., A.A.C.C. (past pres.), S.C.I., A.O.C.S., A.I.C., Am. Inst. (N.Y.C.), S.A.B., Ind. Res. Inst., I.F.T. (pres.-elect.), Wis. Acdy. Sc., Am. Soc. Bakery Engrs., Am. Acdy. Polit. Sc., Inst. of Nutrition, N.Y. Acdy. Sc. (fellow), director, Biological Abstracts. Clubs: Chem. (trustee), Scarsdale Golf, Town. Hobbies: history, horticulture.

FREY, Frederick Ernest, asst. dir., res., Phillips Pet. Co., Bartlesville, Okla.; res. 1428 Valley Rd. Chem.; b. Canton, Ohio, Nov. 5, 1899; s. of James A. and Olive E. Frey; ed. Coll. Wooster, B.S., 1922; Ohio State U., M.S., 1924; Coll. Wooster, D.Sc. (hon.), 1948; mem.: Phi Beta Kappa, Sigma Xi, Gamma Alpha; m. Elizabeth C. Rausch, Aug. 10, 1935; ch.: Frederick E., Jr., James W. Coll. Wooster, instr., 1922-23; U.S. Bur. Mines, chem., 1924-27; Phillips Pet. Co., 1927 to date. Res. in hydrocarbon chem., anal., pyrolysis, catalysis, thermodyn., proc. dev. Mem.: A.C.S. Club: Kiwanis. Hobbies: music, travel.

FREY, Dr. Oskar, v.p. and gen. mgr., Cincinnati Chem. Wks., Inc., P.O. Box 20, Evanston Sta., Cincinnati 7, Ohio; res. 3553 Bayard Dr., Cincinnati 8, Ohio. Mgr; b. Frauenfeld, Switzerland, Apr. 6, 1890; s. of Ulrich and Louisa Frey; ed. Fed. Inst. of Tech., Zurich, Switzerland, 1913, B.S., 1915, D.R.S.C.; m. Dora Kunz, Aug. 30, 1922; ch.: Marianne, John. Employed sucessively by Monsanto Chem. Co., Newport Chem. Wks., Cincinnati Chem. Wks. Inc.

FREY, Ralph Wylie, chem., Wash. Suburban Sanitary Comm., Hyattsville, Md.; res. 3104 Shepherd St., Mt. Rainier, Md. Chem.; b. Wash., D.C., July 28, 1889; s. of Louis A. and Florida Virginia Frey; ed. 1912 Geo. Wash. U., B.S. Chem.; m. G. Hazel Mohler (dec.), Nov. 27, 1913; ch.: Louis Mohler, Ralph Wylie, Jane Farnsworth. Asst. chem. to principal chem., U.S. Dept. Agr., 1914-43; retired; (hides, skins, tanning matls., leather, related fields.; chem., Wash. Suburban Sanitary Comm. 1947 to date. Contrib. extens. to sc. and tech. jls. Mem.: A.C.S., Am. Leather Chems. Assn. (past pres.), Md.-Del. Water & Sewage Assn.; recipient of Alsop Honor Award. Hobbies: fishing, softball, pool, cards.

FREYDBERG, Ralph M., pres., Acme Backing Co., Meadow & Bogart Sts., Bklyn. 6, N.Y., res. 1120 Park Ave., N.Y. 28, N.Y. Exec.; b. N.Y.C., Oct. 24, 1901; s. of Aaron and Pauline Arensen Freydberg; ed. Townsend Harris Hall Prep., 1917; Columbia U., B.A., 1921; M.A. (Chem.), 1922; mem.: Phi Lambda Phi; m. Florence B. Baumgold, Apr. 15, 1931; ch.: Ann Louise, Ralph Martin, Jr. National Aniline & Chem. Co., chem. 1922; Acme Backing Corp. (pres.); A.B.C. Backing Corp. (pres.); Metlon Corp. (treas.); Hadley Corp. (v.p.); Affiliated Research, Inc. (pres.); pres., dir., Pauline Freydberg Foundation, Inc. Mem.: A.C.S., Les Chevaliers de Tastevin, Wine & Food Soc. Hobbies: symphonic music, wines, food, French impressionist paintings.

FRIDERICI, Edwin D., chf. chem., supt. of dyeing, Mohawk Carpet Mills, Inc., Amsterdam, N.Y.; res. 106 Perkins St., Amsterdam. Chem.; b. Amsterdam, N.Y., Sept. 26, 1896; s. of Jonas D. and Adeline (Van Horn) Friderici; ed. Cornell U., 1918, A.B.; mem.: Alpha Chi Sigma; m. Stella Federson, Apr. 29, 1925; ch.: Adeline, Edwin, Arthur. Chem., du Pont Co., 1918-20; Internatl. Coal Prods. Corp., 1920-21; Mohawk Carpet Mills, Inc., since 1921. Mem.: A.C.S., A.I.C. (fellow), Textile Res. Inst.

FRIEDEN, Alexander, dir. of res., Pabst Brewing Co., Milwaukee, Wis.; res. 746 E. Beaumont, Milwaukee. Res. exec.; b. 1895; ed. U. of Va., B.S. & M.S., 1919; Columbia, M.A., 1920; Ph.D., 1923; m. Evelyn Gutman, 1920; ch.: 2 sons. Columbia U., tchr., 1921-23; Ray F. Bacon, consult. labs., 1923-33, consult., 1933-36; Coll. New Rochelle, lect. nutrition & food chem., 1935; Stein, Hall & Co., dir. food prod. dept., 1936-38; tech. dir., 1938-40; v.p., 1940-46; Pabst Brewing Co., 1946 to date. Mem.: A.C.S., A.A.A.S., Cer. Chem. Assoc., Food Tech., T.A.P.P.I., Tex. Res. Inst., Amer. Inst. Brew Chem., N.Y. Acdy. Sc., Chemists' Club.

FRIEDLAND, Daniel, v.p., Truland Chem. and Engrg. Co., Inc., Box 426, Union, N.J.; res. 1913 Wood Ave., Roselle. Chem. engr.; b. Columbus, O., Apr. 5, 1916; s. of Henry and Sylvia (Bady) Friedland; ed. C.C. N.Y., B.Ch.E., 1937; Bklyn. Polytech., M.Ch.E., 1945; D.Ch.E., 1948; m. Libby G. Friedland, Feb. 23, 1940; ch.: William Drew. 1937, res. asst., M. W. Kellogg Co.; 1938-47, prod. supvr., chf. chem., plt. supt., tech. adv. to gen. supt., Cities Service Oil Co.; 1947 to date, v.p., treas., dir., Truland Chem. and Engrg. Co., Inc. V.p., treas., dir., Extract Prods. Corp. Res. in extractive distillation, azeotropic dist. extraction, chem. treatment of pet. dists. Mem.: Sigma Xi, Phi Lambda Upsilon.

FRIEDMAN, Aaron, chem. engr., ice cream div., Joe Lowe Corp., 601 W. 26th St., New York 1, N.Y.; res. 327 Central Park West, New York 25. Chem. engr., prof. engr., N.Y.S.; b. N.Y.C., Apr. 17, 1896; s. of Paul and Esther (Stolberg) Friedman; ed. Columbia U. Schl. of Mines, Engrg. and Chem., Chem. Engr., 1917; m. Florence Helen Melman, June 30, 1939. Dr. Alcan Hirsch, consult. chem. engr., res.; New Proc. Metals Corp., supt.; States Metals Corp., supt. chg. produc.; Am. Electro-Osmosis Corp., chem. engr.; Chamchatka Fur Dyeing Co., supt.; consult. to 1932; 1932-41, consult. chem. engr., editor, "The Patent Reporter"; 1941 to date with Joe Lowe Corp., to 1947 chf. chem., dir. of res.; 1947 to date chem. engr., ice cream div. Mem. of indust. comm. aiding Quartermaster, dried eggs; also on comm. to condition Army on dried eggs; holds 5 or 6 U.S. letters patent in food equipment and food processing, specializing in ice cream chem. and engrg. Mem.: A.I.C. (fellow), A.A.A.S., I.F.T., charter mem. Amer. Dairy Sc. Assoc.; Soc. of Amer. Military Engrs.; A.A.C.C. Hobbies: photography, golf.

FRIEDMAN, Bernard Samuel, asst. div. chf., catalysis res. div., Sinclair Refing. Co., 400 E. Sibley, Harvey, Ill.; res. 4906 Drexel, Chicago 15.
Res. chem.; b. Chicago, Ill., Jan. 4, 1907; s. of Nathan and Fanny Friedman; ed. U. of Ill., A.B., 1930; Ph.D., 1936; mem.: Zeta Beta Tau; m. Estelle B. Freund, June 12, 1938; ch.: Richard, Alice. 1930-33, tchr. H.S.; 1933-36, asst. instr. chem., U. Ill.; 1936-45, res. chem., Universal Oil Prods. Co.; 1945-47, tech. dir., Reyam Plastic Prods. Co.; 1947-48, dir., chem. lab., Quartermaster Res. and Dev., Phila.; 1948 to date, asst. chf., catalysis res. div., Sinclair Refing. Co. Res. in petroleum catalytic chem.; preparation of perchlorates; synthesis of sulfur compds., phars., and pure hydocarbs. Mem.: Phi Beta Kappa, Sigma Xi, Chicago Tech. Socs. Council (v.p., 1949); A.I.C. (Chicago chap., v. chmn., 1950), Chicago Area Career Conference (gen. chmn., 1950).

FRIEDMAN, Dr. Harris Leonard, dir. of labs., Lakeside Labs., Milwaukee 1, Wis.; res. 4043 N. Larkin St., Milwaukee 11.
Chem.; b. Dover, N.J., Jan. 17, 1913; s. of Meyer and Fannie Friedman; ed. Dover H.S. 1930; N.Y.U., B.S. (chem.), 1934; Ph.D. (chem.), 1938; mem.: Phi Beta Kappa, Phi Lambda Upsilon; m. Beatrice Kassell, Ph.D., 1940; ch.: Neil, Marilyn. Asst. chem., N.Y.U., 1935-38; res. chem., dir., div. pure res., Pyridium Corp., Yonkers, N.Y., 1939-47; chf. chem., Reade Mfg. Co., Paterson, N.J., 1947-48; consltg. chem., Galat Chem. Dev. Co., Yonkers, N.Y., 1947-48; chf. chem. div., Lakeside Labs., Milwaukee, Wis., 1948 to date; dir. of labs., 1949 to date. Chemotherapy, heterocyclic org. chem., hormones, vitamins, antitubercular cmpds., antihistamines. Mem.: Sigma Xi, A.C.S., A.A.A.S., N.Y. Acdy. of Sc.

FRIEDMAN, Joseph S., sr. res. spec., Ansco Div., Gen. Aniline & Film Corp., Binghamton, N.Y.; res. 298 Burbank Ave., Johnson City.
Res. chem.; b. Russia, Apr. 19, 1899; s. of Bernard and Zirah (Shapiro) Friedman; ed. B.S., 1921, Harvard U.; Ph.D., 1926, U. Chicago; mem.: Sigma Xi; m. Bertha Wicker, 1930; ch.: Pearl Ann, David. Mt. Sinai Hosp., res. assoc., 1927-28; res. assoc. to Edwin H. Land, 1928-29; Technicolor Motion Picture Corp., res. chem., 1929-31; Brester Color Film Corp., res. chem., 1931-33; Omnichrome Corp., tech. dir. 1931-33; to 1943, priv. res.; since 1943, res. chem., Anso Div., Gen. Aniline & Film Corp. Private, Harvard Unit, S.A.T.C., 1918. Assoc. with Edwin H. Land in formulation of basis for Polaroid (U.S. Pat. 1918848); also, number of pats. issued in fld. of color photography. Author: "Hist. of Color Photography" (1944). Mem.: A.A.A.S. (fellow), A.I.C. (fellow), A.C.S., Photographic Soc. of Amer. (assoc. chmn., Binghamton Sec.), N.Y. Acdy. of Scs. (fellow), Technion. Johnson City Boys Club (dir.), Zionist Org. of Amer. (pres., Binghamton Sec.). Hobby: photography.

FRIEDMAN, Leo, prof., chem., dept. chem., Oregon State Coll., Corvallis, Ore.; res. 3406 Polk St., Corvallis.
Tchr; b. Randolph, Me., Sept. 15, 1903; s. of Max and Jennie Friedman; ed. U. Me., B.S., 1925; U. Wis., Ph.D., 1928; m. Sarah E. Goldin, July 15, 1929; ch.: Raymond F., Malcolm P. Chem. faculty, U. Ore., 1928-32; Ore. State Coll., chem. faculty, 1932 to date. Res. & publs. in fields of colloid & cellulose chem. Mem.: Phi Kappa Phi, Sigma Xi, Phi Lambda Upsilon, A.C.S., A.A.A.S., A.A.U.P., T.A.P.P.I. Clubs: Kiwanis, C. of C. (Corvallis). Hobbies: fishing, bridge.

FRIEDRICH, Martin E., res. chem., du Pont Co., Chambers Works; res. Route 1, Penns Grove, N.J.
Res. chem; b. Hobart, Ind., Jan. 29, 1904; s. of Dr. L. M. and Wilhelmina Friedrich; ed. Augustana Coll., A.B.; U. Louisville, M.S.; U. Ill., Ph.D.; mem.: Phi Lambda Upsilon, Sigma Xi; m. Edna C. Wascher, June, 1929; ch.: Edwin Carl, Louis Elbert. 1929 to date with du Pont Co.; 1929-36, 1940 to date, res. chem.; 1936-40, supvr. in azo dyes. Res. in acridine derivatives, org. arsenicals, azo dyes and intermediates. Mem.: A.C.S., A.I.C., A.A.T.C.C. Hobbies: music, gardening.

FRIEND, Merrill Nash, chf. chem., Spaulding Moss Co., 42 Franklin St., Boston 10, Mass.; res. 34 Lafayette St., Wakefield, Mass.
Chem. engr.; b. Boston, Mass., Feb. 15, 1912; s. of Edgar N. and Edith L. (Pierpont) Friend; ed. Northeastern U., Boston, B.S. Ch.E. (with honor), 1934; m. Alice J. Matheson, Jan. 1, 1941; ch.: Francesca M. Since 1934 various chem. and engrg. positions with Spaulding Moss Co., chf. chem. since 1945. Mem.: A.C.S., Boston Litho Club (treas., 1949-50), Boston Soc. of Printing House Craftsmen, T.A.L.I. Hobbies: photography, horticulture, classical records.

FRIER, William Thomas, instr., Penn. State Coll. Extension; anal., Lakes Lab., 906 W. 12th St., Erie, Pa.; res. 3902 Iroquois Ave., Lawrence Park, Erie 3.
Instr. chem. & met. anal.; b. Russell, Kans., Jan. 6, 1883; s. of Henry A. and Amelia Frier; ed. U. Kans., 1918, B.S. in E.E.; corres. courses U. Kans. & Internatl. Corres. Schl.; quan. anal., nuclear chem., atomic structure, U. Pitts.; m. Maude Whittle, June 3, 1917; ch.: Mrs. Thomas E. Steckel. Engr. of tests., Ord. Dept., U.S.A., 1918; asst. chem., Physical Lab. of Enrique Touceda, Albany (wk. for Am. Malleable Castings Assn.); foundry supt., metallurgist, Laconia Car Co., Laconia, N.H., 1920-30; foundry control chem., Erie Wks., Gen. Elec. Co., Erie, Pa., 1930-48; instr., chem. & met., Gen. Elec. Tech. Night Schl., 1937 to date; instr., chem. & met., Penn. State Coll., 1949 to date; retired, G.E. Co., 1948; anal., Lakes Lab., Erie, Pa., 1950. Author: "Elementary Metallurgy" (McGraw-Hill, 1942, rev. edit. 1950); co-author: "Introduction to Indus. Chem." (McGraw-Hill, 1945). Mem.: A.I.M.E., A.S.M., A.C.S. (assoc.), Am. Foundrymen's Soc. Clubs: Griswold, University. Hobbies: travel, photography.

FRIERSON, William Joe, hd. dept. chem., Agnes Scott Coll., Decatur, Ga.; res. 111 Ansley St., Decatur.
Tchr.; b. Batesville, Ark., July 8, 1907; s. of Daniel Manton and Willie Jo (Vance) Frierson; ed. Arkansas Coll., A.B., 1927; Emory U., M.S., 1928; Cornell U., Ph.D., 1936; mem.: Delta Tau Delta; m. Nancy Ione Livingstone, Jan. 21, 1930; ch.: William Manton, Robert Vance. 1928-44, assoc. prof. chem., Hampden-Sydney Coll.; 1944-46, prof. chem., Birmingham-Southern Coll.; 1946 to date, hd. dept. of chem., Agnes Scott Coll.; summers of 1937-38-39, instr., Cornell U.; 1940-41, prof. U. Richmond; 1947, prof., Emory U.; 1948, assoc. prof., U. Fla.; 1950, Research Fellow, Oak Ridge Inst. Nuclear Studies. Mem.: A.C.S., Georgia Acdy. Sc., Sigma Xi. Hobbies: woodworking, hunting.

FRIES, Robert G., pres., Fries & Fries, 110 E. 70th St., Cincinnati 16, Ohio; res. 1 Beechknoll Dr., North College Hill, Cincinnati.

Exec.; b. Cincinnati, Ohio, Jan. 6, 1893; s. of Gus R. and Eugenie H. Fries; ed. University Schl. of Cincinnati; Cornell U.; m. Frances Krohn, Mar. 3, 1918; ch.: Robert G. Jr., Ann Fries Gross; throughout business life associated with Fries & Fries. Mem.: A.C.S. Clubs: Masonic, Shrine. Hobby: gardening.

FRINK, Edward H., asst. treas., Sharp & Dohme, Inc., 640 N. Broad St., Phila. 1, Pa.; res. 46 Meadowbrook Rd., Strafford, Wayne P.O., Pa.
Finance & accounting; b. Norwich, N.Y., Apr. 30, 1912; s. of Harry B. and Gertrude H. Frink; ed. Norwich H.S., 1929; U. Pa., B.S. (economics), 1934; mem.: Theta Chi; m. Leona Pearce Post, June 26, 1937; ch.: William Post, Barbara Ann. Haskins & Sells, Dec. 1934-Oct. 1943, staff & tax accountant; Sharp & Dohme, Inc., Oct. 1943-Dec. 1944, tax mgr.; Dec. 1944 to date, asst. treas. Mem.: Tax Exec. Inst., Natl. Assn. of Credit Men, Pa. Chamber of Com. (tax comm.). Hobbies: golf, tennis.

FRISCHMUTH, Robert W., tech. dir. Cosma Labs.; treas., Special Chems. Co.; v.p., Macco Chem. Co.; pres., Merrit Prods. Co.; 1545 E. 18th St., Cleveland 14, Ohio; res. 24414 Wimbledon Rd., Cleveland 22.
Exec., chem. engr.; b. Cleveland, O., July 10, 1916; s. of Herman B. and Norene Frischmuth; ed. Case Inst. of Tech., B.S.; mem.: Sigma Alpha Epsilon; m. Jane Stocker, June 1, 1939; ch.: Robert Jr., Daniel, Katherine. V.p., Cosma Labs. Co., 1940 to date; treas., Special Chem. Co., 1944 to date; v.p., Macco Chem. Co., 1948 to date; pres., Merrit Prods. Co., 1950 to date. Dev. of the "Comalite" process for mfg. phenolic tubing. Mem.: A.C.S., Alpha Chi Sigma, A.I.C.

FRISCO, William Paul, lab. dir., St. Clair Rubber Co.; res. 1705 Conn. Ave., Marysville, Mich.
Chem. engr., atty.-at-law; b. Amsterdam, Ohio, Aug. 31, 1909; s. of William and Gizella (Pomothy) Frisco; ed. Baldwin Wallace Coll., Case Schl. Appl. Sc., 1933; B.Sc. Chem. Engrg., U. Md., 1942; LL.B.; m. Gizella Marie Toth, July 25, 1931; dev. engr., Brush Beryllium Co. 1935-37; dev. engr., Western Elec. Co. 1937-44; Lab. Dir., St. Clair Rubber Co. 1944 to date. Res. in elect. arc furnace prod. of beryllium-copper alloys; rubber; plastics. Mem.: A.C.S., N.Y. Acdy. Scs., Res. Inst. Am., Inc. Hobbies: law, golf, fishing.

FRISK, Paul Warner, indus. (chem.-economic) conslt., Des Moines 16, Iowa; res. 820 Arthur Ave., Des Moines.
Conslt.; b. Des Moines, Iowa, Aug. 1900; s. of P. E. and Anna M. Frisk; ed. Drake U., B.S.; post grad., U. Iowa; mem.: Nu Rho Chi; m. Virginia Hart Ellis; ch.: one. Am. Enka Corp., 1928-40; S/A Industrias Reunidas F. Matarazzo, Sao Paulo, Brazil, 1940-41; Sheppard T. Powell, consltg. chem. engrs., 1941-45; indus. conslt., self-employed, 1945 to date. Economical recovery of waste chem. in rayon indus.; continuous spinning processes rayon yarn; economical improvement, efficiency, quality & cost reduction in viscose prod. & rayon mfg. Numerous articles publ. in tech. jls. Mem.: A.A.A.S. (past dir. N.C. State), A.W.W.A., A.C.S. Hobbies: golf, tennis.

FRITSCHE, Carl B., res. conslt., Reichhold Chemicals, Inc., P.O. Box 6, Alexandria, Va.; res. R.F.D. 1, Box 283, Alexandria.
Res. conslt.; b. Nashville, Tenn., Oct. 5, 1885; s. of Rev. Charles G. and Mathilda (Berges) Fritsche; ed. studied civil engrg. and law; LL.B., Indiana Law Schl., Indiana U.; m. Virginia Beverly Caldwell, Feb. 9, 1928; ch.: Margaret, Craig, David. Chemical Foundation, Inc., 1935-38, Reichhold Chemicals, Inc., 1939-50.

FROEMKE, John A., prof. of natural scs. (chem.), Augustana Coll., Sioux Falls, S.Dak.; res. 1815 S. Prairie Ave., Sioux Falls.
Prof.; b. Marion, N.Dak., Nov. 12, 1893; s. of K. Ludwig and Rosa (Schoen) Froemke; ed. Mayville State Tchrs. Coll., B.A., 1924; M.S., 1927; Ph.D., 1931, U. N.Dak.; mem.: Sigma Xi, Phi Alpha Epsilon; m. Mary C. Sidlo, May 25, 1929; ch.: Donald J. and John C. Prin. grade and high schls., 1915-18; prin. schls., 1920-22; asst. U. N.Dak., 1923-30; prof. of natural scs. (chem.), Augustana Coll., Sioux Falls, S.Dak., 1930 to present. Designed special condensation apparatus with Dr. Anderson, U. N.Dak.; determined expansion ratios of mixtures of ethyl alcohol and water; now determining change in viscosity of chemically reacting liquids with time. Contrib. extens. to sc. and tech. jls. Mem.: A.A.A.S. (fellow), A.C.S. (pres., Sioux Valley Sec. 1951—), Acdy. of Sc. (S.D., pres, 1950—). Hobbies: cross word puzzles, piano.

FROHRING, Paul R., pres., dir., Gen. Biochem. Inc., Division of American Home Products, Corp., Chagrin Falls, Ohio; res. Bainbridge Rd., Chagrin Falls.
Exec.; b. Cleveland, Ohio, Aug. 2, 1903; s. of William E. and Martha L. Frohring; ed. Case Inst., B.S. Chem. Engrg., 1926; mem.: Alpha Chi Sigma; m. Maxine A. Prince, Mar., 1942; ch.: Martha L., Paula C.; 1926-34, res. labs., S.M.A. Corp.; 1942, v.p.; 1934-40, pres., Eff Labs. Inc.; 1940 to present, pres., dir., Gen. Biochem. Inc., div. Am. Home Prods. Corp., 1942-45, gen. mgr., Emdee Labs.; 1940-43, pres. Life Prod., Inc.; 1942, apptd. mem. Phar. Mfgs. Adv. Comm., War Prod. Bd.; U.S. Patents, 2461,300; 2440029; 2469756. Mem.: A.C.S.; A.A.A.S.; O.C.S.; Hiram Coll. (adv. council). Hobbies: fishing, farming.

FROLICH, Per K(eyser), v.p., res. & dev., Merck & Co., Inc., Rahway, N.J.; res. 100 Kimball Circle Dr., Westfield, N.J.
Chem., chem. engr.; b. Kristiansand, Norway, June 29, 1899; s. of Johan K. and Beate K. Frolich; ed. Norway Inst. of Tech., B.S., 1921; M.I.T., M.S., 1923; Sc.D., 1925; D.Sc. (hon.), Rutgers U., 1943; D.Eng. (hon.), Lehigh U., 1943; mem.: Alpha Chi Sigma; m. Astrid Fronsdal, Mar. 7, 1927; ch.: Elizabeth Ann, Astrid K. 1919-21, asst. in chem., Norway Inst. of Tech., Trondheim, Ny.; 1921-22, instr. in chem. and phys., Kristiansand Bus. Coll., Kristiansand, Ny.; 1923-25, res. asst., Res. Lab. Appl. Chem., M.I.T., Cambridge, Mass.; 1925-27, res. assoc., div. dir., Res. Lab. Appl. Chem.; 1927-29, asst. prof. chem. engrg., M.I.T.; 1927-29, asst. dir., Res. Lab. of Appl. Chem.; 1929, assoc. prof. of chem. engrg.; 1929-31, res. chem., Std. Oil Dev. Co., Elizabeth, N.J.; 1931-33, asst. dir., res. labs., 1933-35, dir.; 1935-36, chf. chem.; 1936-46, dir., chem. div., Esso Labs., Std. Oil Dev. Co.; 1946-47, co-ordinator of res., Merck & Co. Inc., Rahway, N.J.; 1947 to date, dir. of res. & dev. div., same co.; 1948 to date, v.p. for res. and dev. Dir. at lge., Armed Forces Chem. Assoc., 1949-50, 1950-51; A.C.S. Comm. Adv. to Chem. Corps, 1947 to date; civilian prof. conslt. in W.W. II, served on comms. of the Rubber Reserve Co., Off. of Rubber Reserve, Off. of Rubber Dir. Author of about 60 tech. papers for sc. publs.; holds about 75 pats. issued or pending, chiefly in fld. of hydrocarb. proc. Mem.: A.C.S. (pres., 1943), A.A.A.S., S.C.I. (Amer. Sec.), A.I.Ch.E. (Grasselli Medal 1930). Visiting Comm., Dept. of Biology, M.I.T. (1949 to date); Adv. Council, Dept. of Chem. Engrg., Princeton (1948 to date); Chem. Adv. Comm., Rutgers (1940 to date); Adv. Bd. of the Res. Council, Rutgers (1944 to date). Club: Chemists' (suburban v.p., 1941-42, 1946-49). Hobbies: gardening, hiking, fishing.

FROMM, Fritz Wilhelm, hd. chem. dept., Mount Mercy Coll., Fifth Ave., Pittsburgh 13, Pa.; res. 6613 Jackson St., Pittsburgh 6. Prof.; b. Freiburg, i. B., Germany, June 8, 1904; s. of Dr. Emil and Mathilde (Braun) Fromm; ed. Ph.D. (magna cum laude), Munich U., 1928; m. Dr. Ilse Pflaum, Aug. 9, 1930; ch.: Gerhard, Stefan, Georg, Ruth. 1926-28, with Prof. H. Wieland (Doctor's thesis); 1928-29 with Prof. Thannhauser, res. asst.; 1929-30, with Prof. O. V. Furth, res. wkr.; 1930-33, Dept. Tech., Konigsberg i. Pr., first asst.; 1934-36, Dept. Med. Chem., Vienna U., demonstrator; 1936-38, Raw Matl. Res. Station, Vienna, v. dir.; 1938-39, in Tirana, Albania, free res. wkr.; 1939-44, Polytech. Inst. of Puerto Rico, San Germain, P.R., hd., dept. chem.; 1944-48, Coll. of the Sacred Heart, Santurce, P.R., hd. dept. of chem.; 1948 to date, Mt. Mercy Coll., Pittsburgh, Pa., hd., dept. of chem. 1929-34, abstractor, Berichte f. d. ges. Physiologie; 1929-34, abstractor, Kongresszentralblatt f. d. ges. Medizin; 1932, abstractor, Chemisches Zentralblatt; 1932, contrib., "Dammer's Chem. Technologie d. Neuzeit (2nd ed.); 1938, mem. bd. of editors, Warenkunde; 1938, contributor, Hessenland's Praktikum. d. gewerblichen Chemie, Munich; 1940 to date, abstractor, "Chemical Abstracts; 1947-49, abstractor, "Excerpta Medica 1949 to date, abstraction fats, oils, detergents; has contrib. many sc. arts. to jls. in following chem. flds.: tetramolecular fulminic acid, non-saponifiable of liver fat, proteins and NaOBr, textile fibers, pyrrole, tech. and uses of wastes, chem. education and history of chem., weed control and plant studies; he also holds patents. Mem.: A.C.S. (chmn. Puerto Rico Sec., 1947; councilor 1948; chmn. education comm., Pittsburgh Sec., 1949-50); A.A.A.S., Penn. Acdy. Sc.

FRONING, Henry Bernhardt, dean emeritus, Coll. of Science, Notre Dame U., Notre Dame, Ind.; res. 407 E. Pokagon St., South Bend 17, Ind. Retired dean; b. Sebastian, Ohio, Sept. 7, 1884; s. of John Bernard and Mary Rose Froning; ed. St. Joseph's Coll. (Ind.), A.B., 1908; Ohio State U., A.M., 1912; hon. LL.D., St. Vincent Coll. (Latrobe, Pa.), 1940; grad. study, Catholic U. of Amer., 1909-11; Johns Hopkins U., 1912-13; Ohio State U., 1913-14; m. Mary Mildred Cain, June 23, 1915; ch.: J. Fendall, Mary Mildred, Laura Harvey, Ned Cain, Henry Bernhardt, Jr. Elem. pub. schls., Ohio, 1902-06; H.S. principal, 1907-09; Cath. U., asst. chem., 1909-11; Ohio State U., grad. asst. chem., 1911-12; Cath. U., instr. chem., 1912-13; Ohio State U., instr. bacteriol., 1913-15; asst. prof. bacteriol., 1915-18; asst. prof. biochem., 1918-19; Nizer Labs. (Detroit), res. chem. bacteriol., 1919-20; Notre Dame U., prof. of chem. & hd. depts. of chem. & chem. engrg., since 1920; dean, Coll. of Sc., 1940-43; dean emeritus, since 1943. Mem.: Ind. Acdy. Sc. (fellow); A.C.S., Phi Lambda Upsilon, Sigma Xi.

FROST, Pinckney L., mgr. sales, Innis, Speiden & Co., 117 Liberty St., New York 6, N.Y.; res. 37 Westminster Ter., W. Orange, N.J. Chem. sales; b. Buffalo, N.Y., Mar. 12, 1904; s. of Dr. Henry P. and Margaret J. Frost; ed. Milton Acdy., Milton, Mass.; Roxbury Latin Schl., Roxbury, Mass.; Pratt Inst., Bklyn, N.Y. (chem.); m. Mary M. Boyer, July 15, 1929; ch.: Nancy Virginia. 1921 to date, with Innis, Speiden & Co., 1928-33, mgr. Cleveland sales off.; 1933-41, asst. mgr. of sales; 1941 to date, mgr. of sales. Mem.: A.C.S., Salesmen's Assoc. of the A.C.I., St. Cloud Presbyterian Ch. (W. Orange, N.J., trustee). Clubs: Chemists'. (N.Y.), Rock Spring (W. Orange). Hobby: golf.

FRYLING, Charles Frederick, supvr., syn. rubber res., Phillips Petroleum Co., Box 968, Phillips, Tex.; res. 10 Jopling St., Phillips. Res. chem.; b. Newark, N.J., Mar. 9, 1897; s. of Gerhard and Alice Elizabeth (Smalls) Fryling; ed. Lafayette Coll., Easton, Pa., B.S., 1920; N.Y. U., M.S., 1923; Ph.D., 1924; Princeton U., Natl. Res. Fel., 1924-26; mem.: Phi Beta Kappa, Sigma Xi, Alpha Chi Sigma; m. Agnes Ida May Gould, June 16, 1925; ch.: Albert Gerald, Charles Frederick, Jr. 1926-31, res., Combustion Utilities Corp., Linden, N.J.; 1931-36, res. non-fuels, Ill. State Geolog. Survey, Urbana, Ill.; 1937-44, res. rubber polym., The B. F. Goodrich Co., Akron, Ohio; 1944-45, asst. dir. copolymer res., Wash., D.C.; 1945 to date, res. synth. rubber, Phillips Petroleum Co. Oxidation lower paraffin hydrocarbs., 1926-31; rock wool from Ill. mineral resources, 1931-36; dev. of Hy car synth. rubber, 1937-41; res. on GR-S, 1941-45; dev. of "cold" rubber, 1945 to date; numerous publs. in tech. literature and pats. on synth. rubber. Mem.: A.C.S., A.I.Ch.E., Amer. Rose Soc., Bd. of Educ. (Phillips, Texas, 1947-49). Hobbies: photography, fishing, hunting, rose culture.

FUCHS, Charles F., dir. res., The Emulsol Corp., 59 E. Madison St., Chicago 3, Ill. Chem., exec.; b. Vienna, Austria, Oct. 30, 1898; ed. Realgymnasium, Vienna, 1917; Ph.D. (in chem.), U. Vienna, 1922; m. 1927. Instr. chem., U. Vienna, 1919-22; asst. prof., 1922-29; conslt. engr., Vienna, 1930-38; pat. atty., Vienna, 1935-38; res. dir., Hosp. Liquids, Inc., Chicago, 1940-42; Eli Lilly Fellow, U. Chicago, 1942-43; Res. Corp. Fellow, 1944; naturalized citizen, 1944; sr. chem., The Emulsol Corp., 1944-47; dir. res., 1947 to date. Metal organ., Grignard & heterocyclic. compds.; addition react. to double bonds; free radical reacts.; aliphatic amines; partial esters of polyals.; substituted amides; quaternary ammonium compds.; synthesis, surface activ. organ. compds. Mem.: A.C.S., Sigma Xi.

FUCHS, Chas. H., sales mgr., Mann Fine Chem. Co., 136 Liberty St., N.Y. 6, N.Y.; res. 611 Cedar Lane, Teaneck, N.J. Chem.; b. Vienna, Austria, May 3, 1913; s. of Hermann and Regina Fuchs; ed. C.C.N.Y., 1941, B.S.; m. Adele Barnett, 1935; ch.: Martha, Paul. Mar. 1941, chem., Natl. Distillers Co., Carthage Div.; Sept. 1941-Apr. 1943, chf. chem., Mt. Vernon Div.; June 1943-Jan. 1946, prod. conslt., C.W.S.; Jan., 1946-June, 1950, plant mgr., Reade Mfg. Co., Phar. Div.; June 1950 to date, sales mgr., Mann Fine Chem Co.

FUCHS, Nathaniel, supvr., process dev. dept., Gen. Aniline & Film Corp., Grasselli, N.J.; res. 18 E. Price St., Linden, N.J. Chem.; b. N.Y.C., July 20, 1898; s. of Samuel and Ethel (Wallerstein) Fuchs; ed. Cornell U., B. Chem., 1919; Ph.D., 1925; Graselli Grad. Fellow, 1924-25; m. (1st) Sarah A. Kaplan (dec.), Aug. 25, 1923; (2nd) Jeanette D. Nadler, July 8, 1950; ch.: Lucy Dove. 1919-20, U.S. Geolog. Survey, chem.; 1921-22, U.S. Navy Supply Depot, chem.; 1922-24, Cornell U., asst. org. chem.; 1925 to date, Gen. Aniline & Film Corp. Pyrogallolsulfonephthalein. Mem.: A.C.S. Hobbies: tropical fish, amateur astronomy.

FUCHS, William W., plant mgr., Mallinckrodt Chem. Wks., 223 West Side Ave., Jersey City, N.J.; res. 79 Wilson St., Bklyn 11, N.Y. Chem., exec.; b. Stamford, Conn., Sept. 2, 1895; s. of Maximilian J. and Margaret (Eiden) Fuchs; ed. Stamford, Conn., H.S., 1914; Worcester Polytech. Inst., Worcester, Mass., B.S. (chem.), 1918; m. Anna M. C. Weissenborn, Oct. 25, 1922; ch.: W. Christian. May 1918-Feb. 1919, high explosives chem., U.S. Ammonium Nitrate Plant, Perryville Md.; Mar. 1919-Nov. 1919, plant chem., John Carle & Sons. Stamford, Conn.; Nov. 1919- May 1920, anal. chem., Mallinckrodt Chem. Wks., St.

Louis, Mo.; May 1920-June 1922, chf. chem.; June 1922-June 1944, hd. of mfg. dept.; June 1944 to date, plant mgr., Mallinckrodt Chem. Wks., Jersey City, N.J. Mem.: A.C.S., A.I.Ch.E. (active). Hobby: gardening.

FUDGE, J(oseph) (Franklin), State Chemist of Texas; prof. in chg. soil chem. and fertility investigations, Texas Agricultural Experiment Sta.; res. College Station, Texas.
Soil chem.; b. Pittsfield, Ill., Nov. 8, 1897; s. of William D. and Clara M. (Cory) Fudge; ed. U. Ill., B.S. 1924 (freshman, prelim., final, spec., valedictorian); M.S., 1925, Ph.D., 1928; U. Wis.; mem.: Alpha Zeta, Gamma Sigma Delta, Phi Sigma, Phi Kappa Phi, Sigma Xi; m. Elsie B(attles) Lewman, June 1, 1924; ch.: William D., Ruthann D. 1926-28, asst. chem., Ala. Poly. Inst.; 1928-29, asst. chem., Fla. Agr. Exp. Sta.; 1929-45, asst. chem. to chem. Texas Agr. Exp. Sta.; 1945-47, State Chem. and chf., div. of chem., same sta.; 1945 to date, State Chemist of Texas, and prof. in chg. soil chem. and fertility investigations. Res. in soil chem. and fert. investigations; control officer for fertilizers, feeds, economic poisons. Mem.: A.C.S., Am. Soc. Agronomy, A.A.A.S., Am. Soc. Plant Physiologists, Assoc. of Economic Poisons Control Officials (pres.). Hobbies: Masonic work, square dancing.

FULLER, Donald L., assoc. dir., Central Res. Lab., Gen. Aniline & Film Corp., Easton, Pa.; res. Green Pond Rd., R.D. 3, Easton.
Chem.; b. Duluth, Minn., Nov. 12, 1906; s. of Ernest and Elizabeth (Harper) Fuller; ed. U. of Minn., B.Ch.E., 1929; Ph.D., 1933; mem.: Phi Lambda Upsilon, Sigma Xi, Alpha Chi Sigma, Gamma Alpha; m. Lois Hamilton, Oct. 15, 1938; ch.: Margaret Lois. 1933-35, res. fel. (post Doct.) U. Minn.; 1935-38, chem., Amer. Cyanamid Co.; 1938-42, Shell Dev. Co.; 1942 to date, chem. to assoc. dir., Gen. Aniline & Film Corp. Res. in thermodynamics, catalysis, applied math., high pressure synth., quantum mech., acetylene chem., petroleum hydrocarbon chem. Mem.: A.C.S., A. Math. Soc. Club: Pomfret (Easton, Pa.). Hobbies: hunting, fishing, farming.

FULLER, Frederick Driggs, retired supvr. of Texas State Feed Inspectors; res. 6050 Beaumont Ave., La Jolla, Calif.
Feed inspec.; b. Hanover, N.H., May 14, 1873; s. of John M. and Martha S. (Driggs) Fuller; ed. Hanover, N.H., H.S., 1888; B.S., U. of N.H., 1892; M.S., Purdue U., 1912; Worcester Poly. Inst., 1895-96; mem.: Kappa Sigma, Sigma Xi; m. Abby Florence Chamberlin, Sept. 10, 1895; ch.: Mrs. L.L. Ruggles, Allan C., Rev. Whitman H., R. Nelson. N.H. Agr. Exp. Sta., asst. chem., 1892-95; N.Y. Agr. Exp. Sta., asst. chem., 1896-1905; Pa. Dept. Agr., chf. chem., 1905-09; U.S. Bur. Chem., chf. Feed & Grain Invest. Lab., 1909; Pa. Primo Feed Co., chf. chem., gen. mgr. 1909-10; Ind. Agr. Exp. Sta., chf. deputy, state chem. 1910-16; Am. Feed Mfrs. Assoc., chg. sc. educat. dept., 1916-17; Agr. & Mech. Coll. of Texas, chf., Feed Control Serv., 1917-43; supvr. of State Feed Inspectors, 1943-49; retired June 30, 1949, Author num. papers and bulls. relating to sale and inspection commercial feeding stuffs. Fellow, A. A.A.S., Tex. Acdy. Sc.; former mem., S. Cent. States Assoc. Food, Feed & Drug Officials (pres. 1923-24; 1932-33); Assoc. of Amer. Feed Control Officials (pres. 1925-26); Assoc. of Southern Feed Control Officials (pres. 1937-38). Clubs: La Jolla (Calif.) Lions; Lions Internatl. (p. Dist. Gov., Tex. No. 2-S); Counsellor, Ruling Elder, Presbyterian Ch., U.S.A., Inactive.

FULLER, M(artin) Luther, chf., X-Ray and Spectographic Sec., Tech. Dept., The N.J. Zinc Co. (of Pa.), Palmerton, Pa.; res. 158 Princeton Ave., Palmerton.
Chem. engr.; b. Phila., Oct. 25, 1904; s. of Joseph Hart and Augusta (Dau) Fuller; ed. U. Pa., B.S. Ch.E., 1926; m. Mary Margaret Smith, Apr. 12, 1924; ch.: Thomas Robert, Doris Adell (Rowe). 1926-27, anal. chem.; 1927-40, res. investigator; 1940 to date, chf., X-Ray and Spectrographic Sec., N.J. Zinc Co. of Pa. Res. in X-Ray diffraction, electron microscopy, spectrochem. anal., ore dressing. Mem.: Tau Beta Pi, A.I.M.E., A. Crys. S., E.M.S.A. Club: Blue Ridge Country. Hobbies: photography, golf.

FULLER, Truman Samuel, engr.-in-chg., Works Laboratory, General Electric Co., Schenectady, N.Y.; res. 2131 Grand Boulevard, Schenectady.
Engr.; b. Saratoga Springs, N.Y., Apr. 23, 1888; s. of Walter S. and Abigail R. (Harris) Fuller; ed. Syracuse U., 1907-11, B.S. (chem.); mem.: Psi Upsilon; m. Flora Field Vosburgh, Sept. 8, 1917; ch.: Truman S., Jr., Lydia Fuller Kruesi. Chem., Edison Lamp Works, Harrison, N.J., 1911; metallurgist, Res. Lab., General Electric Co., Schenectady, 1911-38; engr. of mtls., Works Lab., 1938-43; asst. engr., 1943-45; engr.-in-chg., 1945 to present. Written arts.: "Electrical Properties of Alloys," "Endurance Properties of Steels," "Embrittlement of Copper," "Corrosion." Mem.: A.S.M., A.I.M.E., British Inst. of Metals, British Iron and Steel Institute, A.S.T.M. Club: Mohawk (Schenectady).

FULLERTON, James Bryant, dir. control, The Upjohn Co., Kalamazoo, Mich.; res. 2151 Waite Ave., Kalamazoo.
Chem.; b. Winchester, Kans., Mar. 15, 1897; ed. Sterling Coll. (Sterling, Kans.), A.B.; Kalamazoo Coll. (Kalamazoo, Mich.), M.S.; m. Grace M. Hunsche, Aug. 29, 1925; ch.: Russell L., Marjorie J. 1918-19, U.S.M.C.; 1919-20, asst. prof. chem. and phys., Monmouth Coll. (Monmouth, Ill.); The Upjohn Co., 1920-26, res. chem.; 1926-49, chf. contr. chem.; 1949 to date, dir. of contr. Since 1939, mem. rev. com., Natl. Formulary. Mem.: A.C.S., A.Phar.A., A.A.A.S. Clubs: Kalamazoo Torch, Kalamazoo Country. Hobbies: reading, outdoor sports.

FUNK, Casimir, conslt., U.S. Vitamin Corp., 250 E. 43rd St., New York 17, N.Y.; res. 186 Riverside Dr., New York 24.
Biochem.; b. Warsaw, Poland, Feb. 23, 1884; s. of Jacques and Gustawa Funk; ed. Berne, Switzerland, Ph.D.; London, Eng., D.Sc.; m. Alix Denise Schneidesch, June 19, 1914; ch.: Ian Casimir, Doriane Jacqueline. Has held various sc. and indus. res. positions in Germany, France, Poland, England and the U.S.; res. in nutrition, vitamins, hormones, cancer. Pres. Funk Foundation for Med. Res., 60 E. 42nd St., New York City. Author: "Die Vitamine" (Wiesbaden, 1914, and two later editions); "The Vitamins" (Williams & Wilkins, 1920); "Decouverte des vitamines" (Vigot Freres, Paris, 1924); "Die Mikroanalyse" (Berlin, 1926). Mem.: British Biochem. and Physiolog. Soc.; Societe de Chimie Biologique; A.C.S.; A.S.Bio.C.; Soc. of Exper. Biol. & Medicine.

FUNSTEN, Stanard R., mgr. sales, Filtrol Corp., 727 W. 7th St., Los Angeles 17, Calif.; res. 201 LaVereda Rd., Pasadena 2, Calif.
Chem. engr.; b. Portsmouth, Va.; s. of Bishop James Bowen and Ida Vivian Funsten; ed. U. Va., 1913-17, B.S. Ch.E.; mem.: Alpha Tau Omega, Kappa Delta Mu; m. Virginia Wallis; ch.: Stanard R., Jr., James W. 1918-32, Atlantic Refining Co., Phila., Pa., tech., chem. engrg. lab.; process engr., lubricating dept.; asst. supt., paraffin dept.; process engr.; 1932-37, Attapulgus Clay Co., Phila., Pa., dir. of res. & dev.; 1937 to date,

Filtrol Corp., Los Angeles, Calif., mgr. of sales. Papers & pats. in fld. of adsorption, particularly relating to pet. refining & catalytic cracking. Presented papers on above subjects before Am. Pet. Inst. 1933 & 1937. Mem.: A.C.S., A.P.I. Clubs: Valley Hunt (Pasadena), University (Los Angeles). Hobby: golf.

FUOSS, Raymond Matthew, Sterling Prof. of Chem., Yale U., New Haven, Conn.; res. 57 Mill Rock Rd., New Haven 11.
Tchg., res.; b. Bellwood, Pa., Sept. 28, 1905; s. of Jacob Z. and Bertha M. (Zimmerman) Fuoss; ed. Harvard U., Sc.B. (summa cum laude), 1925; Brown U., Ph.D., 1932; m. Ann M. Stein, Mar. 1, 1947; ch.: Patricia Rose. 1932-36, Brown chem. faculty; 1936-45, res. lab., Gen. Electric Co., Schenectady, N.Y.; 1945 to date, Yale chem. faculty. About 100 papers on electrolytes, dielectrics and polymers in various sc. jls. Mem.: Phi Beta Kappa; Sigma Xi; A.C.S. (Award in Pure Chemistry, 1935); N.Y. Acdy. of Scs.; Alpha Chi Sigma. Hobby: languages.

FURMAN, N(athaniel) Howell, Russell Wellman Moore Prof. of Chem., Princeton U.; Frick Chem. Lab., Princeton, N.J.; res. 201 Prospect Ave., Princeton.
Tchr.; b. Lawrenceville, N.J., June 22, 1892; s. of Nathaniel Higgins and Caroline (Howell) Furman; ed. (sec.) Lawrenceville Schl.; Princeton U., 1913, B.S.; 1915, M.A.; 1918, Ph.D.; mem.: Phi Beta Kappa; Cloister Inn; m. Hannah S. Hendrickson, Aug. 23, 1919; ch.: Carolyn Louise (Furman) Kirkwood, Richard Howell. Princeton U., asst., 1913-16; Procter Fellow, 1916-17; jr. chem., League Is. Navy Yard, summer 1916; instr., Stanford U., Calif., 1917-19; C.W.S., U.S.A., Am. U., Wash., D.C., June-Sept. 1918; asst. prof., 1919-27; assoc. prof., 1927-37; prof. 1937 to date, Princeton U.; named to Moore Professorship 1945. Leader of anal. group, O.S.R.D. & Manhattan Project, Princeton U., 1942-46. Anal. chem. of uranium & related matls.; electrical meths. of anal.; potentiometric titrations; polarography; coulometric investigations; dev. of new anal. meths.; ceric sulfate as a volumetric oxidant; nunumerous jl. articles on anal. subjects. Assoc. edit., Journal Am. Chem. Soc., "Chem. Reviews." Coauthor: "Potentiometric Titrations" (with I. M. Kolthoff, 1926, 1931); "Elementary Quant. Anal." (with H. H. Willard, 1933, 1935, 1940); "A Short Course in Quant. Anal." (with H. H. Willard & J. F. Flagg). Transl. "Volumetric Anal." (by I. M. Kolthoff); "Indicators" (by I. M. Kolthoff). Editor, "Stand. Meths. of Chem. Anal." (founded by W. W. Scott 1939). Mem.: A.C.S. (dir., pres.-elect for 1951), Electrochem. Soc., A.S.T.M., A.A.A.S., A.A.U.P., Sigma Xi, Phi Lambda Upsilon, Optical Soc. of Am. Hon. D.Sc. Boston U., June 1950; Fisher Award, anal. chem. (first award 1948); Achievement Award, Class of 1913, Princeton U., 1949. Trustee, Princeton Country Day Schl. Club: Springdale Golf. Hobbies: golf, sailing, oil painting.

FURNAS, Clifford Cook, dir., exec. v.p., Cornell Aeronautical Lab., Inc., Buffalo 21, N.Y.; res. 651 Le Brun Rd., Buffalo 21.
Res. dir.; b. Sheridan, Ind., Oct. 24, 1900; s. of T. Chalmers and Clara E. (Spray) Furnas; ed. Purdue U., B.S., 1922; U. Mich., Ph.D., 1926; hon. deg. of engrg. from Purdue, 1946; mem.: Tau Beta Pi, Sigma Xi; m. Sparkle Moore, Apr. 12, 1925; ch.: Beatrice Louise. 1922-24, tchr. of math., Shattuck Schl.; 1924-25, res. chem., U.S. Steel Corp.; 1926-31, phys. chem., U.S. Bur. of Mines; 1931-42, assoc. prof. of chem. engrg., Yale U.; 1941-43, tech. aide, N.D.R.C.; 1943-46, dir. res., Curtiss-Wright Airplane Div.; 1946 to date, dir. Cornell Aeronautical Lab. Res. in heat transfer, distillation base exchange, kinetics of reduction of metallic oxides. Author: "America's Tomorrow" (1932); "The Next Hundred Years" (1936); "Man, Bread and Destiny" (1937); "The Storehouse of Civilization" (1939). Edit.: "Roger's Manual of Industrial Chem." (1941); "Industrial Research: Organization & Management" (1947). Awarded Big 10 Conf. Medal for best combined scholastic and athletic record, 1922. Mem. 1920 Amer. Olympic Team. Fellow, A.A.A.S., A.I.Ch.E., A.C.S., Inst. Aero. Scs., Newcomen Soc. Dir., Purdue Res. Found. Clubs: Chemists' (N.Y.) Saturn (Buffalo), Athletic (Buffalo), Statler (Ithaca). Hobby: mountain climbing.

FURST, Charles Wilkins, pres., treas,, Furst-McNess Co., 120-130 E. Clark St., Freeport, Ill.; res. 819 W. Stephenson St., Freeport.
Exec.; b. Freeport, Ill., Oct. 9, 1908; s. of Frank E. and Florence (Wilkins) Furst Riner; ed. U. Mich.; A.B., U. Wis.; m. Jeanne Whitman, Aug. 26, 1933; ch.: Janet, Alison, Frank E. 1930-31, Standard Oil Co. of Ind.; 1933 to date, Furst-McNess Co. Burgess Battery Co. (dir.); State Bank of Freeport, Ill. (dir.). Mem.: Chem. Specialties Mfrs. Assn. Inc.; Chicago Drug & Chem. Assn.; Chicago Perfumery, Soap & Extract Assn., Inc. Hobbies: travel, golf, family.

FUSON, Reynold Clayton, prof. org. chem., U. Ill., Dept. of Chem., Urbana, Ill.
Prof. org. chem.; b. Wakefield, Ill., June 1, 1895; ed. Montana State U., A.B., 1920; D.Sc., 1946; U. Calif., A.M., 1921; U. Minn., Ph.D. 1924; Harvard Natl. Res. Fellow, 1924-26; instr., 1926-27; U. Ill., 1927 to date; visiting prof., The Rice Inst., 1947-48. Author: "Systematic Identification of Org. Compds." (with R. L. Shriner, 1935, 1948); "A Brief Course in Org. Chem." (with R. Connor, C. C. Price and H. R. Snyder, 1947); "Org. Chem." (with H. R. Snyder, 1942); "Advanced Organic Chemistry" (1950). Mem.: A.C.S. (assoc. ed., 1932-42); A.A.A.S. (secy. Sec. C., 1931); N.A.S.; Bd. of Editors of "Org. Synth." since 1932.

FYE, Paul McDonald, dep. chf., Explosives Res. Dept., Naval Ordn. Lab., White Oak, Silver Spring 19, Md.; res. Olney, Md.
Chem.; b. Johnstown, Pa., Aug. 6, 1912; s. of O. G. and Jennie V. M. Fye; ed. Albright Coll., Reading, Pa., B.S., 1935; Columbia U., Ph.D., 1939; mem.: Pi Tau Beta; m. Ruth E. Heym, Apr. 26, 1942; ch.: Kenneth Paul. 1939-41, asst. prof. chem., Hofstra Coll., Hempstead, N.Y.; 1941-42, spec. investigator, N.D.R.C., Carnegie Inst. Tech., Pittsburgh, Pa.; 1942-44, res. supvr., Underwater Explosives Res. Lab., Woods Hole, Mass.; 1944-45, deputy res. dir., same; 1945-47 dir. of res., same; 1947-48, assoc. prof. chem., U. Tenn., Knoxville, Tenn.; 1948 to date, deputy chf. Explosives Dept., Naval Ordn. Lab., Silver Spring, Md. Bur. of Ordn. Disting. Serv. Award (1945), Presidential Cert. of Merit (1946). Reaction kinetics, photochem., purification of gases, high explosives. Mem.: A.C.S., A.Phys.S., Tenn. Acdy. of Sc., Phi Lambda Upsilon, Sigma Xi, Epsilon Chi.

FYFFE, N(orman) Harold, gen. sales mgr., Oldbury Electro-Chem. Co., 19 Rector St., N.Y. 6, N.Y.; res. 15 S. Hillside Pl., Ridgewood, N.J.
Sales; b. N.Y.C., Oct. 17, 1894; s. of Norman A. and Eleanor A. (MacKay) Fyffe; ed. Armour Inst. of Tech., Northwestern U.; m. Bessie M. Sowter, Jan. 15, 1921; Jane E. Bender, John A., Mary E. Ross. 1917-23, sales, J. L. and D. S. Riker, Inc.; 1923-35, sales, Joseph E. Turner and Co.; 1935 to date, gen. sales mgr. Oldbury Electro-Chem. Co. Clubs: Chemists', Hackensack Golf, Downtown Athletic, Niagara. Hobby: outdoor sports.

G

GABBARD, James Lawrence, admin. tech. personnel, Carbide & Carbon Chems. Div., U.C.C., P.O.Box P, Oak Ridge, Tenn.; res. 114 Cedar Lane, Oak Ridge.
Chem.; b. Cow Creek, Ky., June 2, 1902; s. of Charles Benton and Rose (Moyers) Gabbard; ed. U. of Kentucky, B.S., M.S.; Northwestern U., Ph.D.; m. Mary B. Hardin, Dec. 20, 1924, (dec.); m. Bess S. Smith, Apr. 20, 1945; ch.: Lenore, James L. Jr., Charles H., Sara Culbert (step-dau.), 1926-28 H.S. princ., Corydon, Ky.; 1928-41 instr. chem., U. of Ky.; 1941-42 asst. prof. chem., Mich. State Normal Coll., Ypsilanti, Mich.; 1942-44 chem., U.S. Bur. of Mines, Norris, Tenn.; 1944-48 jr. res. chem., res. chem., sr. res. chem., res. admin., Carbide and Carbon Chems. Div., Oak Ridge, Tenn.; 1948 to date admin. tech. personnel, Oak Ridge Installations. Protium-deuterium ratio in normal water; electrode studies; electrodeposition of dialized clay; anal. and experim. procedures - prod. of alumina from low grade bauxites and magnesia from olivine; plant control procedures - gaseous diffusion plant for the concentration of U235; phys. properties of some fluorocarbons, binary systems, and chlorotrifluoro-ethylene polymers. Hobby: gardening.

GADDIS, Shirley Walter, prof. chem., Westminster Coll., Fulton, Mo.; res. Mt. Sterling, Ill.
Teacher; b. Mt. Sterling, Ill., Feb. 12, 1906; s. of Charles Walter and Rosa (Lappin) Gaddis; ed. U. of Iowa, A.B., 1928, M.S., 1930; grad. wk., U. of Mich., U. of Ill., Chicago U., Columbia U.; U. of Mo., Ph.D. 1947; mem.: Phi Lambda Upsilon. Asst. prof. chem., Colo. State Coll., 1930-37; instr. sc., Green Mt. Jr. Coll., 1937-40; assoc. prof. chem., Eureka Coll., 1941-43; assoc. prof. chem., Ill. Coll., 1943-44; instr. chem., U. of Mo., 1946; assoc. prof. chem., Champlain Coll., 1947; asst. prof. chem., Humboldt State Coll., 1947-48; prof. chem., Westminster Coll., Mo., 1948 to date. Dev. of meths. for teaching of chem. by semimicro means. Author: "Semimicro Experiments in Gen. Chem." 1948; "Semimicro Quantitative Anal." 1950. Mem.: A.C.S. Hobbies: photography, nature study, magic.

GAEBLER, Oliver H., hd., Biochem. Dept., Edsel Ford Inst. Med. Res., Henry Ford Hospital, Detroit 2, Mich.; res. 18410 Northlawn, Detroit 21.
Biochemist and physician; b. Swiss, Mo., Nov. 14, 1895; s. of Franklin G. and Louisa F. (Grauer) Gaebler; ed. Central Wesleyan Coll., Warrenton, Mo., A.B., 1917; highest standing in class; A.M., U. of Mo., 1920, with Rollins Scholarship for highest stdg. in 1917; Ph.D., U. of Toronto, 1920, in patholog. chem.; M.D., Cornell, 1928; U. of Chicago, summer, 1920; Johns Hopkins Med. Schl., 1922-23; m. Charlotte M. Stroetker, Sept. 17, 1928; ch.: Ella Louise, John Franklin. Asst. in anatomy, U. of Mo., 1918-20; tchg. fellow, U. of Toronto, 1920-22; asst. in physiol., U. of Rochester, N.Y., 1923-24; assoc. in biochem. and asst. path. chem. to U. Hosp., U. of Iowa, 1924-25; asst. prof. biochem., Iowa, 1925-27; assoc. in chg. of chem., Henry Ford Hosp., 1928-47; hd., Dept. of Biochem., Edsel B. Ford Inst. for Med. Res., 1947 to date; also, professorial lecturer, biochem., Wayne U., 1934 to date. Contributor of sixty papers in fifteen natl. sc. jls., encyclopedias, etc; principal interests and wk.: biochem. meths. of anal., metabolic problems. Mem.: A.S.Biol.C.; S.E.B.M.; A.I.C. (fellow); A.A.A.S. (fellow); Assoc. for Study of Internal Secretions; A.C.S.; A.A.Cl.C. (mem. Exec. Comm.); M.R.C., 1917-18; Detroit Physiolog. Soc. (pres. 1942); A.C.S. rep. on Amer. Bd. of Clinical Chem.; Medical and Sci. Advisory Comm., Detroit Chapt., Arthritis and Rheumatism Foundation; Assoc. Editor in chg. of Biochem., Cyc. of Med., Surgery, and Specialties, F.A. Davis & Co., Phila. Hobbies: tennis, swimming, music, movies.

GAESSLER, William George, res. assoc. prof., chem. dept., Iowa State Coll., Ames, Iowa; res. 1212 Park Way.
Chem.; b. St. Louis, Mo., Dec. 15, 1888; s. of William George and Marie M. (Haaf) Gaessler; ed. U. of Cincinnati, 1907-08; Ohio State U., B.S., 1911, M.S., 1929; mem.: Delta Chi (natl. secy.-treas. 1913-15, natl. secy. 1915-16), charter mem. Ames chapter, Phi Lambda Upsilon, Alpha Chi Sigma; m. Myrtle J. Bihl, Sept. 22, 1921; ch.: Ruth Marie, William Bihl. Anal. chem. 1911-13, assoc. chem. 1913-14, asst. chf. chem. 1914-20, acting chf. chem. 1920-31, res. assoc. prof. 1931 to date, Iowa Agric. Expt. Station; agent, U.S. Dept. of Agric., Bur. of Plant Ind., 1935-42. Pres., 1939-47, Tilden Mfg. Co., Ames, Iowa. Sc. publ. & tech. papers in fld. of agric. & plant chem. Abstractor, Chem. Abstracts, 1913 to date. Mem.: Iowa Acad. of Sc. (fellow), A.C.S., Sigma Xi, Osborn Res. Club, A.A.U.P. Mem. bd. of dir.: Ames Kiwanis Club, Ames Coordinating Council; advisory bd.: First Congregational Church, Ames, Iowa; treas., Camp Fire Girls' Council. Clubs: Kiwanis (Ames pres. 1943), Ames Golf & Country, Cosmopolitan (faculty advisor, Iowa State Coll., Ames, Iowa). Hobby: community welfare.

GAGE, Frederick Worthington, res. supvr., Columbia Chem. Div., Pittsburgh Plate Glass Co., Barberton, O.; res. 105 Conger Ave., Akron 3.
Chem.; b. Cleveland, O., Dec. 27, 1912; s. of Carl D. and Gertrude (Slutz) Gage; ed. Ill. Wesleyan U., Bloomington, Ill., 1930-34, B.S.; Northwestern U., 1934-36, M.S.; mem.: Tau Kappa Epsilon; m. Sally Day Francis, June 21, 1940; ch.: Frederick Worthington, Jr. 1932-34 lab. asst. Ill. Wesleyan U.; 1934-36 lab. instr. Northwestern U.; 1936-39 res. chem., 1939 to date res. supvr. Pittsburgh Plate Glass Co. Mem.: Phi Kappa Phi, Sigma Xi. Hobbies: tennis, photography, music.

GAGE, John Hunter, treas., Merck & Co., Inc., Rahway, N.J.; res. Glen Ave., Llewellyn Park, W. Orange, N.J.
Bus. exec.; b. Somerville, Mass., Mar. 23, 1908; s. of Burt R. and Mabel G. (Hunter) Gage; ed. Harvard U., A.B. 1929; Grad. Schl. of Bus. Adm., Harvard U., M.B.A. 1931; mem.: Kappa Sigma; m. Betty E. Zeller, Apr. 8, 1938; ch.: John Z. 1931-36, United Piece Dye Wks., Lodi, N.J. & N.Y.C., asst. credit mgr., later asst. to treas.; 1936-37, N.Y. office mgr., Am. Enka Corp., N.Y.C.; 1937 to date, Merck & Co., Inc., 1937 asst. to treas., 1937-47 asst. treas., 1947 to date treas. Mem. of Cost of Govt. Comm., N.J. State Chamber of Commerce; trustee, Montclair Acdy., Montclair, N.J. Club: Harvard (N.Y.C.).

GAGE, Ralph Edwin, tech. advisor and consulting engr., Mathieson Chemical Corp.; res. Northwood, N.H.
Consulting engr.; b. Palmer, Mass., Jan. 15, 1889; s. of Charles and Sarah Gage; ed. B.S., M.I.T., 1910; m. Anne Goodspeed, June 3, 1914; ch.: Lewis, Ralph Winslow, Anne. Instr., M.I.T., 1910, 1911, 1912; Wks. chem., chf. chem. engr., and dir. of res. and dev. Mathieson Chemical Corp., 1916-45; tech. adv. and consulting engr., since 1945. Mem.: A.I.Ch.E., A.C.S. Club: Chemists' (New York).

GAGE, Roscoe Marshall, mgr. tech. div., Mansfield Tire & Rubber Co., Mansfield, O.; res. 132½ Rowland Ave., Mansfield.

Chem. engr.; b. Toledo, O., Mar. 13, 1888; s. of Henry C. and Cornelia Marshall Gage; ed. Toledo, O., public schls., Bachelor of Chem. Engr., U. of Mich., 1912; m. Mary Grosvenor, Feb. 22, 1919; ch.: Mary M., Margaret H. Chem. engr., Fisk Rubber Co., Chicopee Falls, Mass., 1912-17; First Lieut., Chem. Warfare Service, Gas Defense Div., U.S. Army, 1917-19; chf. chemist, Portage Rubber Co., Akron, O., 1919-21; prod. supt., Seiberling Rubber Co., Akron, O., 1921-22; factory mgr., Vulcan Rubber Co., Erie, Pa., 1922-25; chem. engr., Hood Rubber Co., Watertown, Mass., 1925-28; chf. process engr., Fisk Rubber Co., Chicopee Falls, Mass., 1928-33; mgr. tech. div., Mansfield Tire & Rubber Co., Mansfield, O., 1933 to present. Res. in cold rubber for commercial use. Mem.: Copolymer Technical Advisory Comm. which dev. "Cold Rubber," A.C.S., A.I.Ch.E., Ohio Soc. of Professional Engineers. Dir., Civic Music Assn., Mansfield, O. Clubs: Westbrook Country, Toledo Yacht, U. of Michigan Club of Mansfield, Amer. Legion, Gyro International. Hobbies: piano music, golf, sail yachting.

GAGE, William Patrick, v.p., dir., Shell Chem. Corp., 50 W. 50 St., N.Y. 20, N.Y.; res. 42 Wildwood Rd., Scarsdale.
Chem. engr.; b. Chicago, Ill., Dec. 5, 1908; s. of Herbert Lincoln and Edna Louise Gage; ed. U. of Okla., B.S. chem. engr., 1928, M.S. petrol. engr., 1929; mem.: Tau Beta Pi, Alpha Chi Sigma, Sigma Tau; m. Lucille Virginia Poore, Sept. 30, 1933; ch.: William Patrick Jr., Michael Downey, Mary Lisa Kathleen. 1929-36, Wood River, Ill., res. chem., dept. mgr.; 1936-39, Houston, Tex., dept. mgr., asst. supt.; 1939-41, St. Louis, Mo. & N.Y.C., mgr. res. & dev., Shell Oil Co.; 1941 to date, Shell Chem. Corp., San Francisco, Calif. & N.Y.C., v.p. Mem.: A.I.Ch.E.

GAILEY, Andrew J., chf. chem. engr., Electro Metal Div., Union Carbide and Carbon Corp., Niagara Falls, N.Y ; res. Lewiston Heights, Lewiston
Chem. engr.; b. Phila., Pa. Nov. 11, 1892; s. of William and Mary Montgomery Gailey; ed. B.S. Chem., Temple U., 1914; mem.: Sigma Pi; m. Minnie King, May, 1918; ch.: Robert K., Jane E. 1914-18 Harrison Bros., paints and heavy chem.; 1918-19 W.L. Cummings, proc. radium, vanadium oves; 1919-20 Penn Elec. Smelting, proc. tungsten oves; 1920 to date various divs., Union Carbide & Carbon Corp. Res. dev. on proc. gas collect. Mem.: A.C.S.; A.I.Ch.E. Clubs: Niagara Falls Country, Niagara. Hobbies: golf, oil painting.

GAINES, Paschal Clay, hd., Dept. of Chem. and v.p., Montana State Coll., Bozeman, Mont.; res. 411 W. Koch, Bozeman.
Chem. tchr.; b. St. John, Wash., Mar. 7, 1898; s. of Robert Bruce and Anna (Hamilton) Gaines; ed. B.S., Wash. State Coll., 1919; M.S., 1931; mem.: Lambda Chi Alpha, Alpha Chi Sigma; m. Blanche B. Henry, Mar. 10, 1919; ch.: Jeanne, Gladys, Janice, Jack, Robert. Chem., Three Forks Portland Cement Co., Mont.; chem., Cewell Portland Cement Co., Calif.; Montana State Coll.; instr., 1923-29; asst. prof. 1929-37; assoc. prof. 1937-41; prof., 1941-45; prof. and v.p., 1946-47; prof., hd. Chem. Dept. and v.p., 1947 to date. Author (with Binder and Woodriff), "Modern College Chem." pub. by Mosbly Co. Mem.: A.C.S., Chem. Soc. of London, Sigma Xi, Phi Kappa Phi. Club: Kiwanis. Hobby: fly fishing.

GAKENHEIMER, Walter Christian, tech. adviser, Medicinal Mfg. Sales Dept., Merck & Co. Inc., Rahway, N.J.; res. 616 Forest Ave., Westfield.
Phar. chem.; b. Baltimore, Md., July 28, 1916; s. of Christian F. and Bertha C. Gakenheimer; ed. B.S. in pharmacy, 1938, U. of Md., M.S. in phar. chem., 1941; Ph.D. in phar. chem., 1942; mem.: Phi Delta Chi, Sigma Xi, Rho Chi; m. Katherine Parker, Sept. 9, 1941. 1938-42, grad. student, asst. instr. in pharmacy, U. of Md., retail pharmacist; 1942-45, res. chem., Minerec Corp., Baltimore, Md.; 1945-50 sr. chem., phar. res. lab., Merck & Co. Inc., Rahway, N.J., 1950 to date tech. adviser, medicinal mfg. sales dept. Phar. res. & mfg. dev., vitamin & antibiotic formulation dev. Mem.: A.C.S., A.Phar.A., A.A.A.S., A.I.C., Am. Soc. Hosp. Pharmacists, N.Y. Acad. Sci.

GALE, William Alexander, dir. res., Amer. Potash & Chem. Corp., Trona, Calif.; res. Trona. Dir. of Res. (chem. engr.); b. Lakefield, Ont., Canada, Feb. 3, 1898; s. of Ben C. and Nellie Bell Gale; ed. B.A.Sc. (Bach. Applied Sc.), 1922, U. of British Columbia; M.A.Sc. (chem. major), 1923; m. Evangeline Phillips, Oct. 18, 1926; ch.: Valerie Anne. Res. chem., Amer. Trona Corp., Trona, Calif. from 1923 to 1927; asst. dir. of res., 1927 to 1933; dir. of res., Amer. Potash & Chemical Corp., successor to American Trona Corp., from 1933 to present. Res. dev. and plant expansion of the Trona process for recovery of products from Searles Lake Brines (potash, salts, borax, soda ash, salt cake, bromine, lithium salts). Mem.: A.C.S., A.A.A.S., Soc. of Glass Technology.

GALLAGHER, Thomas Francis, mem., Sloan-Kettering Inst., 444 E. 68th St., N.Y. 21, N.Y.; res. 161-05 28th Ave., Flushing.
Biochem.; b. Chicago, Ill., Dec. 29, 1905; s. of Thomas F. and Catherine (Regan) Gallagher; ed. Fordham U., A.B., 1927; U. of Chicago, Ph.D., 1931; m. Beatrice Sheehan, July 21, 1930; ch.: Thomas Francis, Brian Boru, Michael Jerome. Res. assoc. 1930-36, asst. prof. 1937-41, assoc. prof. 1941-47, U. of Chicago; mem., S.K.I., 1947 to date. Biochem. & chem. of hormones. Mem.: A.S.Biol.C., A.C.S., S.E.B.M.

GALLAHER, William Urnn, plant supt., Appleton Water Dept., Appleton, Wis.; res. 838 E. Alton St., Appleton.
Chem. engr.; b. Warren, Ill., Apr. 3, 1898; s. of Daniel J. and Sarah (Urnn) Gallaher; ed. State U. of Iowa, B.S., 1920, M.S., 1921; U. of Ill., Ph.D., 1924; mem.: Alpha Chi Sigma; m. Winifred M. Stuart, Dec. 30, 1925; ch.: Jean S., Charlotte W., Stuart W., Alan J. Supt. Filtration, Highland Park Water Wks., Mich., 1924-27; asst. sanitary engr., Wis. State Bd. of Health, 1928-29; chf. chem., Community Water Ser. Co., Harrisburg, Pa. 1930-31; plant supt., Appleton Water Dept., 1932 to date. Lecturer, Inst. of Paper Chem., 1937 to date. Mem.: Am. Water Wks. Assn. (dir.), Phi Lambda Upsilon, Sigma Xi. Dir., Y.M.C.A. Club: Rotary.

GALLIHER, W. Irving, exec. sales mgr., Pitts. Plate Glass Co., Columbia Chem. Div., and exec. sales mgr., Southern Alkali Corp., 5th Ave. at Bellefield, Pitts. 13, Pa.; res. 3955 Bigelow Blvd., Pitts. 13.
Sales exec.; b. Dresden, N.Y., May 30, 1892; s. of Guy Bryan and Sallie Virginia Galliher; ed. Syracuse U., class 1915, B.S.; mem.: Phi Delta Theta; m. Frances Forrester Hope, Apr. 29, 1922; ch.: Virginia Hope. 1915-18, W. Beckers Aniline & Chem. Wks., Brooklyn, N.Y., color chem., distr. sales mgr.; 1918-23, Semet-Solvay Co., Syracuse, N.Y., asst. to sales mgr.; 1923-30, Solvay Sales Corp., N.Y.C., mgr. special prods. div., asst. dir of sales; 1930 to date, Pitts. Plate Glass Co., Columbia Chem. Div., dir. of sales, exec. sales mgr.; exec. sales mgr., Southern Alkali Corp. Mem. Chlorine Alkali Ind. Comm. of War Prod. Bd., W.W.II; mem. Comm. 3, Army-Navy Munitions Bd. Mem.: Alpha Xi Sigma,

U.S. Alkali Export Assn. (dir.), Chlorine Inst. Inc. (v.p., dir.), Glass Container Mfrs. Inst. Clubs: Chemists' (N.Y.C.), University (N.Y.C.), Duquesne (Pitts., Pa.), Pitts. Athletic (Pitts., Pa.), Portage Country (Akron, Ohio), Syracuse University (Pitts., Pa.). Hobbies: farming, Eastern Shore of Md., deep sea game fishing.

GALLOWAY, Arthur Lyle, mgr., Devel. Dept., Tobacco By-Products & Chem. Corp., Richmond, Va.
Chem.; b. Eaton, Ohio, May 10, 1904; ed. B.S., Tri-State Coll., 1926; m. in 1930; ch. 1. Asst. to dir. res., Tobacco By-Products & Chem. Corp. from 1926; mgr., Devel. Dept. to date. Res. on insecticides; tobacco by-prods.; fertilizer bases; poultry anthelmintic; fumigating package. Mem.: Natl. Farm Chemurg. Council (1946 to date), A.A.A.S., A.C.S., Assoc. Econ. Entom.

GAMER, Carl H., hd. Proj. Dev. Dept., The Lummus Co., 385 Madison Ave., N.Y. 17, N.Y.; res. 101-26 123 St., Richmond Hill 19.
Chem. engr.; b. Pittsburgh, Pa., Mar. 25, 1915; s. of Carl F. and Elizabeth (Buchmann) Gamer; ed. Richmond Hill H.S., Bklyn. Polytech., B.Ch.E., M.Ch.E., (Alfred Raymond prize winner); m. Harriet Ann Kempner, Apr. 17, 1938; ch.: Susan, Robert Carl. 1938-46 proc. engr., 1946-50 proc. coord., 1950 hd. Proj. Dev. Dept. The Lummus Co.; 1940-49 instr., 1949 adjunct prof. Chem. Eng. Dept., Polytechnic Inst. of Brooklyn. Res. on prod. of oxalic acid from sawdust. Mem.: Phi Lambda Upsilon, Sigma Xi, A.I.Ch.E. Hobbies: music, participant sports, square dancing, woodworking.

GAMPERT, Louis, v.p., Felton Chemical Co., Inc., 599 Johnson Ave., Brooklyn 6, N.Y.; res. 607 West End Ave., N.Y.C.
Chem. mfr.; b. New York City, June 26, 1895; s. of Herman and Theresa (Maas) Gampert; ed. Ch.Engr., Columbia U., 1916; mem.: Phi Epsilon Pi; m. Estelle Pollack, Mar. 9, 1920; ch.: Caryll Gitlow, Stewart A. Natl. Aniline & Chem. Co., 1916-32 (various positions, tech. & exec. plant mgr. of Buffalo, N.Y. plant); v.p. and chmn. of the Bd., Felton Chem. Co., Inc., 1933 to date. Mem.: A.C.S.

GAMSON, Bernard William, chf. proc. engr., Great Lakes Carbon Corp., 333 N. Mich. Blvd., Chicago, Ill.; res. 1641 So. Trumbull Ave., Chicago 23.
Chem. engr.; b. Aug. 18, 1917; s. of Max Nathan and Fannie Gamson; ed. Armour Inst. of Tech., 1934-38, B.S.; U. of Mich. 1938-39, M.S.; U. of Wis., 1941-43 Ph.D.; mem.: Sigma Xi, Phi Lambda Upsilon, Iota Alpha, Pi Mu Epsilon. 1939-41 dev. engr. Socony-Vacuum Oil Co.; 1943 to date chf. proc. engr. Great Lakes Carbon Corp. Co-author of paper awarded Wm. Walker Award of the A.I.Ch.E. in 1944; pub. approx. 10 papers in thermodynamics and applied chem. engrg. kinetics; patents, approx. 10. Mem.: A.I.Ch.E., A.C.S. Hobbies: tennis, ping pong, chess, bridge.

GANS, David Manus, dir. res., Arco Co., Cleveland, Ohio; res. 14177 Washington Blvd., University Heights.
Chem.; b. Russia, May 5, 1905; s. of Philip and Sarah Gans; ed. U. of Chicago, B.S., 1926, M.S., 1927, Ph.D., 1929; m. Marion Gans, Dec. 31, 1926; ch.: Paul Jonathan, Daniel Jeremy. Instr. chem., U. of Chicago, 1929-36; chem., Interchem. Corp., 1936-39, asst. dir. of res. 1939-45; tech. dir., Quaker Chem. Prod. Corp. 1945-49; dir. of res., Arco Co., 1949 to date. Colloids, atomic structure, pigments. Mem.: A.C.S., A.Phys.S., Am. Inst. of Metals, Soc. of Rheology, A.A.T.C.C., A.I.C.

GANTZ, George M., res. dir., Lonsdale Co., Lincoln Bleachery Div., Lonsdale, R.I.; res. 1567 Lonsdale Ave., Lonsdale.
Chem.; b. Troy, Ohio, Jan. 31, 1915; s. of Maurice A. and Marjorie I. Gantz; ed. Oberlin Coll., A.B. cum laude, 1937; U. of Rochester, Ph.D., 1941; m. Ruth W. Leutner, June 30, 1938; ch.: Janet Carol, Sarah Barbara, John Frederick, Susan Emily. 1940-46, Naval Res. Lab., res. conslt., sr. chem.; 1946 to date, Lonsdale Co., res. dir. Res. on protective clothing for chem. & biolog. warfare; res. on textile finishing. Mem.: A.A.T.C.C., A.C.S., A.A.A.S., Sigma Xi. Award: Meritorious Civilian Serv. (Navy). Bd. of dir., Family Serv. Soc. of Pawtucket & vicinity.

GARARD, Ira Dufresne, prof. chem., N.J. Coll. for Women, New Brunswick, N.J.; res. 119 Livingston Ave., New Brunswick.
Coll. prof.; b. Dunkard, Pa., Mar. 19, 1888; s. of Charles A. and Margaret (Herrington) Garard; ed. Grove City, B.S., 1911; Columbia, A.M., 1916, Ph.D., 1918; m. Mabel Evelyn Baldwin, Sept. 20, 1919. Pub. Schl. Pa., tchr., 1904-07; H.S. tchr., 1908-09, 1911-16; N.J. Coll. Women, assoc. prof., prof. chem. 1919 to date; consult. chem. 1929 to date; U.S.A., 1918-19; secy., dir., Gar-Baker Labs. Inc.; dir., Provident Business Mens Savings and Loan Assoc. Papers in jls. of A.C.S. Author: "Applied Chemistry," 1924; "Introduction to Organic Chem.," 1932, 1940, 1948. Mem.: A.C.S., Sigma Xi, Phi Beta Kappa, A.I.C., I.F.T., A.O.C.S., A.A.C.C. Club: Plainfield Country.

GARBER, Harold Jerome, prof. chem. engr., dept. Chem. Engr., U. of Tenn., Knoxville, Tenn.; res. 120 Fulton Rd., Fountain City.
Prof., chem. engr., conslt.; b. Cleveland, O., Mar. 12, 1913; s. of Israel and Bessie (Epstein) Garber; ed. Ch.E., tech. degree, 1935, U. of Cincinnati, Hochstetter Prize; mem.: Tau Beta Pi, Phi Lambda Upsilon; m. Mary Ann Touff, Dec. 17, 1944; ch.: Harry Kenneth, Richard Ian. Instr., asst. prof., assoc. prof., U. of Cincinnati, 1936-47; prof., U. of Tenn., 1947 to date; conslt. to following firms: General Air Conditioning Corp., Jos. E. Seagram, Girdler Corp., Johnson and Hardin, The Adler Co., U.S. Air Forces, Carbide and Carbon Chemicals Corp., 1936 to date. Res. in gas conditioning, dehydration of oxygen, fractional crystallization, infrared radiant heating, gas adsorption, vacuum steam distillation, chemical reaction kinetics, rocket propulsion fluids, catalytic hydrogen, wool shrinkproofing. Author: "Chemical Engineering Problems" 1946. Mem.: A.I.Ch.E., Am. Soc. for Engineering Education, Sigma Xi, Ohio Acad. of Sc., Knoxville Tech. Soc., A.A.U.P. Hobbies: music, woodworking, sports.

GARBER, John Douglas, res. chem., Merck & Inc., Rahway, N.J.; res. 112 Oak Lane, Cranford.
Chem.; b. Minneapolis, Minn., May 12, 1920; s. of Ralph J. and Mildred F. Garber; ed. B.S., Pa. State Coll., 1940; Ph.D., U. of Ill., 1943; mem.: Acacia, Alpha Chi Sigma, Phi Lambda Upsilon, Pi Mu Epsilon, Sigma Xi; m. Bette C. Garber, Sept. 25, 1943; ch.: Douglas Alan, Randall Brigham. 1943-47, res. chem., Stand. Oil Dev. Co., Chem. Div., Elizabeth, N.J.; 1947-48, res. dir., E.M. Wanderman & Co. Inc., Bklyn., N.Y.; 1948 to date, res. chem., Merck & Co. Inc., Rahway, N.J. Mem.: A.C.S., Am. Phytopathological Soc., T.A.P.P.I. Hobbies: golf, bridge, economics.

GARBO, Paul William, chem. and pat. conslt., 115 Broadway, New York 6, N.Y.; res. 48 Lester Ave., Freeport.
Chem. engr. and reg. pat. agent; b. New York City, Apr. 3, 1911; s. of Vincent and Concetta

Zappulla Garbo; ed. Columbia U., A.B., 1933, B.S., 1934, Ch.E., 1935; mem.: Tau Beta Pi, Phi Lambda Upsilon, Epsilon Chi; m. Marie Casella, Oct. 8, 1938; ch.: Regis, Joan, Irene, Denis. 1935-39, Johns-Manville Corp., res. engr.; 1939-42, Barrett Div. of Allied Chem. & Dye Corp., pat. engr.; 1942, Lewistown Corp., v.p.; 1942-44, Inst. of Gas Tech., res. mgr.; 1944-46, Hydrocarbon Research, Inc., asst. secy. and pat. counsel; 1946 to date, conslt. in chem. and pat. matters. Holds over 20 pats. Mem.: A.C.S., A.I.Ch.E., New York Patent Law Association.

GARCEAU, Bertram Joseph, hd. prod. dev. lab., Arnold, Hoffman & Co., Inc., 55 Canal St., Providence, R.I.; res. 86 Chandler Ave., Pawtucket.
Chem.; b. Woonsocket, R.I., Nov. 15, 1916; s. of Bertram M. and Agnes B. Garceau; ed. R.I. State Coll., 1937, B.S. in chem; mem.: Tau Kappa Epsilon; m. Leonie M., 1940; ch.: Agnes B. 1937-43 chem., J. and P. Coats (R.I.) Inc.; 1943 to date, res. chem., res. grp. ldr., hd. of prod. dev. lab., Arnold, Hoffman & Co., Inc. Mem.: A.C.S., A.A.T.C.C. Clubs: Fairlawn-Lincoln Rod and Gun. Hobbies: hunting, fishing, golf.

GARDINER, William Cecil, chem. engr., res. & dev. dept., Mathieson Chem. Corp., Niagara Falls, N.Y.; res. 219 84th St., Niagara Falls.
Chem. engr.; b. Exeter, Ontario, Canada, Nov. 14, 1904; s. of Peter and Ellen Elizabeth (Halls) Gardiner; ed. Queens U., B.A., 1926, M.A., 1927; Princeton U., Ph.D., 1929; m. Charlotte Hicks, Aug. 1, 1931; ch.: William Cecil Jr., Peter Whitton, John Andrew. 1929-32, Comstock & Westcott, Inc., res. chem.; Mathieson Alkali Wks. Inc.: 1932-41, res. chem., 1941-42, electrochem. engr.; 1942-44, Mathieson Mignesium Plant, supt. electrolytic dept.; 1944 to date, Mathieson Alkali Wks. Inc. (now Mathieson Chem. Corp.) chem. engr., res & dev. dept. Thesis on Weston Stand. Cell; pats. on brine treating, mercury type alkali-chlorine cells & magnesium cells; conslt. on design & operation of chlorine plant for Al. Co. of Canada; leader of U.S. chlorine ind. team investigating German chlorine plants in 1946. Mem.: A.I.Ch.E., A.C.S., Elecrochem. Soc. Award: Electrochem. Soc Prize to Young Authors 1929. Trustee, First Unitarian Church, Niagara Falls, N.Y. Clubs: Niagara Ski, Shakespeare Symposium. Hobbies: skiing, figure skating, gardening, camping.

GARDNER, Arthur L., asst. to gen. mgr., Merrimac Div., Monsanto Chem. Co., Everett Station, Boston 49, Mass.; res. 132 W. Chestnut St., Wakefield, Mass.
Chem. engr.; b. Wakefield, Mass., Nov. 26, 1886; s. of Charles A. and Jennie (Symmes) Gardner; ed. M.I.T., 1904-08, B.S. chem. engrg.; mem.: Phi Gamma Delta; m. Emily P. Edmond, Oct. 27, 1909; ch.: Lawrence R., Jeanette (Gardner) Crowe, C. Esmond. 1908-15, Roessler & Hasslacher Chem. Co., Perth Amboy, N.J., asst. supt.; 1915-19, New England Mfg. Co., N. Woburn, Mass., asst. supt.; 1919 to date, Merrimac Chem. Co., now Merrimac Div., Monsanto Chem. Co., dept. supt., plant supt., plant mgr., prod. mgr., asst. to gen. mgr. Mem.: A.I.Ch.E. Served as chmn., Bd. of Selectmen, chmn., Finance Comm., Wakefield, Mass. Trustee, v.p., Wakefield Savings Bank. Club: Bear Hill Golf.

GARDNER, Franklin Truesdell, prof. chem., U. of Tulsa, Tulsa, Okla.; res. 2404 E. 22nd Pl., Tulsa.
Teacher; b. Binghamton, N.Y., July 3, 1903; s. of Harry N. and Lucy T. Gardner; ed. U. of Ill., B.S.; Cornell U., Ph.D.; mem.: Alpha Chi Sigma; m Rachel Breathwit, June 5, 1934; ch.: Mary. Anal. & res. chem., Stand. Oil Co. (Ind.), June, 1924-Aug., 1926; Am. Creosoting Co. fellow, Cornell U., Nov., 1927-Sept.,1929; U. of Tulsa, Sept., 1929 to date, asst. prof. of chem. Sept., 1929-June, 1934, assoc. prof. of chem. June, 1934-Sept., 1945, prof. of chem. Sept., 1945 to date; military leave Sept., 1940-Sept., 1945, Capt., Major, Lt. Col., F.A. & Gen. Staff, 45th Inf. Div. Corrosion control, phase equilibria. Mem.: Phi Lambda Upsilon, Sigma Xi, A.C.S., A.A.U.P., A.A.A.S., N.A.C.E.

GARDNER, Karl Albert, asst. chf. engr., Griscom-Russell Co., 285 Madison Ave., New York 17, N.Y.; res. 15 Elliott Pl., Freeport.
Heat transfer engr.; b. Ashland, Mass., Aug. 2, 1912; s. of Albert L. and Kate R. Gardner; ed. B.S., chem. engr., M.I.T. 1930-34; m. Enez R. Melkon, July, 1936; ch.: Kay Louise, Karl Winston. Engr., Cities Service Refining Co., 1934-36; engr., Griscom-Russell Co., 1936-49; asst. chf. engr., 1949 to date. Res. several papers on the mean temperature difference in various types of heat exchangers; others on efficiency of extended heat transfer surface (fins), and heat exchanger tube sheet design. Mem.: A.I.Ch.E., A.S.M.E., National Assoc. of Corrosion Engrs.

GARDNER, W(illia)m Howlett, Natl. Aniline Div., Allied Chem. & Dye Corp., 40 Rector St., N.Y., N.Y.; res. 29 Merriam Ave., Bronxville.
Chem., chem. engr.; b. N.Y.C., Sept. 25, 1902; s. of William and Julia Palmer Gardner; ed. B.Chem., Cornell U., 1923; M.S., Dartmouth Coll., 1925; Ph.D., Cornell U., 1927; mem.: Sigma Phi Sigma, Alpha Chi Sigma, Gamma Alpha; m. Katharine Van Nest Post, Nov. 26, 1932; ch.: Merritt Post, Frances Howlett, Priscilla Alden. Dartmouth Coll., instr. chem., 1923-26; Vitreous Enamel Co., res. chem. 1927; Polytech. Inst. Bklyn., res. fellow, 1928-31; res. asst. prof. chem. engr. 1931-34; res. prof. chem. engr., supvr. Shellac Bureau, 1934-42; War Prod. Bd., chf. spec. sect., chem. matls. sect., conservation div. 1942-43; chf. chem. matl. branch, conservation div. 1943-44. Res. in azidocarbondisulfide, mechanalysis of water, adsorption of mixed gases by charcoal, nature & const. of shellac, plastics, molded insulation, plastic flow & polymerization, conditioning ovens, pickling of steel, zinc oxides in paint, alpha-phenylguanidine, chrome yellow, driers, filter presses, lacq. plasticizers, spirit varn., paints, oil varn., castor oil soaps, camouflage paints, photoengraving solutions, distempers, siccatives, can coatings, airplane dopes, permeab. & structure of films, aleuritic & shellolic acids, snyth. detergents, spraying of resins, chem. subs., reactions of maleic ankydride, potent. tibrat. in alcoholic solutions. Mem.: A.S.T.M. (comm. on paint, elec. insulation, on plastics, exec. comm. on publ., Marburg's (lecture); A.C.S. (chmn. Paint, Varnish Plastics Div., council. N.Y. sect.); A.I.C. (fellow, chmn. N.Y. sect., various natl. comm.); A.A.A.S. (fellow); Royal Soc. of Arts (fellow); A.I.Ch.E.; Am. Stand. Assn. (advisor, ASTM rept. to Am. Comm. on elec. insulation); N.H. Acdy. Sc.; N.Y. Acdy. Sc.; N.Y. Paint, Varn. Prod. (chmn. various subcomm. on res. proj.); Am. Iris Soc., The Iris Soc. (London); Sigma Xi, Phi Lambda Upsilon, Gallow Birds (hon. soc.). Hobbies: sketching, color matching, hybridizing, horticulture.

GARMAN, Raymond Leroy, v.p. in chg. of res., Gen. Precision Lab. Inc., 63 Bedford Rd., Pleasantville, N.Y.; res. Manville Lane, Pleasantville.
Dir. of res.; b. Schoeneck, Lancaster Co., Pa., July 21, 1907; s. of Albert Ludwig and Amelia (Wagner) Garman; ed. Schoeneck Pub. Schl. (1913-21); Denver H.S., Denver, Pa. (1921-25); Franklin & Marshall Coll., (Lancaster, Pa.), 1925-29, B.S.; N.Y.U., 1929-31, M.Sc., 1931-32, Ph.D.;

mem.: Sigma Xi, Mu Xi Sigma; m. Grace Ross, July, 1933; ch.: Betty, Robert. 1929-42, N.Y.U., Washington Sq., New York City; 1942-45, M.I.T., Cambridge, Mass.; 1945 to date. Gen. Precision Lab. Inc. Co-author: "Experimental Electronics," Prentice-Hall, 1942; also author and co-author of numerous arts. in sc. jls. Mem.: A.C.S., A.Phys. S., Optical Soc. of Amer., Acoustical Soc. of Amer., Int. of Radio Engrg., Soc. of Motion Picture and Television Engrs., Instrument Soc. of Amer., Army Signal Assoc. Inst. of Navigation. Clubs: N.Y.U. chemistry Alumni; Franklin & Marshall Grad.

GARNATZ George Frederick, dir., Kroger Food Foundation, 1212 State Ave., Cincinnati 4, Ohio; res. 2810 Urwiler Ave., Cincinnati 11.
Chem. engr., food technologist; b. Cincinnati, Ohio, Feb. 3, 1897; s. of George and Amelia C. (Beiler) Garnatz; ed. 1921, U. of Cincinnati, Ch. E.; mem.: Tau Beta Pi, Alpha Chi Sigma, Sigma Psi; m. Edna C. Schneider, 1926; ch.: Mary Carol. 1921-22, Philip Carey Co., asst. master mechanic; 1922-32, Kroger Co., chf. chem.; 1932-45, Kroger Food Foundation, chf. of staff, 1945 to date, dir. Tenderizing beef, continuous cake batter prep., cooking shrimp, pre-packaged meats & produce, cabinet fermentation of bread doughs, canned bread, frozen foods, consumer acceptance techniques. Mem.: A.C.S., A.I.C. (fellow), A.A. A.S., N. Y. Acad. of Sc., A.A.C.C. (natl. pres. 1939-40), I.F.T., Am. Soc. of Bakery Engrs., Engrg. Soc. of Cincinnati, A.O.C.S. Mem.: Food Technology Council, Ill. Inst. of Tech.; mem. Baking Ind. Advisory Res. Council. Club: Torch. Hobbies: travel, color photography.

GARNEAU, Charles E., v.p., Irvington Varn. & Insulator Co., 10 Argyle Terrace, Irvington, N.J.; res. 11 Elm Court, South Orange.
Dev. tech. coatings on paper. cloth for food closures; b. N.Y.C., June 23, 1892; s. of Charles and Susan Quinlan Garneau; ed. C.C.N.Y.; N.Y. Coll. Dentistry; U. Pa.; m. Mary E. Dwyer, Sept. 18, 1919; ch.: Charles, Jeanne, Mary, Alice. Am. Woolen Co., N.Y., examiner text.; C.J. Tagliabue Mfg. Co., sales engr., heat recorders; Eisemann Magneto, purchase engr.; Irvington Varn. & Insulator Co., sales engr., v.p. chg. dev. varn. papers & tech. coatings in mfg. of liners, seals for metal, molded caps for glass closures. Res. in dev. of surf. coated papers, wax treated boards for use in metal, molded caps used for hermetic sealing of glass packed prods. Mem.: Glass Container Inst. Clubs: Elks, Maplewood Country, Irvington C.C. Hobbies: limited, sailing, golf, motor boating.

GARNER, Clifford Symes, assoc. prof. chem., Dept. of Chem., U. of Calif., Los Angeles 24; res. 1207 So. Orlando Ave., Los Angeles 35.
Univ. prof.; b. Newark, N.J., Oct. 4, 1912; s. of Albert J. and Dorothy L. (Weis) Garner; ed. Cal. Tech., B.S., 1935 (honors); Ph.D., 1938; mem.: Phi Lambda Upsilon; m. Ellen L. Sanderhoff, Aug., 1937. 1938-39 Noyes Res. Fellow in chem., Cal. Tech.; 1939-41 instr. in chem., 1941-46 asst. prof. of chem., U. of Texas; 1942-43 res. assoc. in chem. (war proj.), U. of Calif., Berkeley; 1943-46 grp. ldr., chem., Los Alamos Sc. Lab. (Manhattan Proj.); 1946 asst. prof. of chem., 1947 to date assoc. prof. of chem., U. of Calif. Res. in chem. of trans-uranium elements; nuclear chem.; oxidation-reduction potentials; low-temperature calorimetry. Co-author (with D. M. Yost and H. Russell, Jr.), "The Rare-Earth Elements and Their Compds.," John Wiley & Sons, Inc., N.Y., 1947. Mem.: A.C.S., Sigma Xi, A.A.A.S., A.Phys.S.

GARRELS, John Carlyle, Jr., plant mgr., Monsanto Chem. Co., Plastics Div., 600 Monsanto Ave., Springfield, Mass.; res. 22 Warren Terrace, Longmeadow.
Chem. engr.; b. Detroit, Mich., Mar. 5, 1914; s. of John C. and Margaret Ann (Gibney) Garrels; ed. B.S. chem. engr., U. of Mich., 1935; mem.: Theta Delta Chi; Vulcans; m. Valerie C. Smith, May 7, 1938; ch.: John C. III, Molly A. Chrysler Corp., 1935-36; Pennsylvania Salt Mfg. Co., 1936-42; held follow. positions in the Monsanto Chemical Co.: chem. engr., Phosphate Div., 1942-46; plant mgr., Lockport, N.Y., 1946-48; plant mgr., Springfield, Mass., 1948 to date. Club: Longmeadow Country. Hobbies: golf, hunting, fishing.

GARRETSON, Harold Hammond, prof. chem., Lynchburg Coll., Lynchburg, Va.; res. 2704 Memorial Ave., Lynchburg.
Tchr.; b. Tacoma, Wash., Mar. 3, 1911; s. of Max Howard and Anna (Hammond) Garretson; ed. Whitman Coll., A.B.; U. of Washington, M. S., Ph.D.; mem.: Tau Kappa Epsilon; m. Clarice P. Conklin, 1936; ch.: Susan, Martha Ann, Nancy Lou. 1938-43 assoc. prof. Texas A. and M.; 1943-45 U. of New Mexico; 1945 to date prof. Lynchburg Coll. Res. in thermodynamics of electrolytic solutions. Mem.: A.C.S., Sigma Xi, Phi Lambda Upsilon, A.A.A.S., Va. Acad. of Sc. Elder, First Christian Ch., Lynchburg. Hobbies: gardening, tennis, travel.

GARRETT, Alfred B., prof. of chem., The Ohio State Univ., Columbus, Ohio.
Chem. and educator; b. June 28, 1906, Glencoe, O.; s. of Robert E. and Margaret E. Garrett; ed. Bellaire, O., H.S.; Muskingum Coll., B.S., 1928; The Ohio State U., M.S., 1931, Ph.D., 1932; mem.: Alban Club; m. Jessie Campbell, Sept. 1, 1934; ch.: Carol Lynn, John Calvin, Lois Nancy. Tchr. of math., Harding H.S., Alaquippa, Pa., 1928-29; tchg. asst., Dept. of Chem., The Ohio State U., 1929-32; asst. prof. chem. Kent State U., 1932-35; prof., The Ohio State U., 1935 to date. Extensive res. and contrib. to numerous sc. and tech. jls. in inorg. chem. and gen. sc. subjects. Co-author (with Evans and Day), "An Elementary Course in Qualitative Anal.," (Ginn & Co. 1938); (with Evans and Quill), "Semimicro Qualitative Anal.," (Ginn & Co. 1940), 2nd ed., (with Evans and Sisler, 1950); (with (with Fernelius and Quill), "Fundamental in Chem. for the Lab.," (Ginn & Co. 1942); (with Mack, Haskins and Verholk), "A Textbook of Chem.," (Ginn & Co. 1949); (with Haskins and Sisler). "Essentials of Chem.," (Ginn & Co. in press, 1950); (with Sisler, Haskins and Kurbatov), "Lab. Chem.," (in press, 1950). Mem.: Sigma Xi, Phi Lambda Upsilon, Sigma Phi Sigma, A.A. A.S. (fellow); Ohio Acad. of Sc. (fellow). Clubs: Torch, Crichton. Hobbies: gardening, photography, fishing, travel, golf.

GARRETT, Benjamin Hipple, gen. mgr., Alliance Fertilizer Corp., Ellerson, Va.; res. Ellerson.
Fertilizer mfg.; b. Amelia Co., Va., Jan. 4, 1912; s. of Benj. Gaywood and Nellie (Stark) Garrett; ed. B.S.E. in chem. engrg., U. of Va.; mem.: Theta Tau, Sigma Phi Epsilon; m. Garland Wilde Bache, Mar. 30, 1940; ch.: Waddy, Benj. Caywood II, Susan, Caroline. 1935, 1 yr., office boy, 1st & Merchants Natl. Bank, Richmond, Va.; 1935-36, 2yrs., clerk, bookkeeper, B. C. Garrett Lumber Co., Jetersville, Va.; 1937 to date, gen. mgr., Alliance Fertilizer Corp. Dir. Tri-County Bank, Mechanicsville, Va. Club: Hanover Co. Ruritan.

GARRETT, James F., chf. chem. supvr., Grasselli Chem. Dept., du Pont Co., Room 4052 du Pont Bldg., Wilmington, Del.; res. 511 W. Linden St., Kennett Sq.
Chem. engr.; b. Kinmundy, Ill., Jan. 23, 1890; s. of Benjamin and Rufina (Howell) Garrett; ed.

U. of Ill., B.S.Ch.E., 1914; mem.: Alpha Sigma Phi, Alpha Chi Sigma; m. Bernice M. Quinn, Oct. 5, 1914; ch.: Dorothy M. (Baker). 1914-16 factory mgr. The Permutit Co.; 1916-24 chf. chem. Gen. Chem. Co.; 1924 to date, works tech., chf. chem. supvr., du Pont Co. Mem.: A.C.S., A.I.Ch.E., A.S.O.C. Clubs: du Pont Country, Kennett Square Country. Hobbies: golf, bridge, poker, gardening, fishing, woodwork, refinishing antique furniture.

GARVEY, Benjamin St. John, Jr., mgr. sales serv. lab., Sharples Chemicals, Inc., MR No. 1, Wayne, Pa.; res. 5 Briar Rd., Strafford Village, Wayne.
Chem.; b. Cambridge, Mass., Feb. 1, 1900; s. of B.S. and Mary Blockson Garvey; ed. B.S., U. of Ill., 1921, M.S., 1924; A.M., Harvard U., 1926, Ph.D., 1927; mem.: Kappa Delta Rho, Alpha Chi Sigma, Phi Lambda Upsilon; m. Elizabeth Hinckley, June 16, 1927; ch.: Eleanor, Elizabeth. Instr. in chem., Boone U., Wuchang, China, 1921-24; asst. in chem., U. of Ill., 1924-25; Held following positions in B.F. Goodrich Co.: res. chem., 1927-42; tech. mgr., synthetic rubber, 1942-45; tech. mgr., rubber chemicals, 1945-47; mgr. sales serv. lab., Sharples Chemicals, Inc., 1947 to date. Res. and publications on free radicals, chemistry of rubber, synth. of rubber, rubber chems., compounding of rubber. Mem.· A. C.S., A.I.Ch.E., A.A.A.S. Club: Chemists'. Hobbies: reading, outdoor sports.

GARWIN, Leo, prof. chem. engrg., Schl. of Chem. Engrg., Okla. A. & M. Coll., Stillwater, Okla.; res. 613 Bennett Dr., Stillwater.
Prof. chem. engrg.; b. N.Y.C., Mar. 17, 1918; s. of Morris and Fannie Garwin; ed. B.S., C.C. N.Y., 1938; M.A., Bklyn. Coll., 1942; Ph.D., U. of Pa., 1947; Harrison Fellow 1945-46; du Pont Fellow 1946-47; m. Ruth Goldstein, Jan. 31, 1942; ch.: Marsha Dianne. 1939-41, biochem. res., Cornell U. Medical Coll.; 1941-42, battery dev., War Dept.; 1942-45, chem. engr., Publicker Industries, Phila.; summer 1946, conslt., Wyeth Inst. of Applied Biochem., Phila., summer 1947, chem. engr.; summer 1948, conslt., Continental Oil Co., Ponca City, Okla.; summer 1949, economic survey, Kerr-McGee Oil Co., Okla. City; 1947-49, assoc. prof. chem. engrg., Okla. A. & M. Coll., Stillwater, Okla., 1949 to date, prof. chem. engrg. Mem.: A.C.S., A.I.Ch.E., Sigma Xi, Sigma Tau, Am. Soc. for Engrg. Ed., A.A. A.S. Hobbies: music, photography.

GARY, Wright W., pres., Filtrol Corp., 727 W. 7th St., Los Angeles 17, Calif.; res. 3469 E. California St., Pasadena 10.
Chem. and petrol. engr.; b. Aurora, Ill., Oct. 31, 1899; s. of Charles Edward and Minnie P. (Adams) Gary; ed. Aurora H.S.; U. of Pa.; Stanford U.; mem.: Phi Kappa Psi; m. Dorothy M. Livingston, Apr. 17, 1924; ch.: Wright W. Jr., Mary Patricia. 1921-24 with Continental Mexican Petroleum; 1924-29 private research; 1929-40 dir. of res., asst. v.p., M. W. Kellogg Co. (N.Y.); 1941-42 natl. dir. of refin., P.A.W., (Washington, D. C.); 1942 to date pres. Filtrol Corp.; holds sev. pats.; has contrib. arts. to sc. jls.

GASCH, Dale Jeremiah, dir. of res. Graton & Knight Co., 356 Franklin St., Worcester, Mass.; res. 18 Ridgeland Rd., Shrewsbury.
Res. chem.; b. Juniata, Nebr., June 11, 1912; s. of Frank R. and Adah E. Gasch; ed. A.B., Hastings Coll., 1933; M.A., Boston U., 1937; m. Bertha E. Somers, Sept. 7, 1947; ch.: Dale Winchester. Res. chem., Dewey & Almy Chem. Co., 1937-45; dir. of res., Graton & Knight Co., 1945 to date. Mem.: A.C.S., Am. Leather Chem. Assn. Hobbies: mountain climbing, photography, farming, antiques.

GASPAR, Dr. Bela, dir. of res., Gasparcolor, Inc., 1050 Cahuenga Blvd., Hollywood 38, Calif.; res. 240 S. Oakhurst Dr., Beverly Hills.
Res. chem., physician; b. Oravita, Rumania, May 18, 1898; s. of Rudolph and Sidonia Goldstein; ed. U. of Wuerzburg (Bavaria), Germany, 1919-25, M.S., 1923, equivalent of M.S. in chem., 1929; m. Ella Taussig, June 24, 1930; ch.: Peter. Self-employed 1925-34; res. dir., Gasparcolor, S.A., Luxembourg, 1934-39; res. dir., Gasparcolor, Inc., 1939 to date. Over 100 U.S. pats. on color photography, color cinematography processes, matls., dyes, chem. Mem.: A.C.S. (1936), Chem. Soc. of Great Britain (1936), Swiss Chem. Soc. (1947), Calif. Color Soc. (1947), Soc. of Motion Picture Engrs. (1942), Soc. of Photographic Engrs. (1950), Photographic Soc. of Am. (1946), Acad. of Motion Picture Arts & Sc. (1950). Club: Chemists'. Hobbies: painting, swimming.

GAST, Joseph Henry, prof., chmn. dept. of biochem., Baylor U. Coll. of Medicine, 1200 M.D. Anderson Blvd., Houston 5, Texas; res. 1947 Portsmouth, Houston.
Teacher; b. New Orleans, La., Apr. 18, 1906; s. of George E. and Bertha (Petry) Gast; ed. U. of Mich., A.B. 1928, B.S. 1934, M.S. 1936, Sc.D. 1940; m. Helen Vos, Oct. 13, 1928; ch.: Janet, Margaret, Marilyn. 1934-40, teaching fellow, U. of Mich.; 1940-42, N.Y. Med. Coll.; 1942 to date, Baylor U. Coll. of Med., prof. & chmn. dept. of biochem. Consltg. biochem. to Methodist Hosp., Houston Negro, Jefferson Davis Hosp., Veterans Adm. Hosp., San Jacinto Memorial Hosp., Southern Pacific Hosp. Mem.: A.C.S., A.A.A.S., Sigma Xi, Phi Sigma, S.E.B.M. (assoc. mem. Southwestern Sec.). Hobby: philately.

GASTON, John Emory, secy., 3600 N. 2 St., St. Louis 7, Mo.; res. 310 E. Swon Ave., Webster Groves 19, Mo.
Exec.; b. Henderson, Texas, Aug. 10, 1911; s. of John H. and Lula R. Melton Gaston; ed. Texas A. & M. Coll., B.S., 1933; Cornell U., B.L.A., 1939; awarded Chas. Sand Mem. M. for thesis in regional planning; m. Bessie L. Holleman, Sept. 20, 1940; ch.: John Thomas. 1933-38 Texas Highway Dept., spec. engr.; U.S.A., Sept. 1941, First Lt., Field Artillery, 89th Infantry Div., European Theater; awarded Bronze Star for artillery fire planning. Mallinckrodt Chem. Wks., April, 1946; asst. secy. May, 1949; secy., July, 1950; mem. Am. Inst. Planners. Hobby: golf.

GATES, Marshall (De Motte), Jr., asst. edit., J. Am. Chem. Soc.; lecturer, U. of Rochester, Rochester, N.Y.; res. Pittsford, N.Y.
Edit.; b. Boyne City, Mich., Sept. 25, 1915; s. of Marshall De Motte and Virginia (Orton) Gates; ed. The Rice Inst., B.S., 1936; M.A., 1938; Harvard U., Ph.D., 1941; Thayer Scholar, Austin Fellow at Harvard; m. Martha Meyer, Sept. 9, 1941; ch.: Christopher, Catharine, Marshall III. 1935-36, summers, chem. Freeport Sulfur Co.; 1941-43 asst. prof. chem. Bryn Mawr Coll.; 1943-46 tech. aide, Div. 9, N.D.R.C.; 1946-49, assoc. prof. chem., Bryn Mawr Coll.; 1949 to date, asst. edit., Jl. of Amer. Chem. Soc.; lecturer in chem., U. of Rochester. Res. in reactions of quinones and synth. of ring systems related to morphine. Mem.: A.C.S., A.A.A.S., Phi Beta Kappa, Sigma Xi; War Dept. Certif. of Appreciation. Club: Metachemical Soc. Hobby: sailing.

GAUGER, Alfred William, dir., Mineral Industries Experiment Station; prof. of fuel tech., Schl. of Mineral Industries, Pa. State, State Coll., Pa.; res. Baum Blvd., State College.
Dir., prof.; b. July 31, 1892; s. of Augustus F. and Albertine O. (Nitschke) Gauger; ed. A.B. chem., U. of Minn., 1914; A.M. chem., Princeton U., 1920; Procter Fellow, Princeton U., 1921-22;

Ph.D. chem., Princeton U. 1922; mem.: Alpha Chi Sigma; m. Margaret Baxter Carnegie, July 22, 1922; ch.: Marcia Carnegie, Mary Jane Carnegie. Asst. chem., U. of Minn. 1913-14, instr., summer, 1914; chem., Great Western Sugar Co., 1914-15; jr. chem., U. S. Bur. of Mines 1915-17; Capt., C.W.S., dir. of Army Gas Schl. 1918-19; res. assoc., Am. Sheet & Tin Plate Co. 1920-21; Natl. Res. Fellow, U. of Calif. 1922-24; chem., Roessler & Hasslacher Chem. Co. 1926; dir. of div. of mines, U. of North Dakota 1926-31; prof. of fuel tech., dir. of Mineral Industries Experiment Station, Schl. of Mineral Industries, Pa. State Coll., 1931 to date. Natl. coal bd. of arbitration 1935; tech. comm. sc. classification of coal; contr. of tech. articles on fuel tech., catalysis, absorption, inflammability of gases, etc.; inventor & patentee of sev. processes for extraction of salts from natural salines. Author: Twenty-first Priestley Lectures, "Physical Chem. & the Tech. of Fuels," Pa. State Coll. 1947. Mem.: A.C.S., A.S.T.M., Am. Ceramic Soc., A.I.M.E., Am. Gas Assn., Coal Res. Club (London), Sigma Xi, Sigma Tau, Phi Lambda Upsilon.

GAUGLER, Raymond C., president, Am. Cyanamid Co., 30 Rockefeller Plaza, N.Y. 20, N.Y.; res. 14 N. Chatsworth Ave., Larchmont.
Bus. exec.; b. Pittsburgh, Pa., Aug. 3, 1892; s. of Emil and Barbara (Woelfel) Gaugler; ed. High Schl.; m. Eva Lord, Nov. 26, 1914; ch.: Gladys (Gaugler) Stevens, Mercedes (Gaugler) Arnold, Blanche (Gaugler) Wardell, Jeanne (Gaugler) Hogue. Al. Co. of Am., 1909-17; Am. Cyanamid Co., 1917 to date. Dir. in following companies: Am. Cyanamid Co.; Jefferson Chem. Co.; Southern Alkali Corp.; Southern Chem. Corp.; Southern Minerals Corp.; Southern Pipe Line Corp.; Southern Pet. Corp. Clubs: Winged Foot Golf (Mamaroneck, N.Y.); Larchmont Shore (Larchmont, N.Y.); Union League (N.Y.C.); Rockefeller Center Luncheon (N.Y.C.).

GAULT, Charles Alfred, pres., E-G Prods. Inc., partner, Chem. Prods. Co., dry cleaning chem., Anderson-Prichard Oil Corp., 31 N. Summit St., Akron 8, Ohio; res. 230 Melbourne Ave., Akron.
Dry cleaning chem.; b. Harrisburg, Pa., June 15, 1910; s. of John S. and Cora May Gault; ed. Penn. State Coll., B.S. (dry cleaning); mem.: Phi Kappa Tau; m. Elma Irene Blank, June 4, 1932. Fellowship in dry cleaning, Penn. State Coll.; Anderson-Prichard Oil Corp.; E-G Prods. Inc., pres.; Chem. Prods. Co., partner. Clubs: Grotto, Shrine. Hobby: photography.

GAUSEBECK, Herbert B., asst. chmn., chem. & chem. engrg. dept., Armour Res. Foundation, Tech. Center, Chicago 16, Ill.; res. 116 Elm St., Park Forest.
Chem. engr.; b. Germany, Mar. 16, 1911; s. of Ludwig and Maria Gausebeck; ed. high schl., E. Orange, N.J.; C.C.N.Y., B.Ch.E., 1940; m. Margaret Chasan, Oct. 14, 1932; ch.: Carol Susan, Steven Ralph. 1940-42, Electrotech. Prod. Inc., Nutley, N.J., chem.; 1942-47, Ridbo Labs. Inc., Paterson, N.J., sr. chem.; 1947-48, Heyden Chem. Corp., Garfield, N.J., supt. plasticizer dev.; 1948 to date, Armour Res. Foundation, Chicago, Ill., asst. chmn. Sec. on "Coated Fabrics" in Encyclopedia of Chem. Tech.; pat. abstracts for Intersc. Publishers. Mem.: A.C.S., A.A.A.S. Hobbies: violin, stamps, model trains.

GAUTSCH, Murray Calvin, plant supt., Metal & Thermit Corp., S. San Francisco, Calif.; res. 1116 Drake Ave., Burlingame.
Chem. engr.; b. Hughesville, Pa., Apr. 2, 1905; s. of Lewis F. and Cornelia (Kahler) Gautsch; ed. Iowa State Coll., B.S., 1929; Prof. Deg., 1935, U. of Chicago Grad. Schl., 1937-40; mem.: Sigma Chi; m. Anna Lee Garrett, June 25, 1934; ch.: Gretchen Ann, Alice Rose. 1929-32, res. asst., Metal & Thermit Corp., Carteret, N.J.; 1932-35, enamel shop supt., Baltimore Enamel & Nov. Co., Baltimore, Md.; 1935-43, asst. supt., Metal & Thermit Corp., E. Chicago, Ind.; 1943, const. & oper. govt. can preparation plant, Metal & Thermit, Carteret, N.J.; 1943 to date, plant supt., Metal & Thermit Corp., S. San Francisco, Calif. Several publ. in tech. jls. Mem.: A.C.S., A.I.M.E., Am. Ceramic Soc., Personnel Mgr. Assn. Trustee, 1st Presbyterian Church; dir. S. San Francisco Mfg. Assn. Clubs: Calif. Golf, F. & A.M. Hobbies: golf, gardening.

GAYLOR, Peter John, sr. mem. pat. firm Gaylor, Cifelli, & Jurick, 744 Broad St., Newark 2, N.J.; res. 1094 Battle Hill Terr., Union, N.J.
Pat. attorney, publ. of The Tech. Survey; b. Lithuania, Oct. 12, 1905; s. of John and Michaelina Gaylor; ed. B.S. chem. engrg., Pa. State Coll., 1926; M.I.T., 1927; LL.B., U. of Newark, 1936; mem.: Tau Sigma Phi, Phi Lambda Upsilon, Delta Theta Phi; m. Edith Van Deusen, 1937. Chem. engr., pat. atty., Stand. Oil Dev. Co., 1929-45; pres., N.J. Pat. Law Assn. 1948; chmn.-elect, N.J. Chapter A.I.C. 1950; dir., Am. Dev. Corp., 1950; sr. mem. of pat. law firm of Gaylor, Cifelli & Jurick 1950 to date.

GEBERT, Emery B., metal., Western Union Telegraph Co., 60 Hudson St., N.Y.C.; res. 323 Hazel Ave., Garwood, N.J.
Metal.; b. Atlantic City, N.J., Dec. 21, 1907; s. of Henry L. and Grace Reid Gebert; ed. Syracuse U., B.S. Chem., 1930; Columbia U., M.A.; mem.: Acacia, Alpha Chi Sigma; m. Frieda L. Marz, 1936. L.I.U., asst. chem., Bklyn., N.Y., 1930-36; Metals Disintegrating Co., Eliz., N.J., metal. 1936-40; Am. Electro Metal Corp., Yonkers, N.Y., metal. 1940; Amplex Div., Chrysler Corp., Detr., Mich., metal. 1941-43; Koebel Diamond Tool Co., 1943-45; Hungerford Res. Corp., Murray Hill, N.J., chf. powder metal. 1946; Western Union Telegraph Co., metal. 1947 to date. Mem.: A.I.C. (fellow); A.I.M.E., A.S.M.

GEDDES, John Albert, Lt. Col., U.S.A., The Adjutant Gen., Wash. 25, D.C.; res. 30-B Buckner Dr., Fort Leavenworth, Kans.
Lt. Col., U.S.A.; b. Paterson, N.J., Feb. 11, 1912; s. of Albert and Ethel M. Geddes; ed. B.S. chem., (summa cum laude), Lafayette Coll., 1931; M.S., 1932; Ph.D., Brown U., 1935; mem.: Kappa Delta Rho, Alpha Chi Sigma, Sigma Xi. Phi Beta Kappa; m. Yvonne Poissonnier, Oct. 3, 1939. Edward Hart Fellow, Lafayette Coll., 1932-32; asst., Brown U., 1932-34; Metcalf Fellow, 1934-35; res. chem., Natl. Carbon Co., Cleveland, Ohio, 1935-36; res. chem., du Pont Co., (Krebs Pigments Div.) Balt., Md., 1936-39; res. chem., du Pont Co., Newport, Del. 1939-42, 1945-46; U.S.A., 1942-45, exec. off., Signal Intell. Div., ETOUSA., 1946 to date, Adjutant, deputy chf., Army Security Agency (1946-49), Chmn., Army Security Agency Tech. Comm., 1948-49, The Signal Schl., 1949-50; Command & General Staff College, 1950 to date. Contrib. extens. to sc. and tech. jls. Legion of Merit, May, 1945, chem. operations perf. European Theater of Operations, U.S.A. Mem.: Phi Beta Kappa, Alpha Chi Sigma, Sigma Xi. Clubs: Arlington Officers; Fort Leavenworth Officers.

GEDDES, Ray Llewellyn, chem. engr., Stone & Webster Engrg. Corp., Boston, Mass.; res. 272 Quinobequin Rd., Waban 68.
Design of chem. plants; economics of chem. processes; b. Wellington, Kan., Jan. 27, 1905; s. of Simpson L. and Orsina (Long) Geddes; ed. Kan. State Coll., B.S., 1927; Ohio State U., M.S., Ph.D., 1928, 1930; mem.: Gamma Alpha, Phi Lambda Upsilon; m. Doris Soper, Sept. 1928; ch.: Shirley, Stanley, Robert. 1930-36, Stand.

Oil Co. (Ind.), chem. engr.; 1936-39, Alco Prods. Inc., pet. engr.; 1940 to date, Stone & Webster Engrg. Corp., chem. engr. Res. & publ. on meths. of computation of fractionating columns for complex hydrocarbon mixtures; also on theoretical anal. & prediction of bubble plate efficiencies of fractionators. Mem.: Phi Kappa Phi, Sigma Xi, A.C.S., A.I.Ch.E. (active mem.). Chmn., Boy Scout Troop Comm. Hobbies: hiking, camping, photography, gardening.

GEDDES, William Findlay, prof. and chf. of Div. of Agri. Biochem., U. of Minn., St. Paul 1, Minn.; res. 2141 Doswell Ave., St. Paul 8. Educat.; b. Manotick, Ontario, Canada, Aug. 18, 1896; s. of Thomas Henry and Wilhelmina (Mansfield) Geddes; ed. B.S.A., U. of Toronto, 1918; M.A., U. of Toronto; M.S. and Ph.D., U. of Minn.; mem.: Sigma Xi, Phi Lambda Upsilon; m. Florence May Clayton, Sept. 1, 1920; ch.: Mary Catherine, Richard, Dorothy Jean, Barbara Ellen. May-Aug., 1918, acid chem., British Chem. Co. Ltd., Trenton, Ont.; Sept. 1918 to Jan. 1919, asst. chf. chem., Aetna Explosives Ltd., Drummondville, P.Q.; Feb. 1919-Sept. 1919, chf. chem., Battle Creek Corn Flake Co., Ltd., London, Ont.; Oct. 1919-May, 1925, asst. prof. of agri. chem., U. of Manitoba, Winnipeg, Man.; June, 1925-Sept., 1933, prof. of agri. chem. and hd. of dept., same U.; Oct. 1933-Nov. 1938, chem.-in-chg., Grain Res. Lab., Bd. of Grain Commis., Winnipeg, Manitoba; Dec. 1938 to date, prof. of agri. biochem., U. of Minn., St. Paul; July 1, 1944 to date, chf. of Div. of Agri. Biochem. Approx. 165 papers on var. phases of cereal chem. and tech.; secy., Assoc. Comm. on Grains Res., Natl. Res. Council of Canada, 1932-38; held following offices in Amer. Assoc. Cer. Chemists: pres. 1938-39, chmn. of Monograph Comm. 1943 to date; editor of Cereal Chem. and of Transactions 1943 to date; chmn., Minn. Sect. of A.C.S., 1944-45; Councillor 1943-44, 1946-47; pres. Minn. Chapt. of Sigma Xi, 1947-48. Author of numerous chapters in var. books, chfly., on chem. and tech. of food, food prods., grains. Mem.: Agri. Inst. of Can., Amer. Assoc. Cer. Chemists, A.A.A.S., A.C.S., A.O.C.S., I.F.T., Sci. Club, Scientific Club of Winnipeg; awarded Coronation M., King George VI; voted one of top ten agricl. and food chems. in U.S., 1947; awarded Osborne M., 1950, by A.A. Cer.C.; mem. Subcommittee on Cereals, Council of Foods and Nutrition, National Research Council. Club: Campus, U. of Minn. Hobbies: photography, fishing.

GEE, Owen F., mgr., Valley Vitamins, Inc., P. O. Box 352, McAllen, Texas; res. 819 N. 12th St., McAllen. Chem. engr.; b Lawrence Co., Mo., Aug. 27, 1911; s. of C. B. and Grace (Peck) Gee; ed. U. of Mo., B.S. engrg., 1935; m. Frances Hilt, May 1932; ch.: Patricia. Western Cartridge Co., res. on wood cellulose, turbine operator in power plant, chem. buyer; Valley Vitamins, Inc., ind. supt., mgr. Mem.: A.C.S., A.I.Ch.E. (assoc.). Club: Lower Rio Grande Valley Engineers. Hobby: target shooting.

GEER, Laurence P., assoc. prof. chem., U. Tampa, Chem. Dept.; res. 2506 Morrison Ave., Tampa, Fla. Chem. prof.; b. Lynn, Mass., Dec. 20, 1891; s. of Charles W. and Izzette Patten Geer; ed. M.I.T., B.S., 1915, M.S., 1934; mem.: Delta Omega (honorary Public Health); Theta Xi; m. Florence Mansfield Skinner, May 24, 1916; ch.: Charles Warren. 1915-16, health officer, Berlin, N.H.; 1917-19, sanitary bacteriol., U.S.P.H.S.; 1919-29, supt. lab., S.C. Baptist Hospital; 1929-34, bacteriol., Birdseye Frosted Foods; 1934-39, chf. chem., Celo Co. of America; 1939-41, conslt., Food Technology, Tampa; 1941-47, chf. chem., Bruces Juices, Inc., Tampa; 1947-50, assoc. prof. chem., U. of Tampa. Bacteriological studies on frozen foods, concentrated fruit juices in solid form. Mem.: Am. Public Health Assoc., (fellow), A.C.S., Fla. Acad. of Sc., Citrus Research Council, Southern Assoc. Sci. & Ind. Hobby: amateur radio.

GEER, William Chauncey, owner, William C. Geer Lab., 624 Highland Rd., Ithaca, N.Y.; res. 630 Highland Rd., Ithaca. Res. chem.; b. Ogdensburg, N.Y.; s. of Charles P. and Lucy Ann (Guernsey) Geer; ed. Potsdam (N.Y.) State Norm. Schl., 1897; A.B. chem., Cornell, 1902; Ph.D. chem. & physics, Cornell, 1905; mem.: Sigma Xi; m. Effie Aurelia Work, Dec. 29, 1908; ch.: Aurelia Henrietta (Mrs. J. H. Stresen-Reuter), Margery Lucy (Mrs. John M. Allen). Sc. teacher, H.S., Nyack, N.Y., 1898-99; asst. instr., 1902-03, fellow in chem., 1904-05, instr. in chem., 1904-06, Cornell U.; expert in wood distillation, U.S. Forest Service, 1906-07; The B.F. Goodrich Co., Akron, O., 1907-25, retiring with rank of v.p. in chg. of res. and dev. Chmn. Gas Defense Div. of War Service Com. (W.W.I.); inventor of many processes in mfr. of rubber goods, golf ball covers, airplane de-icers. Author: "Reign of Rubber" 1922, and many tech. and educ. arts. Modern Pioneer Award, Natl. Assn. Mfrs. 1940; ex-pres., Akron YMCA; pres. Ithaca (N.Y.) Memorial Hosp., 1930-32; A.A.A.S. (Fellow), Fellow & hon. mem., Inst. of Rubber Ind. (Eng.); A.I.C., Assoc. Fellow, Inst. Aeronautical Scs. Mem.: A.C.S., A.I.Ch.E., A.Phys.S. Clubs: Chemists' (New York), Rotary, Country (Ithaca). Hobbies: color photography, gardening.

GEGENHEIMER, Vida, prof. of chem., Russell Sage Coll., Troy, N.Y.; res. 132 Third St., Troy. Teacher; b. Millbury, Mass., Mar. 10, 1886; d. of John and Mary Elizabeth Gegenheimer; ed. Simmons Coll., B.S., 1912; Columbia U., M.S., 1921, Ph.D., 1925. Mt. Harmon Boys Schl., 1912-14; Vassar Coll., 1914-17; Russell Sage Coll. 1917 to date. Mem.: A.C.S., A.A.A.S., A.A.U.P.

GEHMAN, Harry, asst. dir. of res., Corn Prods. Refining Co., Argo, Ill.; res. 4027 Lawn Ave., Western Springs, Ill. Chem.; b. Twelve Mile, Ind.,, Nov. 15, 1905; s. of Ira and Luella (Keeport) Gehman; ed B.S., Ashland Coll., Ashland, Ohio, 1929; M.Sc., Ohio State U., Columbus, Ohio, 1932, Ph.D., 1936; mem.: Gamma Alpha; m. Dorcas Bame, Aug. 10, 1935; ch.: Carolyn M.,, John Gregory. 1936, E. I. du Pont de Nemours, res. chem., tech. div., rayon dept.; 1942-43, Armour & Co., res. chem., fats & oils.; 1943 to date, Corn Prods. Refining, Co., chem. div., asst. dir. of res. Mem.: A.C.S., A.A.A.S., A.O.C.S,, I.F.T. Building Advisory Comm., Community Memorial Gen. Hosp., LaGrange, Ill. Hobbies: gardening, photography.

GEIDEL, Carl D., pres., Geidel Canneries, Inc., Adell, Wis.; res. 522 Whitcomb Ave., Sheboygan, Wis. Chem. gen. mgr., pres.; b. Brandon, Wis., Oct. 21, 1888; s. of Charles A. and Anna Marie (Pleuss) Geidel; ed. Brandon, Wis. H.S., salutatorian; B.S., U. of Wis., 1911, M.S., 1913; mem.: Alpha Chi Sigma, Phi Beta Phi; m. Doris Anne Dawson, Oct. 6, 1920; ch.: Robert Carl, Richard Turner. Asst. bacteriol., State Lab. of Hygiene, U. of Wis., 1911-13; bacteriol., State Food Lab. of Wis., 1913-17; chem., U.S. Dept. Chem., Wash., D.C. & Minneapolis, Minn., 1917-19; bacteriol. in chg. State Food Lab., St. Paul, Minn., 1919-26; chf. chem., Minn. Valley Canning Co., Le Sueur, Minn., 1926-31; canned food buyer, Twin City Wholesale Grocers, St. Paul, Minn., 1931-38; owner, Geidel Canneries, Inc., Wis., 1938 to date. Res. in biolog. chem., canning technique, bacteriolog. spoilage in foods processed in glass & tin cans, grading studies for peas & corn. Mem.: A.C.S., Am. Bacteriolog. Soc., A.A.A.S., Natl. Canners Assn., Wis. Canners Assn. Clubs: Masonic, Kiwanis, Pine Hills Golf (Sheboygan). Hobbies: music, golf.

GEIGER, Charles F., tech. mgr., Carborundum Co., Perth Amboy, N.J.; res. 176 Maple Ave., Metuchen.
Ceramic engr.; b. Chicago, Ill., June 3, 1893; s. of Charles H. and Julia J. (Parrot) Geiger; ed. 1912-13, Crane Jr. Coll., Chicago, Ill.; 1914-15, U. of Ill., Urbana, Ill., B.S. in ceramic engrg., special & final hon. in ceramic engrg.; m. Catherine M. Crossey, July 23, 1923; ch.: Mary Jeanne (Geiger) McLaughlin, Charles George, Catherine Joan. Asst. dept. of ceramic engrg., U. of Ill., 1915-16; instr. dept. of ceramic engrg., Rutgers Coll., New Brunswick, N.J., 1916-18; U.S.A., military serv. & tech. res., 1918-19; tech. supvr., refractories div., Carborundum Co., Niagara Falls, N.Y., 1919-20, refractories engr., Perth Amboy, N.J. 1920-46, tech. mgr. 1946 to date. Process & equipt. for elimination of segregation in handling of granular matls.; oxidation resistant & shock resistant silicon carbide refractories; numerous contributions to special refractories fld.—silicon carbide, electrically fused alumina, elec. furnace mullite, etc.; 13 U.S. pats. with seven foreign equivalents. Mem.: Am. Ceramic Soc. (1919, fellow, chmn. refractories div. 1930), Ceramic Assn. of N.J. (1920, pres. 1937), Inst. of Ceramic Engrs. (1938, v.p. 1947, pres. 1948), Natl., State, & Local Societies of Prof. Engrs. (1944). Mem. Borough Council Metuchen, N.J., 1934 thru 1937; Mayor, Metuchen, N.J., 1938.

GEIGER, Marion Braxton, v.p. and wks. mgr., Oldbury Electrochem. Co., Niagara Falls, N.Y.; res. 70 Mountain View Drive, Lewiston Heights, Lewiston, N.Y.
Exec.; b. Paintsville, Ky., Sept. 4, 1903; ed. Georgetown, B.S. 1924; M.I.T., 1925-26; U. of Mich., M.S., 1930, Ph.D., 1932; m. Bonnie Castle Hart, Dec. 20, 1928; ch.: Bonnie Braxton, Phyllis Hart. Oldbury Electrochem. Co., 1932 to date, in following capacities: chemist, 1932-35, asst. wks. mgr., 1935-47; secy. and wks. mgr., 1947-50; v.p. and wks. mgr., Jan., 1950-to date; secy. and dir., Pembroke Chem. Corp. Res. absorption spectra and constitution org. comps.; indus. chem. Mem.: A.I.C. (fellow); A.I.Ch.E., A.C.S., E.S. Dir., Niagara Falls Community Chest, Internatl. Inst. Trustee, St. Paul's Methodist Ch. Club: Rotary (Niagara Falls), Niagara Club, Niagara Falls Country Club.

GEIGER, Marlin George, exec. v.p., Davison Chem. Corp., Davison Bldg., 101 N. Chas. St., Baltimore 3, Md.; res. 121 Taplow Rd., Baltimore 12.
Exec.; b. Harrisburg, Daughin Co., Pa., Nov. 15, 1897; s. of John A. and Laura (Stauffer) Geiger; ed. Harrisburg Central High, Harrisburg, Pa., 1913-17; Penn State Coll., State College, Pa., 1917-21, B.S. ind. chem.; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Tau; m. Marie J. Owens, Oct. 29, 1925; ch.: Marlin G. Jr., William Thom. 1921-25, asst. mgr., Westvaco Chlorine Prods. Corp., Charleston, W. Va.; 1925-40, resident mgr., Westvaco Chlorine (now Food Machinery & Chem. Corp.), 1940-47, dir., v.p.; 1947 to date, dir., exec. v.p., Davison Chem. Corp.; United Chem. Inc. (dir. 1940 to date); Sylox Corp. (dir.); G. Ober & Sons Co. (dir., v.p.). Mem.: A.C.S., A.I.Ch.E., Natl. Safety Council, Baltimore Assn. of Com. Clubs: Baltimore Country, Country Club of Md., Merchants, Rotary, Mason, Shriner. Hobbies: golf, fishing, gardening.

GEISINGER, Archie L., pres. Martin Dennis Co., Div. of Diamond Alkali Co., 859 Summer Ave., Newark, N.J.; res. Priscilla Lane, Carnegie, Pa.
Exec.; b. Medina, Ohio, Aug. 1, 1891; s. of John M. and Eva Geisinger; ed. Ohio State U., Columbus, O., 1914, M.E.; m. Mary Fisher, June 13, 1950; ch.: Robert W., Thomas R. 1914-19 engr. Phila. Quartz Co., Phila., Pa.; 1919 to date managerial positions with various subsid. and divs. Diamond Alkali Co. Club: Chartiers Country.

GEISSMAN, Theodore A(lbert), prof. of chem., U. of Calif., Los Angeles, Calif.; res. 738 Hanley Ave., Los Angeles 49.
Tchg. and res.; b. June 17, 1908; s. of Theodore K. and Lina (Herold) Geissman; ed. B.S. in Ch.E., U. of Wis., 1930; Ph.D., U. of Minn., 1937; mem.: Alpha Chi Sigma; m. Loraine Skinner, Dec. 31, 1936; ch.: James Roger. Chem., Standard Oil Co. (Ind.), 1930-34; res. assoc., U. of Ill., 1937-39; instr., 1939-40; asst. prof., 1940-44; assoc. prof., 1944-48; prof., 1948 to date, U. of Calif., Los Angeles. Natl. Defense Research Comm., Central Engrg. Lab., U. of Pa., 1943-45. John Simon Guggenheim Memorial Fellow, 1950-51. Mem.: A.C.S., A.A.U.P., The Chemical Soc. (London), Tau Beta Pi, Phi Lambda Upsilon, Phi Kappa Phi, Sigma Xi. Hobbies: recorded music, gardening.

GELUS, Edward, asst. dept. hd., catalytic refin. dept., Shell Devel. Co., Emeryville, Calif.; res. 643 Santa Rosa, Berkeley 7.
Chem. engrg.; b. Worcester, Mass., June 7, 1914; s. of Simon and Kate E. Gelus; ed. M.I.T., B.S. Ch.E., 1935; m. Margaret A. Switzer, May 28, 1938; ch.: Katherine S., Marjorie A. Sinclair Oil Co., instrument dept., 1935-36; Shell Oil Co. (Houston, Tex.), res. chem., 1936-46; asst. chf. res. chem., 1946-47; chf. res. tech., 1947-49; Shell Devel. Co., asst. dept. hd., 1950 to date. Res. in micro-gas anal., process development and distillation. Mem.: A.C.S., A.I.Ch.E. Club: Shell Development Research. Hobbies: music, gardening, fishing, bowling, photography, bridge.

GENSLER, Walter Joseph, asst. prof., Boston U., 725 Commonwealth, Boston, Mass.; res. 19 Everett St., Cambridge.
Chem.; b. Minneapolis, Minn., Feb. 24, 1917; s. of Oscar and Fannie Gensler; ed. U. of Minn., B. Chem. (with highest distinction), 1938, Ph.D., 1942; m. Kinereth Dushkin, Jan. 12, 1945; ch.: Orin David. Chem., Barrett Div., Allied Chem. & Dye Corp., 1942-43; chem., co-responsible investigator O.S.R.D. Antimalaria Project, Columbia U., 1943-46; instr. in chem., Harvard U., 1946-49; asst. prof., Boston U., 1949 to date. Res. in org. chem. described in publ. in J.A.C.S. & in J. Org. Chem. Mem.: Sigma Xi, A.C.S.

GENSTEIN, Edgar S., pres. and tech. dir., Kem Prods. Co. Inc., 229 High St., Newark 2, N.J.; res. 45 University Court, South Orange, N.J.
Mfg. chem.; b. Johnstown, Pa., Aug. 3, 1899; s. of Samuel and Fannie Genstein; ed. City Coll. of N.Y., B.S. (Chem.), 1918; mem.: Phi Beta Kappa; Carnegie Inst. Tech., Engr. of Tests cert. 1918; mem.: Sigma Alpha Mu; m. Beatrice Feingold, 1928; ch.: Jean. U.S. Govt., engr. of tests and chem., 1918-20; U.S. Naval Res., 1918-19; Treadwell Engrg. Co., Easton, Pa., metallurgist, 1920-21; Tech. Sales Representative, 1921-22; Kem Prods. Co. Inc., Newark, N.J., pres. and tech. dir., 1922 to date. Originated many preparations used by industry: emulsifying agents, sizing and finishing compds., adhesives, etc.; original res. wk. for many yrs.; author of var. arts. in trade papers and magazines. Mem.: A.I.C. (fellow). Hobbies: reading, economics, motoring, philately.

GEORGE, Richard Stanley, asst. dir., Expt. Station, Hercules Powder Co., Wilmington, Del.; res. Centerville Rd., R.D. 1, Wilmington.
Chem.; b. Utica, Pa., Mar. 4, 1915; s. of Thomas L. and Vira Ebbert George; ed. Grove City Coll., Grove City, Pa., B.S. in chem., 1935, cum laude; The Pa. State Coll., State Coll., Pa., M.S., 1940, Ph.D., 1943; mem.: Alpha Chi Sigma; m. Phila Furry Dorsett, Apr. 12, 1947; ch.: Thomas Shearer. Sun Oil Co., chem., 1936 to 1938; Socony-Vacuum Oil Co., chem., 1938 to 1939; held the following positions with Hercules Powder Co.: res. chem. 1942, asst. group ldr., group ldr., mgr., Naval Stores Research Div., asst. dir., Expt. Station to present. Res. in terpene and rosin chem., hydrocarbon oxidation, insecticides, Grignard reaction, general org. chem. Mem.: A.C.S., A.A.A.S., Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi. Hobbies: sports of all kinds.

GEPHART, Frank Curtis, conslt. chem., 23 E. 31st St., New York, N.Y.
Conslt. chem.; b. Valley Falls, Kans., July 15, 1884; ed. U. of Kans., A.B., 1906; Cornell, Ph.D., 1916; m. Mary Gwartney, June 12, 1912. Major, Sanit. Corps, U.S.A.; expert in nutrition; indust. chem. of food; chocolate, confectionery, carbonated beverages. Mem.: A.C.S., A.I.Ch.E., Sigma Xi. Hobbies: golf, fishing.

GERGES, Wesley R., chf. chem. engr., res. dept., Barrett Div., Allied Chem. & Dye Corp., Margaret & Bermuda Sts., Phila., Pa.; res. 925 Fillmore St., Phila.
Chem. engr.; b. Gratersford, Pa., Oct. 8, 1889; s. of Daniel F. and Hannah J. Gerges; ed. Ursinus Coll., B.S. 1911; Grad. Schl. of Chem., U. of Pa., 1914-18; m. Stella M. Hain, Aug. 7, 1917; ch.: Richard D. Instr. chem., U. of Pa., 1916-18; chem. engr., Barrett Co., Frankford, Phila., Pa., 1918-21; chem. engr., Barrett Co., Edgewater, N.J., 1921-22; chem. engr., Natl. Aniline & Chem. Co., Marcus Hook, Pa., 1922-23; Barrett Co., Frankford, Phila., Pa., process engr. 1923-27, asst. supt. 1927-30, supt. 1930, chf. chem. engr. res. dept. 1930 to date. Unity Bldg. & Loan Assn., Phila., Pa., pres., dir. Mem.: A.C.S. (chmn. Phila. Sec. 1935-36; Phila. Sec. award 1950), A.I.Ch.E., A.I.C. Dir., Northeast Boys' Club, Phila., Pa. Hobby: salt water fishing.

GERHARDT, Francis Henry, sr. dev. chem., Ansco, Binghamton, N.Y.; res. 1215 Cornell Ave., Binghamton.
Chem.; b. Jan. 13, 1920; s. of Henry and Mitzi Gerhardt; ed. B.S., Ala. Poly. 1940; Ph.D., U. of Nebr., 1943; mem.: Sigma Phi Epsilon; m. Bronte Brodrick, 1944; ch.: John Francis. Res. chem., Central Res. Lab., Gen. Aniline & Film, Easton, Pa., 1943-46; dev. chem., Ansco Div., Gen. Aniline & Film, Binghamton, 1946 to date. Mem.: Phi Lambda Upsilon, Phi Kappa Phi, Sigma Xi. Hobbies: gardening, reading.

GERHART, Howard Leon, dir. of res., paint div., Pitts. Plate Glass Co., P.O. Box 1575, Milwaukee 1, Wis.; res. 3482 N. Frederick Ave., Milwaukee 11.
Dir. of res.; b. Boyertown, Pa., Sept. 3, 1909; s. of Milton C. Gerhart (mother dec.); ed. B.S., Frtanklin & Marshall Coll., 1931; Ph.D., Northwestern U., 1935; mem.: Phi Kappa Tau; m. Anne Kendall Baker, Oct. 30, 1942; ch.: Anne Kendall III, Peter Milton. 1935-36, res. chem., Stand. Oil Co. of Ind.; 1936-37, res. chem., United Gas Improvement Co., 1937-47, res. chem., 1947 to date dir. of res., Pitts. Plate Glass Co., Paint Div. 30 pats. in flds. of cyclopentadiene polymers & copolymers & polyester resins. Mem.: A.C.S. (chmn., Milwaukee Sec. 1942), A.A.A.S., A.O.C.S., E.S.M. Trustee, Immanuel Presbyterian Church, Milwaukee, Wis. Club: Milwaukee Athletic. Hobbies: fishing, photography.

GERKE, Roscoe Harlan, res. admin., Gen. Labs. of U.S. Rubber Co., Passaic, N.J.; res. 55 North Rd., Nutley, N.J.
Chem.; b. Highland, Ill., Dec. 1, 1895; s. of Edward L. and Emma B. (Harlan) Gerke; ed. U. of Ill., B.S., 1918 (spec. honors); U. of Calif., Ph.D., 1922; m. Robby O. Dunlavy, Apr. 4, 1926; ch.: John Royal. 1922-26 instr. theoretical chem., M.I.T.; 1926 to date with U.S. Rubber Co.; res. in optical properties of smokes; electromotive force of galvanic cells; entropy and third law of thermodynamics, anti-aircraft ammunition; physics of rubber; synth. rubber. Author and co-author of numerous arts. on physical chem. and also rubber in sc. jls.; holds many pats. in rubber tech. Contrib. chapts. as follows to var. books: "Crude and Reclaimed Rubber," Symposium on Rubber, A.S.T.M., 1932; "Resistance of Rubber to Water and Gases," Symposium on Rubber, A.S.T.M., 1932; "Chem. and Structure of Rubber Hydrocarbon" (co-author), Chem. and Tech. of Rubber No. 74 A.C.S. Mono., Reinhold Pub. Co., Chapt. III, 1937; "The T-50 Test for State of Vulcanization II" (co-author), The Proceedings of the Rubber Tech. Conf., Paper No 36, 1938, W. Heffer & Sons, Ltd., Cambridge, Eng. Mem.: Phi Lambda Upsilon, Sigma Xi, A.C.S.; councilor, North Jersey Sect. A.C.S., 1937, 1938, 1940, 1941; chmn. Crude Rubber Comm., Rubber Div. A.C.S., 1934-37; chmn. North Jersey Sect. A.C.S., 1939; chmn. Rubber Div. A.C.S., 1940; councilor Carolina-Piedmont Sect. A.C.S., 1943-45; mem. Exec. Comm, R.I. Sect. 1947; rec. U.S.N. Development Award, 1945. Clubs: Barrington Yacht; U.S. Gun (treas.). Hobbies: hunting, fishing, public speaking.

GERLACH, George Henry, mgr. new prods. div., Vick Chem. Co., 122 E. 42nd St., New York; res. 29-38 171st St., Flushing, L.I.
Phar. chem.; b. Cleveland, O., April 9, 1910; s. of Alfred and Martha Gerlach; ed. Western Reserve U., Cleveland, Ph.C., 1931; B.S., 1932; M.S., 1937; Ph.D., 1941; mem.: Rho Chi, Sigma Xi; m. Doris Grams, August 22, 1932; ch.: Donna, Mary Jo, Judith. 1932-35, chf. chem. Strong Cobb & Co., Cleveland; 1935-39, sc. dir.; v.p., 1939-41; 1941-49, Tech. advisor, Vick Chem. Co., 1949 to date, mgr. new prods. div. Res. on alkaloids, pharmacognostic studies on mints and daturas, menthol syntheses, plant studies and investigations in U.S.A., Mexico, Central America, Japan, China. Mem.: A.C.S., A.Phar.A., A.A.A.S., Rho Chi, Sigma Xi. Hobbies: stamps, coins, horticulture.

GERLOUGH, Tillman Daniel, assoc. dir. res. and devel. in chg. Biolog. Res., E.R. Squibb & Sons, New Brunswick, N.J.; res. 111 Lincoln Ave., Highland Park, N.J.
Biochem.; b. Vancouver, Wash., Sept. 3, 1895; s. of Daniel and Ermina (Olmsted) Gerlough; ed. U. of Idaho, B.S., 1917; graduate wk., 1919-22; mem.: Sigma Xi; m. Aloysia Driscoll, June 30, 1927; ch.: Diane C., Robert T. Res. asst., U. of Idaho, 1919-22; res. chem., E.R. Squibb & Sons, 1922-36; dept. hd., 1936-43 (Mfr. of Biologicals); super. Biol. Labs., 1943-46; dir., Biochem. Prod., 1946-47; tech. dir., Div. of Devel., 1947-49; assoc. dir., res. & devel., all E.R. Squibb & Sons, 1949 to date. U.S.A., 2nd Lt., 1917-19. Purif. and mfr. of physiologically active proteins; antitoxins; antigens; hormones; estrogenic substances; parenteral solutions; fractionation of human blood; antibiotics, pneumococcus polysaccharides; sera; posterior pituitary; insulin; anesthetics; oral absorption of proteins in new-born calves, vitamin B12. Mem.: A.C.S. (since 1917). Hobby: deep-sea fishing.

GERMAN, Leslie, prof. and hd. dept. chem., Virginia Military Inst., Lexington, Va.; res. 303 Letcher Ave., Lexington, Va.
Prof.; b. Dayton, Ky., May 10, 1904; s. of Orland D. and Etta L. German; ed. B.A., Centre Coll., 1926; M.S., Lafayette Coll., 1927; Ph.D., U. of Cincinnati, 1933; mem.: Phi Kappa Tau, Alpha Chi Sigma; m. Mary Elizabeth Scales, Aug. 23, 1944; ch.: Leslie Meriwether. Instr., V.M.I., 1928-30; Devel. Dept., Sinclair Refin. Co., 1933-35; asst. prof. chem., V.M.I., 1935-40; assoc. prof. and acting hd. dept., 1940-42; prof. and hd. dept., 1942 to date. Mem.: A.C.S. Hobbies: gardening, fishing.

GERMANN, Frank E. E., prof. of chem., dept. of chem., U. of Colo., Boulder, Colo.; res. 1045 14th St., Boulder.
Teacher of physical chem.; b. Dec. 6, 1887; s. of Gustave Adolph and Mary (Miller) Germann; ed. A.B., cum laude, U. of Ind., 1911; U. of Wis., summer 1910; U. of Berlin, fellow sp. & summer 1912; U. of Lausanne, Switzerland, U. of Neuchatel, Switzerland, spec. res. 1912; U. of Geneva, Switzerland, Dr. ès Sc., 1913; m. Martha Knechtel, July 25, 1916; ch.: Richard Paul, Lois Marie (Germann) Jones. Teacher, Rural and City Schls., Ind., 1906-08; instr. phys. chem., U. of Geneva, Switzerland, 1912-13; instr. romance language, Ind. U., 1913-14; instr. physics, Cornell U., 1914-18; prof. physics & elec. engrg., Colo. Schl. of Mines, 1918-19, hd. both depts.; prof. physical chem., hd. div. phys. chem., U. of Colo., 1918 to date; dir. res. chem. & radioactivity, Tungsten Prods. Co., 1918-20; conslt., Non-Metalic & Oil Mineral Industries. Atomic weights, colloid chem., prod. of dry ice from flue gas by Joule-Thomson Expansion, phosphorescence, fluorescence, phase equilibria. Collaborator Staehlers Handbuch der Anorg. Chem., Function of Natural Gas in Prod. of Oil, "Contribution a l'Etude des Causes d'Erreurs Affectant les Determinations de Poids Atomiques," "Lab. Notes in Experimental Physical Chem." Mem.: Phi Beta Kappa, Alpha Chi Sigma, Sigma Xi, Phi Lambda Upsilon, A.C.S., A.Phys.S. (fellow), A.A.A.S. (fellow), A.A.U.P., Soc. Française de Physique (life), Swiss Chem. Soc., Société de Chimie Physique. Club: Town & Gown (Boulder). Hobby: horticulture.

GERMUTH, Frederick G., principal supt. of tests, Bur. of Tests, City of Baltimore, Municipal Office Bldg., Balt., Md.; res. 5704 Second Ave., Halethorpe 27, Md.
Res. chem., consult. chem.; b. Balt., Md., Apr. 6, 1891; ed. B.S., Johns Hopkins, 1914; Maryland, 1929-30, hon. Sc.D., 1936. Asst. tin testing div., Crown Cork & Seal Co., Balt., 1916-18; chem., Wilson Martin Co., 1918-20; Bur. Water Supply, 1921-25; hd. Div. Res., Munic. Bur. Stds., 1925 to date; consult. and res. chem. to The Sheppard-Enoch Pratt Hosp., Towson, Md., 1931 to date; res. consult., McCormick & Co., 1933 to date; prof. engr., State of Maryland since 1940. Wk. in chem. anal.; catalytic oxidation; heterocyclic bases; action of medicinals on urinary pigments; quantitative determ. of ureides; barbiturate intoxication; lactic acid; toxicity of electropositive components of salts; synth. of barbiturates. Mem.: Md. Acdy., F.C.S., F.A.I.C., fel. London Chem. Soc.

GERSHINOWITZ, Harold, dir., exploration & prod. res. div., Shell Oil Co., 3737 Bellaire Blvd., Houston 5, Texas; res. 3415 Southmore Blvd., Houston 4.
Chem.; b. Bklyn., N.Y., Aug. 31, 1910; s. of Louis (dec.) and Mamie Gershinowitz; ed. C.C. N.Y., B.S. cum laude, 1931; Harvard U., M.A., 1932, Ph.D., 1934; m. Mary R. Piesman, June 14, 1935. 1934-35, Parker Traveling Fellow of Harvard at Princeton U.; 1935-36, res. asst. to Prof. H.C. Urey, Columbia U.; 1936-38, res. asst. to Profs. G.B. Kistiakowsky & E.B. Wilson Jr., Harvard U.; 1938 to date, Shell Oil Co., sr. technologist 1938-40, dir. of res. Houston refinery 1940-42, res. dir. mfg. dept. 1942-45, dir. exploration & prod. res. div. 1945 to date. Mem.: Phi Beta Kappa, Sigma Xi, A.C.S., A.A.A.S., S.A.E., Inst. Aeronautical Sc. Clubs: Houston, Harvard (Houston).

GERSHON, Solomon D., res. mgr., Lever Bros. Co., Pepsodent Div., 6901 W. 65th St., Chicago 38, Ill.; res. 6710 S. Chappel Ave., Chicago 49.
Chem.; b. Chicago, Ill., Oct. 18, 1910; s. of Reuben and Dora Gershon: ed. Ph.C. degree, U. of Ill., 1930, with honors; Fairschild Scholar, 1930; B.S., U. of Chic., 1934; M.S., 1935; Ph.D., 1938. Mem.: Delta Kappa Sigma, Rho Chi, Sigma Xi; m. Esther R. Goodman, Sept. 2, 1934; ch.: Elaine Harriet, Barbara Lynn. Held following positions in the U. of Ill.: asst. chem., 1930-38; instr. in chem., 1938-41; assoc. in chem., 1941-42; asst. prof. in chem., 1942-43. Res. chem., Pepsodent Co., 1943-47; dir. of New Produce Dev., 1947-48; res. mgr., Lever Bros. Co., Pepsodent Div., 1948 to date. Proximate Assay Subcommittee of U.S.P. XII.

GERSTACKER, Carl A., dir., treas., Dow Chem. Co., Midland, Mich.; res. 812 W. Main St., Midland.
Dir., treas.; b. Cleveland, O., Aug. 6, 1916; s. of Rollin M. and Eda U. Gerstacker; ed. U. Mich. 1938, B.S.E., Ch.E.; mem.: Theta Xi. Accounting dept., Dowell, Inc., 1938-40; Maj. U.S.A. Ord. 1940-46; chem. engr. Dow Chem. 1946-48; asst. dir. purchases 1948; mem. finance comm. 1948; mem. bd. dir., 1948; treas. 1949. Mem.: A.A.C.R. Trustee, Elsa U. Pardee Foundation, Midland Hosp., Midland Comm. Fund, Cancer Detection Centers of Cleveland. Clubs: F. & A.M. (32 deg.), Rotary, Midland Country, Newcomen Soc.

GERWE, Raymond D., dir. res., Food Machinery & Chem. Corp., Fla. Div., Lakeland, Fla.; res. Lakeland.
Res. chem.; b. Cincinnati, O., May 28, 1904; ed. B.S., Miami U., Oxford, O.; M.A., Ph.D., U. of Cincinnati; mem.: Sigma Nu; m. Florence M., 1933; ch.: Roderick D., Carol Anne. Prof. chem., Oxford Coll., Oxford, O.; fellowships, U. of Cincinnati; chem., Wm. S. Merrell Co., Cincinnati; Kroger Food Foundation, res. chem.; Food Machinery & Chem. Corp., dir. res. Mem.: Sigma Xi, A.C.S., I.F.T., Citrus Res. Prods. Council (chmn.), Southern Res. Inst. (councilor). Club: Rotary.

GESSLER, Albert Edward, v.p. and dir. of res., Interchem. Corp., The Research Labs., 432 W. 45th St., New York City; res. 17 Oak Lane, Scarsdale, N.Y.
V.p. and dir. of res.-chem.; b. Metzingen, Germany, May 8, 1885; s. of Edward A. and Marie Louise Leuze; ed. B.S., U. of Stuttgart, 1904; Ph.D., U. of Berlin, 1907; m. Mildred C. Murray, Feb. 2, 1915, (dec.); m. second, Helen Yarnall, Mar. 31, 1932; ch.: Albert M., Isolde (Mrs. Craig P. Smith), Sally. Chem., chf. chem., dir., G. Siegle Co., N.Y., mfrs. dry colors, until sold by Alien Property Custodian, 1908-18; started Ultro Chem. Corp., N.Y., chf. chem., v.p.; consolidated with Zinsser & Co. — chf. chem. & mem. Bd. of Dirs., 1926-34; v.p. and dir. of res., Interchemical Corp., New York, 1934 to present. Discoverer of a number of dyes and pigments, and the Vaporin process for quick drying inks; cancer res., including electron microscopy of malignant tissue, under special grant from Lillia Babbitt Hyde Foundation; Amino acids. Mem.:

Acad. of Scs. (fellow, New York), A.C.S., Electron Microscope Soc. of Am., Am. Assoc. for Cancer Res., A.A.A.S., Assoc. of Res. Directors, (New York). Clubs: Chemists' (New York), Scarsdale Golf Club, Boulder Brook Riding.

GETCHELL, Robert Ward, prof. of chem., emeritus, Iowa State Teachers Coll., Cedar Falls, Iowa; res. 1902 Iowa St., Cedar Falls. Tchr.; b. Buchanan County, Iowa, Oct. 1, 1883; s. of Charles Edgar and Lillian (Preble) Getchell; ed. Cornell Coll. (Iowa), B.A.; U. of Wis., M.S. and Ph.D.; mem.: Sigma Xi, Phi Lambda Upsilon; m. Minnie R. Graham, Aug 7, 1907; ch.: Robert Ward, Jr., Dorothy-Mae (Mrs. Van R. Crawford), 1907-09 asst. in chem. Iowa State Coll.; 1909-50 prof. of chem. Iowa State Tchrs. Coll.; res. in dialysis through rubber membranes; catalysis of hydrogen peroxide; conditions affecting the activity of peroxidase enzyme. Author: "Gen. Chem. for Coll. Students," 1937; "The Physical Sciences," 1940, 3rd ed., 1951; "Science in a Changing World," 1940; "The Lab. Practice of Gen. Chem.," 1939; "Notebook of Gen. Chem.," 1931; "Blowpipe Analysis," 1939; "Experiments in Survey Chem.," 1941. Mem.: A.C.S., Iowa Acad. of Sc., Sigma Xi, Phi Lambda Upsilon. Pres. and dir. of Cedar Falls Bldg. Loan & Savings Assoc.; dir. of Cedar Falls Chamber of Commerce; (committeeman, Natl. Safety Council). Clubs: Lions, Arcturus. Hobbies: fishing, gardening.

GETMAN, Frank Newton, v.p., asst. gen. mgr., Wm. S. Merrell Co., Lockland Station, Cincinnati 15, O.; res. 2635 University Court, Cincinnati.
Exec.; b. Ilion, N.Y., Nov. 5, 1910; s. of George and Bertha Getman; ed. Cornell U., A.B., 1932, LL.B., 1934; mem.: Lambda Chi Alpha, Sphinx Head, Aleph Samach; m. Dorothy Etheridge, Nov. 4, 1941; ch.: Willard E. Wm. S. Merrell Co. (dir.).

GEWIN, Borden Eugene, plant supt., Ohio-Apex, Inc., Nitro, W. Va.; res. 2117 21st St., Nitro.
Chem. engr.; b. Knoxville, Ala., Apr. 28, 1911; s. of Borden and Corinne (Phifer) Gewin; ed. U. of Ala., B.S. in Ch.E., 1933; m. Virginia Adams, Sept. 3, 1936; ch.: Virginia Ann, Borden E., Jr. 1936-42, Swann & Co., Birmingham, Ala., wks. mgr.; 1942-45, Reichhold Chem. Inc., Tuscaloosa, Ala., prod. engr.; 1945 to date, Ohio-Apex, Inc., Nitro, W. Va., plant supt.

GIBB, Thomas Robinson Pirie, Jr., dir. of chem. res., Metal Hydrides, Inc., Beverly, Mass.; res. 12 Hereford Rd., Marblehead, Mass.
Chem.; b. Belmont, Mass., Feb. 10, 1916; s. of Thomas R. P. and Edna (Cullis) Gibb; ed. B. S., magna cum laude, 1936, Bowdoin Coll.; Ph.D., 1940, M.I.T.; mem.: Alpha Tau Omega; m. Jean Knox Davis; ch.: Roberta Louise, Paul Allen. 1940-43, instr. adv. anal. chem., M.I.T.; 1943-46, asst. prof. org. chem., M.I.T. & conslt., C.W.S. Lab., U.S. Corps Engrs.; 1946 to date, dir. chem. res., Metal Hydrides, Inc. Nature & properties of hydrides, organosodium cmpds., optical meths. of anal. Auther: "Optical Meths. of Chem. Anal." McGraw-Hill, 1942; "Bibliography on the Hydrides of Metals & Metalloids" Priv. 1950. Mem.: Phi Beta Kappa, Sigma Xi, Alpha Chi Sigma, A.A.A.S., A.C.S., Opt.S.A., Am. Rocket Soc., Natl. Sc. Teachers Assn., Electrochem. Soc., Crystallographic Soc. Northeastern Sec. Am. Chem. Soc. Inc., dir., secy. Clubs: Tedesco Badminton, Unitarian Laymen's League. Hobbies: piano, chemical education.

GIBBONEY, James Lincoln, asst. v.p., Natl. Aluminate Corp., 6216 W. 66 Pl., Chicago, Ill.; res. 4042 N. Kessler Blvd., Box 328, R. 17, Indianapolis, Ind.
Asst. v.p.; b. Roanoke, Va., May 25, 1910; s. of James Haller and Hattie Olivia (Lincoln) Gibboney; ed. Roanoke grade, high schls. (1928); Ohio St. U., B.I.E., 1932; mem.: Phi Gamma Delta; m. Dorothy Francis Gustin, Mar. 2, 1935; ch.: James Gustin, Donald Lee. Summer vacations 1926-30, laborer, apprent. helper, N. & W.; 1932-May 14, 1943 serv. engr., Natl Aluminate Corp.; May 15, 1943 asst. to v.p.; July, 1947, asst. v.p.; mem. Western, Pittsburgh, Central and N.Y. R.R. Club: Master Boiler Makers' Assn.

GIBBONS, Vernette Lois, emeritus prof. of chem., Mills College, Oakland, Calif.; res. 1201 Oakes Blvd., San Leandro, Calif.
Retired prof. of chem.; b. Franklin, N.Y., Jan. 5, 1874; d. of Marshville and Augusta (Foote) Gibbons; ed. Mt. Holyoke, B.Sc., 1896, B.A., 1899; U. of Chicago, M.Sc., 1907; Bryn Mawr, Ph.D., 1914. Bernardston, Mass., tchr., 1896-97; Mt. Holyoke, asst. chem., 1897-99, instr. 1899-1901; Wells Coll. instr. chem. 1902-03, assoc. prof. 1904-06; Huguenot Coll., S. Africa, prof. chem., 1907-11; Natl. Carb. Co., res. chem., 1918; Natl. Aniline & Chem. Co., res. chem., 1919; prof. chem. Mills Coll., Oakland, Calif., 1915-39. Wk. in potentials metals in non-aqueous sols. of their salts; alcoholic sols. of cadmium salts. Mem.: A.C.S., A.A.A.S. (fellow), A.I.C. (fellow), Phi Beta Kappa. Club: Mount Holyoke. Hobby: automobiling.

GIBBONS, Willis Alexander, assoc. dir., U.S. Rubber Co., Res. and Dev. Dept., Gen. Labs., Passaic, N.J.; res. 357 Park St., Montclair, N.J.
Res. sci.; b. Long Island City, N.Y., Nov. 1, 1888; s. of Samuel George Naylor and Mary (Graham) Gibbons; ed. 1906-10, Wesleyan U., B. A. and honors in gen. scholarship; 1911, M.A.; 1942, Sc.D. (hon.); 1910-12, Cornell U., Ph.D., 1916; mem.: Alpha Delta Phi, Phi Beta Kappa, Sigma Xi; m. Stella Louise Hopewell, June 21, 1913; ch.: Virginia G., Dorothy (Gibbons) Cooke. chem.; U.S. Rubber Co., New Brunswick, N.J. and N.Y.C., 1912-22, res. chem.; U.S. Rubber Co., N.Y.C., 1922-28, hd. of Res. Dept.; Dir. of Gen. Labs., 1929-30, dir. of Dev. Dept. 1930-46, same co., N.Y.C. and Passaic, N.J.; 1946 to date, assoc. dir. of Res. and Dev. Dept.; U.S.A., W.W.I, 1917-18, asst. Military Attache, Amer. Embassy, London; U.S.A., W.W. I, 1918-19, Capt., Ordn. Dept.; mem. of Amer. Rubber Mission to Soviet Union, 1942-43; chmn. of Advisory Bd. on QM Res. and Dev., Natl. Res. Council, 1948 to date; mem. Tech. Comm., Off. of Rubber Res., 1942. Chem. and tech. of rubber and of rubber latex; dev. of proc. for the mfr. of rubber goods directly from latex (rubber thread). Contrib. num. arts. to sc. jls.; also author of "Investigations of Balloon & Aeroplane Fabrics," First Annual Report of the Natl. Adv. Comm. for Aeronautics, 1915; "The Properties of Latex," Chapt. XVI, Chem. & Tech. of Rub., Davis & Blake, 1937; "The Rubber Industry 1839-1939" (Goodyear Memorial Lecture), 1939; "Careers in Research," - Report to Natl. Resources Planning Bd., 1940, and "Bouncing Molecules," Chapt. in "The Scientists Speak," 1947. Mem.: A.A.A.S.; A.C.S. (v. chmn., Div. Rub. Chem., 1943-44; chmn. 1944-46); A.I. of Physics; A.I.Ch.E.; Natl. Farm Chemurgic Council, Inc.; N.Y. Acad. of Scs.; N.Y. Rubber Grp.; Optical Soc. of Amer.; Soc. of Rheology; fellow, A.I.C., Inst. of Rubber Industry. Trustee, Wesleyan U., 1943 to date; v.p. of bd. of trustees, Wesleyan U., 1950. Clubs: Upper Montclair Country (Montclair, N.J.); University (N.Y.C.); Gatineau Fish and Game (Quebec, Can.). Hobbies: golf, fishing.

GIBBS, Everett H., mgr., dev. dept., Seiberling Rubber Co., Akron, Ohio; res. Wadsworth, Ohio.
Chem.; b. Framingham, Mass., Mar. 12, 1905; s. of Russell H. and Florence (Hayward) Gibbs; ed. Clark U.; mem.: Theta Kappa Nu; m. Katherine Pickett, June 30, 1928; ch.: Everett Jr., Dorothy, Joyce, Marilyn. 1925-28, chem., Fisk Rubber Co.; 1928-30, chem., Seiberling Rubber Co.; 1930-34, chf. chem., Seiberling Rubber Co. of Canada; 1934-44, dev. engr., 1944 to date, mgr., dev. dept., Seiberling Rubber Co. Mem.: Consltg. Tech. Comm. on use of syn. rubber in tires & tubes during W.W. II. Mem.: A.C.S., S.A.E., A.S.T.M., Tire & Rim Assn. Hobbies: amateur radio, numismatics.

GIBBS, Ralph Eugene, consulting chem. engr., York-Shipley, Inc., R.D. No. 4, York, Pa.; res. same.
Chem. engr.; b. Gloucester, N.J., 1898; s. of Eugene Uz and Susan Williamson Gibbs; ed. Canada, 1903-05, York Public schls., 1905-13, H.S., 1913-15, York County Academy, 1916-17, Pa. State Coll., 1917-21, B.S. in chem. engrg., Johns Hopkins, 1927; mem.: Alpha Delta Sigma, Sigma Tau; m. Irma Lucille Edmonds, Nov. 1921; ch.: Richard Eugene. Electrical Dept., York Mfg. Co., 1922-23; chf. chem. 1923-34; tech. dir., The J.E. Baker Co., York, Pa., 1934-42; conslt. chem. engr. 1942-44; dir. of labs., York Shipley Inc., 1944-45; consulting chem. engr., 1944-46; dir. of res., York Shipley Inc. 1946-48; consltg. chem. engr., 1948 to date. Res. in corrosion by refrigeration brines and natural waters; drying carbon dioxide gas; calcining lime and dolomite; dolomitic refractories; combustion of oil fuel; heat transfer. Author: "Water for Ice-making and Refrigeration," 1927. Clubs: University (York). Hobbies: farming, geology & minerology, technical and fictional writing, atomic nuclear mechanics, woodworking, metal forging.

GIBSON, Albert Edgar, div. mgr., Armour Fertilizer Wks., P. O. Box 1380, Wilmington, N. C.; res. 2744 Mimosa Pl., Wilmington.
Agronomist, sales exec.; b. Alamance Co., N.C., Aug. 14, 1896; s. of Moses A. and Theodocia (Fogleman) Gibson; ed. Elon Coll., Elon, N. C.; U. of Ga., Athens, Ga.; mem.: Epsilon Sigma Phi; m. Martha Tweedie Brockinton, Nov. 29, 1917; ch.: Albert Edgar Jr., Martha Alberta, Edna Josephine, James Franklin. Principal, North & South Carolina State H.S., 1916-17; U.S.N. 1918-19; Co. agent, Calhoun Co., Ga., 1919-25; co. agent, Terrell Co., Ga., 1925-30; agronomist, Am. Cyanamid Co., 1930; sr. agric. economist, U. S. Govt., 1931-32; gen. mgr., Ga. Peanut Growers Exchange, 1933-34; co. agent, Dougherty Co., Ga., 1935-37; Armour Fertilizer Wks., from 1937; div. mgr., 1944 to date. Results of comm. fertilizer on cotton in Ga. Author: "Cotton Fertilizer in Terrell Co., Ga." 1928, revised 1929. Mem.: Ga. State Agric. Soc. (secy., treas., 1920-30). Trustee, Presbyterian Coll., Maxton, N. C.; trustee, Presbyterian Home for the Aged, Greensboro, N. C.; N. C. Synod Home Mission Comm., Commis. - Boy Scouts. of Am.; dir., N. C. Tuberculous Hospital. Clubs: Wilmington Rotary, Cape Fear Country. Hobby: growing flowers.

GIBSON, Albert E., Jr., supt., Smith-Douglass Co., Albert Lea, Minn.; res. 1020 St. Joseph St., Albert Lea, Minn.
Fertilizer; b. Edison, Ga., July 14, 1922; s. of A. E. Sr., and Martha Tweedie (Brockinton) Gibson; ed. B.S. in Chem. Engrg., N.C. State Coll., 1943; mem.: Phi Beta Sigma, Blue Key, Gamma Sigma Epsilon, Sigma Pi; m. Virginia Council, Aug. 24, 1943; ch.: A.E., III. Bomb disposal officer, Gunnery officer, U.S.S. Wake Island; foreman, Smith-Douglass Co., Wilmington, N.C.; foreman, same co., Streator, Ill.; supt., same co., Albert Lea, Minn. Hobbies: hunting, fishing, explosives.

GIBSON, Ralph Edward, dir., Applied Physics Lab., The Johns Hopkins Univ., 8621 Georgia Ave., Silver Spring, Md.; res. 415 Cumberland Ave., Somerset, Chevy Chase, Md.
Physical chem.; b. King's Lynn, Norfolk, England, Mar. 30, 1901; s. of John and Jane Gibson; ed. George Watson's Boys' Coll., 1914-19; Edinburgh U., 1919-22, B.Sc. in Chem. (summa cum laude), Carnegie Res. Fellow, 1922-23, Ph.D., 1924 (chem.); m. Elizabeth Derby, 1928; ch.: John D.S., Anne K., Ronald M.E. 1924-26, Carnegie Inst. of Wash., Geophys. Lab., phys. chem.; 1929-44, Geo. Wash. U., Wash., D.C., adjunct prof. chem.; 1941-46 on lve. of absence from Carnegie Inst. of Wash., v.chmn. Sec. H-Member of Divs. 3 and 8 NDRC.; chmn. Rocket Propellant Panel, Joint Comm. on New Weapons and Equipment, Joint Chiefs of Staff; 1944-46, Allegany Ballistics Lab., dir. of research; Feb., 1946, Applied Physics Lab.; The Johns Hopkins U., acting dir., July 1, 1947; dir. Apr. 14, 1948. Res. and contrib. to numerous sc. and tech. jls. on chem. effects of compression, compressibility and on kinetics of propellants. Mem.: A.C.S. (pres. Wash. Sect., 1931; chmn. Div. of Physical and Inorganic Chem. 1941). Hillebrand Prize, 1939; Philosophical Soc. of Wash. (v.p. 1936-38, pres. 1940); Wash. Acad. Med. (v.p. 1939-40); Sigma Xi. Club: Cosmos (Wash., D.C.).

GIBSON, Robert Leslie, asst. gen. mgr., Chem. Dept., General Elec. Co., 1 Plastics Avenue, Pittsfield, Mass.; res. 34 Bishop Parkway, Pittsfield, Mass.
Exec.; b. Washington, D.C., Feb. 15, 1904; s. of Cornelius T. and Frances T. (Carter) Gibson; ed. A.B. Park Coll., Mo.; m. Margaret Anna Stone, May 26, 1934; ch.: Charles T., George C. Held the following positions with the General Electric Company: mgr., market res. div., Schenectady, 1925-26, Phila., 1926-28; Schenectady, 1928-32; industrial advt., Schenectady, 1932-36; mgr. ind. adv. 1936-39; asst. to v.p. 1939-44; mgr. adv. div., Pittsfield 1945-48; mgr. plastics div. 1948, asst. gen. mgr., chem. dept., 1948 to date; dir., Pioneer Thresher Co., Shortsville, N.Y. Contributor of many arts. on market res., adv., to trade press. Clubs: Rotary, Pittsfield Country, Stanley (Pittsfield), Mohawk (Shenectady).

GILBERT, Earl C., prof. of chem., chmn. of dept., Oregon State Coll.; res. 210 N. 29th St., Corvallis, Ore.
Teacher; b. Palmyra, O., Feb. 2, 1895; s. of Henry W. and Lily B. Turnbull Gilbert; ed. B.S., Hiram Coll., 1916, M.S., 1917, Ph.D., U. of Chic., 1922; m. Annette Leonard, June 5, 1918; ch.: Henry L., Allan E. Principal, Brimfield H.S., Ohio, 1916-17; instr., Oregon State Coll., 1917-21; asst. prof. 1922-24; assoc. prof., 1924-30; prof., 1930 to date; chmn. of dept. 1939; jr. chem., Bur. of Mines, and private C.W.S., 1918. John Simon Guggenheim Fellowship, 1928-29, Copenhagen and Berlin. Forty publications in sc. jls. Mem.: A.C.S., A.A.A.S. (fellow), Electrochem. Soc., Phi Kappa Phi; Phi Lambda Upsilon, Sigma Xi. Clubs: Triad, Corvallis Chamber of Commerce, Mason. Hobby: philately.

GILBERT, Henry Lathrop, Jr., v.p. in chg. of Overseas Div., Dewey and Almy Chem. Co., Cambridge 40, Mass.; res. 34 Larchwood Dr., Cambridge 38, Mass.
Exec.; b. Columbus, O., May 20, 1902; s. of Henry Lathrop and Laura Fullerton Gilbert; ed. A.B., Harvard U., Cambridge, Mass., 1924; m. Priscilla Brown, Dec. 25, 1932; ch.: Mary Hill, Katharine F., Jane Lathrop. 1924 to date, Dewey and Almy Chem. Co., Cambridge 40, Mass.

GILBERT, Maurice Elmer, secy.-treas. and dir., United Chemicals, Inc., 405 Lexington Ave., New York 17, N.Y.; res. 34 Wellyn Rd., Bronxville 8.
Exec.; b. Pottstown, Pa., Aug. 17, 1895; s. of William R. and Lillian (Fillman) Gilbert; ed. Walton Schl. of Commerce; m. Pauline E. Becker; ch.: Maurice E. Jr. 1912-17 with Actuaries Dept., N.Y. Life Insr. Co.; 1917-21 with R.G. Rankin & Co., C.P.A.'s; 1921 to date auditor, secy.-treas. and dir., The Warner Chem. Co.; 1921-27 aud., secy.-treas. and dir. Westvaco Chlorine Prods. Inc.; 1926-48 aud., secy.-treas. and dir. Westvaco Chlorine Prods. Corp.; 1929 to date secy.-treas. and dir. Monarch Chem. Co.; 1929 to date secy.-treas. and dir. Barium Prods., Ltd.; 1941 to date secy.-treas. and dir. Sierra Magnesite Co., Ltd.; 1948 to date asst. secy. Food Machinery and Chem. Corp.

GILCHRIST, Cecil Waltham, pres., Charlotte Chem. Labs., Inc., Charlotte, N.C.; res. 2100 Providence Rd., Charlotte.
Exec.; b. Charlotte, N.C., Jan. 4, 1900; s. of Peter Spence and Ethel G. (Porter) Gilchrist; ed. Davidson Coll.; U. of Pa.; mem.: Beta Theta Pi; m. Catherine W. Curtis, June 3, 1933; ch.: Nancy Curtis, Catherine Stuart. V.p., Southern Prods. & Silica Co.; v.p. Chem. Dev. & Estimate Corp.; pres., Charlotte Chem. Labs. Inc. Mem.: A.C.S. (past chmn., past counc., Piedmont Sect.); S.C.I.; pres. Charlotte Childrens Nature Museum. Clubs: Chemists' (N.Y.); Engineers (Charlotte); Charlotte Country, Charlotte City, Rotary, (pres.), (Charlotte).

GILES, W(illiam) Ralph, chem. eng., Smith Kline & French Lab., 1530 Spring Garden St., Phila. 1, Pa.; res. 217 Lantwyn Lane, Narberth, Pa.
Chem. engr.; b. Marion, Ind., Mar. 21, 1904; s. of J. T. and Bess (Rogers) Giles; ed. U. of Wis., B.S. in Chem. Engrg., 1925; mem.: Theta Chi; m. Katharine Reid, June, 1926; ch.: Katharine Calvert. Employed first by Ansul Chem. Co.; then with Celanese Corp. of Amer.; Chas. Pfizer & Co.; to date with Smith Kline & French Lab. Mem.: A.C.S., A.I.Ch.E.; Borough of Narberth Bd. of Health. Hobby: Little Theater grp.

GILFILLAN, Edward Smith, Jr., consltg. engr., Lincoln Ave., Manchester, Mass.; res. same.
Consltg. engr.; b. Wash., D. C., Mar. 3, 1906; s. of Edward Smith and Caroline (Whitman) Gilfillan; ed. B.A. magna cum laude, Kalamazoo Coll. 1928; Ph.D., Harvard, 1932; College de France, Kaiser Wilhelm Institut, M.I.T. (as Natl. Res. Fellow); mem.: Century Forum, Alpha Chi Sigma; m. Ruth Chadderdon, Aug. 10, 1929; ch.: Ellen May, Edward Smith III. Chem., Arthur D. Little, Inc.; conslt., Westinghouse Elec. & Mfg. Co.; conslt., Naval Ordnance Lab.; conslt., NDRC; Naval observer to China; chf. staff officer to tech. dir., Operation Crossroads; tech. dir., Joint Crossroads Comm.; tech. dir., Bikini Sc. Resurvey; conslt. USAF; conslt. to Operations Res. Office, U.S.A. Res. on potassium triphenylmethyl, sodium & potassium amalgams, gallium alloys, separation & detection of isotopes, equilibria in system iron, carbon, oxygen, res. in paper chem. & textiles. Contributor to the Atomic Bomb Handbook. Mem.: A.C.S. Clubs: Cosmos, Boston Yacht. Hobbies: sailing, swimming.

GILFILLAN, Francois Archibald, dean, School of Sc., Oregon State College, Corvallis, Ore.; res. 221 North 31st St., Corvallis, Ore.
Teaching; b. Ninnekha, Oklahoma, Jan. 12, 1893; s. of John D. and Jessie (Pattee) Gilfillan; ed. Southern Methodist U., Oregon State Coll. (B.S., Ph.C); Yale U., Ph.D.; mem.: Phi Gamma Delta, Kappa Psi, Alpha Chi Sigma; m. Violette E. Odekirk, Aug. 3, 1928; ch.: Mary Louise, E. Ellen, Nansie J., M. Alice. Taught in pub. schls. of Washington and Oregon, 1912-15; res. chem., Calco Chem. Co., 1921-22; prof., U. of Florida, 1925-27; assoc. prof., Oregon State Coll., 1922-25, prof. 1927-38, dean of Sc., 1938 to date, acting pres., 1940-42. Res. in Azo-dyes; pharmaceutical chemistry, plant chem. Mem.: A.A.A.S., A.C.S., History of Sc. Soc., Northwest Scientific Assoc., Oregon Acad. of Sc., Am. Soc Limnologists and Oceanographers, Society of Western Naturalists, Sigma Xi, Phi Kappa Phi, Phi Lambda Upsilon, Phi Sigma, Rho Chi, Secy., Oregon Museum Foundation. Clubs: Rotary, Century. Hobbies: mountain climbing, incunabula, British Silver, Russian Icons, Japanese gardening.

GILL, James Presley, chmn. exec. com., v.p., & dir. Vanadium Alloy Steel Co., Latrobe, Pa.; res. 850 Weldon St., Latrobe.
Metallurgist; b. Montgomery City, Mo.; s. of James William and Julia (Kirn) Gill; ed. U. of Mo. Schl. of Mines and Met., B.S., Met.E., M.S., Doc.Eng. (hon.); post grad. wk. Columbia U.; mem.: Pi Kappa Alpha, Tau Theta, Tau Beta Pi; m. Clarice Powell, July 14, 1922; ch.: James P., Mary Julia. 1919 with Anaconda Copper Co.; 1920 metallurg., from 1940 to date, dir., 1943 v.p., 1945 chmn. exec. comm., Vanadium Alloy Steel Co., (wch. off. he now holds); from 1943 to date dir Anchor Drawn Steel Co., v.p. 1945; v.p. Colonial Steel Co., 1945; pres. 1949 and dir.; dir., Vanadium Alloy Steel Co. Italiana (Turin). Holds ten pats. on spec. steels. Author: "Tool Steels" 1934; "Tool Steels" 1944. Mem.: A.S.M. (pres., 1940); Amer. Iron and Steel Inst.; Am. Soc. Tool Eng.; A.S.M.E. Clubs: Latrobe Country Seven Springs (Champion, Pa.), University (Pittsbgh.), Duquesne (Pittsbgh.). Hobbies: golf, hunting, gardening.

GILL, Louis Milton, gen. mgr., Darco Dept., Atlas Powder Co., 60 E. 42nd St., New York 17, N.Y.; res. 21 Dahlia Ave., Baldwin, L.I., N.Y.
Exec.; b. Atlanta, Ga., Aug. 22, 1898; s. of Walter M. and Hettie R. Gill; ed. B.S. chem. eng., Georgia Inst. of Tech., Atlanta, Ga.; m. Mercedes Harrington, Oct. 25, 1928; ch.: L. Milton, Jr. Held the following positions with Darco Corp.: salesman, 1923-30, mgr. res. and dev., 1931-37; dir. of sales, 1938-46; gen. mgr. 1947-49. Darco Corp. merged with Atlas Powder Co., July 31, 1950; gen. mgr., Atlas Powder Co., Darco Dept., 1950 to present. Mem.: A.O.C.S. (v.p. 1937), served on Color and Glass Committees 1936-41. Club: Chemists' (New York). Hobbies: classic guitar, member Soc. of the Classic Guitar, N.Y.

GILLAM, William Sherman, sr. res. chem. (proj. ldr.), Midwest Res. Inst., 4049 Penn., Kans. City 2, Mo.; res. 5306 Fairway Rd., Kans. City 3, Kansas.
Chem., proj. ldr.; b. Chadron, Nebr., Aug. 3, 1908; s. of W. S. and Eleanor (Burkitt) Gillam; ed. DePauw U., A.B., 1930; U. of Nebr., M. Sc., 1933; Ph.D., 1938; mem. Delta Chi; m. Eva T. Towle, June 3, 1935; ch.: Patricia Dee, William S. III. 1935-38 instr. of agronomy, U. of Nebr.; 1938-39 hd. dept. of chem., Nebr. Wesleyan U.; 1939-40 visiting prof. of soils, Mich. State Coll.; 1940-45 asst. prof. of agric. chem., Purdue U.; 1945 to date sr. res. chem., Midwest Res. Inst. Res. in soil chem., natural resources, classified res. for Army Ordn., anal. meths., agric. chem., polarographic anal., use of radio phosphorus in study plant metabolism, soil org. matter, tchg. grad. and undergrad. students. Author: "Small Arms Ammunition" (classified), Dunlap Printing Co. 1949. Mem.: Soil Sci. Soc. of Amer., A.C.S., Am. Soc. Agronomy, A.A.A.S., Amer. Ordn. Assoc., reg. prof. engr. (Mo.), Sigma Xi, Phi Lambda Upsilon, Gamma Sigma Delta, Phi Mu Alpha. Club: Engineers (Kansas City). Hobbies: fishing, horseback riding.

GILLAN, Edward Patrick, tech. mgr., Corn and Malt Prods. Div., c/o Anheuser-Busch, Inc., St. Louis, Mo.; res. 4406 McPherson Ave., St. Louis 8.
Chem.; b. Braddock, Pa., Jan. 8, 1889; s. of Patrick A. and Elizabeth Gillan; m. Dorothy C. Greayer, June 2, 1917. 1906-13 chem. Corn Prods. Ref. Co., Waukegan and Argo, Ill.; 1913-16 tech. dir., Maize Prods. Pty. Ltd., Melbourne, Australia; 1916-19 chf. chem., Douglas Co., Cedar Rapids, Iowa; 1919-22 tech. dir. Amer. Cereal Syrup Co., Chicago, Ill.; 1922-31 chf. chem., plant mgr. Chicago Starch Co., Chicago, Ill.; 1931-36 v.p. and prod. mgr. Paisley Prods. Inc., Chicago, Ill.; 1936-47 tech. sales adv., 1947 to date tech. mgr., Corn and Malt Prod. Div., Anheuser, Busch, Inc., St. Louis, Mo. Estab. first corn prods. plant in Australia. Mem.: A.C.S., A.A.A.S., T.A.P.P.I. Club: Chemists' (Chicago). Hobbies: carpentry, philosophy, theater.

GILLET, James Monroe, Asst. to the Pres., Victor Chem. Wks., 141 W. Jackson Blvd., Chicago 4, Ill.; res. 1724 Chancellor St., Evanston, Ill.
Chem. engr.; b. Fond du Lac, Wis., Mar. 9, 1893; s. of Morrison M. and Laura (Burnton) Gillet; ed. U. of Wis., B.S., 1915; Ch.Engr., 1922; mem. Tau Beta Pi; m. Alda Catherine Carpenter, Nov. 4, 1922; ch.: Morrison M. II., Marian C., Marjorie I., Charles C. 1915-17 chem. Benjamin Moore & Co., Chicago; 1917-19 U.S.A., 1st Lieut. Ordn. Dept.; 1919-22 res. in chem. engr. dept., Goodyear Tire & Rubber Co., Akron, Ohio; 1922-23 supt. Lamberson Japanning Co., Chicago; 1923 to date with Victor Chem. Wks. Mem.: A.C.S., Chem. Market Res. Assoc., Commercial Chem. Dev. Assoc., Chicago Drug & Chem. Assoc., chmn. Air Pollution Abatement Comm., Mfg. Chemists' Assoc.

GILLETTE, Guy Raymond, Supt., Sunshine Biscuits, Inc., 801 Sunshine Rd., Kansas City, Kans.; res. 437 W. 69 St., Kansas City, Mo.
Supt.; b. Oil City, Pa., Feb. 20, 1901; s. of Albert and Anna Mae (Hookins) Gillette; ed. Cornell U. 1919-23, B. of chem.; mem.: Alpha Chi Sigma, Tau Beta Pi; m. Margaret Bovart, Aug. 6, 1926; ch.: Guy Raymond, Jr. 1923-26, chem. div., Procter & Gamble, Ivorydale, Ohio; 1926-33, dir. of anal. lab. & res., Sunshine Biscuits, Inc., L.I.C., N.Y.; 1933 to date, supt., Sunshine Biscuits, Kansas City, Kans. Collaborated with Chicago Quartermaster Depot on the dev. of suitable fld. rations, 1942-43. Co-author: "Reduction Prods. of Nitric Acid" 1924. Club: Cornell (Kansas City). Hobbies: golf, philately, scouting.

GILLIAM, Alpha Stevens, project engr., Mathieson Hydrocarbon Chem. Corp., Mathieson Bldg., Baltimore 3, Md.; res. Houston, Texas.
Chem. engr.; b. St. Louis, Mo., Aug. 22, 1911; s. of Vincent T. and Rebecca (Stevens) Gilliam; ed. Wash. U., St. Louis, Mo., B.S. chem. engrg.; mem.: Alpha Chi Sigma; m. Vanita Henson, June 11, 1937; ch.: Bonnie Sue, Rebecca Anne. June 1936-June 1950, Shell Oil Co., asst. mgr. cracking - Houston; June 1950 to date, Mathieson Hydrocarbon Chem. Corp., project engr. Mem.: A.I.Ch.E. (active), Alpha Chi Sigma, Reg. Prof. Engr., Ill. Hobbies: photography, music.

GILLILAND, Edwin Richard, prof. of chem. engrg., M.I.T., Room 12-106, Cambridge, Mass.; res. 28 Cheswick Rd., Arlington, Mass.
Chem. engr.; b. El Reno, Okla., July 10, 1909; s. of O. E. and Elsie (Kelly) Gilliland; ed. B. S., U. of Ill., 1930; M.S., Penn. State, 1931; Sc. D., M.I.T. 1933; D.Eng. (hon.), Northeastern U. 1947; Baekeland M. 1945; m. Ann Miller, June 15, 1938; ch.: Cail Ann. Various positions on staff of M.I.T. 1934 to date; asst. rubber dir. in chg. of res. & dev. 1942-44; v.chmn. Div. 11, N.D.R.C., 1944-45. Pres. and dir., Ionics, Inc.; dir. of Synder Chem. Co. Co-author: 3rd ed. "Principles of Chem. Engrg." 1937; 4th ed. "Elements of Fractional Distillation" 1950. Mem.: A.C.S., A.I.Ch.E., Soc. Chem. Ind. (London), Natl. Acad. of Sc., Am. Acad. of Arts & Sc. Club: Chemists'. Hobbies: electronics, gardening.

GILLILAND, John L(awrence), Jr., hd. of Chem. and Cement Lab., Bur. of Reclamation, Denver Federal Center; res. 2955 Cherry St., Denver, Colo.
Chem. engr.; b. Clearfield, Pa., Oct. 4, 1910; s. of John and Sophia Gilliland; ed. U. of Denver, 1927-29; U. of Colo., 1929-33, B.S. (Ch.E.) U. of Colo., 1936-38; mem. Phi Delta Theta; m. Elsa M. Moberg, Mar. 28, 1935; ch.: John M., Larry J., Joan M. Bur. of Reclamation, Denver, Colo., jr. engr., 1933-37, asst. engr., 1937-41; hd. of Chem. and Cement Lab. 1941 to present. Res. in chem. of construction mtls., particularly portland cements and pozzolons; composition of irrigation water. Mem.: A.C.S., Natl. Assoc. of Corrosion Engineers, Amer. Concrete Inst. Hobbies: Boy Scouts, stamps.

GILLIS, John Lamb, v.p., gen. mgr., Merrimac Div., Monsanto Chem. Co., 1. Chemical Lane, Boston 49, Mass.; res. Pride's Crossing, Mass.
Exec.; b. Fargo, N. D., May 23, 1911; s. of John D. and Mary (Lamb) Gillis; ed. Wash. U., St. Louis, B.S., B.A. 1933; mem.: Kappa Sigma; m. Carol Randolph, June 18, 1938; ch.: John L. Jr., Carol R., Ann Carter, Mary Barrett. 1933-38, asst. export mgr., Monsanto Chem. Co., 1938-41, export mgr., 1941-44, asst. dir., foreign dept.; 1944-46, v.p., Johnson & Johnson Internatl., N.Y.; 1946-49, dir. of foreign dept.; 1949-50, gen. mgr. of Merrimac Div., 1950 to date, v.p., Monsanto Chem. Co.; pres. and trustee of Nealco-Monsanto Corp. and Merrimac Transportation Co. Mem. of Culbertson Mission to N. Africa, Middle East & Italy, 1944; Over-all Advisory Comm., Foreign Economic Adm., 1942-45; Export Advisory Comm., Lend Lease Adm., 1944; Economic Policy Committee of U.S. Chamber of Commerce 1950 to date. Dir. of Natl. Foreign Trade Council, 1944-49. Clubs: Algonquin (Boston), Tennis & Racquet (Boston), Metropolitan (N.Y.), Myopia Hunt Assoc., (Hamilton, Mass.), Manchester Yacht (Manchester, Mass.). Hobbies: hunting, fishing, golf, tennis.

GILMAN, Albert Franklin Jr., dir. of lab., Central Y.M.C.A. Schls., 19 S. LaSalle St., Chicago, Ill.; res. 5447 Woodlawn Ave., Chicago 15, Ill.
Teacher of chem.; b. Meriden, Conn., July 28, 1900; s. of Albert Franklin and Agness Geneva (McGlynn) Gilman; ed. grad., Keewatin Acad. of St. Augustine, Fla., 1917; Ph.B., U. of Chicago, 1925, A.M., 1927, M.S., 1938; mem.: Delta Tau Delta; m. Regina Rayman (of Wash., Ind.), Sept. 2, 1930; ch.: Albert Franklin III, Regina Catherine. Asst. chem., Carnation Milk Prods. Co., 1922; asst. chem., Libby McNeil & Libby, 1923; chf. chem., Am. Coconut Butter Co., 1924; asst. prof. of chem. 1925-43, assoc. prof. of chem. 1943-46, Central YMCA Coll.; hd. of Dept. of Chem., Northern Ill. Coll. of Optometry, 1946-48; dir. of lab., Central YMCA Schls., 1948 to date. Res. on org. cmpds. of the rare earth elements; contributions to the jls. on subjects of "Chem. Fluorescence" & "Contact Lens Solutions." Author: "Inorg. Reactions" 1929; "Org. Reactions" 1931; "Lab. Food Inspection" 1945; "A Dictionary of Chem. Equations" 1948. Mem.: A.A.A.S. (fellow), A.C.S. Clubs: Union League, Lakeside.

GILMAN, Henry, prof. org. chem., Dept. of Chem., Iowa State Coll., Ames, Iowa; res. 3221 Oakland St., Ames.

Prof. org. chem.; b. Boston, Mass., May 9, 1893; s. of David and Jane (Gordon) Gilman; ed. B. S., Harvard, 1915, A.M., 1917, Ph.D., 1918; mem.: Phi Lambda Upsilon, Phi Kappa Phi, Phi Beta Kappa, Sigma Xi; m. Ruth Shaw, July 20, 1929; ch.: Jane Gordon, Henry Shaw. Instr. chem., Harvard, 1918-19; assoc. in chem., U. of Ill., 1919; prof. org. chem., Iowa State Coll., 1919 to date. With C.W.S., W.W.I, Natl. Defense Res. Com. & O.S.R.D., W.W.II; Manhattan Project in W.W.II. Res. organometallic cmpds.; free radicals; physiolog. action & chem. constitution; high molecular weight aliphatic cmpds.; heterocyclic chem.; organosilicon chem. Co-author: (with C. J. West), "Organomagnesium Cmpds. in Syn. Chem.," 1922; edit., Org. Syntheses, Vol. VI & Collective Vol. I; Org. Chem., an advanced treatise in 2 vols., 2nd edit. 1943; contributing edit. Annual Survey of Am. Chem., 1928, 1929-30; assoc. edit., Chem. Reviews. 1936. Mem.: editorial bd. & exec. comm., Journal of Org. Chem., assoc. edit. of J.A.C.S.; A.A.A.S. (fellow, v.p., chmn. sec. of chem. 1930), A.C.S. (councillor at large 1939-41, 1942-44; formerly chmn. of org. div.), Natl. Acad. of Sc., holder of var. lectureships & mem. awards comms.

GILMANN, Henry Herman, chem. mfg., Resinous Chem. Mfg. Corp., Rutherford, N.J., res. 20 Courrier Pl.
Chem. mfgr.; b. N.Y.C., Oct. 17, 1904; s. of Louis and Fannie Gilmann; ed. Doctor. Fellowship, 1932-33; M.I.T.; Ph.D. Physical Chem., Dulse U. 1929-32; M.A. Biochem., Stanford U., 1928-29; B.S. Chem., Fordham U., 1924-28; m. Mitzi Gould, Feb. 21, 1941; ch.: Phyllis, Neal. 1933-38 City Chem. Corp., chf. chem.; 1938-39 Glyco Prods., tech. dir.; 1939-45 Quaker Chem., dir. new dev.; 1945-47 Regal Chem. Corp., conslt.; 1945-46 United Piece Dyewks., dir. new proc.; 1947 to date Resinous Chem. Mfg. Corp., pres., mgr.; dir. of dev., Quaker Chem. Prods.; tech. dir., Glyco Prods.; res. dir., City Chem. Res. in new resin dev., prod., at Quaker Chem. Prod.; U.S. pats. on deterg.; vapour pressure studies, Ph.D. Thesis, Dulse U.; hydro. proteins, M.A. Thesis, Stanford U.; U.S. patent appl., purification of vapours. Mem.: A.C.S., A.I.C., A.I.Ch. E.; dir. Recreation & Parks, City of Conshohocken, Pa., 1942-45.

GILMONT, Roger, tech. dir., The Emil Greiner Co., 20-26 N. Moore St., N.Y. 13, N.Y.; res. 721 Ave. "Y," Brooklyn, N.Y.
Chem. engr.; b. N.Y.C., Dec. 30, 1916; s. of Abraham and Anna Gilmont; ed. Cooper Union, B.Ch. E., June, 1939; award for highest scholastic record in graduating class; physics and chem. engineering awards; Polytechnic Inst. of Brooklyn; M. Ch.E., June, 1943, D.Ch.E., June, 1947; m. Shirley, July, 1941; ch.: Esther. Jan., 1947 to present; tech. dir. of Emil Greiner Co., N.Y.C.; Sept., 1944 to Dec., 1946; in chg. of Physical Measurement, General Foods, Hoboken, N.J.; Oct., 1943 to Aug., 1944; teacher of chem. engrg., C.C.N.Y.; July, 1942 to Oct., 1943; physical chem. at Natl. Bur. of Stds., Wash., D.C.; Sept., 1941 to July, 1942; matls. engr. at Natl. Bur. of Stds., Wash., D.C.; Mar., 1941 to Sept., 1941; chem. engr. at War Dept., Wash., D.C.; Mar., 1940 to Feb., 1941; draftsman at U.S. Coast & Geodetic Survey, Wash., D.C. Pub. 11 papers in chem. jls. on Vapor-Liquid Equilibria, Heats of Combustion, and Sc. Instruments; teaching and res. at Polytechnic Inst., Bk'yn., N.Y. Mem.: A.C.S., A.A.A.S., Sigma Xi, Instrument Soc. of Am., Am. Technion Soc. Hobbies: music appreciation, athletics, art.

GILWOOD, Martin Emanuel, mgr. of chem. res., Permutit Co., 330 W. 42nd St., N.Y. 18, N.Y.; res. 196-51 Dunton Ave., Hollis 7, N.Y.
Chem. engr.; b. Warsaw, Poland, Dec. 12, 1915; s. of Morris and Sarah Gelbaum; ed. Rensselaer Polytech. Inst., Ch.E., 1936; Prof. Engr., N.Y. State; mem.: Phi Sigma Delta; m. Ruth Netburn, July 25, 1941; ch.: Susan Leah. Permutit Co., 1936-45 res. chem. engr., 1945-49 asst. mgr. of res., 1949 to date, mgr. of chem. res. Dev. of new water treating processes i.e. spiractor, silica removal by anion exchange; demineralization; dev. of new cation & anion exchangers i.e. Permutit Q. S. etc. Author: chapter 4 of "Ion Exchange - Theory & Application" edit. by F. C. Nachod, Academic Press, 1949; numerous articles in chem. & power jls. Mem.: Sigma Xi, A.C.S., A.W.W.A., A.I.Ch.E. Hobbies. handball, tennis, boating, chess, music.

GINNINGS, Paul Meade, dean instr., prof. chem., physics, Greensboro Coll., Greensboro, N.C., res. 414 Northridge St., Greensboro.
Coll. prof. chem., dean instr.; b. Columbia, Mo., Apr. 7, 1897; s. of Robert Meade and Cora Childress Ginnings; ed. B.S. (1919), M.S. (1920), Ph.D. (1922), U. Ill.; mem.: Gamma Pi Upsilon, Phi Lambda Upsilon, Sigma Xi; m. Reva G. Roll, June 9, 1922; ch.: Paul Roll, Wendell Mac; Gerald Keith. Grad. asst. U. Ill., 1919-20, chem.; prof. chem., hd. chem., physics, Centenary Coll. (La.), 1922-24; prof. chem., physics Greensboro Coll. (N.C.) 1924 to date; dean instr. 1941 to date; summer session, instr. chem. Western St. Coll., Macomb, Ill. 1928, 1929; Guilford Coll., N.C., 1936; Wake Forest Coll., N.C., 1942,43,44; Davidson Coll., N.C., 1945; Furman U., S.C., 1947, 1948. Res. in relationship between molec. structure, aqueous solub. Author: "Lab. Manual - Organ. Chem." Mem.: A.C.S. (chmn. N.C. Sect. 1 yr.); N.C. Acdy. Sc. (v.p., pres.); A.I.C. (fellow). Clubs: Schoolmasters, (N.C., N.W. Dist.). Hobbies: amateur radio, photography.

GISEL, Rev. Eugene A., S.J., chmn., Chem. Dept., Fordham U., N.Y. 58, N.Y.; res. same.
Prof. of chem., adm.; b. Rochester, N.Y., Sept. 8, 1898; s. of Alfred and Katherine (Ritz) Gisel; ed. B.A., Woodstock Coll., Woodstock, Md., 1923; M.A., Gonzaga U., Spokane, Wash. 1924; Ph.D., Gregorian U., Rome, Italy, 1932. 1924-26, instr. chem., Atteneo de Manila, Manila, P. I., 1926-27, asst. prof. chem., hd. of dept., 1935-outbreak of war, assoc. prof., hd. of chem. dept., 1936-outbreak of war, dean of Coll. of Ind. Tech.; 1946-48, assoc. prof., hd. of chem. dept., St. Peter's Coll., Jersey City, N. J.; 1948 to date, assoc. prof. of chem., hd. of chem., dept., Fordham U., N.Y.C. Res. in fld. of applied chem. on native prods. of the Philippines; helped found the Philippine Chem. Soc. 1936, & was on bd. of dir.; founded Coll. of Ind. Tech., Manila, for training tech. men needed for industrialization program of the Philippines. Mem.: A.C.S., Philippine Chem. Soc., The Chem. Soc., Metropolitan Microchem. Soc., Swiss Chem. Soc., A.A.A.S., Netherlands Chem. Soc., N.Y. Acad. of Sc., Faraday Soc., Am. Soc. for Engrg. Ed. Hobby: photography.

GITZEN, Joseph A., pres., chmn. of bd., Delta Oil Prods. Co., 6263 N. Cedarburg Rd., Milwaukee 9, Wis.; res. 7580 N. River Rd., Milwaukee.
Chem.; b. Pt. Washington, Wis., July 7, 1897; s. of Daniel P. and Anna Gitzen; ed. U. of Wis., 1918, B.S., phar. chem.; m. Margaret Schmid, June 5, 1923. Nov. 15, 1918, org. res. chem., Federal Rubber Co.; July, 1919, chf. chem., Horseshow Tire Co. (left Jan., 1922); Jan., 1922-Aug., 1922, chf. chem., Salisburg Rubber Co.; Aug., 1922-Nov., 1923, factory mfg., chf. chem., Clyde L. Rubber Co.; Nov., 1923-Feb., 1933, tech. dir., Lindsay McMillan Co.; Feb., 1933 to date, pres., Delta Oil Prods. Co., also chmn. of bd., Delta Holding Co.; pres. and chmn. of bd., The

Atco Co.; dir., Midwest Foundry Supply. Conducted res. wk. early in fld. of accelerators & antioxidants for rubber; past 25 yrs. res. & dev. in special foundry prods., special type high refractory core washes; has numerous pats. on prods. going into the foundry ind. Mem.: Interprofessional Inst., Am. Foundry Soc., S.A.E., Am. Pet. Inst., Natl. Lubrg. Grease Inst., Lubricating Engrs. Clubs: Milwaukee Athletic, Wisconsin, Milwaukee Oilmen's. Hobbies: hunting, fishing.

GIVENS, Harrison Crandall, Jr., plant mgr., Amcelle Plant, Celanese Corp. of America, P.O. Box 444, Cumberland, Md.; res. 63 Frost Ave., Frostburg, Md.

Engr.; b. Davenport, Ia., July 7, 1904; s. of H.C. and Frances G. (Geary) Givens; ed. B.S., 1929, M.S. 1932, (in absentia) Agri. & Mechanical Coll. of Texas; m. Margaret C. Zahniser, Nov. 19, 1932; ch.: Harrison Crandall, III, Richard M. (stepson). McClintic-Marshall Corp., Pittsburgh, Pa., July 1, 1930 to Oct., 1933; Celanese Corp. of America, Oct., 1932 to present.

GLADDING, Ernest Knight, dir. dev. dept., E.I. du Pont de Nemours & Co., Wilmington, Del.; res. 913 Stuart Rd., Westover Hills, Wilmington.

Dir. dev. dept.; b. Newport, R.I.; s. of Mary G. Barlow; ed. 1906-10, Worcester Polytech. Inst., Worcester, Mass., B.S., 1944 hon. deg. Dr. of Engrg.; m. Elizabeth B. Congdon, Oct. 10, 1914; ch.: Mrs. Victor J.D. Moore, Mrs. Weston J. Donehower, Mrs. Oscar N. Stern, Mrs. John W.C. Guthrie, Dr. Thomas C. Gladding. June, 1910-Aug., 1910, du Pont Powder Co., Eastern Lab., Gibbstown, N.J.; Aug., 1910-Sept., 1910, du Pont Powder Co., Kenvil, N.J., explosives prod.; Sept., 1910-Apr., 1915, du Pont Powder Co., du Pont, Wash., explosives prod.; Apr., 1915-Oct., 1915, E.I. du Pont de Nemours & Co., Parlin, N.J., Oct., 1915-Feb., 1918, Hopewell, Va., acid supt. & asst. plant, Feb., 1918-May, 1919, Old Hickory, Tenn., plant supt. (during W.W.I years superintended prod. of war matls. at Parlin N.J., Hopewell, Va., & at govt. plant at Old Hickory, Tenn.); May, 1919-Aug., 1920, E.I. du Pont de Nemours & Co., Deepwater, N.J., chem. dir. dye wks.; Aug., 1920-Mar., 1925, du Pont Fibersilk Co. (this firm, later the du Pont Rayon Co., ultimately became the rayon dept. of E.I. du Pont de Nemours & Co.), supt., asst. prod. mgr., Buffalo; Mar., 1925-Sept., 1925, du Pont Rayon Co., asst. prod. mgr. Buffalo, Sept., 1925-Feb., 1928 prod. mgr. Buffalo, Mar., 1928-July, 1930 gen. mgr. tech. dept., N.Y., July, 1930-Apr., 1932, gen. mgr. tech. dept., Buffalo, May, 1932-Sept., 1936 asst. gen. mgr. tech. dept., Buffalo; Oct., 1936-Apr., 1938, E.I. du Pont de Nemours & Co. rayon dept., asst. mgr. tech. div., Buffalo, Apr., 1938-Aug., 1944 mgr. nylon div., Wilmington, Sept., 1944 to date dir. dev. dept., Wilmington, Del. Mem.: A.C.S., Am. Geographical Soc., A.A.A.S., Army Ordnance Assn. Clubs: Masonic Order, Du Pont Country.

GLANCY, Warren E., mgr. dev., Hood Rubber Co., Watertown, Mass.; res. 75 Riverview Ave., Waltham, Mass.

Mgr. dev.; b Dec. 8, 1890, Waltham, Mass.; s. of Robert E. and Anna B. (Piper) Glancy; ed. M.I.T., S.B., 1913; mem.: Lambda Chi Alpha; m. Charlotte Lincoln Fish, Oct. 29, 1929; ch.: Jean Meacham. 1913-14 asst. instr., anal. chem., M.I.T.; 1914-18 chem., Hood Rubber Co.; 1918 Pvt. 1st class, C.W.S.; 1919-47 res. chem., chf. chem., mgr. labs.; 1947 to date mgr. dev., Hood Rubber Co. Various papers dealing with studies of hard rubber, test. rubber goods. Mem.: A.A.A.S. (fellow), A.C.S., A.S.T.M., Boston Rubber Group (past chmn.) Div. Rubber Chem. (former dir.), A.C.S.; Trustee, Immanuel Meth. Ch., Waltham, Mass., Waltham Savings Bank. Hobbies: chiefly gardening.

GLASEBROOK, Arthur Lawrence, mgr., gen. res. div., Hercules Powder Co., Hercules Experim. Sta., Wilmington, Del.; res. 18 Murphy Rd., Wilmington.

Chem.; b. Chicago, Ill., Oct. 22, 1909; s. of Albert and Amanda (Kundinger) Glasebrook; ed. U. Mich., B.S. (Ch.E.), 1932; Johns Hopkins U., Ph.D., 1934; mem.: Alpha Chi Sigma; m. Dorothy Louise Mather, June 30, 1945; ch.: Richard John. Res. chem., General Motors Corp., 1934-41; res. chem., Hercules Powder Co., 1941-43; mgr. of Gen. Res. Div. since 1943. Catalysis, fractional distillation, high pressure reactions. Author: "Physical Methods of Organic Chemistry," Vol. IV, 1950. Mem.: A.C.S., Phi Beta Kappa, Phi Lambda Upsilon, A.I.Ch.E., Sigma Xi.

GLASER, Milton Arthur, v.p., tech. dir., Midland Ind. Finishes, E. Water St. at Lake Michigan, Waukegan, Ill.; res. 1285 Scott Ave., Winnetka, Ill.

Chem. engr.; b. N.Y.C., Sept. 4, 1912; s. of William and Esther Glaser; ed. Tufts Coll., Medford, Mass., B.S. in chem. engrg., magna cum laude; m. Rona Schmidt, June 24, 1937; ch.: Judith Carol, Michael Schmidt, Anne Ruth. Commonwealth of Mass., Metropolitan District Commis., engr ; Stand. Varn. Wks., Chicago. chf. chem., dir. of res.; Midland Ind. Finishes, Waukegan, Ill., v.p., tech. dir. Study of newer oils for varnishes, organo-silicone polymers, heat-resistant finishes, alkyd resins. Mem.: A.I.C. (fellow), A.C.S., A.O.C.S., Chicago Paint & Varn. Prod. Club, Federation Paint & Varn. Prod. Clubs (exec. comm.), Federation Stand. & Meths. of Test Comm. (chmn.), Joint Federation - A.S.T.M. Comm. on Stand. & Testing Meths. (past chmn.), Chicago Paint Varn. & Lacq. Assn., Chem. Abstracts (abstracting staff). Hobbies: golf, bowling, gardening.

GLEASON, Francis Elmer, chf. chem., Federal Color Labs. Inc., Norwood 12, Ohio; res. 1612 Clio Ave., Cincinnati 30, Ohio.

Chem.; b. Newburgh, N.Y., Feb. 6, 1906; s. of Elmer Frank and Selina (Gascoigne) Gleason; ed. U. of Cincinnati, 1926-31, chem. engrg. deg.; mem.: Alpha Tau Omega, Alpha Chi Sigma; m. Dorothy E. Hughes, Sept. 2, 1931; ch.: Gordon F., Joan M. 1925-26, Shepherd Chem. Co., lab.; 1927-28, Federal Color Labs., lab.; 1928-29, Southern Ink Corp., asst. mgr.; 1930 to date, Federal Color Labs., chf. chem. Mem.: A.C.S. Clubs: Queen City Pictorialists, U.S. Power Squadron - Cincinnati Squadron. Hobbies: photography, boating, woodworking.

GLEESON, George Walter, dean engrg., Oregon State College, 113 Dearborn Hall, Oregon State Coll., Corvallis, Ore.; res. 112 N. 29, Corvallis, Oregon.

Tchr., engr.; b. Granite, Oregon, Mar. 1, 1905; s. of Walter G. and Lillian L. Gleeson; ed. Oregon State Coll., B.S. in Ch.E., 1928; M.S. in M.E., 1934; Ch.E., 1936; mem.: Delta Kappa (local); m. Barbara A. Rafferty, June 29, 1929; ch.: James Michael, Frederick Walter. Engr. Exp. Sta. Fellow, instr., asst. prof., assoc. prof., prof., dean, all Oregon State Coll., 1929 to date; reg. Prof. Engr. Oregon, 1934 to date; consult. to many indust. firms. 22 pubs. in tech. or prof. literature, 1929 to date. Mem.: A.C.S., A.I.Ch.E., A.S.E.E., Phi Kappa Phi, Tau Beta Pi, Sigma Tau, Sigma Xi, Phi Lambda Upsilon, Pi Tau Sigma. Dir., Raw Materials Survey, Inc., Portland, Ore. Clubs: Professional Engr's., Oregon; Corvallis Engr's. Club; Chamber of Commerce. Hobbies: hunting, fishing.

GLENNER, Francis Richard, pres., gen. mgr., Homogeneous Equip. Corp., Downington, Pa.; res. Coatesville, Pa.
Exec.; chem. engr.-res.; b. Chicago, Ill., Oct. 31, 1895; s. of Jacob and Mary (Joseph) Glenner; ed. 1917, B.Sc., U. of Chicago; sci. honors; mem.: Phi Beta Kappa; m. Jennie Geiger, Apr. 19, 1925; ch.: George G., Jean G. Carnotite Reduc. Co., chem. engr., supt., 1917-21; Lindsay Lt. Co., mgr. 1921-25; Hills McCanna Co., N.Y. mgr. 1925-27; Chem. Equip. Mfg. Corp., sales mgr. 1927-29; Homogeneous Equip. Corp., organ., pres. and gen. mgr., 1930 to date. Holds pats. on homogeneous linings of var. metals. C.W.S. Mem.: Masons, Phi Beta Kappa, A.C.S., Salesmen's Assoc. Club: Coatesville Country. Hobbies: golf, hiking, baseball.

GLIDDEN, Kenneth E., plant mgr., Celon Co., 2034 Pennsylvania Ave., Madison, Wis.; res. 1106 Sherman Ave., Madison.
Chem.; b. S. Berwick, Me., Dec. 22, 1906; s. of Eugene E. and Nettie I. Glidden; ed. U. of N.H., B.S. in chem. engrg., 1929; Johns Hopkins U., Ph.D. in chem., 1932; m. Kathryn Gilpatrick, Sept. 20, 1929; ch.: John, Nancy, David, Kim. Instr. in chem., U. Conn., 1933-34; res. chem., Brown Co., Berlin, N.H., 1934-44; asst. supvr. of pulp res., Brown Co., Berlin, N.H., 1944-47; chf. of pulping sec., Inst. of Paper Chem., Appleton, Wis., 1947-48; 1948 to 1950, dir. of res., 1950 to date, plant manager, Celon Co. Mem.: T.A.P.P.I., A.I.C.

GLOCKLER, George, prof., hd. Dept. of Chem. & Chem. Engrg., Chemistry Bldg., State U. of Iowa, Iowa City, Iowa; res. 621 Holt Ave., Iowa City.
Chem. prof.; b. Munich, Germany, Sept. 7, 1890 (nat. 1913); s. of Geo. and Margaret (Feucht) Glockler; ed. B.S., U. of Wash., Seattle, 1915, M.S., 1915; Ph.D., U. of Calif., Berkeley, 1923; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi, Phi Beta Kappa; m. Ruby Moser Clift, June 24, 1916; ch.: Margaret E. Aldrich, R. Frances Hein. Power sta. operator, Seattle Elec. Co. & City of Seattle, 1912-16; traffic mgr., Horne Co. Ltd., Tokyo, Japan, 1916-21; anal. & cons. chem., Yokohama, 1916-21; teaching fellow, U. of Calif., 1921-23; Nat. Res. fellow, Calif. Inst. of Tech., Pasadena, 1923-26; res. assoc., Am. Pet. Inst. of Minn., 1926-29, assoc. prof., U. of Minn. 1929-36; prof. of physical chem. 1936-40, hd. dept. of chem. & chem. engrg., State U. of Iowa, 1940 to date. Res. on Raman effect, molecular structure, conslt. of War Prod. Bd. from 1943. Co-author: "The Electrochem. of Gases & Other Dielectrics" with S.C. Lind 1939, John Wiley Sons Co.; "Chem. in Our Time" with Ruby C. Glockler 1947, Crofts Co.; 155 sc. articles to professional journals; mem. Editorial Bd., Review of Physical Chem. Mem.: A.Phys.S. (fellow), A.A.A.S. (v.p. 1948-49), Franklin Inst., A.C.S., Faraday Soc. (London), Deutsche Bunsen Gesell., Soc. Chem. Ind. Clubs: Kiwanis (Iowa City) Faculty of Minneapolis, Triangle (Iowa City), Chemists' (N.Y.).

GODAT, Edward Mitchel, mgr., Crossett Chem. Co., Crossett, Ark.; res. 506 E. 3rd Ave., Crossett, Ark.
Exec.; b. New Orleans, La., May 3, 1901; s. of Allen F. and Elizabeth Ann (Mitchel) Godat; ed. Tulane U., 1925; mem.: Phi Kappa Sigma; m. Frances Helen Powe, Dec. 28, 1925; ch.: Grace, Helen. Employed successively by the Forest Prods. Chem. Co., Memphis, Tenn., Hardwood Charcoal Co., Memphis, Tenn., Crossett Chem. Co. Club: Rotary. Hobbies: golf, bridge.

GODBEY, John Campbell, hd. of the Dept. Chem., chmn. Div. Natl. and Applied Sciences, Southwestern U.; res. Georgetown, Texas.
Prof.; b. Monroe County, Mo., July 4, 1882; s. of Josiah Perry and Nora Bates Godbey; ed. Woodson Inst.; Mo. Central College, A.B., 1904, M.A., 1905; Mo. State U., Vanderbilt U. Physikalisch Chemisches Institut, Leipzig; m. Ethel Kring Rush, Sept. 20, 1911; ch.: John C. Jr., Mary, William, Ethel, Charles, Margaret. Asst. Supt., Paris Schls., Mo., 1906-08; Principal, New Haven, Mo. H.S., 1905-06; Fellow, Vanderbilt U., 1908-10; coach and principal, Acad. Central Coll., 1910-13; Grad. Stud., Leipzig, 1911-12; prof. of chem. Southern U., Ala., 1913-17; prof. of chem. and hd. Dept. Southwestern U., 1917 to date; chmn. of Div. of Natural and Applied Sciences 1943 to date. Conslt., Waldron Mines; conslt., Texas Carbonate Company. Author: "General Chemistry," rev. 1947; "Laboratory Manual to Accompany Gen. Chem." rev. 1950. Mem.: A.C.S., A.I.C., A.A.A.S. (fellow), Acad. of Sc. (Texas), Scholia Club, Hon. D.Sc. McMurry College, 1943, Hon. Life Fellow, Texas Acad. of Sci. 1948, Am. Inst. Chem. (fellow), Counselor Sc. Soc. Southwestern aptd. by Gov. of Texas Commissioner Texas Centennial of Statehood. Trustee or dir.: Capitol Area Council Boy Scouts of America, Georgetown City Council, Mayor, pro-tem, Georgetown Chamber of Commerce. Clubs: Lions, Georgetown Country. Hobbies: woodwork, golf, hunting.

GODFREY, Truman Milo, conslt., 1105 Muirlands Dr., La Jolla, Calif.; res. same.
Consltg. chem. engr.; b. Kansas City, Mo., Nov. 17, 1886; s. of Robertson M. and Jennie (Elliott) Godfrey; ed. U. of Kan., B.S., 1913; U. of Pitts., 1914-15; U. of Kan., hon. Ch.E., 1940; mem.: Sigma Xi, Tau Beta Pi, Alpha Chi Sigma; m. Frances Black, Aug. 10, 1914; ch.: Norma Lois. Anal., Kan. State Water Survey, 1912-13; res. fellow, Mellon Inst., Pitts., 1913-17; chf. res. chem., N.K. Fairbank Co., Chicago, 1917-19; chem. engr., Wm. Garrigue & Co., Chicago, 1919-28; asst. dir. of res., Lever Bros., Cambridge, Mass., 1928-47; consltg. chem. engr., 1947 to date. Res. & dev., plant design & construction, as related to mfr. of edible oils, hydrogenated shortenings, soap prods., glycerine, fatty acids, spray dried detergents. Contributing author to "Monograph on Glycerol" being publ. by Assn. of Am. Soap & Glycerine Producers, Inc. Mem.: A.I.Ch.E., A.O.C.S., Civilian with Office of Sc. Res. & Dev. Hobby: horticulture.

GODLOVE, Isaac Hahn, chem., physicist, Gen. Aniline & Film Corp., Easton, Pa.; res. 127 Spring Garden St., Easton, Pa.
Spec. in color measurement; b. St. Louis, Mo., June 13, 1892; s. of Lewis and Lillie Godlove; ed. Wash. U., 1914-15, B.S., A.M.; U. of Ill. 1926, Ph.D.; mem.: Alpha Chi Sigma, Sigma Xi; m. Esther Hurlbut, 1923, & Margaret Noss, 1949; ch.: Terry Francis. Prof. chem., Mo. State Normal Schl., Cape Girardeau, Mo. 1915-16; assoc. prof. chem., U. of Okla., 1921-25; res. dir., Munsell Color Co., Baltimore, 1926-30; dir., Exhibition on Color, N.Y. Museum of Sc. & Ind. 1930-31; color edit., Webster's New Internatl. Dictionary 1931-34; own bus. (color service) 1932-35; chem., du Pont Co., 1935-43; chem., physicist, Gen. Aniline & Film Corp., 1943 to date. Numerous papers on color & color measurements; for 15 yrs. edit. for Inter-Soc. Color Council. Mem.: Alpha Chi Sigma, Sigma Xi, Optical Soc. of Am. (colorimetry comm. since 1933); A.A.T.C.C. (chmn. & now secy. color comm.), Inter-Soc. Color Council (edit., delegate & counsellor, natl. chmn. 1948-50). Trustee, Munsell Color Foundation. Hobbies: tennis, mathematics of bridge, singing oratorios.

GODSHALL, Henry S., Eastern sales mgr., Strong Cobb & Co., Cleveland, Ohio, 2654 Lis-

bon Rd., Cleveland; res. 314 Congress Ave., Lansdowne, Pa.
Sales mgr.; b. Phila., Pa., June 27, 1886; s. of Henry and Emma (Smith) Godshall; ed. Phila. Coll. of Pharmacy and Sc., D.Phar.; mem.: Kappa Psi; m. Bertha M. Wood, June 28, 1911; ch.: Henry S., Jr. Supt. and secy. Valentine H. Smith & Co., Inc., Phila., Pa.; mgr. Phar. Dept., Smith, Kline & French, Inc., Phila., Pa.; sales mgr. Phar. Dept., Smith, Kline & French Labs., Phila.; Eastern sales mgr. Strong Cobb & Co. Inc., Cleveland, Ohio. Mem.: A.Phar.A., Penn. Phar. Assoc., Amer. Numismatic Assoc. Clubs: Chemists' (N.Y.); Union League (Phila.); S.A.R., F. and A.M., The Internat. High Noon Club. Hobby: coin collecting.

GOEBEL, Max Theodore, tech. dir., Grasselli Chems. Dept., E.I. du Pont de Nemours & Co., Wilmington, Del.; res. Landenburg, Pa.
Chem.; b. Compton, Ill., Oct. 28, 1906; s. of Louise Goebel; ed. Carthage Coll., 1924-27; U. of Ill., A.B., 1928, M.S., 1932, Ph.D., 1934; mem.: Sigma Xi, Alpha Chi Sigma; m. Marguerite Kuehn, Feb. 6, 1932; ch.: MargaretA., Richard F. Res. chem., Commercial Solvents Corp., 1928-30; asst. chem., U. of Ill., 1930-32; res. chem. Exper. Sta., E.I. du Pont de Nemours & Co., Del., 1934-38; res. grp. ldr., 1938-41; asst. dir., Exper. Lab., Cleveland, O., 1941-44; dir., 1944-48; asst. dir., Grasselli Chems. Dept., Tech. Div., Wilmington, Del., 1948 to July, 1950; dir., July, 1950, to date. Inhibiting atmospheric corrosion of metal surfaces such as ferrous metals; long-chain alkyl ammonium metallo-nitrites; reducing the shrinking tendency of textile matls. containing wool. Mem.: A.C.S. Hobbies: bridge, golf, chess.

GOETCHIUS, George Richard, chf. bact., Rohm & Haas Co., P.O. Box 219, Bristol, Pa.; res. 3059 Unruh Ave., Phila., Pa.
Bact.; b. Ithaca, N.Y., Mar. 1, 1914; s. of Cyrus V. and Edith S. Goetchius; ed. Cornell U., 1931-35, B.S.; Cornell Grad. Schl., 1935-36, M.S.; m. Mildred Gdula, Mar. 30, 1940; ch.: Gail Rose, Geraldine Roberta, G. Richard. 1936-42 sr. tech., N.Y. State Dept. Health (Albany); 1942-46 res. bact., Winthrop Chem. Co. (Rensselaer); 1946 to date chf. bact., Rohm & Haas Co., (Phila.). Mfr. of penicillin; res. in chemotherapy of infectious diseases; dev. of quartenary ammonium germicides. Mem.: S.A.B.; A.A.A.S.; Chem. Spec. Mfrs. Assoc., chmn., Disinfectant Chem. Anal. Comm. Hobby: philately.

GOETZ, Alvin C., mgr., Tech. Service Dept., Pigment Div., Eagle-Picher Co., Am. Bldg., Cincinnati 1, Ohio; res. 3852 Broadview Drive, Cincinnati 8.
Chem. engr.; b. Amsterdam, N.Y., Nov. 22, 1892; s. of George W. and Mary B. Goetz; ed. Pa. State Coll., B.S. in chem.; mem.: Alpha Chi Sigma, Scabbard & Blade; m. Mary B. Snyder, Nov. 29, 1917; ch.: Alvin C., Jr. Chem., Kelloggs & Miller, linseed mfrs.; Fld. Artillery, W.W.I, Capt., Air Service in chg. of inspection of chem. supplies & matls.; special asst., Bur. of Fisheries, Wash., D.C.; mfg. chem., Southern Cotton Oil Co., Savannah, Ga.; supt., Stearic Acid Plant, Darling & Co., Chicago, Ill.; chem. engr., Sales Dept., Eagle-Picher Co. and mgr., Tech. Service Dept., Pigment Div., to date. Mem. of bd. of dirs., William F. Clapp Labs., Duxbury, Mass. Conslt. on protective coatings, W.P.B., 1942-45; conslt. on protective coatings, Inter-Am. Highway, Bur. of Public Roads, 1947; specialties, tech. of saponifiable fats, lead & zinc pigments; protective coatings, corrosion prevention. Author: "A Meth. for Evaluation of Castor Beans"; contr. to Dept. of Agric. Bulletin No. 867; co-author: "Operation of the Gainesville Castor Oil Plant" Chem. & Metallurg. Engrg., Vol. 22, No. 18; author of, contr. to & reviewer of prep. of numerous books & articles on protective coatings. Mem.: A.C.S., A.I.C.E., A.S. T.M. (mem. advisory comm. on corrosion), Natl. Assn. of Corrosion Engrs. (secy., tech. practices comm. TP-6, protective coatings), A.I.C. (fellow), Fed. Paint & Varn. Prod. Clubs, Chem. Market Res. Assn., Natl. Paint, Varn. & Lacq. Assn., (paint statistics comm.), Prof. Engr. (Chem.) State of Ohio, Natl. Ind. Security Assn. (mem. comm. on protective coatings).

GOETZ, Charles Albert, prof., hd. of Chem. Dept., Iowa State Coll., Ames, Iowa; res. 822 Ash Ave., Ames.
Prof. of chem.; b. Lockwood, Mo., Jan. 7, 1908; s. of J.G. and Mary E. Getz; ed. Savannah High, Savanna, Ill., 1926; U. of Wis., no deg.; U. of Ill., B.S., 1932, M.S., 1934, Ph.D., 1938; m. Sidonia H. Heck, Feb. 24, 1934; ch.: Charles A. Jr., Roger M. Chf. chem., Cardox Corp., 1938-39, dir. of res. 1939-46, v.p. 1944-46; dir. of engrg. & res., Brunswick-Balke-Collender Co., 1946-48; assoc. prof. of anal. chem., Iowa State Coll., 1948-50, prof., hd. of Chem. Dept., 1950 to date. Process for whipping cream & other edible fat-containing liquids by saturation with nitrous oxide under pressure & subsequent release of the fluid; electrochem. prep. of potassium perchlorate; chem. burning powders (for Cardox mine explosives); bulk low pressure liquid carbon dioxide storage, transport & fire extinguishing systems; mfr. of CO2; new anal. meths. Mem.: A.C.S., Electrochem. Soc., Natl. Fire Protection Assn., Sigma Xi. Club: Ames Country. Hobbies: music, church work.

GOETZ, Paul C., chem. dir. Refinite Corp., Ralston, Nebr.; res. Omaha.

GOFF, Melvin H., dept. hd., Chem. Mfg. Dept., Burroughs Wellcome & Co. (U.S.A.), Inc., 1 Scarsdale Rd., Tuckahoe 7, N.Y.; res. 125 Glendale Rd., Scarsdale, N.Y.
Chem.; b. Dunkerton, Ia., Sept. 30, 1906; s. of Olin S. and Effie L. Meyers Goff; ed. 1926-30, Ia. State Coll., Ames, Ia.; B.S. Chem. Tech., 1930; 1945-46 Columbia U.; mem.: Alpha Chi Sigma, Phi Lambda Upsilon (hon.); m. Grace M. Jefferson, June 26, 1930; ch.: Betty M., Robert William, Barbara J. 1930-35 Procter & Gamble, Cincinnati, Ohio, soap chem.; 1935-37 Lightfoot Schultz, Hoboken, N.J., dev. chem.; 1937-41 Burroughs Wellcome & Co., Tuckahoe, N.Y., dev. chem.; 1941 to date hd., chem. mfg. dept. Mem.: A.C.S., A.I.Ch.E

GOLDBERG, Julius Benjamin, res dir., J.P. Stevens & Co., Inc., 350 Hudson St., N.Y.C.; res. 3001 H. Hudson Parkway, Riverdale, N.Y.
Chem. engr.; b. Hartford, Conn., Dec. 16, 1905; s. of Michael C. and Kate Goldberg; ed. Trinity Coll., 1921-22; M.I.T., B.S. Chem. Engrg., 1926; m. Sylvia Ginewsky, June 20, 1931. Celanese Corp. of Am., Cumberland, Md., chem. 1927-29; U.S. Ind. Chem. Co., Balt., Md., 1929, chem. engr.; S. Slater & Sons, Inc., Webster, Mass. 1929-37, dir. res. & dev.; J.P. Stevens & Co., Inc., 1937 to date, res. dir. Author: "Fabric Defects," McGraw-Hill, 1950. Mem.: Sigma Xi, A.S.T.M., Text. Inst., (fellow), A.C.S., A.A.T. C.C., A.A.A.S., dir. Text. Res. Inst. Club: Textile Square. Hobby: writing.

GOLDBERG, Moses Wolf, hd. chem. res. grp., Hoffmann-LaRoche Inc., Nutley, N.J.; res. 17 The Fairway, Upper Montclair, N.J.
Org. chem.; b. Rujen, Latvia, June 30, 1905; s. of Meyer and Hannah (Gibbermann) Goldberg; ed. Swiss Federal Institute of Technology, Zurich, 1924-30, D.Sc. Tech. 1930; m. Regina Hauser, 1928. Res. assoc., Lab. of Org. Chem. (Prof. L. Ruzicka), Swiss Fed. Inst. of Tech., 1930-41; hd.

of chem. res. grp., Hoffmann-LaRoche Inc., Nutley, N.J., since 1942. Res. on chem. of higher terpenes and steroids; isolation of new antibiotics; synthesis of vitamins and pharmaceuticals. Mem.: A.C.S., N.Y. Acdy. Scs., A.A.A.S., Swiss Chem. Soc.

GOLDBLATT, Leo Arthur, in chg., Fundamental Sec., Naval Stores Res. Div., U.S. Dept. Agri., 2100 Robert E. Lee Blvd., New Orleans 19, La.; res. 6935 Catina St., New Orleans 19.
Chem.; b. Corona, N.Y., Nov. 20, 1903; s. of Max and Anna M. Goldblatt; ed. B.A., Clark U., Worcester, Mass., highest honors, 1925; M.A., Clark U., 1926; Ph.D., U. of Pittsburgh, 1930; mem.: Phi Alpha. Instr., U. of Pittsburgh, 1929-40; U.S. Dept. of Agri., 1940 to date. Res. on naval stores (terpenes, rosin, turpentine, pine oleoresin); textbooks, lab. manuals and vols. of collateral readings in chem. Author: "Collateral Readings in Inorg. Chem." 1937; "Readings in Elementary Org. Chemistry," 1938; "Second Series of Readings in Inorganic Chemistry," 1942; etc. Mem.: A.C.S., A.S.T.M., F.A.I.C.

GOLDFRANK, Max., tech. div., Stein, Hall & Co., 285 Madison Ave., N.Y.C. 17, N.Y.; res. 145 E. 92 St., N.Y. 28, N.Y.
Chem. engr.; b. Glen Ridge, N.J., Jan. 16, 1911; s. of Walter S. and Irma Alexander Goldfrank; ed. Columbia U., B.A., 1931; Columbia Schl. Engrg., B.S., 1932; Ch.E., 1933; m. Sylvia Glass, Sept. 26, 1934; ch.: Walter Lewis, David Maurice. The Stein Davies Co., chem. 1930; Semon Bache & Co., chem. 1934; Stein, Hall & Co., Inc., 1934 to date. Mem.: A.CS., I.F.T. Trustee, Cherry Lawn Schl.

GOLDMAN, Frederick H(erbert), Ind. hygienist, D.C. Health Dept., 300 Indiana Ave., Washington, D.C.; res. 4710 Upton St., N.W., Washington 16, D.C.
Ind. hygiene; b. New York, May 2, 1904; s. of Morris and Felicia Schottland Goldman; ed. Columbia U., A.B., 1925, M.A., 1926, Ph.D., 1928; mem.: Sigma Xi, Phi Delta Mu; m. Alice Glasgow, Sept. 19, 1928; ch.: Barbara Carol, Margaret Frances. Teaching Fellowship, Columbia 1926; res. asst., Columbia, 1926-28; res. chem., New Rochelle Res. Labs. 1929-31; chem., Ind. Hygiene div., U.S. Pub. Health Service, 1931-49, chf. chem. section; sr. scientist (R) (Lt. Col.) active duty 1945-48, inactive 1949. Res. in anal. methods in trace quantities, fld. studies in ind. toxicology, identification and anal. of dusts and other atmospheric contaminants; radiological health control. Over 30 published papers, bulletins, comm. reports. Mem.: A.C.S., A.A.A.S., Am. Hyg. Assn., Natl. Conf. Gov. Ind. Hygienists, Sigma Xi, Am. Soc. Safety Engrs., Am. Pub. Health Assn. (fellow). Hobby: chess.

GOLDMAN, Lotte, tech. librarian, Carrier Corp., Syracuse 1, N.Y.; res. 315 S. Beech St., Syracuse 10, N.Y.
Chem. librarian; b. Bochum, Germany, May 1, 1926; d. of George and Rosa (Reichenberg) Wohl; ed. U. of Cincinnati, B.S., 1947; mem.: Delta Phi Epsilon; m. Werner Goldman, July 2, 1950. U.S. Rubber Co., Institute, W. Va., chem.: Schenley Labs. Inc., Lawrenceburg, Ind., tech. librarian. Mem.: A.C.S., Iota Sigma Pi, Alpha Lambda Delta.

GOLDMAN, Louis, supervising chem., Bur. of Mines, College Park, Md.; res. 9520 Biltmore Dr., Silver Spring, Md.
Boiler water chem.; b. Cambridge, Mass., Aug. 18, 1908; s. of Isaac and Etta Goldman; ed. M.I.T., B.S., 1930, M.S., 1931, Ph.D., 1933; m. Lucy Schiff, Oct., 1941; ch.: Jonathan, Theodore. Natl. Parks Serv., 1934-35; Bur. of Mines, 1935 to date. Author: "Colormetric phosphate tests for boiler waters containing tannin," "Bur. of Mines Report of Investigations R.I. 3983," "Boiler Water Treat. Manual for Federal Plant Operators" in print at govt. prtg. office. Mem.: A.C.S.

GOLDTHORPE, Harold Clifford, prof. biolog. chem., U. of Utah, Salt Lake City 1, Utah; res. 1374 Gilmer Dr., Salt Lake City 5.
Teaching, res.; b. Sept. 5, 1895; s. of Fred and Elizabeth (Coldwell) Goldthorpe; ed. B.S., Utah State Agric. Coll. 1917; Ph.D., U. of Chicago, 1925; m. Wanda Orlofske, Sept. 10, 1923; ch.: Charles H., Fred C., Elizabeth, Harold C., Jr. Instr., Utah State Agric. Coll., 1917-19; assoc. instr., U. of Chicago, 1920-25; res. chem., Presbyterian Hosp., Chicago, 1925-29; prof. biolog. chem., U. of Utah, 1929 to date. Res. in nitrogen metabolism; at present in nutrition of amino acids. Mem.: A.A.A.S., A.C.S., Sigma Xi, Phi Sigma Biolog. Soc. Hobbies: fishing, golf.

GOLDTHWAIT, Charles Francis, principal cotton tech., Southern Regional Res. Lab., New Orleans, La.; res. 6101 Louisville St.
Physical chem. res. on cotton; b. Cummington, Mass., Apr. 23, 1886; s. of Chas. E. and Cora Randall Goldthwait; ed. B.S., Worcester Polytech. Inst., 1909, (first in chem. div.); mem.: Sigma Xi (prof.); m. Isabel F. Thatcher, 1913; ch.: Richard G., John T. 1909-25, 15 yrs. chf. chem., dept. hd. in chg. of lab., mfg. dept., with 4 text. mfgrs.; 1925-40, 15 yrs. sr. fellow, res. on cotton, Mellon Inst. of Ind. Res.; 1941 to date, chg. sect., res. on cotton, Southern Regional Res. Lab., U.S. Dept. Agri. 8 pats. in text. fld. Contrib. extens. to sc. and tech. jls. in physics, chem. of text., specialist on cotton, Recip.; Superior Serv. Award, U.S. Dept. Agri. 1949. Mem.: A.C.S., A.A.A.S., A.A.T.C.C., Text. Res. Inst., The Textile Inst. (British), Soc. Dyers & Colourists (British). Hobbies: working on home and garden.

GOLIBERSUCH, Edward W., res. chem., Carboloy Co., Inc., Engrg. & Res. Dept., Box 237, Detroit 32, Mich.; res. 20009 Rogge, Detroit 34, Mich.
Chem.; b. Buffalo, N.Y., Nov. 21, 1920; s. of August and Caroline Golibersuch; ed. Canisius Coll., B.S., 1943, magna cum laude; M.I.T., Ph. D., 1948. Chem. tech., Res. Dept., Natl. Aniline Div. of Allied Chem. & Dye Corp., 1941-42; res. chem., Linde Air Prods. Co., 1943-46; res. chem., Carboloy Co., 1948 to date. Recd. Gen. Elec. Co. Charles A. Coffin Award for perfecting process for casting cemented carbide powders into complicated shapes. Co-author of art. contrib. to sc. jl. on complex sulphates containing tri- and pentavalent columbium & possibilty of their use in purification of columbium. Mem.: A.C.S., Engrg. Soc. of Detroit, Sigma Xi. Hobby: photography.

GONET, Frank, principal chem. spec., U.S. Tariff Commis., Wash. 25, D.C.; res. 2103 N. Glebe Rd., Arlington, Va.
Chem.; b. New Bedford, Mass., Nov. 8, 1910; s. of John and Mary M. Gonet; ed. Boston U., U. of Warsaw; m. Genevieve Blazejowski, Nov. 22, 1942; ch.: Richard Frank, Carol Anne. Physical chem.; chem. physics & chem. econ. Mem.: A.C.S., A.I.C., A.A.T.C.C., A.A.A.S. Hobbies: photography, puttering around.

GONSER, Bruce Winfred, res. supvr., Battelle Memorial Inst., Columbus 1, Ohio; res. 1301 Arlington Ave., Columbus 12, Ohio.
Supvr. of nonferrous metallurg. res.; b. Hudson, Ind., Sept. 9, 1899; s. of Robert M. and Lillian Gonser: ed. Purdue U., B.S. (Ch.E.), 1923; U. of Utah, M.S. (metallurg.), 1924; Purdue U., Ch.E., 1930; Harvard U., S.D., 1933; mem.: Phi Delta Chi, Sigma Xi, Scabbard and Blade; m. Helen M. Vincent, Mar. 18, 1925; ch.:

Gretchen, Diana, Galen. 1924-31, chf. chem. sulfating plant, Amer. Smelting and Refin. Co., Durango, Colo.; res. metallurg., Barber, N.J., Salt Lake City, Selby (Calif.), Amarillo, Tex., Omaha, Nebr. plants; 1933 metallurg., zinc oxide plant, Superior Zinc Corp., Bristol, Pa.; 1933-34, chem. and metallurg., Natl. Radiator Corp., Johnstown, Pa.; 1934 to date, res. engr., res. supvr., Battelle Memorial Inst. Mem.: A.I.M.E., A.S.M., E.S., (chmn. Rare Metals Grp.); A.S. T.M. (chmn. B-2); A.A.A.S., Wire Assoc. Trustee and acting mgr. Tin Res. Inst., Inc. Clubs: Purdue, Harvard. Hobbies: travel in Rocky Mt. area, home moving pictures.

GOOCH, Wilby T., prof. of chem., admin. v.p., Dean of the Grad. Schl., Baylor University, Waco, Tex.; res. 808 Speight Ave., Waco.
Prof. chem. and dean; b. Waco, Tex., Dec. 22, 1885; ed. Baylor U., B.S., 1906, M.S., 1908; U. of Chicago, Ph.D., 1918; m. Artie Muse, Dec. 29, 1908; ch.: 1 son, 1 dau. Grandview, Tex., H.S. tchr. sc., 1906-07; Baylor U. instr. chem. 1908, prof. chem. and chmn. of dept., 1909-49 prof. of chem., admin. v.p. and dean of Grad. Schl. to date. Waco City Water Dept., chem. 1918 to date. Author: "Typical Calculations in Elementary Chem.," 1919; revised 1924, 1929, 1936, 1940, 1945, 1948. Mem.: A.C.S. (Central Tex. Sect. secy. 1932-35); fellow, A.A.A.S.; fellow, Tex. Acad. of Sc. (v.p. 1935-36, pres., 1938-39); Am. Water Wks. Assoc., A.A.U.P., Tex. Water Wks. Assoc. (pres. 1924); dir., Tex. Water and sanitation Res. Foundation, chmn. adv. certification comm., Tex. Waterworks Short Schl.

GOOD, Arthur J(ohn), v.p., E.B. Badger & Sons Co., 75 Pitts St., Boston 14, Mass.; res. 1 Sherwood Rd., Melrose 76, Mass.
Chem. engr.; b. Faithorn, Mich., Aug. 19, 1899; ed. U. of Mich., B.S., 1922, M.S.E,, 1924, Ph.D., 1926; m. Dorothea L. Pierce, Dec. 24, 1922; ch.: Arthur J., Jr., James E., II. Sinclair Refining Co., experimental chem., 1922-24; E.B. Badger & Sons Co., chem. engr., chf. process engr., various adm. positions, v.p. 1949 to date and dir. Distillation & allied flds., Vaporization of Pet., Good & Leslie, Ind. Eng. Chem., **19**, 453-60, 1927; A.S.T.M., End Points, Good & Connell, Ref. Natl. Gas. Mfr., Feb. 1933; Liquid Capacity of Bubble Cap Plates, Good, Hutchinson & Rousseau, Ind. Eng. Chem., **34**, 1445-59, 1942. Mem.: Phi Lambda Upsilon, Iota Alpha, Sigma Xi, A. C.S., A.I.Ch.E. Clubs: Chemists'; Bellevue Golf; pres., First District U. of Mich. Hobbies: golf, fishing, music, photography, boating.

GOOD, Carl F., pres., Good Bros. Leather Co., Newark 5, N.J.; res. 7 Keasbey Rd., South Orange, N.J.
Leather mfr.; b. Newark, N.J., Jan. 7, 1900; s. of Herman Bennett and Anna McDonald Good; ed. Stevens Inst. Tech., Princeton U., 1923. Sc.B.; mem.: Beta Theta Pi, The Tiger Inn (Princeton); m. Frances O'Brien, June 30, 1928; ch.: Peter, Carl Bennett. Good Bros. Leather Co., chem. 1923; asst. secy., treas., v.p., treas.; pres. 1942 to date and dir.; The Lackawanna Leather Co., Hackettstown, N.J., secy., dir.; Lackawanna Leather Co., of Canada, Ltd., v.p., dir.; U.S. Savings Bank, Newark, N.J., dir.; Hackettstown Tanning Co., dir. Author: "Some Comparisons Commercial Syntans in Vegetable Tanning," pub. in tech. jl., 1941. Mem.: Am. Leath. Chem. Assn. Clubs: Orange Lawn Tennis, Essex Co. Country, Richmond Co. Yacht. Hobbies: cruising, golf.

GOODALE, Charles DeLoss, Mgr., Tech. Service Div., Com. Solvents Corp., Terre Haute.; res. R.R. 5, Box 482, Terre Haute.
Exec.; b. Metz, Ind., Jan. 18, 1900; s. of Burdette Buckley and Margaret L. Goodale; ed. 1918-20, Tri-State Coll.; 1921-25, Purdue U., B. S., M.S.; mem.: Agathon, Alpha Zeta, Ceres; m. Barbara Wagner, Aug. 6, 1928; ch.: Frank B., Charles D., Jr., Margaret P., Paul H. June, 1925-Nov., 1926, U.S.D.A., fld. wk.; Nov., 1926 to date, Com. Solvents Corp., Terre Haute, Ind., bacteriologist, Prod. Dept., bacteriologist, Res. Dept., Sales Dev. Div., Trade Relations Div., Tech. Service Div. Mem.: A.C.S., Com. Chem. Dev. Assn. (pres. 1949-50). Clubs: Chemists' (N.Y. & Chicago).

GOODALL, Robert Dorr, asst. to v.p.-marketing, The Davison Chem. Corp., 101 N. Chas. St., Baltimore 3, Md.; res. Ruxton 4, Md.
Indus. chems.; b. Phila., Pa., May 4, 1912; s. of Herbert W. and Ruth D. Goodall; ed. Yale U., 1933-34, A.B.; mem.: Fence Club, Yale U.; m. Mary Elizabeth Hopkins, June 6, 1933; ch.: Pamela, Patricia. Traffic clerk & solicitor, Detroit, Toledo & Ironton R.R., 1934-39; Davison Chem. Corp., 1939 to date, sales trainee, salesman, gen. sales mgr., asst. to v.p.-marketing. Mem.: Baltimore Sales Execs. Council, Natl. Security Indus. Assn., Com. Chem. Dev. Assn. Clubs: Baltimore Country, L'Hirondelle. Hobbies: shooting, golf.

GOODMAN, John B., chem. engr., U.S. Bur. Mines, Coal Branch of Reg. IV, Denver Federal Center, Denver, Colo.; res. 2415 Teller St., Lakewood, Colo.
Chem. engr.; b. Denver, Colo., July 13, 1906; s. of Louis and Rose R. Goodman; ed. U. Ill., Ph. D., 1931; U. Denver, B.S. Chem. Engrg., 1927; M.S., 1928; m. Lucile C., Aug. 15, 1938. Engr. Exp. Sta., U. Ill., res. engr.; U.S. Bur. Reclamation, matls., test., contr. sect.; Soluol Corp., chf. chem., plant supt.; U.S. Bur. Mines, chem. engr., fuels, explosives branch. Dev. res. on properties, benefication of low-rank Western coals. Contrib. extens. to sc. and tech. jls. Mem.: Sigma Xi, Phi Lambda Upsilon, Delta Chi, A.C.S., A.I.Ch.E., A.I.C., Rocky Mt. Coal Mining Inst. Clubs: Inmesha, West Lakewood Civic Assn. Hobbies: photography, firearms, electronic gadgeteering.

GOODSON, Louis Hoffman, res. assoc., Midwest Res. Inst., Kansas City, Mo.; res. 5740 Cherry St., Kansas City 4.
Org. chem.; b. Liberty, Mo., Apr. 5, 1913; s. of William H. and Luella (Hoffman) Goodson; ed. U. of Mo., 1931-35, A.B., 1935 with distinction in chem.; Wash. U., St. Louis, Mo., 1935-36; Harvard U., 1936-40, M.A., 1938, Ph.D., 1940; m. Dorothy Hoffman, Feb. 14, 1914; ch.: Eleanor Hazel, Marilyn Luella, Cynthia Jeanette. 1940-44, Maltbie Labs., Newark, N.J., org. res. chem.; 1944-47, Geo. A. Breon & Co., Kansas City, Mo., asst. to dir. of lab.; 1948 to date, Midwest Res. Inst., res. assoc. Res., publ. & pats. dealing with steroid sapogenins, thioether containing barbiturates, diphenylethylamines, new appl. of Grignard reaction & syn. of numerous org. cmpds. for pharmacolog. testing. Mem.: A.C.S., Div. of Medicinal Chem. Club: Kansas City Amateur Movie Makers (v.p.). Hobby: color photography.

GOODSPEED, Edwin W(illiam), res. chem., Parker Rust Proof Co., 2177 E. Milwaukee Ave., Detroit 11, Mich.; res. 1716 N. Pleasant, Royal Oak, Mich.
Res. chem.; b. Marcellus, Mich., Dec. 5, 1903; s. of Ulysses E. and Margaret J. Goodspeed; ed. Western Mich. Coll. of Educ., A.B., 1927; U. of Mich., M.S., 1931; Ph.D., 1934; mem.: Kappa Rho Sigma, Phi Delta Kappa, Sigma Xi; m. Ebba S. Ogren, May 26, 1950; ch.: Paul E. (by prev. m.). 1927-31 tchr. of chem. and phys., Caro H.S., Caro, Mich.; 1934 to date res. chem., Par-

ker Rust Proof Co., Detroit. Holds sev. U.S. pats. Mem.: A.C.S., Engrg. Soc. of Detroit.

GOODWIN, Frederick Merry, v.p. and gen. mgr., Thompson-Hayward Chemical Co., 2915 Southwest Blvd., Kansas City, Mo.; res. 5535 Locust Street, Kansas City.
Exec.; b., K.C., Mo., June 13, 1908; s. of Harry Llewellyn and Bertha Merry Goodwin; ed. U. of Mo.; mem.: Sigma Alpha Epsilon; m. Maxine Maxwell, June 15, 1929; ch.: Frederick Merry, Jr. Thompson-Hayward Chemical Co.: salesman, 1927; branch mgr. at Minneapolis, 1929; v.p. in charge of sales, 1931; v.p. and gen. mgr., 1946 to present; pres. & dir. Merry Investment Co. Club: Kansas City Country. Hobby: golf.

GOODWIN, Ralph Talbot, mgr., Spec. Prods. Dept., Shell Oil Co., 50 W. 50th St., New York 20, N.Y.; res. 277 Park Ave., New York.
Chem. engr.; b. U.S.A.; chem. engr. with Ph.D. from Columbia U., N.Y.; ch.: Patricia, Ralph T., Jr. Instr., U. of Southern Calif.; Hercules Powder Co.; Army Air Corps, Engr. Sec.; Standard Oil Co. of N.J., 1922-28; Dorr Co., 1929-32; Shell Oil Co., 1932 to date. Mem.: Inst. of Chem. Engrs., Inst. of Aeronautical Sciences, Sigma Xi. Club: Scardale Golf.

GOODWIN, Robert Cabaniss, prof. chem.; dean, arts and sciences, Texas Tech. Coll., Lubbock, Texas; res. 3324-21, Lubbock, Tex.
Coll. teacher and administrator; b. Brownwood, Tex., March 17, 1898; s. of Jno. W. and Kate (Cabaniss) Goodwin; ed. Howard Payne Coll., A.B., 1917; U. of Tex., M.A., 1923; Harvard, Ph.D., 1928; mem.: Delta Tau Delta, Alpha Chi Sigma, Phi Lambda Upsilon; m. Constance Bishop, Oct. 3, 1929. 1926-30, asst. prof., U. of Florida; 1930 to date, prof. Texas Tech. Coll.; 1945 to date, dean, arts and sciences, Tex. Tech. Coll. Mem.: A.C.S., A.A.A.S., Tex. Acdy. of Science, Sigma Xi, Reg. Chem. Engr., State of Texas.

GOPP, Leonard W., export mgr., Mich. Chem. Corp., St. Louis, Mich.; res. 605 S. Franklin St., St. Louis, Mich.
Biochem., bacteriologist; b. Pitts., Pa., Feb. 16, 1912; s. of Charles and Vera Gopp; ed. Northwest Inst. Medical Tech., cert. X-ray, Clinical Lab.; Ferris Inst., Big Rapids, Mich., Ph.C.; B.S., U. of Grand Rapids, M.S.; mem.: Kappa Alpha Phi, Phi Sigma Chi; m. Virginia A. Revall, Nov. 1936. 1934-36, prof. pharmacy; 1936-42, prof. biochem., prof. bacteriology; 1942-46, Major, U.S. Air Force; 1946 to date, export mgr.; v.p., Master Prods. Corp. Res. wk. D.D.T. & other org. insecticides; antibiotic wk. U.S.A. Mem.: A.Phar. A., A.P.H.A., Natl. Agric. Chem. Assoc., Inter-Am. Assn. Sanitary Engrg. Hobbies: photography, music, horticultural experimentation.

GOPPELT, Helen Martha, chem., Kepec Chem. Corp., P.O. Box 782, Milwaukee 1, Wis.; res. 1824 N. 54th St., Milwaukee 8.
Res. chem.; b. Saginaw, Mich., Oct. 30, 1897; d. of Charles John and Martha (Lemke) Goppelt; ed. Milwaukee-Downer Coll., 1920 B.A., Kepec Co. Otley Wks. England, Bonn, Germany, 1921-22; name of firm changed to Kepec Chem. Corp. in 1938. Protective coating for leather. Mem.: A.A. A.S., A.I.C., A.C.S., A.A.U.W.

GORDON, Alexander L., chf. chem., Vellumoid Co., Worcester, Mass.; res. 22 Bowdoin St., Worcester, Mass.
Chem. engr.; b. N.Y., N.Y., Sept. 17, 1915; s. of Louis and Rebecca Gordon; ed. Worcester Polytech. Inst., B.S. Chem. Engr., 1936; M.S. Chem. Engr., 1937; mem.: Alpha Epsilon Pi; m. Frances L. Feingold, Feb. 18, 1945; ch.: Margery. Hugh Tebault & Co., N.Y.C., chem. engr. 1937-38; Vellumoid Co., Worcester, Mass., chem. 1938-43; chf. chem. 1943 to date. Res. in dev. of new proc., matls. relative to the mfr. of fibrous gasket matls. Mem.: A.C.S. (secy., Centr. Mass. Sect. 3 yrs.), Worcester Engrg. Soc., Reg. Prof. Engr. (Mass.). Hobby: photography.

GORDON, Hugh Byron, conslt., P.O. Box 122, Upper Montclair, N.J.; res. 212 Lorraine Ave., Upper Montclair, N.J.
Conslt. to chem. ind.; b. Brown Co., Ohio, 1887; s. of Sidney Corwin and Olevia (Marshall) Gordon; ed. Miami U., Oxford, Ohio, A.B., cum laude, 1908; Ph.D., U. of Ill., 1912; Columbia U., 1927-29, no deg.; mem.: Phi Lambda Upsilon; Gamma Sigma Epsilon; 1912-13, Bur. of Chem., Chicago; 1913-17, Texas A.&M. Coll., asst. prof., assoc. prof., acting hd. of dept.; 1917-19, Rutgers U.; 1919-20, 1921-28, res. chem., U.S. Testing Co., N.Y.C.; 1920-21, res. chem., Leeds & Northrup Co.; 1930-33, prof. chem. & chem. engrg., Engrg. Expt. Sta. Ala., Ala. Polytech. Inst., Auburn, Ala.; 1934-35, chem., Julius Kayser & Co.; 1936-42, res. chem., Johns-Manville Corp.; 1942-44, in chg. of chem. engrg. dept., Marquette U.; 1944-45, chf. chem., Phelps Dodge Res. & Dev.; 1945-46, res. engr., Pacific Mills; 1946-50, asst. prof., assoc. prof., Stevens Inst. of Tech., Hoboken, N.J.; 1950 to date, conslt. to chem. ind. Effect of light on dyed textiles, microscopic grading of wool, identification of fibers & other textile & anal. papers, unpubl. wk. on electrolysis of silicates. Numerous publ. in scientific journals. Mem.: A.C.S., A.I.Ch.E., N.Y. Microscopical Soc., Natl. Soc. of Prof. Engrs., A.A.T.C.C., A.A.U.P., T.A.P.P.I., A.S.T.M., A.I.C. Hobby: photography.

GORDON, Samuel H., v.p., dir. of res., Endo Prods. Inc., 84-40 101 St., Richmond Hill 18, N.Y.; res. 94-15 Stafford Ave., Forest Hills, N.Y.
Chem.; b. Boston, Mass., Sept. 27; 1898; s. of Hyman and Ida Gordon; ed. B.S., cum laude, Tufts Coll. 1922; M.S., State U. of Iowa, 1923; Ph.D., U. of Wis., 1926; Wrigley Fellow & N.R. C. Fellow at U. of Wis.; mem.: Pi Lambda Phi; m. Charlotte Blank, Dec. 25, 1923; ch.: Robert B., Ruth. Chem., Portland Cement Assn. 1923; chf., Am. Dental Assn. Bur. of Chem. & secy., Council on Dental Therapeutics, A.D.A., 1928-38; dir. of res., v.p., Endo Prods. Inc., 1938 to date. Res. in phytochem., chem. of dental drugs. Author: "Accepted Dental Remedies, Founder & Editor" 1935; "Dental Sc. & Dental Art" 1938. Mem.: A.C.S. (dir. & editorial bd., Chicago Sec.; alternate councillor, N.Y. Sec.; chmn., Metropolitan-L.I. subsec. of N.Y. Sec.); Am. Medical Assn. (affiliate fellow); A.A.A.S. (fellow); N.Y. Acdy. Sc. (fellow), A.I.C. (fellow); A.Phar.A., Sigma Xi, Alpha Omega Dental Soc. (hon.).

GORDY, Edward L(ee), asst. to gen. mgr. of res. and dev., Standard Oil Co. (Indiana), 910 S. Mich. Ave., Chicago, Ill.; res. 1710 Asbury Ave., Evanston.
Chem.; b. Danville, Pa., Feb. 27, 1904; s. of U.L. and Helen (Weaver) Gordy; ed. Haverford, B.S., 1925; Harvard Grad. Schl. of Arts and Scs., 1925-27; m. Alice Chambers McIlvaine, Oct. 12, 1935; ch.: William Downing, Anne McIlvaine. 1927-30 res. chem., plant superintendent, Pilot Labs., Inc.; 1931-34 editor, "The Chemist"; 1935-45 dir. res. and dev., W.C. Hardesty Co., Inc.; asst. to gen. mgr. of res. and dev. Standard Oil Co. (Indiana), 1945 to date. Mem.: A.C.S., A.I. C., A.O.C.S., A.A.A.S., Phi Beta Kappa. Club: Harvard (N.Y.). Hobbies: golf, tennis, squash racquets, bridge, fiction writing.

GORNOWSKI, Edward John, chem. engr., Standard Oil Dev. Co., Linden, N.J.; res. 15 La Salle Ave., Cranford, N.J.

Chem. engr.; b. Wilmington, Del., Feb. 27, 1918; s. of Stanley and Kathryn M. Gornowski; ed. Villanova Coll., B.Ch.E., 1938; U. of Pa., Ph.D., 1943; mem.: Alpha Chi Sigma, Sigma Xi; m. Dorothy M. Galvin, 1942; ch.: Edward, Thomas, Sue and David. Pyrites Co., Inc., Wilmington, Del., chem. engr.; Standard Oil Co. of N.J., (Louisiana), chem. engr.; (Linden), chem. engr. Fluid catalytic cracking, synthetic rubber, coal gasification. Mem.: A.C.S., Esso Res. Club: A.I. Ch.E., Alpha Chi Sigma, Sigma Xi.

GORRELL, Walter A., exec. v.p., 4209 E. Chase St., Baltimore 5, Md.; res. 703 Kenilworth, Phila. 44, Pa.
Management, exec.; b. Tyler Co., W.Va., 1893; s. of William and Sarah (Flesher) Gorrell; ed. public schls., night schls.; m. Virginia M. Nesbitt, June 16, 1914; ch.: Dorothy Virginia Gilbert, Helen Lois Fewsmith. Sherwin Williams Co., various exec. 1914-33; John Lucas & Co., v.p., gen. mgr. 1933-42; E.J. McAleer & Co., pres. 1942-49. Est. Geo. Heckel Memorial Scholarship at Drexel U. in Chem. Engrg. Schl. Various pamphlets on gen. subj. Mem.: Phila. Paint, Varn. & Lacq. Assn. (dir., pres.); Pressed Mtl. Inst., Cleveland, O. (dir., pres.). Clubs: Phila. Country, Phila. Rotary, Union League of Phila. Hobbies: golf, fishing.

GORTATOWSKY, Claude, dept. hd., Ingredients Control & Res. Dept., The Coca-Cola Co., 310 North Ave. N.W., Atlanta, Ga.; res. 297 S. Colonial Homes Circle N.W., Atlanta.
Chem.; b. Albany, Ga., May 22, 1898; s. of Henry and Stella (Ehrlich) Gortatowsky; ed. U. of Va.; Princeton U., B.S.; 1 yr. Grad. Coll., Princeton, spec. chem. simultaneously occupying part-time assistantship Princeton U.; mem.: Zeta Beta Tau; m. Harriette Liebman, Feb. 6, 1934; ch.: Erla. Southern Potassium Phosphate Co., Jacksonville, Fla., 1922-23, res. & anal. chem.; Granton Chem. Co., Highland Park, N.J., 1923-24, res. & anal. chem.; The Coca-Cola Co., Atlanta, Ga. 1924 to date, anal., res. chem., asst. to officer, dept. hd. Fld. of soft drinks. Mem.: A.C.S., A.I.C., A.A.A.S. Clubs: Princeton of N.Y., Standard Town & Country (Atlanta, Ga.). Hobby: horticulture.

GORTNER, Ross Aiken, Jr., prof. of biochem., Wesleyan U., Middletown, Conn.; res. Foss House, Wesleyan U., Middletown.
Coll. prof.; b. Cold Spring Harbor, L.I., N.Y., June 2, 1912; s. of Ross Aiken and Catherine Victoria (Willis) Gortner; ed. Oberlin Coll., 1929-30; U. of Minn., 1930-34 B.A. (magna cum laude) 1933, M.S., 1934; U. of Mich., 1934-37 (Ph.D., 1937); mem.: Alpha Chi Sigma; m. Mary Priscilla Cahill, Dec. 20, 1938; ch.: Katherine Clarke, Douglas Ross. 1934-35 U. fellow, 1935-37 grad. asst. U. of Mich.; 1937-41 instr., 1941-46 asst. prof., 1946-48 assoc. prof., since 1948 prof. biochem. Wesleyan U.: 1943-44 assoc. exec. secy., Food and Nutri. Bd., Natl. Res. Council, Wash., D.C.; 1944-46 res. off. (Lieut., U.S.N.R.) in nutrition, Naval Med. Res. Inst., Bethesda, Md. Author or co-author of more than 15 sci. papers dealing with selenium toxicity, tooth erosion, protein metabolism and nutrition. Author: "Outlines of Biochemistry," 3rd. edit., John Wiley & Sons, New York, 1949. Mem.: A.C.S., A.A.A.S., A.A.U.P., Am. Inst. of Nutri., Phi Beta Kappa, Sigma Xi, Gamma Alpha, Phi Lambda Upsilon. Vice-chmn. Conn. Nutrition Council; mem. of Middlesex Hosp. Schl. of Nursing Council. Club. Wesleyan Faculty. Hobbies: fishing, golf, stamp collecting.

GORTNER, Willis Alway, hd., Chem. Dept., Pineapple Research Inst. of Hawaii, Honolulu, T.H.; res. 4675 Aukai Ave., Honolulu, T.H.
Res. chem.; b. Cold Spring Harbor, Long Island, N.Y., Dec. 20, 1913; s. of Ross Aiken and Catherine V.W. Gortner; ed. U. of Minn., B.A. (magna cum laude), 1934; Ph.D., U. of Rochester, 1940; mem.: Alpha Chi Sigma; m. Florence Pickett, 1933; ch.: Willis A. II, David Allen. Res. chem., General Mills, Inc., 1934-37; tchg. asst. in biochem., U. of Rochester, 1937-40; res. chem., General Mills, Inc., 1940-42; asst. prof. biochem., Cornell U., 1943-45 (joint appt. as asst. prof. chem. engr. dur. this period); assoc. prof. biochem., Cornell U., 1945-48; hd., Chem. Dept., Pineapple Res. Inst., 1948 to date. Chmn., Hawaiian Section of A.C.S., 1949-50. Author: "Principles of Food Freezing," John Wiley & Sons, New York, 1948; "Outlines of Biochemistry," editor of 3rd edition, John Wiley & Sons, New York, 1949. Mem.: A.A.A.S., A.C.S., Sigma Xi, Phi Lambda Upsilon, I.F.T., Am. Soc. of Biolog. Chems., Hawaiian Acdy. of Science.

GOSNELL, Everett C., v.p., mgr. Chem. & Proc. Equip. Div., Colonial Iron Wks. Co., 17643 St. Clair Ave., Cleveland 10, Ohio; res. 19951 S. Lake Shore Blvd., Euclid, Ohio.
Chem. engr.; b. Oct. 1, 1904, W. Terre Haute, Ind.; s. of Dennis S. and Mary J. Fears Gosnell; ed. B.S. chem. engrg., Rose Poly. Inst., 1925; A.M. Chem. & Metal., Ind. U., Bloomington, Ind., 1927; mem.: Alpha Chi Sigma; m. Marion L. Castles, June 13, 1931; ch.: Phyllis J., Marilyn D. 1925-26 Ind. Coke & Gas Co., Terre Haute, Ind., chem. engr.; 1927-31 Koppers Res. Corp., Pitts., Pa., res. & dev. chem. engr.; 1931-32 McCloskey Varn. Co., (asst. dir., res.); 1932-34 Koppers Co., tech. serv. engr.; 1934-37 Internatl. Nickel Co., N.Y., tech. serv. engr. corrosion; 1937-39 jointly engaged by Intl. Nickel Co., Lukens Steel Co., (dev. engr. clod. steels); 1939-46 chem. engr., mgr. chem. div. Lukens Steel Co., Coatesville, Pa.; 1946 to date Colonial Iron Wks. Co., v.p., mgr. chem., Proc. Equip. Div., dir.

GOSS, Warren Hand, assoc. dir., Dept. of Sc. Res. & Tech. Dev., Pillsbury Mills, Inc., Minneapolis, Minn.; res. 4846 Thomas Ave. South, Minneapolis 10.
Chem. engr.; b. Portland, Ore., May 27, 1912; s. of Albert S. and Minnie (Hand) Goss; ed. U. of Wash., Seattle, Wash., 1929-33 B.S. in chem. engrg., 1933; U. of Md., College Park, Md., 1934-36, grad. studies in chem.; U. of Ill., Urbana, Ill. 1938-40, grad. studies in chem. engrg.; mem.: Alpha Chi Sigma; m. Marie Austin Clarke, June 27, 1936; ch.: Albert Clarke, Helen Austin. Natl. Bur. of Stand., Wash., D.C., 1933-37, chem.; Regional Soybean Lab., Urbana, Ill., 1937-42, chem. engr.; Northern Regional Res. Lab., Peoria, Ill., 1942-47, asst. to dir.; Pillsbury Mills, Inc., Minneapolis, Minn., 1947 to date, assoc. dir. of res. Co-author: "Soybean Chem. & Tech." 1944. Author: "The German Oilseed Ind." 1947. Mem.: A.I.Ch.E., A.O.C.S., A.C.S., Am. Soybean Assoc., Twin City Sec. of A.I.Ch.E., Soybean Res. Council (chmn.), Natl. Soybean Processors Assn. Clubs: Exchange (pres., Champaign & Peoria, Ill. 1939-47), 5:55 Club (Minneapolis, 1948 to date). Hobbies: fishing, radio, shop, swimming, other water sports

GOTTHOFFER, Nathan R., chem. conslt., private practice, 5819 Kinoll Ave., Cincinnati 13, O.; res. same.
Conslt.; b. Orange, N.J., March 1, 1901; s. of Joseph and Rosa Scher Gotthoffer; ed. B. Chem., Cornell U., 1922; m. Esther Abramovitch, Aug. 5, 1926; ch.: Martha Zelda, Barbara Jane. Chf. chem., American Zeolite Co., 1923-27; dir. of res., Grayslake Gelatin Co., 1927-46; res. administrator, The Drackett Co., 1946-49; chem. conslt., private practice, 1949 to date. Co-patentee, U.S.

No. 2,024,683, Gelatin product and method, U.S. 2,253,614—Gelatin milk dessert compn., U.S. 2,258,567, method for conserving flavoring (The "Flavor-Sealed" process); U.S. 2,367,269—citrus oil flavoring mtls.—also paper "Some Considerations with Respect to Soybean Protein" presented at Coating Conference of Tappi, Apr. 27, 1949. Author: "Gelatin in Nutrition and Medicine" 1945; co-author: "Ice Cream Production Guide" (3 editions, 1939, 1940, 1941-42). Mem.: A.A.A.S., A.C.S., T.A.P.P.I., (Ohio section). Formerly: pres. (3 yrs.) Grayslake Public Library Bd.; secy., Zoning Commission. Club: Cornell (Southern Ohio). Hobbies: gardening, tennis, badminton, chess, ice skating, swimming, stamps.

GOUGER, Matthew Martin, dir. Personnel Relations, General Aniline & Film Corp., 230 Park Ave., New York 17, N.Y.; res. 59 Payne Whitney Lane, Manhasset, N.Y.
Dir. Personnel Relations conslt., personnel and public relations; b. Tilden, Texas, Mar. 2, 1905; s. of Robert O. and Cornelia May Porter Gouger; ed. B.B.A., U. of Texas, 1928; mem.: Sigma Iota Epsilon; m. Mary Louise Goehring, Sept. 25, 1943; ch.: Ann Virginia. Commercial mgr., Community Public Service Co., Ft. Worth, Texas, 1930-35; gen. mgr., Eastern Div., Western Light & Telephone Co.; v.p. and dir., East Bethlehem Water Co., 1935-41; asst. gen. supt., Natl. Tube Co., Div. of U.S. Steel Corp., 1941-45; mgr. of personnel, Pittsburgh Plate Glass Co., 1945-46; v.p. and dir., Glenn L. Martin Co., Baltimore, 1947-48. Reserve Officer, Air Corps. Clubs: Rotary International, Quiet Birdmen, University (Pittsburgh), Baltimore Country and Merchants (Baltimore), Strathmore-Vanderbilt Country (dir.). Hobbies: fishing, golf, horseback riding.

GOULARD, Alexander, pres., Goulard & Olena, Inc., Skillman (Somerset Co.), N.J.; res. Neca Farm, Skillman, N.J.
Exec.; b. Port Richmond, N.Y., Oct. 16, 1885; s. of Henry J. and Sadie Agnes Goulard; ed. Friend's Acad., Locust Valley, N.Y. and U.S. Naval Acad., Annapolis; m. Edith Carrell, Jan. 20, 1916; ch.: Mrs. Carrell G. Hutchinson, Alexander, Jr., M.D. For 13 yrs. mgr., Chem. Div., W.R. Grace & Co., N.Y.; built and managed their modern Nitrate Agencies Company Plant in Bayonne, N.J.; sales mgr. with John Lucas & Co., Phila., Pa.; for 28 yrs. pres. of Goulard & Olena, Inc., New York, Baltimore and Skillman, N.J., mfrs. of chems., insecticides, desinfectants, metal spec.; res. in fertilizers, insecticides and fungicides; Japanese beetle control wk.; golf greens fungus control; new type of patented spraying equipment. Author of over 100 pubs. on above subjs. with radio scripts and series of broadcasts over Amer. Broadcasting WJZ, N.Y. Station. Mem.: Amer. Rose Soc., Local Garden Clubs, Internat. Flower Shows. Clubs: The Drug & Chemical (N.Y.C.); Atlas Lodge, F.&.A.M., (Westfield, N.J.). Hobbies: farming, developing garden gadgets, fishing, golf.

GOULD, Arthur Benjamin, prof. of chem. and phys. sc., W.Va. Wesleyan Coll., Buckhannon, W.Va.; res. R. 3 Box 299, Buckhannon.
Tchr.; b. Lewis Co., W.Va., Nov. 7, 1901; s. of Percy B. and Iva (Cooper) Gould; ed. W.Va. Wesleyan Coll., B.S., 1923; Cornell U., M.S., 1926; Ph.D., 1935; m. Lillie Brady, 1944. 1924-25 tchr., Elkins H.S., Elkins, W.Va.; 1924,1925, 1926, W.Va. Wesleyan Coll. Summer Schl.; 1926-43 prof. chem. Salem Coll., Salem, W.Va.; 1943 to date prof. of chem. and phys. sc., W.Va. Wesleyan Coll. Res. in polymeric thiocyanogen; amides of alkali and alkaline earth metals. Mem.: A.A.A.S., A.C.S., W.Va. Acdy. of Sc. Club: Lions. Hobbies: photography, travel.

GOULD, David Foster, asst. operations mgr., Borden Co. Chem. Div., 5000 Summerdale Ave., Phila., 24 Pa.; res. Riverton, N.J.
Mfg. exec.; b. Beverly, Mass., June 7, 1892; s. of Eugene H. and Carrie Lee Gould; ed. B.S., 1914, M.I.T.; mem.: Theta Chi; m. Marjorie Esther Orchard, Dec. 29, 1917; ch.: David F. II., Robert E., Virginia L. Res. chem., General Lead Batteries Co., 1914-17; res. chem., Mexican Pet Co., 1917-19; res. chem., Barrett Co., 1919-22; res. chem., asst. supt., Victor Talking Machine Co., 1922-29; res. chem., Calco Chem. Co., 1929-30; chf. chem., Barrett Div., A.C.&.D. Corp., 1930-45; res. dir., Decca Records, 1945-46; asst. operations mgr., Durite Plastics later Borden Co. Chem Div., 1947 to present. Mem.: A.C.S., A.S.T.M.

GOULD, Howard Woodham, prof. of physical sc., Northern Ill. State Teachers Coll., DeKalb, Ill.; res. 137 Normal Rd., DeKalb.
Coll. teacher; b. Bone Gap, Ill., June 21, 1896; s. of Rolla A. and Emily A. Gould; ed. McKendree Coll., 1914-18, B.S., 1918; U. of Ill., 1920-25 at intervals, M.S., 1922; State U. of Iowa, 1927-29, Ph.D., 1929; P.G. study 1930-36 at intervals at Universities of Chicago, Iowa, Mich.; m. Alice Everett, June 14, 1922; ch.: Alice Emily, Constance Gabrielle. Instr. in English, McKendree Acdy., 1919-20; asst. & instr. in chem. & physics, McKendree Coll., 1920-22; asst. in chem., U. of Ill., 1923-25; asst. & assoc. prof. of chem., James Millikin U., 1925-27; res. engr., Mueller Co., Decatur, Ill., 1926-27; prof. of physical sc., Northern Ill. State Teachers Coll., 1927 to date, hd. of Dept. of Physical Sc. 1931 to date. Rare earths (separation & purification of gadolinium); search for elements 43 & 75, unsuccessful; studies of copper-zinc-silicon systems; porosity in brass castings. Author: "Textbook of Physical Sc.," Edwards Bros. 1933, 1935, 1937, lithoprinted ed. Mem.: A.C.S., A.A.A.S., Am. Assn. of Physics Tchrs., A.A.U.P., Natl. Educational Assn., Ill. Educational Assn., Sigma Zeta, Phi Lambda Upsilon. Trustee, Methodist Church of DeKalb. Club: Kiwanis of DeKalb (pres. 1949). Hobbies: chess, gardening.

GOULD, Jack U., dir. of res. & prod. dev., Ferdinand Gutmann & Co., 3611 Fourteenth Ave., Bklyn. 18, N.Y.; res. 360 Ocean Pkway., Bklyn. 18.
Mech. engr. (licensed P.E., State of N.Y.); b. Odessa, Russia, Jan. 14, 1906; s. of Abraham and Anna Gould; ed. Cooper Union Schl. of Engrg., 1927, B.S. in M.E.; Bklyn Polytech. Inst., 1929-30; m. Esther Gould, July 3, 1947; ch.: Arlene Jessica. Eagle Pencil Co., N.Y.C., asst. res. dir.; Ferdinand Gutmann & Co., Bklyn., N.Y., dir. of res. & prod. dev. and secy. Mem.: A.S.M.E., Cooper Union Alumni Assn. (mem. of bd. of governors). Mem. Alumni Assn. Advisory Comm. to Cooper Union Trustees. Hobbies: photography, philately.

GOULD, Robert Francis, managing editor, "Chem. & Engrg. News," 1155 Sixteenth St. N.W., Wash. 6, D.C.; res. 5508 Burling Ct., Bethesda 14, Md.
Chem., editor; b. Schenectady, N.Y., May 5, 1914; s. of Louis A. and Bessie (Draime) Gould; ed. Syracuse U., B.S. in chem., 1936, M.S., 1938; mem.: Psi Upsilon; m. Constance P. Randolph, Jan. 22, 1949. Buckeye Cotton Oil Co., Chem. Pulp. Div., 1938-44; A.C.S. 1944 to date. Founding editor of The Memph-ion, now The Southern Chemist, publ. by Memphis Sec. of A.C.S. Mem.: Alpha Chi Sigma, Sigma Xi (assoc.), Sigma Pi Sigma, A.C.S. Club: Chemists'. Hobbies: philately, golf, gardening.

GOULDEN, Harold De Witt, dir. sci. res. and stds., The Toilet Goods Assoc., Inc., 9 Rocke-

feller Pl., New York 20; res. 57 Cobane Terr., W. Orange, N.J.
Chem.-exec.; b. Bridgeport, Conn., Sept. 28, 1900; s. of Louis De Witt and Hattie (Bennett) Goulden; ed. Rutgers Coll., B.Sc., 1923; mem.: Kappa Sigma; m. Mary Elizabeth Williams, June 23, 1926. 1923-24 res. chem. Howe Rubber Co., New Brunswick, N.J.; 1924-27 res. chem. E.R. Squibb & Sons, New Brunswick, N.J.; 1927-31 dir. labs., Health Prods. Corp., Newark, N.J.; 1927-31 instr. biol. scs., Rutgers U., Coll. of Phar.; 1931-33 Stanco Fellow, Rutgers U.; Coll. of Phar.; 1933-35 dir. chem. res. Mennen Co., Newark, N.J.; 1935-42 gen. mgr. Jacqueline Cochran, Roselle, N.J.; 1942 to date dir. sc. res. and stds., Toilet Goods Assoc., N.Y.C.; res. in physiologic effects of inhalation of chloroform, ether, ethylene, butylene, amylene, propylene, propadiene, acetylene and methyl acetylene; vitamins and vitamin concentrates—antiseptics, germicides and fungicides—toilet preparations. Mem.: A.C.S., A.Pharm.A., Soc. of Cosmetic Chems., A.A.A.S. (fellow); A.I.C. (fellow); life mem. N.Y. Acad. Sc., Phi Lambda Upsilon, Kappa Psi, Scabbard & Blade. Hobbies: pistol shooting, woodworking, high fidelity reprod. phonograph records.

GOUQ-JEN SU, visiting prof. chem. engr., U. Rochester, Rochester 3, N.Y.; res. 226 Castleman Rd., Rochester 20.
Chem. engr.; b. Fukien, China, Mar. 15, 1908; s. of Yung-Chang and Kiang-Shih; ed. Natl. Tsing Hua U., Peking, China, B.S. Chem., 1931; M.I.T., Sc.D. Chem. Engr., 1937; m. Shou-Tsung Chiao, Apr. 22, 1939; ch.: Irene, Tina, Eugene. Lecturer. Natl. Tsing Hua U., 1937-38; asst. prof. 1938-39; assoc. prof., prof., hd. Dept. Chem. Engr., Natl. South-Western Assoc. U. Kunming 1939-43; chf. chem. engr., gen. mgr. Heng-Tung Chem. Industs., Ltd., Kunming, 1943-45; visit. engr. Jos. E. Seagram & Sons, Inc., Louisville, Ky. 1946-47; visit. prof. chem. engr. U. Rochester, 1947 to date. Res. on compressibility of gases, sugar ref., alcohol prods. Author: "Modified Law of Corres. States for Real Gases," "Change of Latent-Heat of Vaporization with Temp." "On the Compressibility of Gas Mixtures," all pub. in sc. jls. Mem.: A.I.Ch.E., A.C.S., Sigma Xi. Club: M.I.T. (Rochester). Hobbies: swimming, hiking.

GRACIA, Albert Joseph, off. of v.p. for res. and dev., Goodyear Tire & Rubber Co., Akron, Ohio; res. 1639 Ohio St., Cuyahoga Falls, Ohio.
Chem. engr.; b. Cambridge, Mass., Oct. 11, 1905; s. of Joseph M. and Anna M. Gracia; ed. M.I.T., S.B.; Harvard Grad. Schl. of Bus. Admin., A.M.P.; m. Josephine Buswell, June 21, 1929; ch.: Janet, Judith. 1928 to date with Goodyear Tire & Rubber Co., in following positions: 1928 res. div., 1930 chem. engr. div., 1937 (secy., hd.) section head chem. engr. div., 1942 div. mgr. chem. engr. div., 1949 office of v.p. for res. and dev. On rubber res. tech. comms. for dev. of synth. rubber program; holds misc. pats. Mem.: A.C.S., A.I.Ch.E. Mem.: Cuyahoga Falls, Ohio, Schl. Bd. 1946 to date. Hobbies: photography, painting.

GRADEN, William F., res. dir., Simonds Abrasive Co., Tacony & Fraley Sts., Phila. 37, Pa.; res. 635 Linden Ave., Riverton, N.J.
Res. dir.; b. Chester, Pa., Apr. 3, 1908; s. of John F. and E. Pearl Graden; ed. public schls. Chester, Pa.; Dickinson Coll., Carlisle, Pa.; mem.: Sigma Chi; m. Alice D., Aug. 1933; ch.: Wm. F., Susan M. Natl. Malleable & Steel Casting Co., Cleveland, 1933-42; Simonds Abrasive Co., Phila., 1942 to date. Mem.: Am. Soc. for Quality Control, Am. Ceramic Soc., Am. Foundrymens Soc.

GRADY, Roy I., prof., hd. of Chem. Dept., Coll. of Wooster; res. 1753 Burbank Rd., Wooster, Ohio.
Chem.; b. East Union, Ohio; s. of Josiah Milburn and Carrie A. (Mackey) Grady; ed. Wooster H.S., 1910; Coll. of Wooster, B.S., Phi Beta Kappa, 1916; Ohio State U., M.S., Ph.D., 1918, 1923; m. Mary Jane Hair, July 1916; ch.: Dorothy Jane, Harold Roy. Taught in public schls., Seville, Ohio, 1911-13; dairy chem., Ohio Agric. Expt. Station, 1916-18; instr. in chem., 1918-20, asst. prof. in chem., 1920-23, prof., hd. of dept., 1923 to date, Coll. of Wooster. Res. in chem. ed. & org. silicon cmpds. Author: "The Chemist at Work" 1941. Mem.: A.C.S. (councillor 1943-45, pres. Wooster sec. 1941-43); Ohio Chem. Teachers Assn. (pres. 1932-35); Ohio Acad. of Sc. (fellow); A.A.A.S. (fellow); Sigma Xi. Club: Kiwanis (past pres.). Hobby: gardening.

GRAF, August Vincent, chf. chem. engr., St. Louis Water Wks., Chesterfield, Mo.; res. 3848 Flad Ave., St. Louis 10, Mo.
Chem. engr. in chg. of water purif.; b. St. Louis, Mo., Jan. 9, 1882; s. of August and Sophia Graf; ed. Washington U., A.B.; mem.: Sigma Nu, Alpha Chi Sigma; m. Millye S. Schafer, Apr. 14, 1910; ch.: Ruth Marcella, A. Vincent, Paul R. Instr. in chem. Wash. U.; chem., later night supt., Lead Smelter, St. Joseph Lead Co.; chem. Robert W. Hunt Co.; chf. chem. Municipal Testing Lab.; chf. chem. later chf. chem. engr. St. Louis Water Wks. Patented use of sodium silicate with alum for water purification; specified partly dried ferrous sulfate to minimize caking; design low reading turbidimeter and bacterial counter; pub. arts. concerning water purif. various chem. and trade jls. Mem.: A.C.S., A.I.Ch.E., Am. Pub. Health Assoc. (fellow); N.E. Water Wks. Assoc.; reg. prof. engr., Fuller Awardee, Am. Water Wks. Assoc. Club: B.P.O. Elks. Hobbies: reading, theatre collector of books.

GRAFF, Alan R., pres., The Columbia Malting Co., Bd. of Trade Bldg., Chicago; res. 1641 W. 104th St., Chicago.
Exec.; b. Chicago, June 1, 1910; s. of Edwin A. and Josephine M. Graff; ed. Cornell U. B. Chem., 1932, chem. engrg., 1933; mem.: Alpha Delta Phi; m. Margaret Shuman in 1940; ch.: Alan R., Jr., David S., Dorothy J. 1933-38, E. I. du Pont de Nemours & Co., Wilmington, Del., engrg. dept., ind. engrg. & design divs.; 1938-40, Lake Erie Chem. Co., Cleveland, O., & U.S. Ordnance Engrs., Inc., v.p. (dev., design & erection of toxic chems. plants; work on chem. warfare protective agents and devices); 1940-42, The Columbia Malting Co., Chicago, v.p., mfg.; 1942 to date., pres. Mem.: A.I.Ch.E., A.C.S., A.I.C., A.A.C.C., A.A.A.S. Club: Union League (Chicago).

GRAFF, Robert A., pres. Graff Engrg. and Equip. Co., 3415 Westminster Ave., Dallas, Texas; res. 3305 Colgate Ave., Dallas.
Chem. engr., chem.; b. Oct. 15, 1912; s. of Anthony and Bertha (Lehosky) Graff; ed. U. of Fla., B.S., 1933; Louisiana State U., 1940; m. Mary Stella Bass, 1934; ch.: Robert A. Jr., Mary Elizabeth. 1934-35 asst. chem., Fla. Experiment Sta., Gainesville, Fla.; 1936-37 res. and dev. chem., Swann Chem. Co., Birmingham, Ala.; 1937-45 org. chem., chf. proc. engr., Girdler Corp., Louisville, Ky.; 1945 to date pres., Graff Engrg. and Equip. Co. Specialist in org. nitrogen compounds, gas purification and prod. Mem.: A.C.S., A.I.Ch.E., Dallas Petroleum Engrs. Club, Engineers Club of Dallas.

GRAFTON, Corydon M., chf. chem., Plastic Div., Goodall-Sanford Inc., Reading, Mass.; res. 91 Elm St., Wakefield, Mass.
Chem. engr.; b. LeGrande, Iowa, June 25, 1903;

s. of Jesse C. and Maud F. Grafton; ed. B.S. in chem. engrg., Wash. State Coll., Phi Beta Kappa; m. Beatrice A. Hawes, 1933; ch.: Robert B., Donald L., Ann F. Chem., du Pont Rayon Co., 1928-30; chem., Puritan Soap Co., 1930-35; dev. engr., U.S. Rubber Co., 1935-42; tech. dir., Cordo Chem. Corp., 1942-47; chf. chem., Goodall-Sanford, 1947 to date. Mem.: A.C.S., A.I.C. Hobbies: snow crystal photography, micro-stereo photography in color.

GRAFTON, Cuthbert Frederick, v.p., sales mgr., Chapman Chem. Co., 707 Dermon Bldg., Memphis 3, Tenn.; res. 359 Roseland Pl., Memphis 11, Tenn.
Sales mgr.; b. Concrete, Wash., Sept. 16, 1913; s. of Walter M. and Clara A. (Betts) Grafton; ed. B.S., U. of Minn., 1937; m. Irene L. Polvi, May 21, 1938; ch.: Loretta Louise, Susan Irene. 1937-39 salesman, Amer. Creosoting Co., Chicago, Ill.; 1939-41 jr. forester, U.S. Forest Service, Laramie, Wyoming; 1941-48 salesman and distr. mgr., Chapman Chem. Co., New Orleans, La.; 1948 to date v.p. and sales mgr., Chapman Chem. Co., Memphis 3, Tenn. Mem.: Amer. Wood Preservers Assoc., Memphis Sales Mgrs. Club, Natl. Pest Control Assoc., Society of Amer. Foresters. Clubs: Colonial Country (Memphis, Tenn.). Hobby: carpentry.

GRAHAM, Claire Embley, res. dir., The Wilson Labs., 4221 So. Western Ave., Chicago, Ill.; res. 3936 Woodland Ave., Western Springs, Ill.
Biochem.; b. Abingdon, Ill., Jan. 6, 1901; s. of Benjamin Franklin and Lydia Belle Myers Graham; ed. B.S., U. of Ill., 1925, Ph.D., St. Louis U. Schl. of Medicine, 1931; mem.: Tau Kappa Epsilon; m. Verna May Rikard, Jan. 1, 1932; ch.: James Neal, Joan Claire. Chem., Ill. State Dept. of Agr., Div. of Foods and Dairies, 1925-26; asst. in biochem., St. Louis U. Schl. of Medicine, 1926-31; res. biochem., The Wilson Labs., 1931-38; res. dir., 1938 to present. Res. in nutrition, vitamins, enzymes, amino acids, bile acids, hormones. Mem.: Am. Soc. of Biol. Chems., Soc. of Experimental Biology and Medicine, A.C.S. Hobbies: fishing. gardening.

GRAHAM, Horace R., pres., Anglo Chilean Nitrate Corp. & Lautaro Nitrate Co. Ltd., Teatinos 220 Santiago, Chile, Casilla 96D; res. 2453 Hortensias, Santiago, Chile.
Mining engr.; b. N.Y.C., June 11, 1886; s. of William H. and Theresa L. (Reynolds) Graham; ed. public schl., N.Y.C.; Horace Mann Schl., N.Y.C., 1900-04; Columbia Schl. of Mines, N.Y.C., 1904-08, engr. of mines; mem.: Alpha Delta Phi, Sr. Soc. Nacoms; m. Leah Chambers, Apr. 22, 1913; ch.: Horace R. Jr., Leah T., Marguerite C. Laborer, engr., Nevada Consolidated Copper Co., Ely, Nev., 1908-10; engr., Braden Copper Co., Rancagua, Chile, 1910-20; gen. mgr., Caracoles Tin, LaPaz, Bolivia, 1920-30; exec. v.p., Anglo Chilean & Lautaro, Chile, 1930-45, pres. 1945 to date; dir. in Anglo Chilean Nitrate Corp.; Lautaro Nitrate Co. Ltd.; Chilean Nitrate & Iodine Sales Corp. (Chile); Chilean Nitrate Sales Corp. N.Y.C.; v.p. Inter Am. Cooperation Corp.; dir., Pacific Tin Consolidated Co.; Minerec Corp.; Guggenheim Nitrate Corp.; mem. Latin Am. Advisory Comm.; Pan American Society, Chairman of the Chilean Committee. Article "Nitrates," Rocks & Rock Minerals; "Braden Mining Operations" Mining World, London. Mem.: A.I.M.E., U.S.A. Inst. Mining & Metallurgy, Soc. Mining Engrs. Awards: M. for Excellence—Columbia U.; Commander Order Condor of the Andes-Bolivia; Commander, Grand Officer, Order of Merit, Chile. Clubs: Columbia University, Metropolitan Anglers, University, Bankers, Mining, Golf Blind Brook, Winged Foot, Prince of Wales (Chile), Paperchase & Polo (Santiago, Chile), Union Club, Phoenix, Am. Soc. Hobbies: fishing, hunting, photography, golf.

GRAHAM, James Montrose Jr., asst. dir., Gen. Engrg. Dept., Monsanto Chem. Co., 1700 S. Second St., St. Louis, Mo.; res. 60 N. Maple Ave., Webster Groves, Mo.
Chem. engr.; b. Richmond, Va., Feb. 3, 1907; s. of J. M. and Isabel (Powell) Graham; ed. U. of Va., 1927, B.S. in chem. engrg., 1929, M.S. in physical chem.; mem.: Sigma Phi Epsilon, Alpha Chi Sigma, Tau Beta Pi; m. Alice Winifred Garner, July 7, 1928; ch.: Joan Calder, J. M. III, Alice Virginia. 1929-31, city engr., City of Charlottesville, Va.; 1931-32, operating supvr., Coronet Phosphate Co., Pembroke, Fla.; 1932-34, salesman, Gregory & Graham, Inc., Richmond, Va.; Monsanto Chem. Co.: 1934-37, res. engr., Anniston, Ala.; 1937-42, group leader res., Anniston, Ala.; 1942-45, chf. chem. engr., phosphate div., Anniston, Ala.; 1945-47, project engr., gen. dev. dept., St. Louis, Mo.; 1947, asst. dir. gen. dev. dept., St. Louis, Mo.; 1947-48, sec. mgr., process, gen. engrg. dept., St. Louis, Mo.; 1948 to date, asst. dir., gen. engrg. dept., St. Louis, Mo. Elemental phosphorus, phosphoric acid, phosphate salts, management of chem. engrg. activities. Mem.: A.I.Ch.E. Hobbies: engineering organization and economics.

GRAHAM, John Howard, prof. and hd. Dept. Org. Chem., Temple U., 3223 N. Broad St., Phila. 40, Pa.; res. 113 Cliveden Ave., Glenside, Pa.
Chem. and tchr.; b. Phila., Pa., Dec. 29, 1880; s. of Jonathan Wesley and Anna (Mifflin) Graham; ed. Central H. S., Phila.; U. of Penn., A.B., B.S. (chem.), 1902; M.A. (ed.), 1927; mem.: Sigma Xi; m. Lillian Mae Cogswell, June 19, 1906; ch.: Marguerite R. Wetmore, Dorothy C. Miller, Ruth E. Simons, Lois A. Anderson, Janet M. Schuyler. 1902-03 chf. chem. Spanish Amer. Iron Co., Daiquiri, Cuba; 1903-30 prof. chem. and geol., Central H.S., Phila.; Drexel Inst.; Central High Summer Schl.; Germantown, Frankford and Mastbaum evening schls.; conslt. Central Ry. Signal Co. 1914-18; res., Rohm & Haas Co., 1918; 1926 to date, Temple U. Schl. of Phar. (org. chem.). Author: "Physics Lab. Manual," 1927. Mem.: A.C.S., A.A.U.P., Penn. Acdy. Sc., Penn. Bee Assoc., Priestly Prize in chem. 1902; dir. Westminster Cemetery, Phila. Hobbies: fishing, hunting, bee-keeping, gardening.

GRAHAM, Lynford E., dept. mgr., phar. prod., Sharp & Dohme, Inc., 640 N. Broad St., Phila., Pa.; res. 3647 N. 9th St., Phila. 40, Pa.
Chem. engr.; b. Phila., Apr. 30, 1910; s. of Clarence E. and Clara E. Graham; ed. U. Pa., 1932, B.S. Chem. Engr.; mem.: Alpha Chi Sigma, Pi Mu Epsilon; m. Marie F. Euler, Sept. 24, 1934; ch.: Lynford E., Jr. Chf. chem., J. Meyer & Sons, Phila., 1932-41; U.S.A., 1941-46, Lt. Col. Chem. Corps; dept mgr., Sharp & Dohme, Inc., Phila., 1946 to date. Mem.: A.C.S., Alpha Chi Sigma.

GRANT, Robert James, v.p. and gen. mgr., Young Aniline Wks. Inc., 2731 Boston St., Baltimore 24, Md.; res. 328 St. Dunstans Rd., Baltimore 12.
Chem.; b. Buffalo, N.Y., Nov. 2, 1895; s. of James and Ann (Sewell) Grant; ed. Cornell U., 1917, B.C.; mem.: Alpha Chi Sigma; m. Mary Buswell, Mar. 2, 1921; ch.: Robert B., Hanna M. Fed. Dyestuff Corp., chem. 1917; U.S.A. 1918; Noil Chem. & Color Wks., 1919-32 (mgr. 1930-32); Young Aniline Wks. Inc., v.p., gen. mgr., dir., 1933 to date. Res. in aniline dyestuffs. Mem.: A.I.C., A.A.T.C.C. Clubs: Chemists' (N.Y.); University (Boston); Baltimore Country; Cosmopolitan. Hobbies: golf, bridge.

GRASSELLI, Caesar Augustin, II, mgr. Government Contacts Div., Foreign Relations Dept., E. I. du Pont de Nemours & Co., Wilmington, Del.; res. 1100 Blackshire Rd., Wilmington.
Exec.; b. Cleveland, Ohio, Feb. 17, 1901; s. of Thomas S. and Emilie S. Grasselli; ed. Cornell U., A.B., 1924; mem.: Delta Kappa Epsilon; m. Elizabeth Hunkin, Oct. 12, 1929; ch.: Josephine E. 1925-26 Grasselli, N.J. workman (Grasselli Chem. Co.); 1927-29 Cleveland, Ohio; 1930-35 dev. dept., du Pont Co., Wilmington; 1935-39, du Pont Co., London 1939 European mgr.; 1940-41 foreign relations dept., Wilmington; 1942-46 U.S.A. to active duty as Major, released as Colonial, Legion of Merit, O.B.E.—43 mos. England, Africa, Italy, France, Austria; 1946 to date mgr. Government Contacts Div., Foreign Relations Dept., E. I. du Pont de Nemours & Co., Wilmington; v.p. and dir. Warsaw Elevator Co. Clubs: Wilmington, Wilmington Country, Vicmead Hunt, Union (Cleveland), Tavern (Cleveland).

GRAVES, Harold Edward, prof. and hd. Dept. of Chem. Engineering, Rhode Island State Coll., Kingston, R.I.; res. Kingston, R.I.
Prof. of chem. engineering; b. Beardsley, Minn., Feb. 20, 1909; s. of Leonard S. and Minnie Timberg Graves; ed. Hamline U., U. of Minn., B.S. Ch.E., 1932 (March), M.S. Ch.E., 1932 (Dec.), Ph.D., 1935; mem.: Phi Delta, Alpha Chi Sigma; m. Margaret D. Olson, June 19, 1935; ch.: Robert H., Carol Ann. 1935-36, res. chem., Calco Chem. Div., Amer. Cyanamid Co.; 1936-38, assoc. prof. chem. engrg., Mississippi State Coll.; 1938-40, instr. chem. engrg., Yale U.; 1940-41, asst. prof. chem. engrg., Worcester Polytechnic Inst.; 1941-48, prof. chem. engrg., Worcester Polytechnic Inst.; 1948 to present, prof. & hd. Dept. of Chem. Engrg., Rhode Island State Coll. Mem.: A.I.Ch.E., A.C.S., Am. Soc. Engrg. Education, A.A.U.P., Sigma Xi, Providence Engineering Soc.

GRAY, Arthur Wellington, conslt. physic., metall.; res. 512 Colonial Ave., Westfield, N.J.
Conslt. physic., metall.; b. Bklyn., N.Y., Feb. 19, 1875; ed. U. of Calif., A.B., 1896; U. Berlin, Ph.D., 1904; m. Susie Perkins Atkinson, June 28, 1908 (dec. Apr. 20, 1944); ch.: 1 son (dec.). S. Pacific Ry. Co., machinist, 1895; U. Calif., lect. asst. phys., 1897-98; Wilmerding Schl. Ind. Arts, tch. math., 1900; Merced Co. H.S., hd. sc., math., v.-prin., 1900-02; U. Calif., Whiting travel fellow in phys., 1902-04; Cryogenic Lab., Holland, dir., pvt. res. asst. to Kamerlingh Onnes, 1904-05; U. Calif., Whiting res. instr. phys., 1905-09; U.S. Bur. Stds., chf. thermal expansivity sect., 1909-16; 1st Internatl. Commis. Assoc. Internatl. du Froid 1913; 2nd Pan-Amer. Sc. Congress, alternate deleg. from Am. Inst. Metals, 1915; Pan-Pac. Internatl. Expos. chg. Bur. Stds. Exhibit 1915; L. D. Caulk Co., dir. phys. res., 1916-25; Calco Chem. Co., physic. 1925-28; Dielectric Prods. Inc., v.p., dir. res., 1928; Brown Instrument Co., assoc. dir. res., 1929-30; Baker & Co., Dental Mfg. Dept., consult. phys., metall., from 1932-37. Author about 50 orig. papers on many subjs., notably on dental amalgam. alloys. Mem.: A.Phys.S. (fellow); A.A.A.S. (fellow); Royal Soc. Arts. (London, fellow); Optical Soc. of Am.; A.I.M.E.; A.S.T.M.; Inst. Metals (Gt. Brit.); Sigma Xi. Clubs: Alumni Assoc. (U. Calif.); former mem. of numerous others (sectional, natl. & internatl.).

GRAY, Daniel M., v.p., gen. mgr., Stoner-Mudge, Inc., 2000 Westhall St., Pitts., Pa.; res. 55 Thorn St., Sewickley, Pa.
Mfg.; b. Nov. 8, 1901; s. of Harry H. and Ethel T. (McCabe) Gray; ed. Carnegie Inst. of Tech., 1923, B.S. in Ch.E., 1927 Ch.E.; mem.: Theta Tau; m. Effie Jane Cross, Oct. 19, 1923; ch.: Jane (Gray) Soper. July 1923-Oct. 1932, chem. engr. in chg. Tech. Dept., Hazel-Atlas Glass Co., Wheeling, W.Va., Oct. 1932-Sept. 1939, asst. supt., Wheeling plant; Sept. 1939 to date, v.p., gen. mgr., dir., Stoner-Mudge, Inc., Pitts., Pa.; v.p., dir., Stoner-Mudge Pacific Corp.; Impervious Varn. Co.; dir., Gen. Coated Prods. Inc.; Jan 1942-Aug. 1945, conslt. $1 a year, War Prod. Bd., Chem. Div., Protective Coatings Sec., Wash., D.C. Res. & dev. in protective coatings & lacquers. Mem.: A.I.Ch.E., A.C.S., I.F.T., A.I.M.E., A.I.C. Clubs: Allegheny Country (Sewickley, Pa.), Chemists' (N.Y.C.), Edgeworth (Sewickley, Pa.). Hobby: flower growing.

GRAY, Dwight Elder, tech. adv., tech. inf. br., A.E.C., Atomic Energy Comm., Wash. 25, D.C.; res. 9614 Brunett Ct., Silver Spring, Md.
Physicist, tech. writer; b. Knoxville, Ohio, July 6, 1903; s. of Dr. L. L. and Mary Emma Gray; Muskingum Coll., A.B., 1925; grad. wk. Ohio State Ph.D. (physics), 1932; m. Helen Baldwin, Sept. 5, 1931. U. Akron, 1932-43, instr., assoc. prof. physics; Harvard Underwater Sound Lab., Harvard U., 1943-45, lab. ed.; Applied Physics Lab., Johns Hopkins U., 1945-50, supvr. tech. repts.; Atomic Energy Comm., Wash., D.C. 1950 to date. Author: "Man and His Physical World." Mem.: Sigma Xi.

GRAY, George Francis, v.p., Pratt & Gray Co. Inc., Norwalk, Conn.; res. 4 Rowayton Ave., Rowayton, Conn.
Engrg. exec.; b. Wheelersburg, Ohio, May 24, 1887; s. of John Baldwin and Alice (Williams) Gray; ed. Ohio State, M.E. in E.E., 1909; Mellon Inst. of Ind. Res., Pittsburgh (fellow, 1916-17); mem.: Eta Kappa Nu, Sigma Xi; m. Caroline Gerlach, 1910; ch.: Alice Elizazbeth, John Baldwin. Gen. Elec. Co., 1 yr. testing dept., and 6 yrs. protective apparatus lab., dev. engr. and lab. mgr., 1909-16; constr. engr., Std. Aniline Prods. Inc., 1915-16; res. fellow, study of thermal insulators, Mellon Inst. of Indust. Res., 1916-17; U.S.A. 1917-19; Natl. Aniline & Chems. Co., maint. engr. and asst. engr. mgr. at N.Y., 1919-21; same, plant engr. at Buffalo, N.Y., 1921-24; asst. to pres., Dry Ice Corp., N.Y.C., 1924; chf. engr., Ware Radio Corp., N.Y.C., 1925; pres. Gray Elec. Corp., 1926-35; prod. mgr., Internatl. Filmbook Corp., So. Norwalk, Conn., 1935-37; v.p., Microstat Corp., and predecessors, 1937-43; v.p. and dir. Pratt & Gray Co. Inc., Norwalk, Conn., 1943 to date; v.p. and dir. Flakice Corp., Bklyn., N.Y., 1924 to date. Spec. in design and mgmt. of indust. res. labs., and in gen. mgmt. of mfg. indust. involving rapid tech. dev. of prods., proc. and meths. in elec., mech., and chem. lines; invented vacuum lightning arresters (sev. pats.), and other protective devices; radio telegraph-telephone equip., chem. machinery, microfilming equip., pioneering in var. engrg. flds. and new projs. Contrib. var. arts. to sc. jls. in fld. Capt., Signal Corps, U.S.A., 1917-19, serv. as off. in chg. radio dev. wk. done by commercial cos. and labs.; also as Signal Corps rep. on Res. Information Serv. of Natl. Res. Council, and as Signal Corps Liaison Off. with Naval Consltg. Bd. Mem.: A.S.M.E., R.E.S.A., A. Phys. S., S.M.P.E., Am. Optical Soc., A.A.A.S.; formerly a mem. of A.I.E.E., A.C.S. etc.

GRAY, George Robert, lab. mgr., Gulf Coast Div., Baroid Sales Div., Natl. Lead Co., 7th fl., City Natl. Bank Bldg., Houston 2, Texas; res. 6732 Sylvan Rd., Houston 3.
Chem.; b. Florence, Texas, Oct. 29, 1907; s. of Geo. R. and Bettie (Smith) Gray; ed. 1924-28, Texas Christian U., Ft. Worth, Texas, B.S. summa cum laude; Rice Inst., M.A., 1932, Ph.D., 1934; mem.: Phi Beta Kappa, Phi Lambda Upsilon; m. Ruby Haines, Jan. 25, 1935; ch.: Carolyn, Gail, Reah. Ft. Worth Labs., 1928-30, chem.;

Rice Inst., 1930-34, fellow in chem.; Humble Oil & Refining Co., 1934-43, sr. res. engr.; Baroid Sales Div., Natl. Lead Co., 1943 to date, lab. mgr. Publ. on coagulation of sols. by electrolytes; chem. applied to oil-well drilling muds; anal. of oil-well cores. Mem.: A.I.Ch.E., A.I.M.E., A.C.S., A.I.C., Texas Acdy. of Sc., N.S.P.E., A.P.I., Engineers Council of Houston (former secy. 1945-48, pres. 1948-49).

GRAY, Harold, tech. supt., Tire Mfg. Div., B. F. Goodrich Co., 50 S. Main St., Akron, Ohio; res. 337 Greenwood Ave., Akron.
Chem., rubber ind.; b. Carlyle, Ill., Oct. 30, 1894; s. of J. N. and Mary (Jenkins) Gray; ed. U. of Ind., 1916, A.B. chem.; mem.: Delta Upsilon, Alpha Chi Sigma, Phi Chi; m. Ruth Weatherly, Sept. 6, 1916; ch.: Mary Alice (Gray) Morgan. Jan. 1916-Nov. 1919, Eli Lilly & Co., res.; B. F. Goodrich Co.: Nov. 1919-Mar. 1927, res.; Mar. 1927-June 1939, tire & tube compounding; June 1939-July 1941, mgr. tire & tube dev.; July 1941 to date, tech. supt., tire mfg. div. Numerous articles & pats. on various tech. phases of rubber ind. Mem.: A.O.A., A.C.S., A.A.A.S., A.I.Ch.E., Soc. of Automotive Engrs. Club: Portage Country.

GRAY, Joseph Burnham, assoc. prof. chem. engr., Syracuse U., Syracuse, N.Y.; res. 6 Sycamore Terrace, R.D. 3, E. Syracuse.
Teach.; b. Annapolis, Md., Aug. 8, 1915; s. of John Clifford and Odille Burnham Gray; ed. A.B., St. John's Coll., 1936; B.E., Johns Hopkins U., 1938; Ph.D., 1941; mem.: Sigma Alpha Epsilon, Gamma Alpha, Phi Lambda Upsilon, Alpha Chi Sigma; m. Susan Walton Kemp, June 7, 1941; ch.: George Amdung, Emily Jane, Susan Kemp, John Edward. 1941-47 Stand. Oil Co. (Ind.), chem. engr.; 1947 to date Syracuse U., dept. chem. engrg. Res. in proc. dev. catalytic cracking; publ. on crystallization, automatic contr. Mem.: Instr. Soc. Am., A.C.S., A.I.Ch.E. Club: Tech. (Syracuse, N.Y.).

GRAY, Mildred Geneva, sr. phar., Arthur D. Little Inc., 30 Memorial Dr., Cambridge 42, Mass.; res. 63 The Long Wharf, Boston.
Pharmacol. and indust. toxicologist; b. Cambridge, Mass., Oct. 19, 1907; d. of Sydney H. and Mary (Langille) Gray; ed. Boston U., B.S., 1928; A.M., 1933; Ph.D., 1938; spec. wk. at Harvard Med. Schl., M.I.T., Radcliffe Coll. 1928-32 res. asst. in biochem., Mass. Gen. Hosp.; 1932-35 asst. chem., Boston Psychopathic Hosp.; 1935-39 res. fellow in neurology Harvard Med. Schl.; 1935-37 asst. in phar., Boston U. Med. Schl.; 1939-40 instr. in physiol., Bklyn. Coll.; 1940-42 spec. res., Harvard Med. Schl.; 1942 to date in chg. of biol. res. Arthur D. Little, Inc.; fld. of spec. interest: toxicity of gases, vapors, smoke, etc.; sev. pubs. in this fld.; pub. about fifty arts. and papers on pharmacol. and biochem. subs. Mem.: A.C.S., Am. Soc. for Phar. and Experimental Therapeutics, Am. Indust. Hygiene Assoc. Clubs: Women's City (Boston); Appalachian Mountain; Rockport Art Assoc. Hobbies: travel, gardening, reclamation of antique furniture.

GRAY, Philip P(aul), chf. chem., Wallerstein Labs., 180 Madison Ave., N.Y. 16, N.Y.
Chem.; b. Bklyn., N.Y., May 29, 1896; ed. B.S. Coll. of City of N.Y. 1917; m. Matilda F. 1920; ch.: Allan P., Lawrence. Chem., Pease Labs., N.Y.C. 1919-24, dir. dept. chem. 1924-34; chf. chem. Wallerstein Labs. 1934 to date. Author of many papers on brewing chem.; edit., Wallerstein Labs. Communications. Mem.: A.C.S., Inst. Chemists', A.C.C.C.E., A. S. Brew. C. (pres. 1948-49, 1949-50), I.F.T. Club: Chemists'.

GREAGER, Oswald Herman, asst. mgr., Tech. Divs., Nucleonics Dept., Gen. Elec. Co., Richland, Wash.; res. 1718 Gaillard Pl., Richland.
Chem.; b. Hyattsville, Md., Aug. 23, 1905; s. of O. A. and S. C. Greager; ed. U. of Md., B.S., 1925; U. of Mich., M.S., 1927, Ph.D., 1929; mem.: Alpha Chi Sigma; m. Gladyce Gustafson, May 31, 1926; ch.: K. W. (son). E. I. du Pont de Nemours, chem., 1929-42; milit. leave 1942-46; Gen. Elec. Co., asst. tech. supt., 1947-48, asst. mgr., tech. divs., 1948 to date. Mem.: A.C.S. Hobbies: hunting, dogs, guns.

GREATHOUSE, Glenn Arthur, dir., Prevention of Deterioration Center, Natl. Res. Council, 2101 Constitution Ave., Washington, D.C.; res. 6701 Queens Chapel Rd., University Park, Hyattsville, Md.
Biochem., biophysicist; b. West Salem, Ill., Aug. 16, 1903; s. of Chester A. and Alta (Brown) Greathouse; ed. B.Ed., Ill. State Normal U., 1927; M.S., U. of Ill., 1929; Ph.D., Duke U., 1931; fellow, Duke U., 1930-31; m. Edith Mary Bennett, Aug. 22, 1925; ch.: Rosemary, Glenna Lu. Sc. and math. H.S. tchr., 1925-26; grad. asst., U. of Ill., 1927-30; asst. prof. of biophys., U. of Maryland and plant physiologist (biochem.), Maryland State Exp. Station, 1931-36; proj. ldr. and biochem., Bur. of Plant Industry, U.S. Dept. of Agr., 1936-42; lecturer, U.S. Dept. of Agr. Grad. Schl., 1935-42; dir., Prevention of Deterioration Proj., Natl. Defense Res. Comm. and Geo. Wash. U., 1943-45; dir. Prev. of Deterior. Center, Natl. Res. Council, Natl. Acdy. of Scs., 1945 to date. Pub. about 40 arts. in fld. of plant biochem. and biophys.; particularly on chem. of disease resistance and immunity; chem. structure and biolog. activity; cellulose degradation; cold and drought resistance of plants; planning of res. and dev. on the prevention of deterioration of matls. Mem.: A.A.A.S. (fellow); A.I.C. (fellow); A.C.S., Am. Assoc. of Corrosion Engrs., A.A.T.C.C., Wash. Acdy. of Scs., Wash. Rubber Group. Rec. N.D. R.C., award; Development award, Bur. of Ordn., U.S.N.; His Majesty's M. for service in cause of freedom, Brit. Govt.; mem. Science Mission, England, Europe, Africa and Panama, 1945; mem. Science Comm., Off. of Sc. Res. and Dev., 1944-45; Science Conslt., New Development Branch, U.S.A., 1945; Special Conslt., Off. of Chf. of Ordn., Army, 1942-45. Clubs: Cosmos (Wash., D.C.), Torch (Wash., D.C.). Hobbies: travel, gardening, some sports.

GREEN, A(rthur) Donald, dir. Esso Labs., Dev. Div., Stand. Oil Dev. Co., Linden, N.J.; res. 19 Norman Place, Cranford, N.J.
Chem. engr.; b. Boston, Mass., Oct. 24, 1905; s. of Arthur L. and Christine M. Green; ed. M.I.T., S.B., 1926; S.M., 1927; m. Jane Whipple June 6, 1935; ch.: Genevieve, Christine, Virginia. Chem. engr., Atmospheric Nitrogen Corp., 1927-29; chem. engr., Solvay Proc. Co., 1929-30; chem. engr., Stand. Oil Co. of La., 1930-35; dir., Esso Labs., Dev. Div., Stand. Oil Dev. Co., 1936 to date. Res. in chems. from pet., synthetic rubbers and their raw matls., nitrogen fixation, alkali mfr. Mem.: A.C.S., A.I.Ch.E., A.A.A.S., S.C.I. Club: Echo Lake Country. Hobbies: music, golf.

GREEN, David Ezra, prof. of enzyme chem., Enzyme Inst., U. of Wis., Madison, Wis.; res. 1525 Sumac Dr., Madison.
Biochem.; b. N.Y.C., Aug. 5, 1910; s. of Herman L. and Jennie Green; ed. B.S. 1930, N.Y.U., M.A. 1932; Ph.D. 1934, Cambridge U.; m. Doris Cribb, Apr. 15, 1936; ch.: Rowena, Pamela. Beit Memorial Res. Fellow, Cambridge U., 1934-40; fellow, Harvard U., 1940-41; chf., Enzyme Lab., Dept. Medicine, Coll. of Physicians & Surgeons, Columbia U., 1941-48 with rank of assoc. prof. 1948; prof. of enzyme chem., 1948 to date, U. of Wis. Paul-Lewis Award in Enzyme Chem., A.C.S., 1946. Author: "Mechanism of Biolog. Oxidations", Cambridge U. Press, 1940; "Currents of Bio-

chem. Res." Intersc. Press, 1946; "Res. in Medical Sc.," Macmillan Co., 1950. Mem.: A.C.S., Soc. Biol. Chem., Biochem. Soc. (England), Phi Beta Kappa.

GREEN, Jerome, asst. dir. of inorg. res., Natl. Aluminate Corp., 6216 W. 66th Pl., Chicago 38, Ill.; res. 7027 S. Jeffery Ave., Chicago 49.
Chem.; b. N.Y.C., Oct. 26, 1918; s. of A. H. and F. Green; ed. Calif. Inst. of Tech., Pasadena, Calif., 1937-41, B.S. (with honor); mem.: Tau Beta Pi. 1941-46 res. asst. Dept. of Chem. Engrg., Calif. Inst. of Tech.; 1946 to date res. chem., chf. phys. chem., asst. dir. of inorg. res., Natl. Aluminate Corp., Chicago, Ill. Pub. a number of papers in tech. jls. dealing with var. phases of water treatment. Mem.: A.C.S. Hobby: photography.

GREEN, Jesse R., agr. chem., Anaconda Copper Mining Co., Anaconda, Mont.; res. 1016 S. Fifth Ave., Bozeman, Mont.
Agr. chem.; b. Manhattan, Mont., Apr. 18, 1890; s. of John H. and Mary E. (Slater) Green; ed. B.S. chem., Mont. State Coll., 1926, M.S. chem., 1932; mem.: Alpha Chi Sigma; m. Olga Maude Ellington, Mar. 2, 1915; ch.: Mary L., Ralph E., Kenneth J. Farming 1911-22; student 1922-26; asst. instr., Mont. State Coll., 1927; asst. chem. Mont. Exp. Sta., 1928-37; agr. chem. Anaconda Copper Mining Co., 1933 to present. Res. in respiration of plants—injury caused to plants by oil sprays—fertilizers on irrigated lands in the Northwest, fertilizers on dry lands—minor elements in fertilizers. Mem.: A.C.S., Soc. of Natural and Earth Scs. (Montana), Western Soc. of Soil Sc., Natl. Reclamation Assoc. Hobbies: mineralogy, archeology, photography.

GREEN, Melvin W., assoc. prof. phar. chem., U. of Wis. Schl. of Phar.; res. 4218 Cherokee Dr., Madison 5, Wis.
Col. prof.; b. Bluffs, Ill., Feb. 28, 1910; s. of Alden J. and Minnie (Fox) Green; ed. U. of Pittsburgh Schl. of Phar., Ph.G., 1931, B.S., 1932; U. of Pittsburgh grad. schl. Ph.D., 1937; mem.: Phi Delta Chi, Phi Lambda Upsilon; m. Mae Arbuckle, July 22, 1944; ch.: William Terrence. 1936-38 indust. res. Mellon Inst.; 1938-40 asst. prof. Cincinnati Coll. Phar.; 1940-42 inst. Georgetown U. Med. Schl.; 1942-47 chf. chem. Amer. Phar. Assoc. Lab.; 1947-49 dir. same Lab.; 1949 to date assoc. prof. U. of Wis. Schl. Pharmacy. Mem. Comm. on Natl. Formulary, Revision Comm. U.S. Pharmacopeia. Co-author with W.H.O. McGehee, "Dental Pharmacology," 1941, 1947. Mem.: A.C.S., A.Phar.A., Biometrics Soc., Soc. Exptl. Biol. Med. (assoc. mem.), Am. Soc. Quality Control, Sigma Xi. Hobbies: photography, music.

GREEN, Nelson B., pres. Detroit Chem. Wks., 125 S. Junction Ave., Detroit 9, Mich.; res. 19211 Parkside Rd., Detroit.
Exec.; b. Oscoda, Mich., Nov. 17, 1887; s. of Willard A. and Nettie A. Green; ed. Detroit City Grade; Detroit West. H.S., Natl. Coll. of Accounting; m. Bessie B. Weyher, July 3, 1915; ch.: Nelson W., M.D. Amer. Harrow Co., bk., 1908-09; Washburn Crosby Flour Mills, salesman, 1909-11; Detroit Chem. Wks., office mgr. & accountant, traffic sales, secy., pres., 1911 to date. Club: Detroit Golf. Hobbies: golf, bowling.

GREENAWALD, Frederic S., chf., Prot. Coatings Lab., Nuodex Prods. Co., Elizabeth, N.J.; res. 114 Columbia Ave., Cranford, N.J.
Chem.; b. Boyertown, Pa., Jan. 11, 1913; s. of George G. and Matilda Greenawald; ed. Pa. St. Coll., B.S., 1934; m. Dorothy Gilbert, Nov. 30, 1940. 1934-36 Glidden Co., Reading, Pa.; 1936-38 Wardway Paint Wks., Chicago Heights, Ill.; 1938-40 Devoe & Raynolds, Bklyn, N.Y., 1940 to date Nuodex Prods. Co., Elizabeth, N.J. Res. in metallic driers, wetting, dispersing agts. Sev. lectures, publs. on various phases of driers, appls. to paint and varn. field. Mem.: N.Y. Paint & Varn. Prod.; A.S.T.M. Hobbies: woodworking, fishing.

GREENBANK, George R., res. chem., Bur. of Dairy Industry, U.S. Dept. of Agriculture; res. 632 24th Street South, Arlington, Va.
Res. chem.; b. August 27, 1892; s. of Oliver Marion and Elizabeth Ann Greenbank; ed. A.B., Ohio State U., 1917, Ph.D., American U., 1930; m. Zoda Jane Kelly, Nov. 24, 1918; ch.: Richard Kelly, Thomas Kelly, Goodyear Tire Rubber Co., 1917-20; War Dept., 1920-22; Bur. of Dairy Ind., 1922 to date. Res. in heat treatment of milk to improve the baking quality and keeping quality of dried milk. Oxidation and the intermediate exidation product theory of the dev. of oxidated flavor; a new theory of antioxygenic action; the oxidation of fats and oils; lipolysis and its colorimetric determination. Co-author of "The Fundamentals of Dairy Science." Mem.: A.C.S., Am. Dairy Sc. Assoc., Acdy. of Scs. (Washington), Borden Award for the Chem. of Milk, 1949, Superior Service Award U.S. Dept. of Agriculture 1950. Hobbies: gardening and photography.

GREENBAUM, Frederick R., Tech. Dir., Harvey Labs., Inc., 428 S. 13th St., Phila., Pa.; res. 548 Twickenham Rd., Glenside, Pa.
Chem.; b. Feb. 14, 1896, Vienna, Austria; s. of Jacob and Josephine Kisch Greenbaum; ed. U. Vienna, chem. engr., 1920; D.Sc., 1921; m. Margaret Sperling, Aug. 30, 1935. Calco Chem. Co., Bound Brook, N.J. 1921-22; Dermatalogical Res. Lab., Phila., Pa., 1922-29; G. D. Searle & Co., Chicago, Ill., 1929-33; The National Drug Co., Phila. Pa., dir. res. 1933-43; Pa. Engr. Co., asst. chem. dir. 1943-49; Harvey Labs., secy., tech. dir., Aug. 1949 to date. Res. in dev. new med., phar. prods.; contrib. extens. to sc. and tech. jls. Mem.: A.C.S., A.I.C., A.A.A.S., A.Phar.A. Hobbies: rowing, swimming, photography.

GREENBERG, David Morris, prof. biochem., U. of Calif.; res. 66 Poppy Lane, Berkeley, Calif.
Prof. biochem.; b. Boston, Mass., Sept. 15, 1895; s. of Samuel and Ida (Cooperman) Greenberg; ed. B.S., 1921, Ph.D., 1924, U. of Calif.; m. Shena J. Berkowitz, May 20, 1918; ch.: Lenore J., Joan E. Instr. biochem., U. of Calif., 1924-28, asst. prof. 1929-31, assoc. prof. 1931-41, prof. 1941 to date; chmn. div. 1946 to date. Editor Proc. Exptl. Biology & Med., contr. over 200 papers on biochem. subjects to professional journals, at present doing res. on cancer, the use of isotopes in biol. & med. protein syn., hypertension & res. on other biochem. problems. Contributed to books, "The Use of Isotopes in Biol. & Med." 1949; "Outline of the Amino Acids & Proteins" 1948; "The Chem. of the Amino Acids & Proteins" 1937, "Addendum" 1943; author: "Amino Acids & Proteins" to be publ. Fall 1950. Mem.: A.A.A.S. (fellow), Am. Soc. Biol. Chemists, A.C.S., Sigma Xi (pres. U. of Calif. chap. 1944-45) Guggenheim Memorial Foundation fellow 1929-30; mem. Panel on Isotopes; Comm. on Growth of Natl. Res. Council; chmn. of All-Univ. Comm. to coordinate cancer res. 1948 to date; awarded res. grants by Rockefeller Foundation, Markle Foundation, N.R.C., Nutrition Foundation, U.S. Public Health Service, Am. Cancer Soc., Life Ins. Medical Res. Fund; assisted Manhattan District Project 1945-46.

GREENBERG, Sam U., mgr., Resin Div., Pacific Paint & Varnish Co., 4th & Cedar St., Berkeley 10, Calif.; res. 1154 Woodside Rd., Berkeley 8.
Chem.; b. Stamford, Conn; s. of Isaac and Mary Greenberg; ed. U. Calif., B.S., 1929; mem.: Sigma Xi, Sigma Alpha Mu; m. Edith Wilson, Mar. 8, 1932; ch.: Sydney Adele, Robert David. 1929-43 The Calif. Ink Co., chf. varn. chem.; 1943-47 Dor-

ward & Sons Co., tech. dir.; 1947-48 Pacific Paint & Varn. Co., chf. resin chem.; 1948 to date mgr., Resin Div.

GREENE, Allan Joseph, gen. prod. mgr., Chas. Pfizer & Co. Inc., 11 Bartlett St., Bklyn., N.Y.; res. 81 Holly Lane, Roslyn Heights, L.I., N.Y.
Chem. engr.; b. Shelton, Conn., July 5, 1912; s. of James J. and Anna T. (Lavelle) Greene; ed. grad. Yale U., 1938, B.E.; mem.: Tau Beta Pi, Sigma Xi; m. Gertrude F. Todd, Sept. 14, 1940; ch.: Janice Teresa and Dianne Laura. Joined Pfizer in 1938, was prod. supvr., dept. hd. and asst. supt.; gen. prod. mgr. 1949 to date. Mem.: A.I.Ch.E., A.C.S. Hobbies: golf, photography

GREENE, Henry Leese, asst. mgr., Louisville Works, E. I. du Pont de Nemours & Co., P.O. Box 1378, Louisville, Ky.; res. 328 Mockingbird Hill Rd., Louisville 7.
Chem. engr.; b. Topeka, Kansas, Dec. 23, 1912; s. of Howard A. and Caroline E. Greene; ed. Kansas State Coll., 1930-34, B.S. Ch.E.; m. Helen Roye, Sept. 8, 1937; ch.: Donald Roye. 1934-35 jr. engr., 1935-38 jr. supvr., 1938-42 supvr., 1942 chf. supvr., 1942-46 supt. prod., 1946 to date asst. plant mgr., E. I. du Pont de Nemours & Co. Mem.: A.I.Ch.E.

GREENE, Hoke S(mith), hd. Dept. of Chem., dean of Grad. Schl., U. of Cincinnati, Cincinnati 21, Ohio; res. 1521 Wittlou Ave., Cincinnati 24.
Chem., teacher, adm.; b. Gray, Ga., Aug. 20, 1906; s. of Samuel A. and Susie (Zellner) Greene; ed. A.B., Mercer U., 1927; M.S., 1928, Ph.D., 1930, U. of Cincinnati; post-doctoral fellow, Inst. of Internatl. Ed., to Technische Hochschule, Karlsruhe, Germany, 1931-32; mem.: Alpha Chi Sigma, Phi Lambda Upsilon; m. Stella Catherine Potter, Dec. 19, 1936. E. I. du Pont de Nemours & Co., chem. supvr., 1930-31; post-doctorate res. fellow, Karlsruhe, Germany, 1931-32; chem. res., E. I. du Pont de Nemours & Co., 1932-34; asst. prof. of chem. engrg., U. of Cincinnati 1934-38, assoc. prof. of chem. engrg. 1938-45, prof. of chem. & hd. of dept. 1945 to date, dean, Grad. Schl. of Arts & Sc. 1947 to date. Res. in electrochem., ind. fermentations, org. medicinal cmpds. Mem.: A.C.S., A.A.A.S., Soc. of Am. Bacteriologists, Ohio Acdy. of Sc. (fellow since 1946), Sigma Xi, S.C.I. Dir., A.C.S., Cincinnati Sec.; dir. of Cincinnati Foreign Policy Assn.; dir. Cincinnati Assn. for United Nations. Clubs: Torch (dir. 1947-49), University. Hobbies: photography, gardening.

GREENE, Luther Wilson, sc. dir., Tech. Command, Chem. Corps, Army Chem. Center, Md.; res. Quarters 267A, Army Chem. Center, Md.
Dir. of res. & dev.; b. Portsmouth, Va., Nov. 3, 1900; s. of Luther Wilson (dec.) and Ruth Fulford (Murry) Greene; ed. 1918-22, N.C. State Coll., Raleigh, N.C., B.S. in chem. engrg.; mem.: Gamma Sigma Epsilon; m. Elizabeth Eugenia Holland, Oct. 7, 1923; ch.: Barbara Louise (Greene) Cusack. 1922-29, E. I. du Pont de Nemours & Co., Phila., Pa., chem. engr.; 1929-39, C.W.S., Edgewood Arsenal, Md., chem. engr.; 1939-41, chf., plants design dept.; 1941-42, C.W.S., Huntsville Arsenal, Ala., chf. chem. engr.; 1942-44, Lt. Col., chf., operations div.; 1944-45, Col., chf., operations div.; 1945-46, Office of Military Govt. for Germany, Höchst & Berlin, Col., G.S.C., chf., chem. sec.; 1946 to date, Chem. Corps, U.S.A., Army Chem. Center, Md., sc. dir., Tech. Command. Dev. of chem. warfare agents & munitions; design, construction & operation of chem. warfare mfg. & filling plants. Author: "Where to Find Information on the German Chem. Ind." 1946; "The German Chem. Ind., A Bibliography of the Chem. Metallurgical & Process Industries" (in press). Mem.: A.C.S., Am. Soc. of Military Engrs., Armed Forces Chem. Assn., Am. Microscopical Soc., Md. Acdy. of Sc., professional engr. State of Md.; Colonel, Chem. Corps, U.S.A. Reserve. Clubs: Officers Mess (Army Chem. Center, Md.), Chem. Center Stamp. Hobbies: chemical microsopy, stamp collecting.

GREENE, Richard Daniel, res. assoc. in biochem., E. R. Squibb & Sons, Georges Rd., New Brunswick, N.J.; res. 37 Jones Ave., New Brunswick.
Res. chem.; b. Newport, Ohio, Oct. 31, 1901; s. of Harry R. and Rose E. Greene; ed. A.B., Marietta Coll., 1922 cum laude; Ph.D., Northwestern U., 1928; mem.: Phi Lambda Upsilon, Alpha Chi Sigma; m. Esther Corry, July 11, 1932. 1922-25, jr. chem., U.S.D.A., N.Y.C.; 1924-27, grad. asst., University Fellow, Northwestern U.; 1927 to date, res. assoc., E. R. Squibb & Sons. Study of the fat soluble & B complex vitamins; assay, isolation & characterization by chem. & microbiological meths. Mem.: A.C.S., A.A.A.S., Sigma Xi, Theobald Smith Soc., N.Y. Acdy. Sc. Hobbies: amateur photography, travel, classical music appreciation, tennis, bowling.

GREENEWALT, Crawford Hallock, pres., E. I. du Pont de Nemours & Co. Inc., Wilmington, Del.; res. Greenville, Del.
Exec.; b. Cummington, Mass., Aug. 16, 1902; ed. William Penn Charter Schl., 1914-18; M.I.T., B.S. in Chem. Engrg., 1922; hon. D.Sc., U. of Delaware, 1940, Hon. D.Sc. Northeastern Univ. 1950; m. Margaretta Lammot du Pont, June 4, 1926; ch.: Nancy Crawford, David, Crawford Hallock, Jr. E. I. du Pont de Nemours & Co. Inc., since 1922, in following positions: asst. dir., Exper. Sta., Chem. Dept., 1939; dir., Chem. Div., Grasselli Chems. Dept., 1942; tech. dir., Explosives Dept., 1943; asst. dir., Dev. Dept., 1945; asst. gen. mgr., Pigments Dept., 1945-46; v.p. 1946; v.p. and v.chmn. Exec. Comm., 1947; pres. 1948. Dir.: Equitable Trust Co., 1935-43; E. I. du Pont de Nemours & Co. Inc., 1942 to date; Christiana Securities Co., 1944 to date; Canadian Industries Ltd. 1946 to date; mem. bd. of dirs.: The Family Society (pres. 1938-41); Wilmington Music Schl. (pres. 1938-40); Wilmington Gen. Hosp. (pres. 1945-48); Winterthur Corp.; trustee, Foxhollow Schl., Lenox, Mass., 1945 to date. Mem.: A.I.Ch.E., A.C.S., A.I.C., A.A.A.S., Theta Chi, Tau Beta Pi Clubs: Wilmington; Wilmington Country; du Pont Country; Royal Bermuda Yacht.

GREENFIELD R(obert) Edman, gen. supt., A. E. Staley Mfg. Co., Decatur, Ill.; res. 288 S. Westlawn, Decatur.
Chem., mfg. exec.; b. Sabetha, Kansas, Feb. 17, 1894; s. of James Edman and Ida Caroline Robertson Greenfield; ed. U. of Kansas, A.B., 1914, U. of Ill., A.M., 1916, Ph.D., 1921; mem.: Alpha Chi Sigma; m. Eleanor Myers, July 10, 1917; ch.: Robert Edman, Jr. M.D., Paul Vance. Asst., State Water Surv., Kans. 1914; asst. chem., Kans. State Coll. 1914-15; asst. chem. State Water Surv. Ill., 1916-18, 1919-21; chem. 1921-26; instr. chem., Ill., 1921-24; assoc., 1924-26; res. chem., A. E. Staley Mfg. Co., 1926-35; asst. genl. supt., 1935-43; tech. supt., 1944-45; genl. supt., 1946 to date; dir., 1947 to date. Mem.: A.I.Ch.E., Natl. Soc. of Prof. Eng.; A.C.S., A.A.A.S (fellow), A.W.W.A., Sigma Xi, Phi Lambda Upsilon. Clubs: Decatur, Kiwanis (Decatur).

GREENLEE, Sylvan Owen, chf. dev. chem., S. C. Johnson & Son Inc., Racine, Wis.; res. 2246 Russet St., Racine.
Chem.; b. McLeansboro, Ill., Mar. 15, 1910; s. of Julius and Eliza Greenlee; ed. B.Ed., So. Ill. U., 1935; A.M., 1936, Ph.D. org. chem., 1939, U. of Ill.; mem.: Sigma Xi, Phi Lambda Upsilon; m. Evelyn Ayre, June 29, 1940; ch.: Nancy Kay, Sandra, Sharon. Res. chem., Devoe & Raynolds Co. Inc., 1939-43, dir. of res. 1943-46; chf. dev.

chem., S. C. Johnson & Sons Inc., 1946 to date. Dev. of polymeric prods. from epichlorhydrin & dihydric phenols; dev. of wax fortified paints; hold pats. on drying compositions for protective coatings. Mem.: A.C.S., A.I.C., A.A.A.S., Natl. Paint Varn. & Lacq. Assn. (mem. of sc. sec.), Racine Assn. of Com., A.O.C.S. Hobbies: hunting, farming.

GREENSFELDER, Bernard Sutro, assoc. dir. of res., Shell Dev. Company, 4560 Horton St., Emeryville 8, Calif.; res. 837 Mountain Blvd., Oakland 11, Calif.
Chem.; b. San Francisco, Calif., Nov. 15, 1904; s. of Naphthali Bernard and Henrietta Hart Greensfelder; ed. U. of Calif., Berkeley, B.S., 1926; Ph.D., 1928; Le Conte Traveling Fellow at Kaiser Wilhelm Institute, Berlin-Dahlem, Germany, 1928-29; mem.: Zeta Beta Tau; m. Marcia Weir, June 15, 1940; m. Anne Anderson, Oct. 15, 1948; ch.: Roger Weir, Thomas Andrew. Res. chem., Shell Oil Co., Wilmington, Calif., 1929-33; chf. res. chem., Shell Oil Co., Martinez, Calif., 1933-36; tech. asst. to v.p., Shell Oil Co., San Francisco, Calif., 1937; res. chem. and dept., head, Shell Dev. Co., Emeryville, Calif. 1938; assoc. dir. of res., 1942 to present. Res. in pet. and hydrocarbon chem. Mem.: A.C.S., Am. Physical Soc., Sigma Xi. Club: Athens Athletic (Oakland, Calif.).

GREENSPAN, Joseph, dir., Process & Instruments, 60 Greenpoint Ave., Bklyn. 22, N.Y.; res. 575 Ocean Ave., Bklyn. 26.
Scientist; b. Bklyn., N.Y., July 8, 1909; s. of Jacob and Bertha Greenspan; ed. B.S., C.C.N.Y., 1929; M.A., Columbia, 1930, Ph.D., 1933; Ward Medallist (C.C.N.Y.), Univ. Fellowship (Columbia); mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, Epsilon Chi; m. Eleanor Shaskan, Nov. 28, 1941. Res. assoc. chem., Columbia U., 1933-36; lecturer, grad. div., Bklyn. Coll., 1937-47; res. physicist, Rockefeller Inst. for Med. Res. 1942-43; assoc. dir., Instrument Res. & Dev. Div., Kellex Corp. (Manhattan Project) 1943-45; dir., proprietor, Process & Instruments 1945 to date. Numerous res. papers in tech. journals. Mem.: A.C.S., A.Phys.S., N.Y. Acdy. Sc., Instrument Soc. Am., Am. Crystallographic Soc. Hobby: design of scientific instruments.

GREENWALD, Willard F., conslt., 350 Fifth Ave., N.Y.C.; res. Willow Rd., Woodmere, L.I., N.Y.
Conslt. sc. & bus.; b. Phila., Pa., Mar. 23, 1897; s. of Max and Mary Greenwald; ed. Columbia Coll., 1919, Phi Beta Kappa; Columbia (Mines, Eng. & Chem.), 1922, Ch.E. (Tau Beta Pi, Sigma Xi, Phi Lambda Upsilon); mem.: Phi Epsilon Pi; m. Nellie Mae Benenson, Apr. 14, 1924; ch.: Willard F., Jr., M.D., Mary Jane. 1922, Acids Mfg. Co., chem.; 1923, S. Glemby Sons, chem. & supt.; 1925, conslt., Weisburg & Greenwald; 1933, Philip Morris & Co., res. dir.; 1944 to date, conslt. Chromium plating, tobacco tech. Mem.: Chemists' Club, A.C.S., A.A.A.S., A.I.C., Y.M.C.A. Clubs: Columbia U., Woodmere Country. Hobbies: woodworking, photography.

GREENWOOD, Delbert A., prof. of biochem., Utah State Agr. Coll., Box 163, Logan, Utah; res. R. 1, Box 411, Logan.
Prof.; b. Lehi, Utah, Oct. 15, 1904; s. of Thomas A. and Mary A. (Losee) Greenwood; ed. B.S., Brigham Young U., Provo, Utah; M.S., Ph.D., U. of Chicago; mem.: Gamma Sigma Delta, Phi Kappa Phi, Phi Lambda Upsilon, Sigma Xi (pres. Utah State Chapter 1948-49); m. Maxine Clayton, Sept. 12, 1934; ch.: Joan C., Rae C. Brigham Young U., instr. in chem.; Iowa State Coll., instr. in chem.; Am. Meat Inst., res. biochem.; U. of Chicago, res. assoc.; Utah State Agr. Coll., prof. of biochem. Physiolog. effects of fluorine cmpds.; heme pigments of cured meats; effect of thermal processing & storage on vitamin retention in processed meat; amino acid content of fresh & cooked cuts of meat; toxicity of DDT to farm animals & its accumulation in food prods.; influence of fertilizers on the yield & composition of alfalfa. Mem.: A.A.A.S., A.C.S., Am. Soc. for Phar. & Exptl. Therapeutics, Am. Forest Assn., Am. Soc. Animal Prod., Assn. of Vitamin Chemists, Iowa Acdy. of Sc., I.F.T., S.E.B.M., Utah Acdy. of Sc. Hobbies: sports, travel.

GREINER, Harry Sandt, chem. engr., Keystone Chemurgic Co., Bethlehem, Pa.; res. 2117 Kammerer St., Bethlehem, Pa.
Chem. engr.; b. Bethlehem, Pa., Apr. 18, 1914; s. of Henry Harris and Ida (Sandt) Greiner; ed. 1932-36, Lehigh U., B.S. in Ch.E.; m. Vera Lillian Volker, Aug. 21, 1943; ch.: Jack Volker. 1936-43, chem., Reichard Coulston Inc., Bethlehem, Pa.; 1943-44, chem., Devoe Raynolds Inc., Louisville, Ky.; 1944 asst. supt., same co. in Grand Rapids, Mich.; 1944-50, asst. supt. Reichard Coulston Inc., Bethlehem, Pa.; 1950 to date, chem. engr., Keystone Chemurgic Co., Bethlehem, Pa. Mem.: A.C.S., Penn. Soc. of Prof. Engrs., Lehigh Valley Engrg. Soc., Indust. Engrg. Soc. Clubs: Photographic Club, City Band. Hobbies: photography, instrumental music.

GRESSINGH, Louis Ernest, plant supt., Dasher Rubber & Chem. Co., Fairport Harbor, O.; res. Mentor Headlands, Painesville.
Chem. engr.; b. Cleveland, Ohio, June 11, 1916; s. of Louis and Margaret Gressingh; ed. Polytech U. of Budapest, Hungary, chem. engr. 1938; m. Ruth Moberg, Jan. 15, 1942; ch.: John Louis, Carol Eve. 1939-43 explos. res. engr. Amer. Cyanamid Co.; 1943-46 chem. engr. Butadiene Div., Koppers Co. Inc.; 1946-49 chf. engr. Gas Atmospheres, Inc.; 1949 sales engr., Dec. 1949 to date plant supt. Dasher Rubber & Chem. Co. Mem.: A.I.Ch.E., A.C.S.

GRETTIE, Donald Pomeroy, res. chem., Swift & Co., U.S. Yds., Chicago, Ill., res. 9154 S. Damen Ave.
Res. chem.; b. Salem, Ore., June 23, 1900; s. of Ole and Mary Ellen Pomeroy Grettie; ed. Willamette, B.A., 1924; U. Ore., M.A., 1927; U. Pitts., Ph.D., 1930; m. Edris Vohs, Sept. 23, 1930; ch.: Donald V., Jon C. U. Ore., 1925-27 grad. asst.; U. Pitts. 1927-29 asst. instr.; Swift & Co., res. chem. 1929 to date. Res. in adsorption org. compds. on hydro. oxide, concentration, prop. of vitamin C., studies on facts, oils, rancidity, antioxidants, studies on proteins (collag., gelatin). Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S. Hobby: gardens.

GRIESINGER, William Kenneth, dir. of Chem. Prods. Div., Res. & Dev. Dept., Atlantic Refining Co., 2700 Passyunk Ave., Phila., Pa.; res. 921 Childs Ave., Drexel Hill, Pa.
Chem.; b. West N.Y., N.J., Oct. 20, 1910; s. of Louis William and Ida Marie Griesinger; ed. Plainfield H.S. (N.J.); Lehigh U. 1932 B.S. in Ch.E. (with highest hon.); m. Margaret Fenninger, Nov. 9, 1940; ch.: William K. Jr., Meredith. Colgate-Palmolive-Peet Co., 1932-34, jr. chem. engr.; Atlantic Refining Co., 1934 to date, chem., group leader, divisional dir. of res. & dev Numerous pats. & sc. publ. in fld. of pet. chem. particularly syn. detergents & emulsifiers. Mem.: Phi Beta Kappa, Tau Beta Pi, Sigma Xi, Pi Mu Epsilon, A.C.S., A.O.C.S., A.A.T.C.C., A.S.T.M. Hobbies: golf, bridge.

GRIFFEN, Ward Orin, v.p. chg. of prod., U.S. Ind. Chem. Inc., 60 E. 42nd St., N.Y. 17, N.Y.; res. 1381 Roosevelt Ave., Pelham Manor, N.Y.

Exec.; b. Warsaw, N.Y., July 19, 1892; s. of Orin Alonzo and Ellen Viola (Wolcott) Griffen; ed. Cornell U., Johns Hopkins U., U. of Rochester (grad.), Warsaw H.S. (grad.), District Schl. No. 5, Orangeville, N.Y. (grad.); mem.: Theta Chi; m. Dorothea Rosenberg, June 9, 1926; ch.: Betsy (Griffen) McCutchen, Ward Orin Jr., Ellen Wolcott. U.S. Ind. Chem. Inc.: Oct. 1916-Jan. 1917, worked for Dr. F. J. Metzger, Columbia U.; 1917-20, chem. in res. lab., Baltimore; 1920-21, asst. supt. res. lab. Baltimore; 1921-22, asst. supt. Curtis Bay plant; 1922-24, asst. supt. New Orleans plant; 1924-33, supt. New Orleans plant; 1933-42, supt. Curtis Bay plant; 1942-43, gen. prod. mgr.; 1943 to date, v.p. chg. of prod. Clubs: Pelham Country, Pelham Men's, Economic of N.Y., Uptown. Hobby: gardening.

GRIFFETH, Robert Lawyer, dir. of Tech. Dept., Mica Insulator Co., 797 Broadway, Schenectady 1, N.Y.; res. R.D. 5, Guilderland Rd., Schenectady, N.Y.
Chem.; b. Delanson, N.Y., Mar. 11, 1911; s. of Horace S and Lucy S. Griffeth (dec.); ed. Union Coll., Schenectady, B.S. in chem., 1934; mem.: Theta Nu Epsilon; m. Norma T. Burmann, July 10, 1943; ch.: Patricia Lucy. 1935-46, Mica Insulator Co., chem., proc. control asst. to chf. chem.; 1946-48 same co., chem., tech. dept. asst. to dir. of tech. dept.; 1948 to date, same co., dir. of tech. dept. Studies on silicic acid gels; the determ. of hydrogen-ion concentration of gel mixtures; holds U.S. pats. on coated insulating tape and electrical insulating matl. containing mica. Mem.: A.C.S., A.S.T.M., T.A.P.P.I., N.E.M.A.

GRIFFIN, Carroll Wardlaw, prof of chem., Vassar Coll., Poughkeepsie, N.Y.; res. Poughkeepsie.
Tcher.; b. Oct. 14, 1900; s. of Robert Lee and Margaret (Wardlaw) Griffin; ed. Clemson Coll., S.C., B.S., 1921; U. of Va., M.S., 1923; Ph.D., 1927; Rutgers U., post-doct. study 1931-32; m. Virginia Cowherd, Nov. 26, 1925. 1921-23 tchg. fellow U. of Va.; 1923-24 prof. of chem. and phys., Boys' H.S., Anderson, S.C.; 1924-25 assoc. prof. chem. and phys., Brenau Coll., Gainesville, Ga.; 1925-27 tchg. fellow, U. of Va.; 1926 summer, instr. in chem. U. of Va.; 1927-31 chmn. Dept. of Chem., Miss. Woman's Coll.; 1931-32 res. assoc. in chem. Rutgers U.; 1932-39 asst. prof. chem., 1939-46 assoc. prof. of chem., 1946 to date prof. of chem., all Vassar Coll. Res. in fld. of extraction and in fld. of adsorption; 16 arts. pub. in various chem. jls. Author: "Inorg. Quantitative Anal.," 1949, The Blakiston Co., Phila. Mem.: A.C.S., A.A.U.P. (pres. Vassar Chapt.), Sigma Xi, Alpha Chi Sigma (chem. frat.), Phi Lambda Upsilon (hon. chem. frat.). Club: University (Poughkeepsie), past pres. Hobby: golf.

GRIFFIN, Edward Lawrence, asst. chf., Insecticide Div., P.M.A., U.S. Dept. Agr., Wash. 25, D.C.; res. 420 Whittier St., N.W., Wash. 12.
Chem.; b. Heath, N.Y., Aug. 18, 1889; s. of Edward L. and Sylvia A. Alford Griffin; ed. U. Kans., A.B., 1911; B.S. (Chem. Engr.), 1912; M.S., 1913; Geo. Wash. U., Ph.D., 1923; m. Ruth G. Spray, May 10, 1915; ch.: Doris, Edward L., Donald S. Instr. org. chem., U. Kans. 1911-13; asst. chem., Bur. Chem. 1913-28; sr. chem., U.S. Food, Drug Admn. 1928-40; asst. chf. insecticide div., 1940 to date; all positions in U.S. Dept. Agr., connected with enforcement of Fed. Insecticide Act of 1910, Fed. Insecticide, Fungicide, Rodenticide Act. Contrib. to sc. and tech. jls. Mem.: A.C.S., A.A.A.S., Am. Assn. Ec. Entomol., Insect Soc. (Wash.), Phi Beta Kappa, Sigma Xi, Tau Beta Pi.

GRIFFIN, Merle L., mgr., Marketing Operations Dept., Shell Chemical Corp., 50 W. 50th St., New York 20, N.Y.; res. 6 Canterbury Rd., Harrison, N.Y.
Chem. engr.; b. Herrodsburg, Ind., Jan 13, 1905; s. of Richard and Minnie Hadlock Griffin; ed. B.S. in Chem. Engrg., Washington U. 1927, M.S., Org. Chem. 1929; mem.: Alpha Chi Sigma, Tau Beta Pi, Sigma Xi; m. Winifred Eleanor Davies, Apr. 18, 1938; ch.: Carleton Hadlock and Norman Nelson (by first marriage), Donald Roger and Paul Douglas (by second marriage). Chem., chf. inspec., asst. hd. of lubrication lab., Shell Oil Co., Wood River Refinery, Wood River, Ill., 1929-36; fld. representative, Tech. Prods. Dept., Shell Oil Co., St. Louis, Mo., 1936-38; asst. to assoc. dir. in chg. of market dev., Shell Dev. Co., Emeryville, Calif., 1938-40; mgr. Market Dev., Westvaco Chlorine Prods. Co., New York, N.Y., 1940-41; Chemicals Bur., W.P.B., Washington, D.C., 1941-42; asst. to Washington Representative, Shell Oil Co., Washington, D.C., 1942-44; Eastern Representative, Shell Chem. Corp, N.Y., 1944-46; asst. to Sales mgr., Shell Chemical Corp., San Francisco, Calif., 1946-47; mgr., Marketing Operations Department, Shell Chemical Corp., San Francisco & New York, 1947 to date. Mem.: A.C.S., Natl. officer in Alpha Chi Sigma. Club: Chemists' (New York). Hobbies: woodworking and cabinet making.

GRIFFITH, Charles E., asst. treas., R. W. Greeff & Co. Inc., 10 Rockefeller Plaza, N.Y. 20, N.Y.; res. R.F.D. 1, New Canaan, Conn.
Sales; b. Baltimore, Md., Feb. 28, 1915; s. of Howard E. and Nellie Griffith; ed. N.Y. Schls.; Edison Tech. Schl.; Columbia U. Bus. Schl.; m. Amalie L. Guenther, Sept. 16, 1936; ch.: Charles E. Jr., Alan R. 1934-37, Am. Cyanamid & Chem. Co., rubber chems. dept.; 1937, Mengel Co., Louisville, Ky., asst. to pres.; 1937 to date, R. W. Greeff & Co. Inc., sales exec. Clubs: Chemists', Natl. Paint, Varn. & Lacq. Assn., Sales Assn. of Am. Chem. Ind., Rubber Trade Group, 7th Regiment Vet. Hobbies: tennis, civic affairs.

GRIFFITH, Francis Willard, v.p., secy., Griffith Labs. Inc., 37 Empire St., Newark 5, N.J.; res. 107 Woodfield Dr., Short Hills, N.J.
Exec. v.p.; b. Chicago, Ill., Nov. 4, 1901; s. of Enoch L. and Clara (Ladd) Griffith; ed. U. of Chi., 1919; U. of Ill., 1919-20; U. of Wis., 1920-23; A.B.; grad. Am. Inst. of Baking, 1923; mem.: Phi Gamma Delta; m. Theodora Freund, June 22, 1947; ch.: Frances Martha, Laura Ladd (by prev. marriage), Francis Willard II, Diane Florence. 1923 to date, Griffith Lab. Inc.; 1934, pres., Seaslic, Inc.; 1936, v.p., Griffith Lab. Ltd., Canada, v.p., secy., Griffith Lab. Inc.; 1945, pres., Griffith Lab. Ltd., Canada; 1946, treas., Griffith Lab. S.A. (Panama); 1947, pres., Com. Prods. Corp. (N.J.). Various publ. articles on tech. of meat curing. Mem.: A.C.S., Am. Soc. of Bakery Engrs., I.F.T. Clubs: University Club of Chicago, Baltusrol Golf (Springfield, N.J.). Hobby: golf.

GRIFFITH, Henry Evans, v.p., gen. mgr., Plax Corp., 450 Asylum St., Hartford 1, Conn.; res. 73 Orchard Rd., W. Hartford 7, Conn.
Exec.; b. Kansas City, Mo.; s. of Dr. A. Comingo (dec.) and Christine (Evans) Griffith (dec.); ed. Princeton U., B.S., 1937; Shattuck Schl., Faribault, Minn.; m. Eleanor Smith 1942; ch.: Suzanne, Christine, Constance. With Monsanto Chem. Co. 4 yrs. prior to 1941 when came to Hartford-Empire to act as sales mgr. for the Plax Corp., plastics div., became v.p., gen. mgr., dir., June 1949 to date; v.p. and dir. of W. Hartford Pub. Co. and the Fernplast Corp.; dir. of Brunelle Adv. Agency and of Plax Canada. U.S.N., 1944-46, Commanding Officer. Mem.: S.P.I., S.P.E., Chemists' Club, Dauntless Club, A.I.Ch.E. (assoc.), A.C.S. Mem. of bd. of Jr. Schl. Inc., W. Hartford, Conn. Hobbies: tennis, bridge.

GRIFFITH, Russell T., asst. to dir. of res., Gen. Amer. Transportation Corp., 300 W. 151st St., E. Chicago, Ind.; res. 1150 Pike St., Gary. Chem. engr.; b. Monroeville, Ind., May 29, 1910; s. of Thomas H. and Rosa Ellen (Shafer) Griffith; ed. Purdue U., B.S. in Ch.E., 1933; Ill. Inst. Tech., M.S. in Ch.E., 1941, Ph.D., 1947; mem.: Kappa Delta Rho, Phi Lambda Upsilon, Sigma Xi, Alpha Chi Sigma; m. Margaret Martindale, Aug. 8, 1936; ch.: Ann Martindale, Russell Lee. 1933-41 chem., asst. chf. chem. Cities Sevice Oil Co.; 1941-44 instr. chem. engr. Ill. Inst. of Tech.; 1944-46 sr. chem. engr., Inst. of Gas Tech.; 1946-46 asst. dir. res. Mashinter Res. Found.; 1946 to date asst. to dir. res. Gen. Amer. Trans. Corp. Mem.: A.I.Ch.E.; officer in Chicago Section, A.I.Ch.E. 1945-50; chmn. same in 1948-49 season. Mem.: City Church, Gary, Ind. Clubs: Gary Lions, Gary University. Hobby: sports.

GRIFFITH, Wendell Horace, chmn. Dept. of Biochem. & Nutrition, U. of Texas Medical Schl., Galveston, Texas. Teacher; b. Churdan, Iowa, Nov. 7, 1895; s. of George William and May Elizabeth (Fowler) Griffith; ed. B.S., 1917, Greenville (Ill.) Coll.; M.S., 1919, U. of Ill., Ph.D., 1923; mem.: Alpha Chi Sigma, Gamma Alpha; m. Harriet Isabel Leas, Aug. 31, 1922; ch.: Wendell Horace Jr. (dec.). St. Louis U. Schl. of Medicine, instr. 1923-24, asst. prof. 1924-27, assoc. prof. 1927-40, prof. 1940-48; U. of Texas Medical Schl., prof., chmn. 1948 to date; on leave as fellow of Gen. Ed. Bd., 1936-37 (England); military leave 1941-46. Biochem. res. on glycine, choline, cystine & methionine; military serv., Chf. of Nutrition Branch (Col., Sn.C., U.S.A.), European Theater of Operations, 1942-45. Mem.: A.C.S., A.S.Biol.C., Am. Inst. of Nutrition (pres. 1950-51), A.A.A.S., A.P.H.A., S.E.B.M., N.Y. Acdy. of Sc, Food & Nutrition Bd. N.R.C., Arvisory Comm. Natl. Vitamin Foundation, conslt. to Surgeon Gen. Dept. of Army, conslt. to Surgeon Gen. U.S. Public Health Serv. Awards: Legion of Merit, Bronze Star (W.W. II).

GRIFFITTS, Fred Albert, prof. of chem., Maryville Coll., Maryville, Tenn.; res. same. Prof. of chem.; b: Philadelphia, Tenn., Apr. 11, 1903; s. of Fred W. and Lou Ann (Mitchell) Griffitts; ed. A.B., Maryville Coll., 1925; M.S., Iowa State Coll., 1930; Ph.D., Ind. U., 1936; m. Ruby Miller, June 9, 1933. Instr. in chem., Maryville Coll., 1925-30, assoc. prof. 1930-38, prof. 1938 to date; chem. staff, du Pont Co., summer 1926; chem. staff, Ind. U. 1937; chem. staff, U. of Tenn., 1946-47-48. Chf. res. in inorg. & physical chem., catalysis & catalytic poisons. Author: "Lab. Manual of Gen. Chem." Litho. Ed. 1934. Mem.: A.C.S., A.A.U.P., Sigma Xi, Phi Lambda Upsilon, N.Y. Acdy. of Sc. Hobby: poultry raising.

GRIM, John Marshall, sr. fellow, Mellon Inst., Pittsburgh 13, Pa.; res. 4403 Center Ave., Pittsburgh 13, Pa. Res. chem.; b. Kutatown, Pa., Mar. 3, 1950; s. of Dr. J. S. and Nettie K. Grim; ed. A.B., Franklin and Marshall Coll., 1926, M.A., Columbia U., 1929, Pittsburgh U., 1946, Ph.D.; mem.: Sigma Xi.; m. Winifred M. Muller, Mar. 24, 1939; ch.: Joan M., Peter F. Am. Cyanamid Co., 1936-41; National Oil Products Co., 1941-42; Mellon Institute, 1942 to present. Res. in plastics and related fields. Contrib. extensively to sc. and tech. journals. Fifteen U.S. pats. Mem.: A.C.S., A.I.C., A.A.A.S., Pittsburgh Plastic Engineers, Chemists' Club (Pittsburgh). Hobbies: photography, music, tropical fish.

GRIM, Reuben J., hd. chem. dept., prof. of chem., West Va. Institute of Tech., 309 Fayette Pike, Montgomery, W.Va.; res. same. Coll. prof.; b. Sept. 8, 1896; s. of Simon and Elizabeth (Huber) Grim; ed. Indiana U. and U. of Chicago.; A.B., A.M. and Ph.D., degrees, all from Indiana U.; mem.: Alpha Chi Sigma; m. Marie Ballard, June, 1921. Virginia Military Inst., Lexington, Va., 1920-22; hd. Chem. Dept. and prof. of chem., W.Va. Inst. of Tech., 1922 to present. Res. for advanced degrees. Main object in teaching has been an excellent job of instruction. Mem.: A.C.S., Acdy. of Sc. (Va.) Clubs: Rotary, Masons, Scottish Rite, Shrine. Hobby: fishing.

GRIMES, Henry Dustin, asst. chf. chem., Amer. Woolen Co., 1 Mill St., Lawrence, Mass; res. 25 Quincy St., Lawrence. Text. chem.; b. Methuen, Mass., Dec. 28, 1897; s. of Spurgeon A. and Mina (Cross) Grimes; ed. Methuen and Lawrence H. Schls.; Lowell Even. Text. Schl.; spec. tech. courses at M.I.T., Harvard; m. Agnes Valentine, Oct. 10, 1925. 1916-20 lab. asst., Chem. Dept.; 1920-21 asst. chem., Burlington Mills; 1921-30 chf. chem. Wash. Mills; 1930-36 chf. chem. Wood Worsted Mills; 1936 to date asst. chf. chem., Chem. Dept., all Amer. Woolen Co. 1931-33 chmn. Northern N.E. Sect., A.A.T.C.C.; 1945-46 served War Dept. as sc. conslt. on mission to Germany for tech. intelligence for the Woolen and Worsted Indust. Author: "Savings and Loan Customer Relations"—Amer. Savings & Loan Inst., 1941. Mem.: A.A.T.C.C. (youngest charter mem.). Past pres. Lawrence Y.M.C.A.; past v.p. and dir. Atlantic Coop. Bank; 1925 to date Internat. secy.-treas. The Internat. Assoc. of Y's Men's Clubs (Internat. Serv. Club of the Y.M.C.A.). 1924-28—Secy. Mass. Christian Endeavor; 1928-32—Pres. Mass. Christian Endeavor, and member Executive Committee Intl. Christian Endeavor. Baptist. Mason. Clubs: Lawrence Y's Men's; Lawrence Monday Night. Hobbies: volley ball, swimming, pub. speaking (instr. classes in effective speaking).

GRIMMEL, Harry W., treas., gen. mgr., Metro Dyestuff Corp., West Warwick, R.I.; res. 140 Aldrich Ave., Warwick Neck, R.I. Chem.; Wandsbeck, Germany, Nov. 19, 1898; s. of Friedrich L. and Augusta (Asendorf) Grimmel; ed. Georgia Augusta U., Goettingen, Germany, Ph.D., 1921; asst. prof. Forest Acad. Tharand, Saxony, 1922; m. Gertrude L. Froemming, May 17, 1923; ch.: Ursula L. 1923, chem., Farbenfabriken Bayer, Leverkusen, Germany; 1926, Gen. Aniline Wks., plant mgr., Rensselaer, N.Y.; 1948 to date, Metro Dyestuff Corp., W. Warwick, R.I., treas., gen. mgr. Several publ. & pats. in fld. of coal for dyes. Mem.: A.C.S., A.A.T.C.C. Club: Warwick Country (Warwick Neck, R.I.). Hobby: gardening.

GRIMSLEY, Loren (Benjamin), raw matl., res., The Simoniz Co., 2100 Indiana Ave., Chicago 16, Ill.; res. 7806 S. Bennett Ave., Chicago 49. Chem.; b. Missouri, July 24, 1892; s. of Luther Johnson and Missouri (Clippard) Grimsley; ed. Missouri U., A.B., 1920; U. of Chicago, M.S. 1930; Ph.D. 1933; Mem.: Sigma Xi; m. Nina Gibson, 1942; ch.: Robert L. 1921-30 instr. chem., Wyandotte H.S., Kansas City, Kansas; 1932 to date with The Simoniz Co., began as chemist; tech. dir. to 1946; mgr., Technical Survey 1946 to date. Contrib. sev. arts. to sc. jls. Mem.: A.C.S., A.A.A.S., S.A.E. Hobby: gardening.

GRISWOLD, John, prof. of chem. engrg., Ill. Inst. of Tech., Chicago 16, Ill.; res. 9817 S. Bell Ave., Chicago 43, Ill. Chem. engrg., tchg., res., conslt.; b. Chicago, Ill., May 24, 1906; s. of Albert S. and Marguerite (Siddall) Griswold; ed. B.S. Chem. Engrg., U. of Ill., 1928; Sc.D. Chem. Engrg., M.I.T., 1932;

m. Katherine M. Lyne, Sept. 12, 1933; ch.: Carolyne Louise, John Lawrence, Ellin Jane. 1926 (summer), assembly of farm machinery, Deere Harvester Co., E. Moline, Ill.; 1927 (summer), fundamental res. on lacquer solvents and compatibility, du Pont Exper. Sta., Wilmington, Del.; 1928 (summer), design and dev. of impreg. and appl. machinery for latex specialty prods., Dewey & Almy Chem. Co., Cambridge, Mass.; Jan.-June, 1933, operator for Maro-Vitazene Oil Co., Chicago; Ill.; 1933-38, chem. and chem. engr. with the Pure Oil Co. as follows: Tech. Serv. Lab., Chicago, 1933-34; thans. to Muskogee, Okla. Refin. as res. chem., 1934-36; transf. to Northfield, Ill. Tech. Serv. Lab., as dev. engr., Jan., 1936 to Aug., 1936; 1937 (summer), same co., employed to design a pilot plant solvent extraction unit; 1936-39, asst. prof., 1939-41, assoc. prof., 1941-49 prof., chem. engrg., at U. of Texas; dir. of res., R.F.C. Off. of Rubber Res., Contract S.R. 311 with U. of Tex., 1945-49; conslt. and expert witness to Hartford Accident and Indemnity Co. on fires and gas explosions, 1946-48; conslt., chem. Engrg. Div. Argonne Natl. Labs. from 1950; prof. of chem. engrg., Ill. Inst. of Tech. from 1949. Dev. of the Distex proc. for recovery of pure hydrocarbs. from petroleum. Author: "Fuels, Combustion & Furnaces," McGraw-Hill, 1946. Registered Tex. prof. engr.; Ill. prof. engr.; mem.: A.I. Ch.E., A.C.S. (Central Tex. Sect. secy.-treas., 1939), A.P.I., Omega Chi Epsilon, Sigma Xi, Phi Lambda Upsilon, Tau Beta Pi; res. assoc., U. of Tex. Bur. of Indust. Chem.; editor, "Jl. of Architecture, Engrg. and Industry," U. of Tex., 1941-42; spec. conslt., W.P.B. Chems. Branch, Dec., 1942. Hobbies: meteorology, woodworking.

GRISWOLD, Nelson D., asst. gen. mgr., Texas Div., Dow Chem. Co., Freeport, Texas; res. 1514 W. Fourth St., Freeport.

Engr., exec.; b. Midland, Mich., June 24, 1901; s. of Thomas Jr. and Helen Josephine (Dow) Griswold;; ed. Case Inst. of Tech., B.S. in M.E., 1923; Sheffield Sc. Schl., Yale, M.S. in M.E., 1924; mem.: Phi Kappa Tau, Theta Tau, Sigma Psi, Tau Beta Pi; m. Marguerite Pomeroy Wells, Dec. 29, 1926; ch.: John Thomas. 1924-27, Linde Air Prods. Co.; 1927 to date, Dow Chem. Co. & its subsidiaries: Midland, Mich., engr. power dept., asst. supt. power dept., engr., engrg. dept. Marquette, Mich., chf. engr. Cliffs-Dow Chem. Co.; Midland, Mich., chf. engr. Dowell, Inc.; Freeport, Texas, engr. Texas div. Dow Chem. Co., asst. gen. mgr. Texas div.; v.p., Brazos Oil & Gas Co. 1947; dir., Dow Chem. Co. 1948; dir. Dowell Inc. 1949. Mem.: A.S.M.E., A.I.E.E. Clubs: Houston, Texas Dow Inst., Freeport Hunting & Fishing. Hobbies: fishing, golf, photography.

GROFF, Charles Heber, tech. dir. Surface Chems., Inc., Thompson Ave., McKees Rocks, Pa.; res. 117 Chalfonte Ave., West View, Pittsburgh, Pa.

Chem.; b. Mahanoy City, Pa., Jan 25, 1912; s of George Heber and Florence F. (Snyder) Groff; ed. Temple U., Phila. Pa.; mem.: Phi Delta Sigma; m. Beatrice Estelle Greenig, July 13, 1935; ch.: Dale Jean, Charles H. Jr. 1930-38 res. asst. chem., The Resinous Prods. and Chem. Co. (div. of Rohm & Haas); 1938-43 chem., Stoner-Mudge Inc.; 1943-44 chf. lacquer chem. Crown Can Co.; 1944-46 asst. tech. dir. The Watson-Standard Co.; to date tech. dir. Surface Chems. Inc. Holds U.S. Pat. 2,320,126. Res. org. chems., synth. resins, protective coatings, container mfg. Mem.: A.C.S.; A.I.C. (fellow); Pittsburgh Chemists' Club; A.A. A.S., F.&A.M., A.A.S.R., A.A.O.N.M.S. Club: Pittsburgh Paint and Varnish Prod. Hobbies: fishing, music.

GROGGINS, Philip H(erkimer), tech. advisor, Bur. of Agric. & Ind. Chem., U.S. Dept. of Agric.; res. 1709 Surry Lane, Foxhall Village, Wash., D.C.

Chem. engr.; b. Bklyn., N.Y., Dec. 25, 1888; s. of Max and Esther (Litwin) Groggins; ed. C.C.N. Y., B.S., 1911; m. Pearl Mason Hafner, Feb. 26, 1916; ch.: Jane, Philip. du Pont Co., explos. mfg. div., var. supvr. positions in U.S. & Canada, 1912-21; Veribest Chem., mgr., 1921; Tower Mfg. Co., chem. engr., 1921-25; Monsanto Chem. Wks., chem. engr., 1925-26; U.S. Dept. Agric., res. chem. Bur. Chem. & Soils, 1926-40; 1941-45, chf. Chem. & Fertilizers Branch, War Food Adm.; 1945 to date, tech. advisor, U.S.D.A., Bur. Agric. & Ind. Chem. Numerous papers dealing with syn. org. chem. & the ind. utilization of agric. crops. Author: "Aniline & its Derivations" 1924; "Unit Processes in Org. Syn." 1934, 1938, 1946, 1951; "Chem. & Food Prod.," Priestley Lectures, 1945. Mem.: A.C.S., A.I.Ch.E., A.A.A.S. Club: Chem. Engrs. of Wash. Hobby: bridge.

GROSS, Charles Ezra, dir. of sc. res., John Morrell & Co., Ottumwa, Iowa; res. 450 N. Court St., Ottumwa.

Dir. of sc. res.; b. Bellevue, Ohio, Dec. 28, 1905; s. of Charles A. and Grace (Fultz) Gross; ed. Ohio State U., 1924-27, B.A., 1927; Northwestern U., 1927-30, M.S., 1929, Ph.D., 1931; mem.: Sigma Xi, Phi Lambda Upsilon, Theta Xi; m. Thyra Bartlett, June 2, 1928; ch.: Ellen Jane. Res. asst., Ohio State U., 1926-27; lecturer in indus. chem., Northwestern U. Schl. of Com., 1927-30; chem., Dow Chem. Co., 1927; John Morrell & Co., 1930 to date. Publ. numerous papers in fld. of food res. Mem.: A.C.S., I.F.T., A.O.C.S., Am. Meat Inst. (chmn. Council on Res.). Mem., Bd. of Dir. Associates, Q.M. Food & Container Inst. Clubs: Rotary, Elks, Chamber of Com., Y.M.C.A. Hobbies: amateur radio., operating station WOGKS, music.

GROSS, Paul A., gen. mgr., Chem. Process Co., 901 Spring St., Redwood City, Calif.; res. 200 Kingsley Ave., Palo Alto, Calif.

Chem. engr.; b. Whitesboro, N.Y., June 11, 1891; s. of Frank A. and Elizabeth Gross; ed. Case Inst. of Tech., B.S., Chem. E., 1912; mem.: Tau Beta Pi, Alpha Chi Sigma, Phi Delta Theta; m. Elizabeth K. Walker, July 4, 1914; ch.: Mary Elizabeth, Katherine Frances. Prod., Gary Coke Ovens, 1912-13; Goldschmidt Detinning Co., 1913-16; Dow Chem. Co., 1916-19; Rollin Chem. Co., 1919-21; Westvaco, 1921-23; Cal. Chem. Co., prod. mgr., 1923-36; Westvaco, West Coast prod. mgr., 1936-42; Marine Magnesium Prods., prod. mgr., 1942-43; Stuart Oxygen & Pac. Carbide, 1943-45; Chem. Proc. Co., gen. mgr., 1945 to date. Mem.: A.C.S. Club: Commonwealth. Hobby: fishing.

GROSS, Paul Magnus, v.p. Ed. Div., Dean Grad. Schl., prof. chem., Duke U., Durham, N.C.; res. 3816 Dover Rd., Hope Valley, Durham.

V.p., dean Grad. Schl., prof. chem.; b. N.Y.C., Sept. 15, 1895; s. of Magnus and Nellie Veronica Gross; ed. C.C.N.Y., B.S., Feb. 1916; M.A., Columbia U., Feb. 1917; Ph.D., 1919; mem.: (hon.) Phi Beta Kappa, Sigma Xi, Omicron Delta Kappa, Phi Lambda Upsilon; m. Gladys Cobb Petersen, Aug. 4, 1918; ch.: Paul Magnus, Jr., Mrs. Beatrix Ramey. 1919-36 coll. prof. Trinity Coll., Durham, N.C.; 1926-48 coll. prof. Duke U.; 1921 to date prof. chem.; 1921-48 chmn., dept. chem.; Oct. 1947 to date dean, grad. schl.; Jan. 1, 1949 to date v.p. ed. div., Duke U.; chmn. Duke U. Res. Coun., June 8, 1934-Sept. 1949; sabbatical leave 1937-38, res. study Eng., France, Germany; tobacco res., dom., Turkish, 1929 to date; frangible bullet res., N.D.R.C. 1942-45; T.V.A. conslt. 1947 to date; Navy Dept., chem. br., conslt. navy panel potentials 1947-49; pres. Oak Ridge Inst. Nuclear Studies, Oak Ridge, Tenn., July 1949 to date. Res. in tobacco, dom., Turkish; frangible bullet res.; dielectric, solu. phenomena. Co-author: "Elements Physical Chemistry," 1929; contrib. extens. to sc. and tech. jls.; mem.: A.C.S., A.Phys. S., A.A.A.S., N.Y. Acdy. Scs., Herty M., May 5, 1945, Pres. M. of Merit, July 12, 1948. Club: Watauga. Hobbies: swimming, sailing, fishing.

GROSVENOR, Oliver, chem. engr., c/o Libby, McNeill & Libby, U.S. Yards, Chicago 9, Ill.; res. 7421 So. Emerald Ave., Chicago 21.
Chem. engr. Food Prods.; b. Monroe, Mich., Mar. 21, 1890; s. of Elliot O. and Mary (Hamilton) Grosvenor; ed. U. of Mich., B. Chem. Engr., 1913; m. Juanita Braxton, Dec. 25, 1943; ch.: Juanita Ann. 1913-17 dev. engr. U.S. Rubber Co.; 1917-19 Lieut. F.A., U.S.A.; 1919-20 dev. engr. Miller Rubber Co.; 1920-21 Assoc. Engrs. Co., Conslt. Engr.; 1921-41 chf. chem., chem. engr., secy., Tomato Prods. Co.; 1941-43 div. engr. E.I. du Pont de Nemours & Co.; 1943 dev. engr. Ozark Chem. Co.; 1943 to date chem. engr. Libby, McNeill & Libby, secy. and dir. French Lick Foods, Inc. Holds U.S. pats., rubber and food proc. machines, equipment, and processes; dev. and introd. commercially canned tomato juice, 1925. Mem.: A.C.S., A.I.Ch.E., Inst. of Food Techs. Club: South Side Shrine. Hobbies: golf, invention.

GROTE, Irvine Walter, hd., prof. of chem., U. of Chattanooga, Chattanooga 3, Tenn.; res. 50 South Crest Rd., Chattanooga 9.
Prof. and conslt. chem.; b. July 25, 1899; s. of Henry J. and Elizabeth M. (Ernst) Grote; ed. U. of Chattanooga, B.S. (cum laude), 1922; Columbia U., M.A., 1923; U. of Cincinnati, Ph.D., 1925; mem.: Kappa Sigma; m. Nita M. Tonsey, 1926. Res. biochem., Wm. S. Merrell Co., Cincinnati, O.; prof. of chem. Winthrop Coll., Rock Hill, S.C.; res. chem. Parke Davis & Co., Detroit; prof. of chem. U. of Chattanooga to date; also sci. adv., The Chattanooga Med. Co.; res. dir. Brayten Pharm. Co., Chattanooga; res. dir. The Murine Co., Chicago, Ill. With Oliver Kamm helped isolate the two hormones of the posterior pituitary, formulated a test for org. sulfur compds., (Grote's Reagent) on which over 30 papers have been pub. by others, worked on laxatives, deodorants, antacids, and other pharms.; holds numerous pats. Mem.: Sigma Xi, Gamma Sigma Epsilon, Alpha Epsilon Delta, Beta Beta, etc., A.C.S., A.Phar.A., A.A.A.S. Hobbies: collecting liquers (book in progress), herbals, chemicals.

GRUBB, Henry Wendell, chem. engr., Smith Hinchman & Grylls, Inc., 800 Marquette Bldg., Detroit 26, Mich.; res. 13945 Stahelin, Detroit 23.
Chem. engr.; b. Chicago, Ill., Oct. 3, 1912; s. of Wendell B. and Anna E. (Fischer) Grubb; ed. U. of Notre Dame, B.S. in Ch.E., 1936 (cum laude), Ch.E., 1945; m. Jane Bowling Rankin, Feb. 10, 1945; ch.: Jane Ann. 1936, Empire Oil & Refining Co., chem.; 1937, Bendix Prods. Co., chem.; 1938, Jos. E Seagram & Sons, Inc., chem. engr.; 1945 to date, Smith Hinchman & Grylls, Inc., Detroit, Mich., chem. engr. Distillery evaporators & stills, 2.3 butylene glycol & butadiene, chem. plant design. Mem.: A.C.S., A.I.Ch.E. (active). Hobbies: woodworking, model railroading.

GRUBB, Loren Dwight, chf. proc. engr., Cit-Con Oil Corp., Lake Charles, La.; res. 90 E. Beech, Maplewood, La.
Chem. engr.; b. Phillipsburg, Kans., Oct. 15, 1915; s. of John D. and Eva B. Grubb; ed. Kans. State Coll., Manhattan, Kans., B.S. chem. engr. 1937, M.S. chem. engr., 1938; mem.: Phi Kappa Phi, Phi Lambda Upsilon, Pi Mu Epsilon, Sigma Xi (assoc. mem.); m. Jane Frances Remington, June 1, 1940; ch.: John Loren, Nancy Jane. 1939-42 proc. engr., Continental Oil Co., Ponca City, Okla.; 1942-43 supt. chlorine plant (1st. Lt. C.W.S.) Huntsville Arsenal, Ala.; 1944-45 chf., chem. eng. sect., Mfg. Dept., (Capt. C.W.S.) Huntsville Arsenal, Ala.; 1946-47 proc. engr., Continental Oil Co., Ponca City, Okla.; 1947 to date chf. proc. engr. Cit-Con Oil Corp., Lake Charles, La. (in chg. of tech. dept., inclds. chem. engr. grp. and lab. org.). Mem.: A.C.S., A.I.Ch.E., T.A.P.P.I., A.S.T.M.; rec. Army Commend. Award for wk. in C.W.S. Hobbies. mech. work, gardening.

GRUBER, Rudolf Eduard, v.p., Merck & Co., Inc. 161 6 Ave., N.Y., N.Y.; res. Dover Rd., Colonia, N.J.
Chem.; b. Freiburg, i.B., Germany; s. of August and Eva Von Wedekind Gruber; ed. high sch. Freiburg i.B.—1899-1908, Coll., Charlottenburg Inst. Tech., Berlin 1910-11, M.I.T. 1912-16, (B.S. Chem. Engr.); Rutgers U., D.S. (honorary), 1941; m. Rita Cruse Welch, 1928. With Merck & Co., Inc. since 1916, wks. chem. to 1920, factory mgr. to 1923 (v.p. 1926), medicinal spec. mgr. to 1930, dir. new prod. div. to 1945; v.p. for foreign relations div. since 1945; dir., Merck (North Am.) Inc., N.Y. During W.W. II, liaison on penicil. res. between Am. and British groups, and off. of sc. res. and devl. Contrib. extens. to sc. and tech. jls. Mem.: A.M.D., A.C.S., A.A.A.S., N.Y. Acdy. Med., S.C.I., N.Y. Acdy. Sc. (fellow), A. S.E.C.P., Pestolozzi Foundation Trustee, Adv. Comm., N.J. Coll. Pharm. of Rutgers U. Club: Chem. Hobbies: gardening, travel, theatre, foreign languages.

GRUENER, Hippolyte, emeritus prof. of chem., 2324 Coventry Rd., Cleveland 18, Ohio.
Prof. of chem. (retired); b. New Haven, Conn., Feb. 23, 1869; s. of Leopold and Katharine (Kern) Gruener; ed. Yale, A.B., 1891; Ph.D., 1893; studied at U. of Munich, Berlin, Zurich; mem.: Alpha Delta Phi, Phi Beta Kappa, Sigma Psi; m. May Cole, June 21, 1899; ch.: Theodore, Katharine, James Cole. Master of Sc., The Hill Schl., Pottstown, Penn., 1893-94; instr., asst. prof., assoc. prof., prof. of chem., Western Reserve U., Cleveland, Ohio, emeritus, 1939. Notable wk.: certain research problems; Cleveland Filtration Commis., 1913. Author: "Chemistry, In Popular Science Series," 1922, revisions 1932, 1933; Introduction to "Organic Chemistry," (with H.P. Lankelma), 1939. Mem.: A.C.S., A.A.A.S., Deutsche Chem. Gesell., Amer. Pub. Health Assoc. Club: University. Hobbies: travel, horticulture.

GRUND, Henry Lang, pres., Henry L. Grund, Inc., 406 Bulkley Bldg., Cleveland 15, Ohio; res. 2196 Amble Side Drive, Cleveland 6.
Chem. broker; b. Fremont, Ohio, July 17, 1884; s. of Henry Christian and Emma Caroline Grund; ed. Western Reserve U.; Kenyon Coll.; mem.: The Hermit, Cleveland Skating, Alpha Delta Phi; m. Betty Rodgers Clark; ch.: David Lang, Henry Fuller, Mrs. Charles Dunklee Newcomer. Kenyon—1908; several yrs. with Sherwin-Williams Co.; 10 yrs. with Benj. Moore & Co., sales mgr., Cleveland; establ. Henry L. Grund Co., 1919, inc. 1947. Have rep. Reichard-Coulston Inc. on colors & Procter & Gamble on glycerine for 30 yrs., Reynolds Metals Co. on alum. powder & pastes for 23 yrs.; Armstrong Paint & Varn. Wks. on paint containers; W.R. Grace & Co. on imported oils; Bells Asbestos Mines Ltd., asbestos fibre. Mem.: Cleveland Paint, Varn. & Lacq. Assn. Clubs: Chem. (Cleveland), Hermit, Cleveland Skating.

GRUPELLI, Logan D., mgr., Sales Dev. Div., Nopco Chem. Co., Harrison, N.J.; res. 85 Washington St., East Orange, N.J.
Chem. Tech. Sales; b. Logansville, N.J., 1900; s. of E.E. and Nina Grupelli; ed. B.S., Lafayette Coll., 1923; mem.: Alpha Chi Sigma; m. Dorothy Langdon Potter, 1934. Chem. E.I. du Pont de Nemours & Co., Newark, N.J., 1923-24; chf. chem., Baltimore plant, General Chemical Co., Baltimore, Md., 1924-27; res. chem., American Cyanamid

Co., Linden, N.J., (later in chg. of chem. activities European project Barcelona, Spain) 1927-31; mgr. Market Dev. Dept., Nopco Chem. Co., 1931-48; mgr. Sales Dev. Div., 1948 to present. Contrib. num. arts. to sc. jls. Mem.: Commer. Chem. Dev. Assoc., Chemists' Club (New York), A.C.S. (past member), A.I.C. (fellow), Chemical Market Res. Assoc. (past member), National Inds. Advt. Assoc. (past v.p.). Hobby: book collecting.

GUCKER, Frank T(homson) Jr., prof. of chem., chmn. of Chem. Dept., Chem. Lab., Ind. U., Bloomington, Ind.; res. 1125 E. Hunter, Bloomington.
Prof. of chem.; b. Phila., Pa., Apr. 8, 1900; s. of Frank T. and Louise O. (Fulton) Gucker; ed. A.B., Haverford Coll., (with hon. in Latin & English, 1929), A.M., 1921; Ph.D., Harvard U., 1925; mem.: Phi Beta Kappa, Alpha Chi Sigma, Sigma Xi, Phi Lambda Upsilon; m. Eleonore D. Harris, 1925; ch.: Frank Fulton, Katharine Harris. Teaching fellow, Haverford Coll. 1920-21, Harvard U., 1921-22, Radcliffe Coll., 1922-23; asst. to Prof. T.W. Richards, 1924-25, 1927-28; Natl. Res. Fellow, Calif. Inst. of Tech., 1925-27; res. chem., Ammonia Div., E.I. du Pont de Nemours & Co., 1928-29; asst. prof. of chem., Northwestern U., 1929-36, assoc. prof. 1936-42, prof. 1942-47; prof., chmn. dept., Ind. U., 1947 to date; tech. aide, Div. 10, Natl. Defense Res. Comm. 1941-42. Thermochem. & dev. of precise calorimetry, study of specific heats & heats of dilution of solutions of electrolytes & amino acids; measurement of densities & compressibilities of these solutions; refrigerating power of 2-component systems; properties of aerosols incl. measurement of light scattering & photoelectronic counting of colloidal particles, & various instrumental meths. of determining particle size. Co-author: "Introduction to Theoretical Chem." with W.B. Meldrum, Am. Book Co., 1936; "Physical Chem." with W.B. Meldrum, Am. Book Co., 1942. Mem.: A.C.S., A.A.A.S., A.A.U.P., Ind. Acad. of Sc., fellow of Carnegie Institution, Wash., D.C. Councilor, A.C.S.; assoc. edit., Chem. Reviews. Clubs: I.U. Men's Faculty, Kiwanis (Bloomington, Ind.). Hobbies: tennis, canoeing, mountain climbing.

GUENTHER, Ernest, v.p. and tech. dir., Fritzsche Bros. Inc., 76 Ninth Ave., New York City; res. 340 E. 57th St., N.Y.C.
Chem.; b. Munich, Germany, June 22, 1895; s. of Ernst and Augusta Guenther; ed. Zurich U., Zurich, Switzerland, Ph.D., 1921. Asst. to Prof. A. Hesse, Hofmann House, Berlin; since 1924 with Fritzsche Bros. Inc., New York. Res. wk. on essential oils, and their prod. throughout the world. Author of abt. 150 arts. in trade papers. Also of "The Essential Oils," Vol. I, 1948; Vol. II, Vol. III, 1949; Vol. IV, 1950; Vol. V. forthcoming, pub. by D. Van Nostrand Co. Inc., New York. Mem.: A.C.S. Clubs: Chemists' (N.Y.), Athletic (N.Y.), Atlantic Beach (N.Y.).

GUERRANT, N(ollie) B(urnham), prof of biochem., The Penn. State College; res. 205 Hartswick Ave., State College, Pa.
Res. and tchg.; b. Fulton, Missouri. 1899; s. of John W. and Ocie (Craighead) Guerrant; ed. B.A., Westminster Coll., Fulton, Mo., 1921; M. S., N. Dak. State, Fargo, N. Dak., 1923; Ph.D., Missouri U., Columbia, Mo., 1925; m. Lorraine Fennel, 1924; ch.: Martha, N.B., Jr. (Jack), Ronald. Asst. res. chem., N. Dak. Agr. Exp. Station, 1921-23; Industrial Fellow, Iowa State Coll., 1923-24; asst. res. chem., Mo. Agr. Exp. Station, 1924-25; asst. prof. biochem., Okla. A. & M. Coll., 1925-27; assoc. res. biochem., Ala. Polytech. Inst., 1927-30; prof. of biochem., Penn. State Coll., 1930 to date. Biochemical res. pertaining to the composition and the nutritive value of foods,—vitamins, vitamin functions and assay methods, vitamin synthesis. Approx. 80 sc. pubs., chapters, etc. pertaining to personal researches in flds. of biochem. and nutrition. Mem.: A.C.S., A.S.Bio.C., Am. Inst. of Nutrition, Dairy Science, I.F.T., Biochem. Soc. (London), A.A.A.S., S.E. B.M., Sigma Xi, Phi Kappa Phi, Alpha Chi Sigma, Phi Lambda Upsilon. Hobbies: photography, antique gun collecting.

GUEST, Herbert Hartley, chf. chem., J.B. Williams Co., Glastonbury, Conn.; res. 119 Keeney Ave., West Hartford 7, Conn.
Res. chem.; b. Yonkers, N.Y., June 9, 1884; s. of Jas. R. and Annie E. (Kennedy) Guest; ed. Yale U., Ph.B., 1908, Ph.D. 1912, Rodgers Scholar; mem.: Acacia, Sigma Xi; m. Gertrude Barnes, Mar. 27, 1918; ch.: Theodore Allen, Carol. Asst. in chem., Sheffield Sc. Schl., 1909-10, 1911-12; protein researcher, Conn. Agric. Expt. Station, 1911; chem., J.B. Williams Co. 1912 to date. Publ. about 20 papers in chem. periodicals on org. chem. topics. Mem.: A.C.S., A.O.C.S., Am. Cosmetic Chem. Soc., A.I.C. (fellow), A.A.A.S. (fellow).

GUITERAS, Albert Francis, res. dir., Foster D. Snell, Inc., 29 W. 15th St., N.Y. 11, N.Y.; res. 2 Horatio St., N.Y. 14.
Chem.; b. Matanzas, Cuba, May 15, 1905; s. of Albert Francis and Agnes (Dunlap) Guiteras; ed. B.S., Lafayette Coll., 1926; Columbia U., 1928-30; Ph.D. chem., Göttingen, 1932; mem.: Alpha Chi Sigma. Jr. chem., Food & Drug Adm., U.S. Dept. Agric., 1927-28; food chem., N.Y.C. Health Dept. 1928-30; res. chem., Wallace & Tierman Prods. Co., N.J., 1933-34; Interchem. Corp., N.Y. 1934-36; chf. chem., H.D. Roosen Co., Bklyn., N.Y., 1936-39; res. chem., Winthrop Chem. Co., N.Y. 1939-40; res. coordinator, Foster D. Snell, Inc., to date. With U.S.A. A.A.; Chem. Soc.; fel. Inst. Chem.; chem. of sterols, org. syn.; printing & lithographic inks; sterilization & disinfection; toxicologist. Mem.: A.I.C., A.C.S., A.A.A.S., N. Y. Acad. of Sc. Club: Chemists' (N.Y.C.). Hobbies: bridge, swimming.

GULICK, Charles Platt, chmn. of bd., Nopco Chem. Co. (founder of co.), First & Essex Sts., Harrison, N.J.; res. 362 Park Ave., East Orange, N.J.
Exec.; b. Newark, N.J., May 21, 1885; s. of Jacob and Florence (Nicoll) Gulick; ed. Barringer H.S. (Newark, N.J.) 1904; subseq. enrolled in Newark even. schls. and studied bus. economics, chem., etc.; m. first, Ruth Nye, 1910 (div. 1947); m. 2nd. Florence Schwinn, 1948; ch.: (by 1st wife), Richard, John, George. 1904-05 clerk, Natl. Oil & Supply Co., Newark, N.J.; made secy.-treas. in 1905, to 1907; 1907-12 treas. Natl. Red Oil & Soap Co., Harrison, N.J., org. in 1907 and consolid. with Natl. Oil Prods. Co., Harrison, N.J., 1912, of which made treas. in 1912, to 1932; 1932-38 pres. Natl. Oil Prods. Co.; 1938-40 chmn. of bd.; 1940-49 chmn. of bd. and pres., Natl. Oil Prods. Corp.; since March, 1949 chmn. of bd. Corporate title Natl. Oil Prods. Co. changed to Nopco Chem. Co., Apr., 1947. Ex-pres. and founder of Sulfonated Oil Mfrs. Assoc. (trade assoc. covering sulfonated oil indust.). Mem.: bd. Newark Y.M.C.A., Amer. Red Cross, Welfare Federation; mem. of Trustee Adv. Comm. of N.J. Coll. of Phar., Rutgers U., New Brunswick, N.J.; mem. bd. of trustees, E. Orange Gen. Hosp., E. Orange, N.J. Clubs: Newark Athletic; Northern Lodge No. 25, F.&A.M., (Newark); past pres. Rotary (Newark); N.J. Consistory, (Jersey City, N.J.). Hobby: "humanity."

GUMAER, Robert Rhys, tech. asst. to v.p. chg. mfg., Pan-Am. Southern Corp., 944 St. Chas. Ave., New Orleans 6, La.; res. 1468 Owens Blvd., New Orleans 22, La.

Chem. engr.; b. Youngstown, Ohio, Oct. 5, 1914; s. of F.W. and Lydia Reese Gumaer; ed. Tulsa U., 1933-37; grad. with hons., B.S. Chem. Engrg.; m. Agnes Jerry, July 2, 1938; ch.: Robert Jerry, Francis Regina. 1937-41 asst. to chf. engr., Root Pet. Co., El Dorado, Ark., Sept. 1941-June 1942 instr. chem. engr. Tulsa U. (Obt. 1/3 of necessary credits for Master's deg. in pet. ref.); June 1942-Dec. 1942 coordinator on Root D.P.C. job at Frick-Reid, Tulsa, Okla.; Dec. 1942-Mar. 1946 proc. engr. on fluid cat. cracking unit at Root Pet. Co.; Mar. 1946-June 1950 tech. asst. to mgr. Pet. Co. (now Pan-Am. Southern); June, 1950 to date, tech. asst. to v.p. chg. mfg., Pan Am. Southern Corp. Mem.: Phi Gamma Kappa (hon. soc.); El Dorado (Ark.) Chem. Engrs. Club: Optimist Club. Hobbies: music study, fishing.

GUMPERT, Louis James, v.p. chg. sales, B.T. Babbitt, Inc., 386 Fourth Ave., N.Y.C.; res. 6 Murdock Rd., E. Rockaway, N.Y.

V.p. chg. sales; b. Bklyn., N.Y., Sept. 8, 1892; s. of Louis D. and Kathleen Gumpert; ed. Publ. Sch. No. 9, Erasmus Hall High; m. Florence V. Kelly, 1915; ch.: Theodore W., Rosamond C. Kirkman & Son, Bklyn., 2 years.; B.T. Babbitt, Inc., N.Y.C., 38 yrs., v.p., dir.; also v.p. and dir., Myers Life Co. Clubs: St. Nicholas, Kismit Shrine, Seawane Harbor, Atlantic Beach.

GUNDERSON, Frank L(ester), Res. and Dev. Dept. (v.p.), Pillsbury Mills, Inc., Pillsbury Bldg., Minneapolis 2, Minn.; res. 5008 Bruce Ave., Minneapolis 10.

Sc. res., tech. dev. admin.; b. Oconomowoc, Wis., Mar. 16, 1902; s. of Frank David and Maria Elizabeth (Peterson) Gunderson; ed. U. of Wis., B.S. agric., 1924; M.S. agricl. biochem., 1927; Ph.D. agricl. biochem., 1929; mem.: Alpha Chi Sigma, Alpha Zeta, Phi Lambda Upsilon, Sigma Xi; m. Helen Dorothy Winkelman, Aug. 3, 1927; ch.: Patricia Ann. 1923-29 asst. State Chem., Wis. Dept. of Agric.; 1929-45 chf. biochem. and later dir. of nutri., The Quaker Oats Co., Chicago; 1942-45 exec. secy. Food & Nutri. Bd., Natl. Res. Council, Wash., D.C. (part time leave of absence from Quaker Oats); 1945 to date res. and dev. dept., v.p., Pillsbury Mills, Minneapolis. Misc. res. on animal and human nutri., liaison betw. indust. sponsor of res. and acad. res. institutes, universities, etc.; liaison betw. indust. and Food and Drug Admin., Fed. Trade Commis., Dept. of Pub. Health, etc. in U.S.A., Canada and Western European countries; coord. and advis. in wartime and postwar period to Q.M. Corps and other branches of the military and civilian organizations. Mem.: A.C.S., A.A.Cer.C., Biochem. Soc. of Great Britain, Inst. of Food Techs.; mem. of tech. or adv. organizations: Comm. on Cereals, Natl. Res. Council, Wash., D.C.; Assoc., Food and Container Inst. for the Armed Forces; Delegate to Natl. Security Indust. Assoc. Clubs: Cosmos (Wash., D.C.); Union League (Chicago); Edina Country (Minneapolis). Hobbies: golf, gardening, travel, photography.

GUNDERSON, Lewis Olin, asst. v.p., Dearborn Chem. Co., v.p., Electro-Chem. Engrg. Corp., 310 S. Mich. Ave., Chicago 4, Ill.; res. 243 Imperial St., Pk. Ridge, Ill.

Chem. engr.; b. Stoughton, Wis., Aug. 1, 1896; s. of Andrew H. and Emma Gunderson; ed. River Falls (Wis.) State Normal 1914, (tchrs. cert.); St. Olaf Coll. (Minn.), B.A., 1919; U. of Wis., p.g. 1920; m. Clara J. Holm, Sept. 3, 1932; ch.: Eileen Lois, Gordon Russell, Lewis David. 1918-19 U.S. Naval Ry. Battery No. 1 in France; 1920, chem., Swift & Co., Chicago; 1920-22 chem. and water inspec., Wabash Ry. Co., Decatur, Ill.; 1922-28 chf. chem. engr., Chicago & Alton R.R. (now Alton), Bloomington, Ill.; 1928-31 pres. Electro-Chem. Engrg. Corp., Chicago; 1931 to date v.p., dir., Electro-Chem. Engrg. Corp. and asst. v.p. Dearborn Chem. Co., Chicago. Electro-chem. polariza. proc. for corrosion prevention; foam-meter, electromatic blow-off systems for boilers; electromatic foam collapsing systems; poly-alkylene polyamide foam inhibitors. Mem.: A.C.S., A.S.M.E., A.I.Ch.E., A.A.A.S. Trustee, St. Olaf Coll. (Northfield, Minn.). Clubs: University (Chicago), Western Ry. (Chicago). Hobbies: golf, fishing.

GUNDLACH, Henry Ralph, consltg. chem. & engr., 3545 Fairfield Rd., Baltimore 26, Md.; res. 2411 Poplar Dr., Baltimore 7.

Consltg. chem. & engr.; b. Baltimore, Md., June 1, 1889; s. of Henry F. and Clara Gundlach; ed. Baltimore Polytech. Inst.; Cornell U., B.Chem.; mem.: Sigma Xi, Phi Kappa Tau; m. Bertha E. Warwick, Jan. 12, 1912; ch.: Henry Ralph Jr. Chf. chem., Baltimore Bur. of Stand., 1912-15; asst. chf. chem., Interocean Oil Co. of N.Y. & Baltimore, 1915-20, chf. chem. 1920-26; consltg. chem. & chem. engr., 1927 to date; pres., Seaboard Asphalt Prods. Co., Baltimore, Md. Dev. of new process for coloring of roofing granules covered by 8 pats. Mem.: A.I.Ch.E., Assn. Asphalt Paving Technologists, A.C.S., A.S.T.M. Clubs: Engineers (Baltimore), University (Baltimore), Cornell (Md.), Chemists' (N.Y.), Rolling Road Golf (Catonsville, Md.). Hobby: golf.

GUNDY, Glen V., chmn. of Chem. Dept., State Tchrs. Coll., Platteville, Wis.; res. 424 West Mineral, Platteville.

Coll. tchr.; b. Memphis, Mo., Mar. 21, 1901; s. of John Thomas and Ida (Dell) Gundy; ed. Central Mo. State Tchrs. Coll., B.S.; State U. of Iowa, M.S. and Ph.D.; m. Nellie Miller, Aug. 20, 1925; ch.: Dorothy Louise, Frances Carolyn. 1923-28 tchr. in high schls. of Mo. and Ill.; 1929-31 instr. in chem., Case Inst. of Tech.; 1935-47 tchr. of soils and chem., State Tchrs. Coll.; 1947 to date chmn. chem. dept. Res. in vanillin derivatives; the arrangement of hydrazones to pyrazolines. Mem.: A.C.S., Iowa Acdy. of Sc., Natl. Educ. Assoc., Sigma Xi, Phi Lambda Upsilon. Hobby: gardening.

GUNNING, Harry Emmet, asst. prof. chem., Illinois Inst. of Tech., Chicago 16, Ill.; res. 908 S. Clyde Ave., Chicago 17.

Res. chem.; b. Toronto, Canada, Dec. 16, 1916; s. of Lorenzo Edward and Ledo Beryl Gunning; ed. U. of Toronto, B.A., 1939; M.A., 1940; Ph.D., 1942; m. Donna Marie Beahan, Jan. 30, 1943; ch.: Judith Beryl. 1942, National Res. Fellow, Harvard U.; Natl. Res. Council of Canada, 1943-44, jr. res. chem.; 1944-45, asst. res. chem.; 1945-46, assoc. res. chem.; 1946-48, asst. prof. chem., U. of Rochester; 1948 to date, asst. prof. chem., Ill. Inst. of Tech. Publications in field of conductance and photochemistry in var. sc. jls. Mem.: A.C.S., A.A.A.S., Sigma Xi. Hobby: comparative literature.

GUNTHER, James Kenneth, pres., Gunther Prods. Inc., 600 E. Main St., Galesburg, Ill.; res. 753 N. Prairie St., Galesburg.

Chem.; b. Galesburg, Ill., Sept. 20, 1910; s. of H. H. and Martha W. Gunther; ed. B.S., Knox Coll., 1932; M.S., Cornell U., 1933 Phi Beta Kappa; Ph.D., Ill., 1936; mem.: Sigma Xi, Tau Kappa Epsilon, Gamma Alpha; m. Julie J. McHale, 1937; ch.: Jay, Judith, Stephen. 1936-44, Swift & Co., res. chem.; 1944-49, Central Soya Co., res. dir.; 1949 to date, Gunther Prods., Inc., pres. and dir. Res. & publ. on nutrition, amino acids, proteins, fats & oils. Mem.: A.C.S., I.F.T., A.O.C.S.

GUNTHER, Roland Eric, chf. chem., brewing tech., Dehls & Stein, Inc., 237 South St., Newark 5, N.J.; res. 25 E. Waukena Ave., Oceanside, N.Y.

Brewing; b. Mexico City, Mexico, June 1, 1913;

s. of Eric and Adelheid Gunther; ed. Columbia Coll., A.B., 1933; Munich Inst. of Tech. (Weihen-Stephan) "Diplom Brauer," 1937. 1933-35 Ruppert Brewery, N.Y., apprentice & journeyman brewer; 1935-37 studied sc. principles of brewing, Munich, Germany; 1938 asst. prod. supt., Rio Grande Brg. Corp., Albuquerque, N.Mex.; 1939-41 supt. prod., Blumer Brg. Corp., Monroe, Wis.; 1941 to date chf. chem., brg. tech., Dehls & Stein, Inc., Newark, N.J., mfgrs. of brewers' specs., anal. for conslts. to the brewing ind.; 1942-45 3 yr. interim with U.S.A. Military Intelligence Serv. Patent on edible antioxidant; gas dispersion equip. Mem.: A.C.S., I.F.T., A.S.Brew.C.; Master Brewers Assn. Am. Clubs: Montclair Ski; Montclair Badminton. Hobbies: sailing, badminton, skiing, gardening, electronics, making gadgets, music.

GURCHOT, Chas., res. dir., 320 Market St., San Francisco, Calif., res. 150 Palo Alto Ave., San Francisco 14.
Chem., phar., biol.; b. Paris France, July 19, 1898; s. of Marcus and Rebecca Gurchot; ed. C.C.N.Y., B.S., 1917; Cornell U., Ph.D., 1925; mem.: Sigma Xi; m. Georgette Rossillon, 1928. Heckscher fellow, Cornell 1925-26; asst. instr. optical chem. 1923-25; clinical lab. asst. & X-ray tech., A.E.F. 1917-18; instr. biochem., Cornell Med. Coll. 1926-27; Ecole de Medecine, Paris, France, 1927-28; res. assoc. phar., Stanford U., San Francisco, 1928-30; biochem., res. dir., Sonoma State Home, Calif. 1930-33; cancer res., Phila. & Cornell U., 1933-34; cancer res., U. Calif. Med. Schl., dept. phar. 1934-36; instr. phar., U. Calif. Med. Schl., San Francisco, 1936-41; asst. prof. phar., 1941-45. Res. in semipermeab. of membranes, metabolism; electroneg. Bismuth compds. for use in syphilis (sodium iodobismuthite & sodium Bismuthate); etiol. & treatment of malignant diseases. Author: "Biology, Key to the Riddle of Cancer" 1950. Mem.: S.E. B.M., Am. Genetic Assn., Calif. Acdy. Sc., A.A. A.S. (fellow). Hobbies: music, natural history, philosophy, outdoor exploring, writing.

GURIN, Emanuel, chf. chem., Rapid Roller Co., 2558 S. Federal St., Chicago 16, Ill.; res. 8122 S. Avalon Ave.
Chem.; b. N.Y.C., July 2, 1915; s. of Aaron and Sarah Gurin; ed. B.S., 1935, U. of Akron; 1936-39 grad. study U. of Chicago; mem.: Phi Sigma Alpha, Delta Epsilon Xi; m. Rose Tapper, Dec. 5, 1937; ch.: Irving Leslie, Kenneth Dennis. Since Oct., 1935 with the Rapid Roller Co., first as offset blanket res. chem., and since Mar., 1939 chf. chem. Has written arts. on lithographic blankets for var. printing magazines and books. Mem.: A.C.S., Rubber Div. of A.C.S. (Chicago Rubber Grp.), T.A.L.I.

GURLEY, Franklin C., pres., treas., W. F. Mfg. Co., Inc. and of the Glenn Confections, Inc., 251 Seneca St., Buffalo 4, N.Y.; res. Hampton Brook Farm, Hamburg, N.Y.
Mfr.; b. So. Willington, Conn., May 31, 1891; s. of Carlos J. and Phoebe (Green) Gurley; ed. Worcester Polytech. Inst., B.Sc. in chem., 1914; mem.: Sigma Xi, Tau Zeta Pi; m. Marion Beach Sibley, 1917; ch.: Franklin C. Jr., Jane (Gurley) Dinker. 1915-26 operating supt. and prod. mgr. Marcus Hook Plant, Natl. Aniline & Chem. Co., Inc.; 1926 to date pres. W. F. Mfg. Co. Inc.; 1944 to date pres., treas. Glen Confections, Inc.; treas. F.G.L. Realty Corp.; pres. Gurley-Sibley Co. Inc. Mem.: Inst. Food Techs. Dir. Buffalo Goodwill. Clubs: Buffalo Athletic; Orchard Park. Hobbies: golf, fishing.

GUSSMAN, Lawrence, dir., v.p., chg. Mfg. & Tech. Div., tech. dir., Stein, Hall & Co., Inc., 285 Madison Ave., N.Y.C., res. 12 Ethelridge Rd., White Plains, N.Y.
Chem. engr.; b. Irvington, N.J., Dec. 23, 1915; s. of Samuel and Lottie Gussman; ed. Columbia Coll., B.A. Chem., 1937; Columbia U., B.S. Chem. Engr., 1938; Ch.E. Chem. Engrg., 1939; m. Catharine Moore, Dec. 31, 1939; ch.: William, Margaret. June, 1939-Apr. 1940 Res. Found., N.Y.C., chem. engr.; Apr. 1940-Feb. 1941 Stein, Hall & Co., Inc., chem. engr. tech. dept.; Feb., 1941-July 1942 Stein-Davies Co., L.I.C., asst. plant supt.; July 1942-May 1943 Stein, Hall Mfg. Co., Chicago, asst. mgr. dev. dept.; May 1943-44 Stein, Hall & Co., Inc., N.Y.C., mgr. dev. dept.; May 1944-45 mgr. engr. dept.; May 1945-Nov. 1945 prod. mgr.; Nov. 1945-Mar. 1947 v.p. chg. mfg.; Mar. 1947-Apr. 1948, v.p. chg. mfg., v.p. of Stein-Davies Co.; Apr. 1948, v.p. chg. mfg. Stein, Hall & Co., Inc., dir. Stein-Davies Co.; Apr. 1949 to date dir. Stein-Davies Co., v.p. chg. mfg. & Tech. Div., tech. dir., Stein, Hall & Co., Inc. Mem.: T.A.P.P.I., A.I.ChE., A.C.S. Club: Chem.

GUSTAFSON, Kendol Clayton, proc. contr. supvr., E. I. du Pont de Nemours, Box 71, Chattanooga, Tenn.; res. 304 Unaka St., Chattanooga 5.
Chem.; b. Oct. 3, 1917; s. of Arthur A. and Ethel M. Gustafson; ed. Blackburn Coll., 1935-37; U. of Ill.; B.S. chem., 1940; m. Dorthanell Linthicum, Dec. 7, 1941. 1940-45 chem., shift supvr., sr. supvr., 1945-46 res. chem., 1946-48 std. pract. supvr., 1948 to date proc. contr. supvr. E. I. du Pont de Nemours. Mem.: A.C.S., secy. Chattanooga Section, A.C.S.; A.SQ.C. Club: Lions. Hobbies: metal working, wood working, color photography.

GUSTIN, Herbert A., distr. mgr., Natl. Aluminate Corp., 6216 W. 66th Pl., Chicago 38, Ill.; res. 689 Riford Road, Glen Ellya, Ill.
Chem. mfr., sales; b. Bay City, Mich., Apr. 22, 1897; s. of Wilbert H. and Harriet (Cumming) Gustin; ed. U. of Mich., A.B., 1919; mem.: Delta Upsilon; m. Louise Tromble, May 14, 1921; ch.: Herbert A. Jr., Phyllis, Nancy. 1918 ensign, U.S. N.R.F.; 1919 supercargo, U.S. Shipping Bd.; 1920-22 clerk, Timken Detroit Axle Co.; 1923-26 fld. mgr. Peerless Weighing Machine Co.; 1927 to date with Chicago Chem. Co., which in 1928 became the Natl. Aluminate Corp. Club: U. of Mich. (Chicago). Hobbies: trout fishing, photography.

GUSTUS, Edwin L(ysle), v.p., Bjorksten Res. Labs., 13791 South Ave. "O", Chicago 33, Ill.; res. 6744 South Ridgeland Ave., Chicago 49, Ill.
Chem. res. and exec.; b. Moline, Ill., July 27, 1900; s. of John Edwin and Edith (Wilkins) Gustus; ed. B.A., Stanford U., 1921; M.Sc., Northwestern U., 1923; Ph.D., 1926; post doctorate studies at the Fed. Polytech. Inst., Zürich, Switzerland, 1930-31; m. Irene A. Neuhauser, M.D., July 27, 1934. 1926-30 assoc., The Rockefeller Inst. for Med. Res., N.Y.C.; 1930-31 fellow, Natl. Res. Council: Swiss Fed. Tech. Inst., Zürich, Switzerland; 1931-32 res. assoc., Penn. State Coll., State Coll., Pa.; 1932-33 spec. res. in endocrinology, The Rockefeller Inst. for Med. Res.; 1933-36 biochem., The Upjohn Co., Kalamazoo, Mich.; 1936-43 asst. to gen. mgr., The Wilson Labs. (Div. of Wilson & Co., Inc.), Chicago, Ill.; 1943-46 res. dir., Res. and Dev. Branch, Office of the Q.M. Gen., Wash., D.C.; 1946 to date v.p., Bjorksten Res. Labs., Chicago, Ill., and Madison, Wis.; 1946 to date res. conslt. to the Res. and Dev. Branch, Off. of the Q.M. Gen. and mem. of The Comm. on Leather of the Advisory Bd. on Q.M. Res. and Dev., Natl. Res. Council. Mechanism of oxidation of monosaccharides; chem. structure of cardiac aglycones; pharmaceutical prods. of animal origin; prevention of deterioration of military equipment in the tropics. Mem.: A.C.S., A.S.Bio.C., S.E. B.M.; decorated by War Dept. 1945 for contribs. to war effort. Hobbies: Hispanic languages and literature.

GUTEKUNST, Helmut Conrad, prof. of chem., McKendree Coll., Lebanon, Ill.; res. 504 W. Dee St., Lebanon.
Teacher; b. Barmen, Germany, Oct. 10, 1904; s. of George and Marie Gutekunst; ed. Ill. Wesleyan, B.S., 1928; Wash. U., M.S., 1930; mem.: Alpha Chi Sigma; m. Bertha Ward; ch.: Phyllis Ann, Judith Joan. Wash. U., grad. asst., 1928-30; Mich. State Coll., 1930-41; Jr. Coll. Marshallton, Iowa, 1942; McKendree Coll., 1942 to date. Mem.: A.C.S., Ill. Acdy. of Sc., A.A.A.S., Natl. Ed. Assn., Sigma Zeta.

GUTHMAN, Leo S., pres. Bradley & Vrooman Co., 2629 S. Dearborn St., Chicago 16, Ill.; res. 1255 N. State St., Chicago 10, Ill.
Exec., paint mfr.; b. Chicago, Ill., Jan. 23, 1907; s. of Leo S. and Lillian (Simon) Guthman; ed. U. of Ill., U. of Chicago, Northwestern U. (night work); mem.: Zeta Beta Tau; m. Cecile Silberman, Jan., 1936; div. 1949; ch.: Patricia, Lynne. 1927-28 exec. in training, Gen. Amer. Transportation; 1928-37 acc. exec., Abbott Proctor & Paine; 1937 to date with Bradley & Vrooman Co., pres. since 1945. President, Chicago Paint, Varnish & Lacquer Association, 1948-50. Clubs: Standard; Northmoor Country; Rotary No. 1; Chemists' Club (N.Y.C.). Hobbies: golf, skeet shooting.

GUTHMANN, Walter Sigmund, pres., The Edwal Laboratories, Inc., Ringwood, Ill.; res. 1245 Euclid Ave., Highland Pk., Ill.
Chem.; b. Chicago, Ill., Apr. 3, 1907; s. of William Bernard and Ida Seligmann Guthmann; ed. 1928, Yale U., B.S.; 1931 U. of Chicago, Ph.D.; m. Edith Greenbaum, Oct. 16, 1940; ch.: Babette, William Alan. 1931, International Filer Co., chem.; 1932, Elmer Richards Co., chem.; 1932, Puritan Mills, chem.; 1933 to present, The Edwal Laboratories, Inc.—part-owner. Fine Chemical manuf. Mem.: Sigma Xi, A.C.S. (Chicago section), A.C.S., Chemists' Club (Chicago), Chicago Drug and Chem. Assoc., A.I.C. Club: Yale (N.Y.).

GUTHRIE, Ned, prof. of chem. and hd. of Chem. Dept., Hanover Coll., Hanover, Ind.; res. Hanover, Ind.
Tchg.; b. Shelby County, Ill., Feb. 8, 1899; s. of Albert Hodge and Mattie (Inman) Guthrie; ed. Pana Twshp. H.S., Pana, Ill.; Ill. Wesleyan U., B.S., 1925; U. of Ill., M.S., 1926; scholarship in chem. 1925-26, summers, 1926, 1929-31, 1934-36, U. of Ill.; mem.: Phi Kappa Phi, Sigma Xi; m. Gladys A. Glick, Sept. 8, 1925; ch.: Frank A., Alice R., Dorothy L., Eleanor E. 1918-20 tchr. rural schls., Shelby County, Ill.; 1922-23 tchr. sc., math., Cowden H.S., Ill.; 1923-25 lab. asst. Ill. Wesleyan, chem. and phys.; 1926 to date chem. Hanover Coll.; 1944 summer session, Miami U. Oxford, Ohio. Author: "Question Book—Inorganic Chem.," 1932. Mem.: A.C.S., Indiana Chem. Soc., Indiana Acdy. of Science, Sigma Xi, Phi Kappa Phi, Scholar. in chem. U. of Ill., 1925-26, A.A.A.S., A.A.U.P. Club: Masonic. Hobbies: collecting and reading children's books, games.

GUTKIN, Samuel S., v.p. and tech. dir. Falk & Co., P.O. Box 1075, also Penn. Falk Chemical Company, same address, Pittsburgh, Pa.; res. 1340 Sunnyside Pl., Plainfield, N. J.
Chem.; b. May 3, 1905, U.S.A.; s. of Joseph and Pauline (Hanna) Gutkin; ed. Syracuse U., B.S. Pulp & Paper Engrg.; mem. Robin Hood Jr. Soc.; m. Leonore Alpine, Mar. 10, 1934; ch.: Michael, Peter Alan. 1928-34 res. chem. Am. Cyanamid Co.; 1934-37 with Barsky & Strauss, Inc. and Carbogen Chem. Co. as tech. dir.; since 1937 with Falk & Co. Holds pats. on drying oils; Varnishes & Resins Coating Comm. of T.A.P.P.I. Author: "Resins for the Paper Converter" (T.A.P.P.I.), 1947; misc. arts. Mem.: T.A.P.P.I., A.S.T.M., A.O.C.S, AC.S., Gallows Birds, Rheolog. Soc., Fed. of Paint & Varnish Prod. Clubs. Clubs: Syracuse University, Chemists', F.&A.M. Hobbies: music, photography, gardening.

GUTZEIT, Gregoire, dir. res. and test. labs. Gen. Amer. Trans. Corp. (G.A.T.C.), 300 W. 151 St., E. Chicago, Indiana; res. 3608 Ridge Rd., Highland, Ind.
Res. chem., chem. engr., metallurg. engr.; b. Slutzk, Russia, Apr. 15, 1901; s. of Abe Michel and Paulette Raygrodski (Brupbacher) Gutzeit; ed. Calvin Coll. and U. of Geneva (Geneva, Switzerland); B.A., 1919; M.S., Ch.Eng. and Geol. Eng., 1927; Ph.D. Chem., 1929; D.S. Chem. and Met., 1932; mem.: "Belles Lettres"; m. Tania Gluckmann, Dec. 2, 1921; ch.: Ethel. 1927-29 first asst. instr. chem. U. Geneva; 1929-32 res. engr., Union Miniere du Haut Katanga (Belg. Congo); 1932-33 asst. prof. miner., U. Geneva; 1933-41 assoc. prof. chem. and metallurg., U. Geneva; 1933-40 constl., Geneva, Switzerland; 1940-41 dir., res. and dev. labs., Dorr-Oliver N.V., The Hague, Holland; 1941-44 dev. eng. in chg. metal. res., Dorr Co., Inc., N.Y.; 1944-45 res. dir., Proc. Equip. Div., G.A.T.C.; 1945 to date dir. res. and testing labs., G.A.T.C.; res. in semi-micro qual. anal., spot tests (Helv. Chim. Acta 12, 1929), chelate compds.; flotation of non-metallic and oxide minerals; waste treatment, chem. and metallurg. proc. equip. Co-author with P. Wenger, "Manuel de Chimie Analytique Qualitative Minerale," (Handbook of Mineral Qualitative Analysis), Edn. George & Co., Geneva, Switzerlnad, 1933. Mem.: A.C.S.; A.I.Ch.E.; A.I.M.E.; A.S.T.M.; A.A.A.S.; Hon. Pres. and Life Member, Assoc. des Ingenieurs Prospecteurs de l'Universite de Geneve; mem. Soc. de Phys. et Hist. Natl. de Geneve; mem. Soc. des Chimistes de Geneve; licensed engr., State of Indiana. Club: life member, Academic Alpine (Geneva, Switzerland). Hobbies: painting, literature, anthropology (ethnog.).

GUY, William George, hd., dept. of chem., Coll. of William and Mary, Williamsburg, Va.; res. Williamsburg.
Tchg.; b. Carbonear, Nfld., Mar. 17, 1899; s. of James P. and Elizabeth (Smith) Guy; ed. Mt. Allison, N.B., Canada, B.Sc., 1919, B.A., 1920; Oxford U., B.A., 1922 (Rhodes Scholar); U. of Chicago, Ph.D., 1925-du Pont Fellow, 1924-25; mem.: Gamma Alpha; m. Gladys Elizabeth Bennett, July 29, 1926. With Coll. of William & Mary as asst. prof., 1925-27; assoc. prof., 1927-30; prof., 1930-43, chancellor prof., 1943 to date; hd., dept. chem., 1945 to date. Res. in radio-activity. Mem.: Phi Beta Kappa, Sigma Xi, A.C.S., A.A.A.S. (fellow), Va. Acdy. of Sc. Hobby: tennis.

GWYNN, Marion Hayes, chem. conslt., Meslar Rd., Morris Plains, N.J.; res. same.
Chem., chem. engr. (P.E. in N.Y. & N.J.); b. N.Y.C., Dec. 18, 1899; s. of St. Chas. B and Mozelle (Hayes) Gwynn; ed Polytech. Inst. Bklyn.; Columbia U., N.Y.C.; N.Y.U. Schl. of Com., N.Y.C.; m. Lora Elizabeth Gwynn, June 18, 1923; ch.: Christopher, Ross Merton, Holmes Merton. 1916-17, 1919-20, chem. anal., Southern Cotton Oil Co., Savannah, Ga.; 1917-19, pharmacist's mate & biolog. asst., U.S.N.; 1920-21, chem. anal. & plant frmn., Beechnut Packing Co., Bklyn, N.Y.; 1921-29, res. chem. & engr., Am. Linseed Co., Bayonne, N.J.; 1929-32, tech. dir. Robinson, Butler & Hemingway, Bound Brook, N.J.; 1934 to date, chem. conslt. Co-inventor OKO process for linseed oil & similar polymerization; inventor of 4S process for hydrofining pet. distillate; conslt. in fatty & catalytic tech. incl. butadiene & styrene prod., also in hydrogenation. Mem.: A.I.C. (fellow), A.I.Ch.E. (active), A.C.S., Am. Inst. Physics, Acoustical Soc. of Am., A.A.A.S., A.O.C.S. Hobbies: social science, religious education of youth.

H

HAAG, Herman Martin, mgr., plant foods & seed divs., dir. of res., Mo. Farmers Assn. Inc., 201 S. Seventh St., Columbia, Mo.; res. 11 Lathrop Rd., Columbia.
Economist; b. Poplar Bluff, Mo., June 19, 1903; s. of Martin David and Rolettie (Ackermann) Haag; ed. B.S. in agr. with distinction, U. of Mo. 1930; Ph.D., Cornell U., 1933; mem.: Farn House, Alpha Zeta, Phi Eta Sigma, Q.E.B.H.; m. Helen Frances Budd, July 8, 1933; ch.: H. Martin, Stefan David, Mary Kathryn. 1933-36, asst. dir of info., Farm Credit Adm., Wash., D.C.; 1936-38, asst. prof. of agr. economics (marketing & prices), U. of Mo., 1938-45, assoc. prof.; summers 1939, 1941, visiting instr., agr. economics, U. of Ark., Fayetteville, Ark.; 1945 to date, dir. of res., 1947 to date, mgr., plant foods div., 1948 to date, mgr., seed div., Mo. Farmers Assn., Inc. Planned, designed & supervised construction, layout, & mechanization of two modern fertilizer plants for M.F.A.; dev., instigated & managed Plant Foods Program for Mo. Farmers Assn., a cooperative assn. serving farmers in Mo.; chmn. of fertilizer subcomm., Natl. Council of Farmers Cooperatives, 1947 to date; comm. concerned itself with tech. & economic problems of cooperative fertilizer mfrs. Author of several Agr. Expt. Station publ. on marketing & prices. Central Farmers Fertilizer Co., Chic., Ill. (dir.). Mem.: Sigma Xi, Phi Kappa Phi, Gamma Sigma Delta, Am. Farm Economics Assn., Internatl. Conference of Agr. Economists. Pres., Natl. Exec. Bd., FarmHouse Fraternity 1941-49; dir., Columbia Community Chest Drive, Oct.-Dec. 1946. Mem. Mo. State Resources & Dev. Commis. Club: Kiwanis.

HAAG, Vernon W(illiam), pres., Haag Labs. Inc., Box 114, Blue Island, Ill.; res. 12227 Eggleston Ave., Chicago 28, Ill.
Mfg. chem., exec.; b. Essex, Ill., Mar. 31, 1894; s. of Fred G. and Addie J. Haag; ed. U. of Ill., 1915, B.S. in chem.; mem.: Phi Lambda Upsilon; m. Eulalie Green, Dec. 24, 1915; ch.: Vernon Wilbert, Amy Joyce, Ralph F. A. T. & S. Fe Ry. at La Junta, Colo., asst. chem., 1915-16; Sherwin-Williams, Chicago, asst. chem., 1916-17; foreman insect. dept., 1917-18, Newark, supt. insect. dept. 1918-19, Detroit, supt. insect. dept. 1919-21; Haag-Bigler Chem. Co., Chicago, ptnr., 1921-30; Haag Labs., pres. 1930 to date. Mem.: Natl. Sanitary Supply Assoc. Clubs: Masonic Lodge, Shrine, Lions Club. Hobbies: fishing, bowling.

HAAGEN-SMIT, Arie Jan, prof. of bio-org. chem., Calif. Inst. of Tech., Pasadena 4, Calif.; res. 416 S. Berkeley Ave., Pasadena.
Teaching, res.; b. Utrecht, The Netherlands, Dec. 22, 1900; s. of Jan W. A. and Maria G. (van Maanen) Haagen-Smit; ed. U. of Utrecht, The Netherlands, A.B., 1922, A.M. 1926, Ph.D., 1929; mem.: Student Corps, U. of Utrecht; m. M. W. Bloemers, 1933; ch.: Jan, Maria, Margaret. Hd. asst., dept. of org. chem., Utrecht, 1929-34, lecturer in org. chem., 1934-36; lecturer in biolog. chem., Harvard U., 1936-37; assoc. prof. 1937-40, prof., 1940 to date, Calif. Inst. of Tech. Isolation plant hormones; studies essential oils, alkaloids & other plant prods. Num. publ. in sc. journals. Mem.: A.C.S., Swiss Chem. Soc., Dutch Chem. Soc., S.E.B.M., Soc. of Plant Physiologists, Sigma Xi, I.F.T., Botanical Soc. of Am., A.A.A.S. Awards: Fritzsche Award of the A.C.S. 1950; Knight of the Order of Orange Nassau. Clubs: Netherlands-Am. Soc., Netherlands-Am. U. League. Hobbies: hiking, camping.

HAASE, Harold F(rederick), assoc. prof. Engineering Coll., Marquette U., 1515 W. Wis. Ave., Milwaukee 3, Wis.; res. 2917 W. Juneau Ave., Milwaukee 8, Wis.
Tchr., chem. and metallurg. engr.; b. Milwaukee, Wis., Aug. 13, 1903; s. of Fred M. and Lydia M. Haase; ed. U. of Wis., B.S. 1925; M.I.T., M.S. 1927; Marquette U., Ph.D. 1944; mem.: Sigma Xi; m. Ruth M. Kassulke, Aug. 20, 1949. 1927-32 res. engr. A. O. Smith; 1932-43 conslt. engr.; 1941-43 tchr. West Allis Vocational Schl.; 1943-47 res. engr. Battelle Memorial Inst.; 1947 to date prof. metallurg., Marquette U. Engrg. Coll.; specialist in corrosion problems. Mem.: A.C.S., E.S., A.S.M., A.S.T.M., Am. Foundrymen's Soc., Natl. Assoc. Cor. Engrs. Hobby: study of economics and business conditions.

HABLE, George J(ohn), chf. contr. chem., S.C. Johnson & Son, Inc., 1525 Howe St., Racine, Wis.; res. 916 E. Colonial Dr., Racine.
Chem.; b. Bloomer, Wis., Aug. 10, 1903; s. of Wenzel and Madeline Hable; ed. Marquette U. (Milwaukee), B.S. 1926; m. Eleanor Gregory, Feb. 2, 1929; ch.: Margaret, Richard. 1926-45 paint dev. chem., 1945 to date chf. contr. chem., S. C. Johnson & Son, Inc.; res. in wax protective coattings. Mem.: A.C.S., A.I.C., Amer. Soc. for Quality Control. Club: Elks. Hobbies: fishing, hunting.

HABLUTZEL, Charles Edward, Jr., chf. of res., United Gas Pipe Line Co., P.O. Box 1407, Shreveport, La.; res. 717 Linden, Shreveport.
Chf. of res.; b. San Jose, Calif., Jan. 26, 1905; s. of Dr. C. E., Sr., and Mrs. C.E. Hablutzel; ed. Stanford U., B.A. chem 1925; M.A. chem. 1926; Calif. Inst. of Tech., Ph.D., 1933 (cum laude); m. Electa Cain, Aug. 19, 1928; ch.: Caroline Lorraine, Philip Norman, Benjamin Cory. 1925-26 tchg. asst. chem., Stanford U.; 1926-29, tchr. sc. and math., South San Francisco and Santa Barbara, Calif. H. Schls.; 1930-33, tchg. asst. physics, Calif. Inst. of Tech.; 1933-42, prof. sc., hd. dept., Arizona State Coll., Flagstaff; 1942-46, res. phys., 1943-46, proj. supvr., O.S.R.D. and Navy projs., U. of New Mexico; 1942-43, lect. in phys., U. of New Mexico; 1946-47, assoc. prof. physics, San Jose (Calif.) State Coll.; 1947 to date, chf. of res., United Gas Pipe Line Co. Mem.: A.Phys.S.; Am. Assoc. Physics Tchrs.; A.A.A.S. (fellow); Sigma Xi; A.A.U.P.; company rep. A.C.S. Hobby: high quality phonograph reprod.

HAC, Lucile R., principal res. chem. & lab. supvr., Internatl. Minerals & Chem. Corp., P.O. Box 348, Woodland, Calif.; res. 512 W. Keystone, Woodland.
Res. chem.; b. Lincoln, Nebr., May 18, 1909; d. of Peter F. and Carrie E. Hac; ed. U. of Nebr., B.A., 1930, M.S., 1931; Ph.D., 1935, U. of Minn. 1935-36, Md. State Health Dept., sr. bacteriologist; 1936-43, U. of Chicago, Dept. of Obst. & Gyn., res. assoc.; 1943-44 sr. res. chem., 1944 to date principal res. chem. & supvr., Internatl. Minerals & Chem. Corp. Sulfonamides & antibiotics in gonococcal & cl. welchii infections; nitrogen cmpds. of sugar beets, amino acids & especially glutomic acid in sugar beets; nutrient culture of sugar beets; glutamic decarboxylase. Mem.: Phi Beta Kappa, Sigma Xi, Sigma Delta Epsilon, Iota Sigma Pi, A.C.S., Soc. Exp. Biol. & Med., Am. Soc. Bacteriologists, Am. Soc. Beet Sugar Tech. Club: Soroptimist. Hobbies: music, gardening.

HACHEN, Harry H., mgr., intermediates div., Trubek Labs., State Highway 17, E. Rutherford, N.J.; res. 140 Cabrini Blvd., N.Y., N.Y.
Chem. engr.; b. Chicago, Ill., Dec. 25, 1903; s. of Samuel D. and Mollie Hachen; ed. U. of Cincinnati, 1921-24, 1925, 1929-30, B.A. 1925, Ch.E. 1933; U. of Chicago 1924-25; C.C.N.Y. 1931-32; mem.: Sigma Alpha Mu; m. Carolyn Kory, Apr. 4, 1927; ch.: David S., Harry Jr., Kathryn. Fries & Fries, Inc., Cincinnati, Ohio, 1925-30, supervised prodn.; Kay Fries Labs., W. Haverstraw,

N.Y., 1930-31, plant supt.; George G. Fries & Co. Inc. & Harold L. Simons, Inc., L.I.C., N.Y., 1931-48, plant mgr.; Trubek Labs., E. Rutherford, N.J., 1948 to date, plant mgr. & mgr., intermediates div. Mem.: A.C.S., Com. Chem. Dev. Assn., Syn. Org. Chem. Mfrs. Assn.

HACHMUTH, Karl H., mem. res. planning bd., Phillips Petroleum Co., Bartlesville, Okla.; res. 1115 Dewey Ave., Bartlesville, Okla.
Chem. engr.; b. Comstock Park, Mich., June 10, 1904; s. of Henry C. and Nettie Hachmuth; ed. U. of Mich., B.S. in Ch.E. 1926; mem.: Phi Lambda Upsilon; m. Margaret G. Johnson, 1927; ch.: Barbara Joan, Margaret Gretchen, Henry Karl, Kay Helen, Clare Ann, Norma Jane. 1920-25 asst. chem., asst. engr., operator, misc. summer wk., mostly with Grand Rapids Gas Light Co.; 1926-27 asst. dev. chem., Ozokerite Mining Co., Soldier Summit, Utah; 1927-35 res. engr., Phillips Petroleum Co., Bartlesville, Okla.; 1935-43 sect. chf. (dev.) same co.; 1943-46 assoc. dir. of res., 1946-50 tech. conslt., 1950 to date mem. of res. planning bd., all, Phillips Petroleum Co. Holds approx. 25 pats. in petroleum engrg. fld. Mem.: A.I.Ch.E., reg. prof. engr., State of Okla., A.A.A.S. Hobbies: wood and metal working.

HACKERMAN, Norman, prof. of chem., dept. of chem., U. of Texas, Austin 12, Tex.; res. 2000 Sharon Lane, Austin, Tex.
Chem.; b. Baltimore, Md., Mar. 2, 1912; s. of Jacob and Anna (Raffel) Hackerman; ed. Johns Hopkins U., Baltimore, Md., A.B., 1932, Ph.D. 1935; m. Gene Allison Coulbourn, Aug. 25, 1940; ch.: Patricia Gale, Stephen Miles. Colloid Corp., Balt., Md., 1936-40, res. chem.; U.S. Coast Guard Lab., Staten Island, N.Y., 1940-41, asst. chem. (U.S.C.S.) Va. Polytech. Inst., Blacksburg, Va., 1941-44, asst. prof. of chem.; Kellex Corp., New York, N.Y., res. chem. (Manhattan District) 1944; U. of Texas, 1945 to date; res. in passivity of metals, physical chem. of corrosion inhibition, surface chem. of solids. Author (with F. A. Matsen and J. Myers), "Pre-Medical Physical Chemistry," Macmillan Co., N.Y., 1949; (with R. T. Foley Hemphill) "Experimental Colloid Chemistry," Austin, Tex., 1948; and numerous contribs. to sc. and tech. jls. largely on corrosion. Mem.: Electrochem. Soc. (tech. edit. of Jl. of same, March, 1950 to date); A.C.S.; A.A.A.S.; Natl. Assoc. of Corrosion Engrs. Hobby: mountain climbing.

HADDEN, Stuart Tracey, sr. tech., Socony-Vacuum Labs., Paulsboro, N.J.; res. 416 S. Jackson St., Woodbury, N.J.
Chem. engr.; b. Grand Rapids, Mich., Aug. 13, 1911; s. of H.T. and L.S. Hadden; ed. Mich. State Coll., 1929-31; U. Mich. 1931-34 B.S.E. (Math. Engr.); 1935 B.S.E. (Ch.Engr.); Temple U., 1947 to date; mem.: Alpha Chi Sigma; m. Kathryn Martin, Nov. 1940; ch.: Sharon Suzann. 1935 instr., chem., math. & mech. drawing, Harbor Springs Freshmen Coll., Harbor Springs, Mich.; 1935-37 chem. engr., Calco Chem. Co., Bound Brook, N.J.; 1937 to date chem. engr., res. & dev. dept., Socony-Vacuum Oil Co., Paulsboro, N.J. 3 patents on mfgr. of aviation alkylate, subm. rept. on reaction velocity in Thermal cracking to Primary Proc., subcomm. of T.A.C. of Pet. Ind. War Council. Papers on vapor-liq. equilib. in hydrocarb. systems, Chem. Engr. Prog. 1948. Mem.: A.I.Ch.E., A.C.S. Club: Univ. Mich. (Phila.); Hobby: chess.

HADLOCK, Canfield, tech. asst. High-Polymer Comm., E. I. du Pont de Nemours & Co., Wilmington, Del.; res. Chicken Alley, R.D. No. 2.
Chem. engr.; b. New Brighton, N.Y., Nov. 1, 1904; s. of Albert Emerson and Marion Canfield Hadlock; ed. Dartmouth Coll., A.B. 1926; A.M. 1928; M.I.T. Ph.D. 1933; mem.: Psi Upsilon, Alpha Chi Sigma, Phi Beta Kappa; m. Josephine Cook, Sept. 3, 1937; ch.: Daniel Canfield, Harriett, Josephine Cook, Nancy. Instr. chem., Dartmouth, 1926-28; res. asst. Res. Lab. App. Chem., M.I.T., 1928-30; chem. engr., tech. div., engrg. dept., du Pont Co. 1934-38; chem. engr., ind. engrg. div., engrg. dept., 1938-40; group hd., 1940-42; tech. off., C.E., A.U.S., 1942-46; High-Polymer Comm., 1949 to date. Res. in oxidation of aceteldehyde; spinning cellulose acetate; des. distillation equip., spec., des. drying equip., inorgan. chem. proc., technical developments of high polymers. Mem.: A.C.S., A.I.Ch.E. Club: du Pont Country. Hobbies: gardening, music, fishing.

HAENDLER, Helmut Max, assoc. prof. chem., U. of New Hampshire, Durham, N.H.; res. Mast Rd., Durham.
Chem., tch.; b. Boston, Mass., June 19, 1913; s. of Max Anton and Frieda A. Haendler; ed. Northeastern U., B.S. in Ch.E., with high honor, 1935; U. of Washington, Ph.D. 1940; m. Mildred C. Bragdon, 1936; ch.: Blanca Louise. 1935-42 tchg. fellow, assoc., instr. in chem., U. of Washington; 1942-45 res. chem., supvr., S.A.M. Labs., Manhattan Proj., Columbia U. and Carbide and Carbon Chems. Corp.; 1945 to date asst. prof., assoc. prof. of chem., U. of N.H.; Research Corp. grantee; supvr. of Atomic Energy Commis. Proj. Mem.: A.C.S., A.A.A.S., Alpha Chi Sigma, Sigma Xi, Tau Beta Pi. Hobbies: gardening, metal work.

HAENISCH, Edward Lauth, prof. chem., chmn. of dept., Wabash Coll., Crawfordsville, Ind.; res. 309 S. Walnut St., Crawfordsville, Ind.
Coll. prof.; b. Chicago, Ill., Aug. 9, 1911; s. of Herman James and Elizabeth (Lauth) Haenisch; ed. U. of Chicago, S.B. 1930, Ph.D. 1935; mem.: Alpha Chi Sigma; m. Jane Crugar, June 14, 1941; ch.: Elizabeth Jane. 1932-34 instr. chem., U. of Chicago; 1934-36 instr. chem. Montana State Coll.; 1936-38 asst. prof. chem., 1938-43 assoc. prof. and act. hd. of dept., 1943-49 prof. and hd. of dept., Villanova Coll.; 1949 to date prof. and chmn. of dept., Wabash Coll. Author: "Quantitative Analysis" with W. C. Pierce (John Wiley & Sons), 3rd ed. 1948. Mem.: A.C.S.; A.I.C. (fellow); A.A.A.S.; A.A.U.P.; E.S; Franklin Inst; Phi Beta Kappa; Sigma Xi; Indiana Acdy Sc. Hobbies: music appreciation, gardening.

HAESELER, Kurt W., conslt. chem., 114 Liberty St., New York 6, N.Y.; res. 72-34 Austin St., Forest Hills, N.Y.
Conslt. chem., educ.; b. Wiesbaden, Germany, 1901; s. of Johann Alphons and Caroline Haeseler (both dec.); ed. Columbia U., B.S., 1924; Ph.D. 1929; mem.: Iota Omega Pi, Alpha Pi Omega; m. Elizabeth Halsey Peckham, 1927. 1924-29 lect. asst., lab. instr., instr. in chem., Columbia U.; 1925-30 hd. Lect. Dept., instr. chem., N.Y.U. (Wash. Sq. Coll.); 1929 to date conslt. chem.; 1930-40 assoc., Foster D. Snell, Inc.; 1942-47 faculty, chem. engr., Pratt Inst. Dir. of res., R. P. Cargille. Wk. in consumer prods.; chem. spec.; phars.; dentifrices; denture prods.; feminine hygiene prods.; food spoilage; beverages; bactericides; tobacco prods.; electroplating; vegetale oils; by-prods.; detergents; precious metals; colorimetric tests. Mem.: A.C.S., E.S., S.C.I., Phi Lambda Upsilon, Sigma Xi. Club: Men's (Forest Hills). Hobbies: chess, gardening.

HAFER, George Byron, sales mgr., industrial chem. div., J. T. Baker Chem. Co., 6 South Main St., Phillipsburg, N.J.; res. 1515 Bushkill St., Easton, Pa.
Sales mgr.; b. Reno, Pa., Feb. 10, 1901; s. of Harry Melvin and Martha Jane Hafer; ed. Coraopolis H.S., 1918, B.S., Allegheny Coll., 1923; mem.: Phi Kappa Psi, Alpha Chi Sigma; m.

Beatrice Mary Weidman; ch.: George Byron II. Athletic coach, Albion, Pa. H.S., 1923-25; sales representative, J. T. Baker Chem. Co. 1926-29; mgr. Chic. Office, J. T. Baker Co., 1929-36; sales mgr., Lab. Chem. Div., J. T. Baker Chem., 1936-46, sales mgr. Ind. Chem. Div., J. T. Baker Chem., 1946 to date. Mem.: A.C.S., Drug & Chem. Assoc. (Chicago), Chemists' Club (Phila.). Clubs: Country Club (Northampton Country, Easton, Pa.), Pomfret (Easton, Pa.). Hobbies: golf, fishing.

HAFFORD, Bradford C., dir., Carteret Sec., Tech. Dept., Westvaco Chem. Div., Food Machinery & Chem. Corp., 500 Roosevelt Ave., Carteret, N.J.; res. 2142 Gamble Rd., Westfield, N.J.
Chem.; b. Albion, Mich., June 2, 1916; s. of Dr. Alpheus T. and Shirley B. Hafford; ed. Albion Coll., Sept. 1933-June 1936; U. of Mich., Sept. 1936-June 1938, B.S. in chem. 1938; U. of Wis., Sept. 1938-June 1942, M.S. 1940, Ph.D. 1942; mem.: Delta Tau Delta; m. Jeannette Craver, Dec. 17, 1938; ch.: Terry Jean, Wendy Joyce. Res. asst. in limnology, 1938-42, U. of Wis.; group leader 1942-47, dir. 1947 to date, Carteret Sec., tech. dept., Westvaco Chem. Div., Food Machinery & Chem. Corp. Mem.: A.C.S.

HAFSTAD, Lawrence Randolph, dir. of reactor devel., U.S. Atomic Energy Commis., Washington 25, D.C.; res. 7245 Forest Rd., Landover, Md.
Nuclear physicist, geophys., electronics; b. Minneapolis, Minn., June 18, 1904; s. of Bernt and Ellen (Bruem) Hafstad; ed. B.S. in E.E., U. of Minn., 1926; Ph.D. in physics, Johns Hopkins U., 1933; m. Mary Cowan. 1928-46, res. physicist, Dept. of Terrestrial Magnetism, Carnegie Inst. of Wash.; also helped carry out res. and devel. of VT radio proximity fuse for Army & Navy. Author of num. articles in fld.; dir. of res., Applied Physics Lab., 1945-47 dir. Inst. for Cooperative Res., Johns Hopkins U., 1947-50; exec. secy. Res. and Devel. Board, Natl. Mil. Establishment, 1947-49; dir., Div. of Reactor Devel., U.S. Atomic Energy Commis., Washington, since 1949; chmn., Interdepartmental Comm. on Sc. Res. and Devel. since 1949. Mem.: A.Phys.S., Wash. Philosoph. Soc., Wash. Acdy. of Sc., Am. Geophys. Union, Sigma Xi, Tau Beta Pi, Eta Kappa Nu, Kappa Eta Kappa. Recip. (with M.A. Tuve), of A.A.A.S. award for res. and devel. 1,000,000-volt vacuum tube, 1931; Medal for Merit from Secy. of Navy for major contrib. in devel. of significant improvements in ord. for Army and Navy, 1946. Club: Cosmos (Washington).

HAGAR, Donald, consltg. engr., Richards Bldg., Zanesville, Ohio; res. 1315 Blue Ave., Zanesville.
Ceramic engr.; b. Madalin, N.Y., Dec. 13, 1897; s. of John Harrison and Barbara (Feller) Hagar; ed. Alfred U., B.S. in ceramic engrg., professional degree in ceramic engrg. 1937; mem.; Klan Alpine; m. Margaret B. Scheffler, Sept. 17, 1925. 1919-21, ceramic engr., Champion Spark Plug Co.; 1921-27, mgr., Mosaic Tile Co., Matawan, N.J.; 1927-31, wks. mgr., Cambridge Tile Mfg. Co,. Cincinnati, Ohio; 1931 to date, consltg. ceramic engr. W. H. Loomis Talc Corp. (dir., mem. of exec. comm.). Dev. use of talc in ceramic whiteware prods. Several tech. arts. pert. to use talc in ceramic prods.; pats. in Great Britain & U.S.A. covering use talc in ceramic ind. Mem.: Am. Ceramic Soc. (fellow), Ohio Ceramic Ind. Assn., N.J. Ceramic Assn., N.Y. Ceramic Assn. Clubs: Zanesville Country, Zanesville University.

HAGBERG, Ralph Albert, distr. sales rep., Industrial Chemical Sales Div., W. Va. Pulp & Paper Co., 844 Leader Bldg., Cleveland, O.; res. 1360 Croyden Rd., Lyndhurst 24, Ohio.
Chem. engr.; b. Boston, Mass., Sept. 3, 1915; s. of Fred A. and Gerda O. Hagberg; ed. Tufts Coll., B.S. Ch.E. (cum laude); mem.: Alpha Tau Omega; m. Louise P., May 13, 1939; ch.: Christian. 1936, chem., Durkee Famous Foods Div., Glidden Co., Elmhurst, L.I., N.Y.; 1937-39, res. chem., W. Va. Pulp & Paper Co., Tyrone, Pa.; 1939-43, sales rep., Industrial Chem. Sales Div., W. Va. Pulp & Paper Co., 230 Park Ave., N.Y.C.; 1943-46, Sanitary Corps, U.S.A.; 1946 to date, sales rep., Industrial Chem. Sales Div., W. Va. Pulp & Paper Co., Cleveland, O. Co-author (with Hassler), "The Influence of Bleaching Adsorbents on the Stability of Edible Oils" and "Contact Counter Current Bleaching of Vegetable Oils" pub. in tech. jl.; author, "Active Carbon in Crystallization" pub. in chem. jl. Mem.: A.W.W.A., A.O.C.S., A.I.Ch.E., Akron Rubber Grp. Club: The Chemical Salesmen of Cleveland. Hobbies: golf, baseball.

HAGER, Herman E., tech. mgr., General Dyestuff Corp., 435 Hudson St., New York, N.Y.; res. 4 Depeyster Ave., Tenafly, N.J.
Mgr. Textile Div. of Tech. Serv. & Comm. Dev. Dept.; b. Germany, Nov. 13, 1887; ed. U. Heidelberg, Munich and Jena, Ph.D., 1910; m. Irma Hill, Nov. 12, 1917; ch.: 2 boys, 1 girl. M.T. Stevens, Franklin, N.H. and Pacific Mills, 1911-12; Bayer Co., 1913; Grasselli Dyestuff Co., 1918; Gen. Dyestuff Corp., 1926 to date. Mem.: A.A.T.C.C., A.C.S. Clubs: Englewood Field, Skytop. Hobbies: golf, gardening, tinkering around house.

HAGUE, Robert William, chf. chem. engr., J. E. Rhoads & Sons, Leather Firm; res. Seneca Rd., Wilmington, Del.
Chem. engr.; b. Pitts., Pa., Mar. 11, 1921; s. of Floyd T. and Louise B. Hague; ed. U. of Pa. B.S. chem. engrg. 1938-42; mem.: Alpha Chi Sigma; m. Louise Dentler, Aug. 23, 1947. 1943-47, Sun Oil Co., dev. chem. engr.; 1947 to date, chf. chem. engr., J. E. Rhoads & Sons. Mem.: Am. Leather Chem. Assn., A.I.Ch.E., A.C.S. Clubs: Ind. Management of Del. (pres.), Lions Internatl. Service (mem.), Jr. Chamber of Com. of Wilmington, Del. (mem.). Hobbies: swimming, gardening.

HAHN, Edward Randolph, owner and mgr. Hahn Labs., P.O. Box 1163, Columbia, S.C. (1305 Laurel St.); res. Apt. 24, 1212 Elmwood Ave., Columbia, S.C.
Chem. engr.; b. Aiken, S.C., May 17, 1910; s. of Frederic William and Carrie May (Youngblood) Hahn; ed. Georgia Tech., Atlanta, Ga., B.S. in Ch.E.; m. Martha Fraser, May 14, 1949. Chem., Law & Co., Atlanta; chem. Southern Cotton Oil Co., Columbia, S.C.; 1935-38, res. chem. Southern Cotton Oil Co., Savannah, Ga.; 1938-40, mgr. and chem. Chas. W. Rice & Co., Columbia, S.C.; 1940, chem. S.C. Dept. of Agr.; 1940-46, U.S.A. (disch. as Colonel); 1947 to date, owner and mgr. Hahn Labs. (comer. lab., anal. and conslt. chems.). Mem.: A.O.C.S. (ref. chem.); Natl. Cottonseed Prods. Assoc. (off. chem.); A.C.S. Club: Kiwanis. Hobbies: golf, tennis, swimming.

HAIGH, Frank Loyal, prof. chem., Dean of Faculty, Whitman Coll., Walla Walla, Wash.; res. 833 Washington St., Walla Walla.
Instr.; b. Wis., Nov. 25, 1885; s. of Willis S. and Fanny M. Dike Haigh; ed. Ripon Coll. A.B., 1908; Yale U., Ph.D., 1912; mem.: Acacia; m. Mabel Frost, Aug. 23, 1913; ch.: John Willis, Helen Lucy. Instr. chem., Sheffield Sc. Schl., Yale U. 1912-15; prof. chem. Whitman Coll. 1916 to date; chem. dean, basic sc. div., 1934-48; dean of faculty 1948 to date. Mem.: A.C.S., Sigma Xi, Congregational Ch. Club: F.&A.M.

HAIGH, Frederick R., chf. chem., Botany Mills, Inc., Passaic, N.J.; res. 125 Westervelt Pl., Passaic.
Chem. exec.; b. Lawrence, Mass., Mar. 11, 1912; s. of Frederick K. and Bessie P. (Gibson); ed. M.I.T. B.S. 1935; Phillips Acdy., Andover, Mass.; mem.: Alpha Kappa Pi; m. Augusta M. Sjostrom, Mar. 14, 1937. Chem., various wool textile concerns, 1930-35; chem., Imperial Paper & Color Corp., 1935-36; chem., J.R. Watkins Co., 1936-39; sales mgr., J.R. Watkins Co., 1939-42; chf., chem. div., O.P.A., U.S. Govt., 1942-43; chf. chem., Botany Mills, Inc., 1943 to date. Mem.: A.I.C., A.C.S., Textile Res. Inst., A.A.T.C.C., Am. Assn. of Tex. Technologists, Soc. of Dyers & Colorists (British), A.O.C.S., A.S.T.M., Soc. for Statistical Quality Control, Toilet Goods Assn. Inc. Club: Pennington (Passaic, N.J.). Hobbies: small boats, firearms, outdoor life.

HAINER, Raymond Mengert, res. phys. chem., Arthur D. Little, Inc., 30 Memorial Dr., Cambridge, Mass.; res. 391 A Rice Ave., Revere, Mass.
Phys. chem.; b. Mansfield, Ohio, Mar. 30, 1918; s. of Walter R. and Henrietta Hainer; ed. Coll. of Wooster, Wooster, O., B.A. 1940; Brown U., Providence, R.I., Ph.D. 1947; m. Lucie Simon, May 22, 1943; ch.: Peter Conrad, Margaret Lucie. 1940-42 grad. schl., Brown U.; 1942-45 res. chem. Manhattan Distr. Proj. on Uranium Chem., Brown U.; 1945 to date res. chem., Arthur D. Little, Inc., Cambridge, Mass.; res. on rotational adsorption of infrared and microwave energy by asymmetric rotors; calculation of rotation-vibration spectra by punched card techs.; infrared apparatus, spectra and anal.; infrared spectra at low temps. Mem.: A.C.S., A.Phys.S., Phi Beta Kappa, Sigma Xi.

HAINES, Edward C(admus), conslt., Superior Var. and Drier Co., Merchantville, N.J.; res. 501 E. Main St., Moorestown.
Varn. chem.; b. Rancocas, N.J.; s. of Thomas Lee and Elena (Cadmus) Haines; ed. Haverford, B.S., M.A., 1921; M.I.T., Ph.D. 1924; mem.: Alpha Chi Sigma; m. Marian Rogers, 1924; ch.: Marian E., Martha C., Edward C. 1924-27 grp. ldr. in chg. furniture Duco dev., du Pont, Parlin, N.J.; 1927-49 chem., dir., secy., Geo. D. Wetherill Var. Co.; 1949 to date conslt. Superior Var. and Drier Co.; holds sev. pats.; contrib. arts. to various sc. jls. Pres. T. Lee Haines Inc. Mem.: A.C.S., A.A.A.S., Franklin Inst.

HAINSWORTH, William R., v.p. in charge of engrg., Servel, Inc., Evansville 20, Ind.; res. Route 12, Box 542, Evansville.
Dir. of engrg.; b. Seattle, Wash., Feb. 22, 1896; s. of William H. and Regina Stretch Hainsworth; ed. U. of Washington, chem. engrg., B.S. 1917; Calif. Inst. of Tech., physical chem., M.S., 1918; M.I.T., physical chem., Ph.D., 1921; mem.: Phi Gamma Delta, Tau Beta Pi, Phi Lambda Upsilon; widower. 1919, chf. chem., U.S. Nitrate Plant No. 1 Muscle Shoals, later assoc. chem. with U.S. Civil Service; 1921-23, res. assoc., M.I.T., later supt. of Puget Sound Gas Co.; 1924-26, refrig. engr., Natl. Refrigerating Co., later chf. engr., of Natl. Automatic Refrigerator Co., New Haven, Conn.; 1929-34, dir. of res. for Servel, Inc.; elected v.p. Apr. 18, 1935; since then v.p. in charge of engrg. Not. wk. in dev. of adsorp. refrig. systems. Mem.: Am. Soc. of Refrig. Engrs. (past pres.), Industrial Res. Inst. (past chairman), Amer. Gas Assoc., recd. Monroe Award. Club: Chemists' (N.Y.C.). Hobbies: photography, mountaineering, gardening.

HALASEY, Sister Mary Eva, O.S.B., prof. of chem., Mount St. Scholastica Coll., Atchison, Kans.; res. same.
Tchg.; b. Maryville, Mo., Feb. 6, 1896; d. of John and Carrie E. (Swinford) Halasey; ed. Creighton U., B.S. chem. 1926; St. Louis U., M.S. 1928; Ph.D. in chem. 1935. 1928-32 instr. in chem. Mount St. Scholastica Coll., Atchison, Kansas; 1935 to date prof. of chem. and hd. of dept. same coll.; exch. prof. (summer sess.) Coll. of St. Scholastica, 1937; 1946 (Duluth, Minn.). Mem.: A.A.A.S., A.C.S., Kansas Acdy. of Sc., The Amer. Benedictine Acdy. (sc. sect.). Hobbies: writing arts. for pub. in religious periodicals.

HALBACH, Ernest K., v.p., Verona Chem. Co., Newark, N.J., and v.p. Steel Heddle Mfg. Co., Phila., Pa.; res. Short Hills, N.J.
Exec.; b. Phila., Pa., Mar. 6, 1883; ed. com. schls.; m. Elizaeth H. Stafford, Nov. 17, 1915; 3 ch. Wm. Pickhardt & Kuttroff, 1899; Kuttroff Pickhardt & Co., Badische Co. 1900-25; Gen. Dyestuff Corp. 1926 to July, 1950. Liberty Loan wk., all drives, during W. W. I. Mem.: O.P.M., W.P.B., W.W. II. Clubs: Merion Cricket, Baltusrol Golf, Merchants, Union League, Pine Valley. Hobbies: fishing, golf.

HALDEMAN, William S., chmn., dept. chem., Monmouth College, Monmouth, Ill.; res. 228 South 8th St., Monmouth.
Chem. tchr.; b. Pine Gove, Pa., Apr. 25, 1881; s. of John and Sarah Haldeman; ed. Pa. State Normal Schl., diploma 1904; U. Pa., B.S., 1914; Harvard U., A.M., 1920 (Austin Fellow); U. Ill., summer sessions, 1920-24; mem.: Alpha Chi Sigma. 1901-02, country schl. tchr.; 1904-09, tchr., Aldenville, Pa., H.S.; 1909-13 and 1914-15, instr. Pa. State Normal Schl.; 1916-18, chem. tchr. Friends Coll., Wichita, Kans.; since 1918, chem. tchr. and hd. dept., Monmouth Coll., Monmouth, Ill.; 48 Ph.D. degrees & 40 M.D. degrees completed since 1923 by chem. alumni in different universities and med. schls. Res. on catalytic oxidation of ethyl alcohol in vapor phase to acetic acid; holds sev. pats. in above field. Mem.: A.C.S. (Illinois-Iowa sec.), Ill. State Acdy. of Scs., A.A.A.S. (fellow); recip. of Midwest Gold Medal Award, 1950, from St. Louis sec., A.C.S. Club: A.A.U.P. Hobbies: walking, travelling (by rail), astronomy.

HALDEN, Alfred A., exec. v.p., Natl. Starch Products, Inc., 270 Madison Ave., N.Y. 16, N.Y.; res. 784 Park Ave., New York 21, N.Y.
Chem. engr.; b. New York, N.Y., Jan. 31, 1895; s. of Isidor and Rose (Miller) Halden; ed. B.S. Columbia, 1915, chem. engrg., 1917; mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, Zeta Beta Tau; m. Dorothy M. Cohn, May 1920; ch.: Barbara Jean. Chem. engr., Barret Co., 1917; Chem. Warfare Service, 1917-18; present dir. and exec. v.p., Natl. Starch Products Inc. (including predecessor co.) 1919 to date. Natl. Adhesives (Canada) Ltd., dir. and secy. Mem.: A.C.S. Clubs: Chemists' (N.Y.C.), Beach Point Yacht (Mamaroneck). Hobbies: sailing, sculpture, stamps.

HALE, Harrison, emer. prof. of chem.; also res. spec., Inst. of Sc. and Tech., U. of Arkansas, 118 Chemistry Bldg., Fayetteville, Ark.; res. 230 Ozark Ave., Fayetteville.
Chem.; b. Columbus, Miss., Dec. 27, 1879; s. of Moses A. and Sue (Cook) Hale; ed. Emory Coll., A.B. 1899 (second honor, Pasco M.); U. of Chicago, M.S. 1902; U. of Penn., Ph.D. 1908 (Harrison Fellow); Drury Coll., LL.D. 1928; mem.: Kappa Alpha, Phi Beta Kappa, Alpha Chi Sigma; m. Mabel Hays, Dec. 22, 1904; ch.: Arthur Hays, Harrison, Jr., Mabel Elinor (Mrs. Chas. P. Clayton). 1899-1901 asst. princ. pub. schls., Edgewood, Ga.; 1902-18 instr., asst. prof., prof. of chem., Drury Coll.; 1911-14 city chem., Springfield, Mo.; 1911-18 chem. to Springfield City Water Co.; to Municipal Water Works, Fort Smith, Ark., 1923-27; Rogers, Ark., 1925 to date; Fayetteville, Ark.,

1927 to date; 1931 to date secy. Ark. Water and Sewage Conference; 1918-45 hd. of Dept. of Chem. and Chem. Engrg. U. of Ark.; emeritus prof. 1945 to date; res. work, Inst. of Sc. and Tech., U. of Ark. since 1945. Dir. and v.p. Fayetteville Bldg. and Loan Assoc. Chmn. div. of chem. educ. A.C.S., 1936; of history of chem., 1941-46. Author: "American Chemistry," 1921; 2nd edit. 1928; "City Water Supplies of Ark." 1926; co-author "Pub. Water Supplies of Ark.," 1947; "U. of Ark." 1871-1948. Mem.: A.A.A.S. (fellow); A.C.S., A.W.W.A., A.I.Ch.E. Pres. Fayetteville Chamber of Commerce, 1921-22, 1925-26; chmn Fayetteville Centennial Celebration, 1928. Club: Rotary.

HALE, William Jay, res. conslt., The Dow Chem. Co., Midland, Mich.; res. 1205 West Park Dr., Midland.
Org. chem.; b. Ada, O., Jan. 5, 1876; s. of James Thomas and Emma Elizabeth (Ogle) Hale; ed. A.B., A.M., Miami U., 1897, LL.D., 1937; A.B., Harvard U. 1898, A.M., 1899, Ph.D. 1902; traveling fellow in chem., Technische Hochschule, Berlin, and U. of Gottingen, 1902-03; mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma; m. Helen Dow, Feb. 7, 1917 (deceased); ch.: Ruth Hale Buchanan (Mrs. Wiley T. Buchanan, Jr.). Res. asst., U. of Chic., 1903; instr. chem., 1904-08, asst. prof. 1908-15; assoc. prof. 1915-19, U. of Mich.; dir. org. chem. res. Dow Chemical Co., Midland, Mich., 1919-34; res. conslt. to date. National Agrol Company, pres., Trenton Chemical Co., dir. Chmn., div. of chem. and chem. tech., Natl. Res. Council, Washington, D.C., 1925-27; vis. prof. chemurgy Conn. Coll. 1936 to 1939; chmn. History Comm. Inc. in charge of publication "American Chemical Industry," 1940-50. Co-author: "A Laboratory Outline of General Chemistry, with Alex. Smith) 1907. Author: "The Calculations of General Chemistry," 1909; author "A Laboratory Manual of General Chemistry," 1917; 2nd edit. with Wm. G. Smeaton, 1930; author: "Chemistry Triumphant," 1932; author: "The Farm Chemurgic," 1934; author: "Prosperity Beckons" 1936; "Farmward March," 1939; "Farmer Victorious" 1949. Mem.: A.A.A.S. (fellow), London Chem. Soc., A.C.S., Societe Suisse de Chimie, Societe Chimique de France, Deutsche Chemische Gesellschaft. Clubs: Detroit, Chevy Chase (Chevy Chase, Md.), Cosmos (Washington, D.C.), Chemists' (New York City).

HALFORD, J(oseph) O(lney), prof. chem., U. of Mich., Ann Arbor, Mich.; res. 1718 Harding Rd., Ann Arbor.
Prof. chem.; b. Oakland, Calif., Aug. 12, 1903; s. of John J. and Kathleen (Loftus) Halford; ed. U. of Calif., B.S. chem., 1924; Ph.D. 1926; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Tau Beta Pi, Phi Beta Kappa; m. Elizabeth Knudson, July 19, 1940; ch.: Mary Elizabeth, Janine Lynn. 1926-30 instr. U. of Mich.; 1930-31 Alfred H. Lloyd Fellow (U. of Mich.) at Harvard; 1931-38 asst. prof., 1938-45 assoc. prof., 1945 to date prof. U. of Mich.; res. in thermodynamics and melecular structure; organic equilibria, hydrogen isotopes, hydrogen bond, internal rotation, Raman spectra. Mem.: A.C.S., A.A.A.S.

HALL, Albert Lawrence, pres., Buffalo Testing Labs. Inc., 37 Niagara St., Buffalo, N.Y.; res. 327 McKinley Ave., Kenmore, N.Y.
Chem., anal. and conslt.: b. Bklyn., N.Y., Oct. 16, 1900; s. of George E. and Amelia S. Hall; ed. Cooper Union, B.S. 1923; mem.: Omega Delta Phi; m. Evelyn D. Lawrence, May 30, 1925; ch.: Jane Phillips, Patricia Lee. Has held positions with following companies: Calco Chem. Co., Bklyn. Union Gas Co., Bklyn. Boro Gas Co., Gen. Chem. Co., Cities Serv. Co., Ledoux & Co., Lucius Pitkin, Inc., and at present pres. Buffalo Testing Labs. Inc. Mem.: A.C.S., A.S.M. Hobbies: gardening, carpentry.

HALL, Charles P., pres., The C.P. Hall Co., 2510 First Natl. Bldg., Akron, Ohio; res. 69 Fairlawn Blvd. E., Akron 13.
Chem. mfrs., jobbers: b. Olena, Huron Co., Ohio; s. of William T. and Carrie (Parke) Hall; ed. Huntington, W.Va., Marshall Coll.; m. Marguerite Sly, Aug. 10, 1914; ch.: Charles R., Elizabeth Joanne, William T. 1910-16 Natural Gas Bus., construction; 1917-19, Firestone Tire & Rubber Co., purchases. dept.; 1919 to date pres., The C.P. Hall Co. Also pres. The C.P. Hall Co. of Calif.; C.P. Hall Co., Ill.; Gen. Invest Co. Clubs: Akron City, Portage Country (Akron); Chicago Athletic Assn. (Chicago, Ill.), Chem. (N.Y.C.). Hobby: books.

HALL, Flemmon Porter, dir. res., Pass & Seymour, Inc., Syracuse 9, N.Y.; res. 206 Granger Rd.
Chem.; b. Murfreesboro, Tenn., Aug. 22, 1897; s. of William Randolf and Virginia Corine Hall; ed. B.E., Vanderbilt U. (magna cum laude) 1918; M.S. 1921; Ph.D. 1925 M.I.T.; m. Ida Louise Sexton, Dec. 21, 1921; ch.: William Carroll, Linda Lee. Chem. Bur. Stands., 1918-20; chem., 1925-29; chem. Onondaga Pottery Co. 1929-37; dir. res. Pass & Seymour Inc., 1937 to date. Contrib. extens. to sc. and tech jls. Co-author: "Phase Diagrams for Ceramists," 1947; Ross Coffin Purdy Award, 1949 of Am. Ceramic Soc. for outstanding contribs. to ceramic literature; pres., 1939-40, Tech. Club (Syracuse), Torch (Syracuse). Hobby: farming.

HALL, James Roger, treas., chf. chem., The Red Rock Cola Co., 115 Jackson St., N.E., Atlanta, Ga.; res. 223 Brighton Rd. N.E., Atlanta.
Chem.; b. Kansas City, Mo., Oct. 1, 1904; s. of William Marvin and Winifred (Laughlin) Hall; ed. William Jewell Coll., A.B. 1927; Iowa State Coll., Ph.D. 1930; mem.: Kappa Alpha Order; m. Ellen E. Donovan, Aug. 30, 1929. 1927-30 fellowship, Amer. Bottlers of Carbonated Bevs. at Iowa State Coll.; 1930-35, chem. Monarch Mfg. Co., Atlanta, Ga.; also 1937-39; 1935 chem. Warner-Jenkinson Mfg. Co., St. Louis, Mo.; 1936 chem. B. S. Pearsall Butler Co., Elgin, Ill.; 1939 to date chf. chem. Red Rock Cola Co., Atlanta, Ga., also treas. & dir. Work in chem. sterilization with alkalies; res.-dev. wk. on soft drink flavors; conslt. bottling plant problems. Mem.: A.C.S., Sigma Xi, Inst. of Food Techs. Hobby: target shooting.

HALL, John Stanley, mgr. of sales, Penn. Salt Mfg. Co., 1000 Widener Bldg., Phila. 7, Pa.; res. St. Davids, Pa.
Sales mgr.; b. Lynn, Mass., Aug. 23, 1906; s. of John S. and Edith E. (Mack) Hall; ed. U. of Mass., B.Sc.; mem.: Alpha Gamma Rho; m. Lucille Hegewald, May 25, 1935; ch.: Robert Spence, Barbara Ann. Chem., Procter & Gamble, 1928-30; fld. serv. rep., Carman & Co., 1931; fld. serv. rep., Penn. Salt Mfg. Co., 1932-35; asst. sales mgr., 1935-40; sales mgr. (Laundry & Dry Cl. Dept.), 1940 to date; pres., 1950 to date, and dir., 1937 to date, Laundry & Cleaners Allied Trades Assoc. Co-author, "Behavior Subsilicates" pub. in tech. jl. Editor, house organ, "The Ldry. Bundle," 1935 to date. Clubs: Univ. Glee Club, Sales Club. Hobbies: fishing, gardening.

HALL, Joseph Lowe, assoc. prof. of chem., chem. dept., Kansas State Coll., Manhattan, Kan.; res. 1503 Leavenworth St., Manhattan.
Res. chem.; b. Sullivan, Ill., Jan. 3, 1893; s. of S. B. and Rhoda (Lowe) Hall; ed. U. of Ill., B.S. 1919, M.S. 1921, Ph.D. 1922; m. Mina Goeh-

ring, June 19, 1935; ch.: Mary Ruth. Kansas State Coll., 1922 to date. Surface tension of liquid ammonia solutions of aliphatic acids; effect phosphorus deficiency on keeping quality of beef; characteristics of dark-cutting beef; stability of fat peroxides. Author: "Quality of Beef" Tech. Bull. 58, Kan. Agr. Expt. Station. Mem.: A.C.S., Sigma Xi, Phi Lambda Upsilon. Hobby: sports.

HALL, Leroy Porter, pres., gen. mgr., Agriform Co., Inc., 14922 Harbor Blvd., Santa Ana, Calif.; res. 1017 E. Palmyra Ave., Orange, Calif. Chem. engr.; b. Nebraska, Aug. 4, 1908; s. of Frank L. and Jennie (Porter) Hall; ed. Iowa State Coll., B.S. Ch.E. 1929; mem.: Delta Sigma Phi; m. Nelly Brede, Nov. 5, 1932; ch. Jennie Ellin, Sonya. 1929-46 with Hercules Powder Co. in following positions: to 1932, control chem.; 1932-38 supvr. of nitric acid, sulphuric acid, ammonium nitrate, dynamite mfg. operations; 1938-40, asst. plant supt., Bessemer, Ala.; 1940-44 plant supt., Belvedere, N.J.; a plant prod. smokeless powder for the British Govt.; 1945, mgr. Missouri Ordn. Wks., prod. anhydrous ammonia; 1945-46 plant supt. Acid and Dynamite Wks., Hercules, Calif.; 1946 to date: formed new co., Agriform Co. Inc., mfg. and distrib. fertilizers, insecticides and other agr. chems. Mem.: A.I.Ch.E., A.C.S.

HALL, Lloyd A., tech. dir., Griffith Labs., Inc., 1415 W. 37th St., Chicago, Ill.; res. 420 E. 65th St.
Chem.; b. Elgin, Ill., June 20, 1894; s. of Elisha A. and Isabella French Hall; ed. Northwestern U., B.S. 1916; U. Chicago (grad. study); (hon.D.Sc.) Virginia State Coll., 1944; (hon.D.Sc.) Tuskegee Inst., 1947; mem.: Alpha Phi Alpha (social), Beta Kappa Chi (sc. hon.), Sigma Xi (sc. hon.); m. Myrrhene E. Newsome, Sept. 23, 1919; ch.: Dorothy Ann, Kenneth Lloyd. 1916 Columbus Labs., Chicago, asst. chem.; 1917 dept. health, jr. and sr. chem.; 1917-19 Ordn. Dept., U.S.A., asst. chf. inspector powder, expls.; 1919-21 chf. chem., John Morrell & Co., Ottumwa, Ia.; 1921-24 pres., Chem. Prods. Corp., Chicago; 1924-29 conslt. chem., Chicago; 1929-45 chf. chem. Griffith Labs., Inc.; 1945 to date, tech. dir. Res. in detergents, proteins, protein hydro., spice seasonings, meat curing prods., antioxidants, food coatings, food products in gen. Mem.: A.P.H.A. (fellow), A.A.A.S. (fellow), A.I.C. (fellow), A.C.S., A.A.C.C., I.F.T.; Bd. Dirs., Chicago, Wabash Y.M.C.A., dir. Chicago Sect., I.F.T. Clubs: City (Chicago), Druids. Hobbies: photography, reading.

HALL, Lucius Coleman, mgr. Mississippi Operations, c/o Hercules Powder Co., Hattiesburg, Miss.; res. 1300 Hardy St., Hattiesburg.
Chem. engr.; b. Webster, N.C., Apr. 27, 1890; s. of L. C. and Hannah (McKee) Hall; ed. U. of N.C., B.Sc. in Ch.E., 1916; mem.: Alpha Chi Sigma; m. Stella Broyles, Dec. 27, 1916; ch.: Barbara J., Bruce J. 1916-17 chem. Hercules Powder Co.; 1917-19 asst. supt.; 1919-20 sales dev. wk.; 1920-21 chem. res. Naval Stores; left Hercules Powder Co. 1921; to 1928 in mercantile bus.; with Hercules 1928-40 as plant chf. chem.; 1940-41 asst. plant supt.; 1941-49 plant supt.; 1949 to date mgr. Mississippi Operations; res. in prod. of acetone from calcium acetate; extraction of rosin and Vinsol from wood with coal tar hydrocarbons. Product patents obtained on the Vinsol. Clubs: A.C.S., Masons, Elks, Elisha Mitchell Sc. Soc., Hattiesburg Country. Hobbies: fishing, hunting.

HALL, Marvin J., assoc. dir. of res. and dev., Lever Bros. Co., 164 Broadway, Cambridge, Mass.; res. 40 Temple St., Belmont, Mass.
Chem. and bacteriolog.; b. Oak, Nebr., July 28, 1901; s. of George W. and Mary A. Hall; ed. Midland Coll., B.Sc., 1925; U. of Nebr., M.S., 1931; Ph.D., 1933; m. Florence J., Aug. 8, 1928. Bauer and Black, 1933-46, asst. dir. of res.; Kraft Foods Co., 1946-49, dir. of res.; Lever Bros. Co., 1949 to date, assoc. dir. of res.; res. in foods, pharmaceuticals and soaps and synthetic detergents. Mem.: Phi Lambda Upsilon, Sigma Xi, A.C.S., A.A.A.S., A.O.C.S., Inst. Food Techs. Clubs: Chemists' (Chicago), Lake Shore (Chicago). Hobbies: fishing, golf, gardening.

HALL, Norris Folger, prof. of chem., Chem. Bldg., U. of Wis., Madison 6, Wis.; res. 1101 Lincoln St., Madison 5, Wis.
Tchr. and chem.; b. Phila., Pa., July 7, 1891; s. of Lyman Beecher and Carolyn Coffin (Ladd) Hall; ed. A.B., A.M., Haverford Coll., Haverford, Pa., 1913; A.M., Harvard U., Cambridge, Mass., 1915, Ph.D. 1917; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Phi Beta Kappa; m. Alice B. Garrett, Dec. 23, 1920; ch.: Helen Garrett, Carolyn Ladd. Austin tchg. fellow, Harvard, 1914-15; inst. in chem. 1919-29; asst. Bur. of Chem., U.S. Dept. of Agr., 1917; jr. chem. engr., U.S. Bur. of Mines, 1917; asst. prof. chem. U. of Wis., 1929-30; assoc. prof. 1930-34; prof. 1934 to date; sr. chem. Argonne Natl. Lab., 1948-49; O.S.R.D., 1945-46; C.W.S., A.E.F., 1918-19 (Capt.); res. in strength and nature of acids and bases, distrib. of salts between solvents; exchge. reactions, cmpds. of nickel, technetium. Author: "The Next War," 1925. Mem.: A.C.S. (Phys. and Inorg. Anal. divs.); A.A.A.S. (fellow); Wis. Acdy. Sc., Sigma Xi. Clubs: Founders (Haverford); University, Literary, Blackhawk (Madison). Hobby: golf.

HALL, William F., sales mgr., Chipman Chem. Co. Inc., Bound Brook, N.J.; res. Plainfield, N.J.
Exec.; b. N.Y.C., Dec. 4, 1896; s. of William F. and Janet R. (Layman) Hall; ed. N.Y.C.; m. Grace E. Henriques (deceased), Dec. 3, 1925; ch.: Grace H. Moyer. 1912-17, Converse & Co., clerk; 1917-22, Peters White & Co., salesman; 1922-30, Mapes Formula & Peruvian Guano Co., gen. mgr.; 1930 to date, Chipman Chem. Co. Inc., sales mgr. Clubs. N.Y. Athletic, Baltusrol Golf.

HALL, W(illiam) Heinlen, prof. chem., Bowling Green State U., Bowling Green, O.; res. 118 S. Coll. Dr., Bowling Green.
Coll. prof.; b. Cairo, W.Va., June 19, 1910; s. of A.B. and Jeanette (Heinlen) Hall; ed. Muskingum Coll., A.B. (suma cum laude) 1932; Ohio State U., Ph.D. 1939; mem.: Gamma Alpha; m. Mildred A. Walker, Sept. 5, 1938; ch.: John Brown, James Walker. 1932-36, grad. asst., dept. of chem., Ohio State U.; instr. chem., prof. chem., 1936 to date, same coll.; res. in fol. flds.: 1. Separation of the hydrogen isotopes. 2. Concentration of oxygen isotopes in naturally occurring oxides (Determination of,). 3. Studies of anomalous behavior of floats used in buoyancy balance. Mem.: A.C.S., A.A.A.S., Amer. Inst. of Physics (assoc. mem.), Sigma Xi.

HALL, William Thomas, prof. emeritus, M.I.T., Rochester, Mass.; res. Snipatuit Road, Rochester, Mass.
Tchr., author, conslt.; b. New Bedford, Mass.; s. of Anthony Dennis and Mary Elvira (Soule) Hall; ed. M.I.T., S.B.; studied at Göttingen, Germany; mem.: Sigma Alpha Epsilon, Sigma Xi; m. Agnes Dunham Allen, Apr. 17, 1907; ch.: Catharine Soule, Mary Elizabeth, Margaret Dunham, William Anthony, Constance Dennis. Tchg. at M.I.T., 1897-40; abstractor and section editor, "Chemical Astracts" since 1904 (its beginning); anal. chem. and conslt. Chmn., Red Cross Chapter (Rochester, Mass.); laymen's wk. of Congregationalists. Hobby: farming.

HALLER, Elden Detalau, chem. engr., Beckman Instruments, Inc., So. Pasadena, Calif.; res. 8505 Hazelwood Dr., Bethesda 14, Md.
Chem. engr.; b. Chillicothe, Ohio, Oct. 20, 1909; s. of John and Mary Alice Haller; ed. Ohio St. U., B.Ch.E., M.Sc., Ph.D. (chem. engrg.); mem.: Theta Xi. Ohio St. U., asst. chem. engr. dept., 4 yrs.; Natl. Lime & Stone Co., Findlay, Ohio, chf. chem., 1 yr.; Ordnance Dept., Wash., D.C. 1 yr.; Natl. Tech. Labs. (Beckman Instruments, Inc.) 1942 to date. Expert on instrumentation pH contr., spectrosc. application, radiation measurements. Mem.: A.I.Ch.E. (assoc. mem.); A.C.S.; A.S.T.M. (co. rept.). Hobby: fishing.

HALLER, George Louis, dean, schl of chem. and physics, The Pa. State Coll., State College, Pa.; res. 210 E. Adams Ave., State College.
Educator and conslt.; b. Pittsburgh, Pa., May 8, 1907; s. of Frank . and Barbara Salisbury Haller (deecased); ed. B.S. in E.E. 1927, E.E. 1934, M.S. in Physics, 1935, Ph.D. in Physics, 1942, all from Pa. State College; mem.: Sigma Pi, Sigma Xi, Tau Beta Pi, Phi Lambda Upsilon; m. Stewart McMurtrie North, June 15, 1927; ch.: Stewart McMurtrie, daughter b. Feb. 17, 1931. Student engr., Westinghouse Elec. & Mfg. Co., 1927-29 chf. engr., E. A. Myers & Sons, 1929-33; grad. asst., The Pa. State Coll., 1933-35; radio engr., U.S. Army Air Corps, 1935-42; U.S. Army Officer Maj.-Lt. Col. Signal Corps, 1942-44; U.S. Army Air Corps, Lt.-Col.-Col. 1944-46; asst. dean, schl. of chem. and physics, The Pa. State Coll. 1946-47; dean, 1947 to date. Haller, Raymond and Brown, Inc., dir.; Central Pennsylvania Corp., dir. Mem.: Am. Physical Soc. (fellow), Institute of Radio engrs. (fellow, hon.), Inst. of Aeronautical Sciences (associate fellow). Clubs: Cosmos, Rotary, Centre Hills Country, Newcomen Soc. of England. Hobby: photography.

HALLER, John Fessler, asst. dir., chg. inorgan. res., Mathieson Chem. Corp., 2747 Buffalo Ave., Niagara Falls, N.Y.; res. 125 Buffalo Ave.
Chem. res.; b. Frederick, Md., Jan. 2, 1899; s. of John M. and Jennie M. (Thomas) Haller; ed. U. Pa. 1917-20; Cornell U. 1920-22; B.Chem.; Cornell U. 1922-25; Ph.D. 1942; mem.: Theta Xi, Al Dejabr, Savage Club; m. Marion W. Staples, Sept. 1, 1925; ch.: John DeGroff, Patricia Mary. Teach. asst. Cornell U., 1922-25; instr. Middlebury Coll., Vt., 1925-27; asst. prof. 1927-35; assoc. prof., 1935-42; res. chem. Mathieson Alkali Wks., 1942-49; asst. dir. res. Mathieson Chemical Corp. 1949 to date. Res. in nitro.-fluorine compds., hydrazine, chlor. diox., water treatment. Mem.: A.A.A.S., A.C.S. Club: LaSalle Yacht. Hobbies: astronomy, golf, travel, camping.

HALLETT, Lawrence Trenery, coordinator test., anal., Gen. Aniline & Film Corp., Central Res. Lab., Easton, Pa.; res. R.D. 2, Bangor, Pa.
Chem.; b. Oakland, Calif., Nov. 7, 1900; s. of William Lawrence and Martha Trenery; ed. B.A., U. British Columbia 1923; Ph.D., U. Wis. 1928; mem.: Alpha Chi Sigma; m. Alice Bacon, 1936; ch.: Ann Bacon, Susan Trenery. Instr., Gen. & Anal. chem., Ore. St. Coll. 1926-29; chf. res. chem., Proc. Holding Co., Ore. 1929-32; chg. microanal. Eastman Kodak Co., 1933-40; chmn., anal. comm., 1940-43; hd., anal. sect. Central Res. Lab., Gen. Aniline & Film Corp., 1943 to date; assoc. ed. ANAL. CHEM. 1944 to date; coordinator of anal., testing 1949 to date; coll. personnel, 1949 to date. Res. in solubilities of caesium, rubidium chloroplatinates, thermal insulators, automatic combustion, improved apparatus design in microelementary anal., org. anal.; contrib. sect. on Quantitative Microchem. Anal. to Scott's Stand. Meths., Chem. Anal. 1939. Mem.: A.A.A.S., A.C.S., A.S.T.M., Soc. Chem. Ind., Phi Lambda Upsilon, Sigma Xi. Clubs: Chem. (N.Y.), Cosmos (Wash., D.C.), Pomfret (Easton, Pa.), Skytop, Print (Rochester, N.Y.). Hobbies: gardening, prints.

HALLETT, Robert Leroy, conslt. engr., 120 Broadway, New York 5, N.Y.; res. 49 E. 19th St., Bklyn. 26, N.Y.
Chem. and min. engr.; b. Estes Park, Colo., July 13, 1881; s. of William L. and Elvena A. (Sessions) Hallett; ed. Colo. Schl. of Mines, E.M., 1905; m. 1st Phebe L. James, 1911 (dec. 1933); m. 2nd Ann E. Beyer, 1942; ch.: Frances (Mrs. A.A. Denton, Jr.). Chem., Selby Smelting & Lead Co., Selby, Calif.; chem. Von Schulz and Low, Denver, Colo.; mill supt. Midas Gold Min. Co., Knob, Calif.; chem. and min. engr., Consolidated Arizona Smelting Co., Humboldt, Ariz.; chem. and chf. chem., Natl. Lead Co., New York, 1911 to 1948; consltg. engr., New York, 1949 to date. 1939, chmn. sub-comm. on Tin, Army & Navy Munitions Bd.; 1940-41, Dollar a Year conslt., Off. of Prod. Mgmt., Wash., D.C. Contrib. chapt. on Tin, Liddell's Handbook of Nonferrous Metallurgy; chapt. on Paint Industry, Warshow's Representative Industries in the U.S.; sect. on Tin, Metals Handbook; sect. on Lead, Encyc. Brit. Mem.: Mining and Metallurg. Soc. of Am. (past pres.); N.Y. Sect. A.I.M.E. (past chmn.); A.C.S., A.S.T.M. Club: Mining (New York), pres. 1950. Hobby: golf.

HALLMAN, George Victor, dir. of res., Campbell Soup Co., Camden, N.J. res. 5 W. Maple Ave., Moorestown, N.J.
Bacteriologist; b. Phila., Pa., Jan. 7, 1899; s. of George Victor and Sylvania Elizabeth (Smith) Hallman; ed. 1916-20, Pa. State Coll., B.S.; 1926-27, U. of Chicago, M.S.; mem.: Alpha Zeta, Phi Kappa Phi m. Blake Barfield, May 1, 1926; ch.: George Victor, III, Ann Sue. 1920-23, asst. bacteriologist, Wilson & Co., Chicago, Ill.; 1923-29, bacteriologist & res. chem., Cudahy Bros. Co., Cudahy, Wis.; 1929-43, bacteriologist & group leader res. dept., Continental Can Co., Chicago, Ill.; 1943-46, U.S.A.; 1946 to date, dir. of res., Campbell Soup Co., Camden, N.J. Mem.: I.F.T. Awards: Legion of Merit, Bronze Star, Asiatic-Pacific, European Theater, German Occupation, W.W. I & II Medals.

HALLONQUIST, Earland Grand, wood tech., Wash. State Coll., Pullman, Wash.; res. 1616 Fisk St., Pullman.
Cellulose and wood chem.; b. Moose Jaw, Sask., Can., Sept. 18, 1907; s. of John and Emma Christine (Gren) Hallonquist; ed. U. of Brit. Columbia., B.A. 1928, M.A. 1930; McGill U., Montreal, Ph.D. 1933; m. Grace Mary Goddard, Oct. 8, 1938; ch.: Richard Gren, Grace Ann. 1934-37 cellulose chem., The Dow Chem. Co.; 1937-39 res. chem. Rayonier, Inc., Shelton, Wash.; 1939-45 in chg. of pulping res. same co.; 1945-49 chf., Chem. Div., Plywood Res. Foundation, Tacoma, Wash.; 1949 to date wood tech., Div. of Indust. Res., Wash. State Coll., Pullman, Wash.; res. in cellulose ethers; dissolving and paper pulps; wood waste utilization. Mem.: A.C.S., T.A.P.P.I., Forest Prods. Res. Soc.

HALLOWS, Raymond Leroy, asst. to the pres., The Eagle-Picher Co., American Bldg., Cincinnati, O.; res. 1205 Edwards Rd., Cincinnati.
Exec.; b. Mar. 22, 1901; s. of Arthur John and Lida Lee (White) Hallows; ed. B.S., Missouri Schl. of Mines, 1927; mem.: Lambda Chi Alpha, Tau Beta Pi; m. Margaret Ellen Kitchen, Dec. 31, 1927; ch.: Raymond Leroy, Jean Ann. Held the following positions with The Eagle-Picher Co.: Res. Metallurgist, The Eagle-Picher Lead Co., Joplin, Mo., 1927-32; mgr., Lead Smelter, Hockerville, Okla., 1932-33; mgr. Lead Smelter & Pigment Plant, The Eagle-Picher Mining and Smelting Company, Galena, Kansas, 1933-43; supt. of

Smelters, The Eagle-Picher Mining & Smelting Co., Joplin, Mo., 1943-45; asst. to the pres., The Eagle-Picher Co., Cincinnati, O., 1945 to date. Mem.: A.C.S., Am. Inst. of M. & M. Engrs., Inst. of Metals (England).

HALMBACHER, Paul, v.p., and tech. dirs., Paul-Lewis Labs., Inc., 4253 N. Port Washington Rd., Milwaukee, Wis.; res. 1208 Grant St., Waukesha, Wis.
Chem.; b. Decatur, Ill., Mar. 9, 1909; s. of Otto and Anna Halmbacher; ed. James Millikin U., B.A., 1932; U. of Ill., 1932-34; Marquette U., 1938-39; m. Dorothy Pope in 1939; ch.: Paul, Mary, Elizabeth. V.p., Paul-Lewis Labs., Inc., 1937 to present. Res. in industrial use of enzymes. Mem.: A.C.S., A.A.A.S., Chemists' Circle, Am. Soc. Brewing Chemists. Clubs: Milwaukee Athletic, Elks, Knights of Columbus, Merrill Hills Country. Hobbies: photography, golf.

HALSEY, John Joseph, mgr. quality stds. dept., Merck & Co. Inc., Rahway, N.J.; res. Middletown, N.J. (Box. 67C, R.F.D. 1, Red Bank, N.J.).
Chem. exec.; b. Jersey City, N.J., Dec. 26, 1918; s. of John P. and Marie (Dauenhauer) Halsey; ed. 1940, St. Peter's Coll., Jersey City, N.J., B.S. (cum laude); 1948, N.Y.U., M.S.; m. Harriet M. Lutton, Nov. 26, 1944; ch.: Martina A. 1940, Calco Chem. Div., Bound Brook, N.J., prod. chem.; 1941-42, Bklyn. Army Base, N.Y., anal. chem.; 1942-44, J. C. Quartermaster Depot, Jersey City, N. J., chf., Chem. Prods. Branch; 1944-46, U.S.A., Okinawa; 1946 to date, Merck & Co. Inc., in following positions: 1946-47, chf., Chemicals Section; 1948 to date, mgr. quality stds. dept. Exec. in chem. fld.; quality control, stds. and specifications. Mem.: A.C.S., Amer. Soc. for Quality Control.

HALVORSON, Halvor Orin, hd. of dept. of bacteriology, U. of Ill., 361 Noyes Lab. of Chem., U. of Ill., Urbana, Ill.; res. 202 Bliss Dr., Urbana, Ill.
Prof. and hd. of dept. of bacter.; b. River Falls, Wis., March 26, 1897; s. of Hallie and Elizabeth Halvorson; ed. U. of Minn., B.S. in Ch.E., 1921; Ch.E. in 1922; Ph.D. (Major in Bacteriology, Minor Phys. Chem.), 1928; mem.: Alpha Chi Sigma; m. Selma C. Halvorson, Aug., 1922; ch.: Betty Jean (Halvorson) Caspar, Harlyn Odell, Loren Ellis, Gayle Adair. Tchg. fellow, U. of Minn., 1922-23; instr., U. of Minn., 1923-28; asst. prof., 1928-30; assoc. prof. 1930-40; prof., U. of Minn., 1940-49; dir., Hormel Inst., 1943-49; hd. of dept. of bacteriology, U. of Ill., 1949 to date; also conslt. activities 1928 to date; res. and numerous contrib. to sc. and tech. jls. largely in fields of bacteriology and microbiology. Author: "Quantitative Bacteriology," 1933, Burgess Pub. Co., and The Hormel Institute Annual Reports, U. of Minn. Press. Mem.: A.C.S., Soc. of Am. Bacteriologists, A.I.Ch.E., A.P.H.A., Oil Chem. Soc., Am. Soc. of Prof. Biologists, Fed. of Sewage Work Associations. Honored as investigator by Amer. Mfrs. Assoc., 1940, honorary Sc.D., St. Olaf College, 1948. Clubs: Alpha Chi Sigma, Gamma Alpha, Sigma Xi, Phi Lambda Upsilon, Phi Sigma. Hobbies: photography, golf.

HAMACHER, Howard F., dir. public inf., Arthur D. Little, Inc., 30 Memorial Dr., Cambridge 42, Mass.; res. 104 Follen Rd., Lexington, Mass.
Chem. engr.; b. Marshalltown, Ia., Sept. 18, 1915; s. of Howard F. and Ethel Louise Hamacher; ed. B.S. Calif. Inst. Tech., 1936; M.B.A. (distinction), Harvard Bus. Schl., 1939; m. Jean C. McKee, Oct. 17, 1942; ch.: Susan C., John C., Christine M. 1936-37 Am. Smelting & Ref. Co., Selby, Calif., plant operator; 1939-41 Arthur D. Little, Inc., Cambridge, Mass., econ. anal.; 1941 Harvard Bus. Schl., Boston, Mass., res. asst., instr.; 1942 Off. Price Admn., chem., br., N.E. rep.; 1942 to date Arthur D. Little, Inc., dir. of public inf., (asst. treas.). Mem.: A.C.S.

HAMAN, Robert Walter, chf. chem., The Wander Co., Villa Park, Ill.; res. 144 Berkley Ave., Elmhurst, Ill.
Chem.; b. Monroe, Wis., Aug. 13, 1908; s. of Walter S. and Stella E. Haman; ed. U. of Wis., B.S., M.S., Ph.D.; mem.: Alpha Chi Sigma; m. Letty M. Uren, Nov. 16, 1929; ch.: William, Mary. 1929-36 fellowship, U. of Wis.; 1936 res. assoc. Wis. Alumni, Res. Found.; 1937 to date chf. chem. The Wander Co. Wk. in food prod. and proc. dev. Mem.: Sigma Xi, Phi Lambda Upsilon, Phi Sigma, A.C.S., Institute Food Technology.

HAMILL, George Keenan, real property disposal officer, Public Buildings Serv., Gen. Services Adm., Wash. 25, D.C.; res. 5923 Wilmett Rd., Bethesda 14, Md.
Chem. engr., ind. specialist; b. Stoneham, Mass., July 9, 1891; s. of George P. and Mary A. (Keenan) Hamill; ed. Tufts Coll., B.Sc. in chem. engrg.; m. Gertrude F. Reynolds 1913. 1912-15, Henry Carmichael, Ph.D.; 1915-17, Merrimac Chem. Co., asst. chf. chem.; 1917-21, E. I. du Pont de Nemours & Co., chem. div. planning staff, supvr. pilot plant; 1921-23, Hunt-Rankin Leather Co., asst. to gen. mgr.; 1923-25, Papermakers Chem. Co., supt.; 1925-27, Glue Res. Assn., res. fellow, Natl. Bur. of Stands.; 1927 to date, U.S. Govt., U.S. Bur. of Efficiency, sr. technologist; Natl. Ind. Rec. Adm. economic advisor, asst. dept. adm.; Treas Dept., staff of consltg. chem.; War Prod. Bd., dir. chem. drugs & health supplies, Div. Off. Civilian Reg.; Surplus Property Bd., War Assets Adm. Planning civilian & indirect military requirements of chems., drugs & health supplies, War Prod. Bd., W.W. II. Author: "Uses of Glue in Paper Mfg." 1927; collaborator in T.A.P.P.I. textbooks 1925-32. Mem.: A.C.S., Wash. Club of Chem. Engrs.

HAMILTON, Alan Grey, engineering supvr., E. I. du Pont de Nemours & Co., Inc., Niagara Falls, N.Y.; res. 716 84th St., Niagara Falls.
Chem. engr.; b. Woodstock, Ont., Canada, June 17, 1900; s. of James Hamilton and Mary (Sharp) Hamilton; ed. Queen's U. Kingston, Ont., B.Sc. 1922; m. Kathleen Johnson, Sept. 15, 1928; ch.: James. The Roessler & Hasslacher Chem. Co., now The Electrochemicals Dept. of The E. I. du Pont de Nemours & Co., Inc. Mem.: A.I.Ch.E., A.C.S., New York State and Natl. Socs. of Prof. Engrs. Officer: Boy Scouts of Amer. Clubs: Lions, La Salle Yacht, Niagara Falls Country. Hobbies: sailing, photography, badminton.

HAMILTON, Charles W., dev. engr., Natl. Aniline Div., Allied Chem. & Dye, Buffalo, N.Y.; res. 4 Klauder Rd., Kenmore.
Chem. engr.; b. Whittier, Calif., June 20, 1915; s. of Robert J. and Margaret (Foster) Hamilton; ed. Purdue U., B.S. chem. engr. 1939 (grad. with distinction); Ill. Inst. of Tech., M.S. chem. engr. 1941; mem.: Tau Beta Pi, Phi Lambda Upsilon, Sigma Alpha Epsilon; m. Crystal Froeming, Aug. 27, 1938; ch.: Gail, Cheryl; 1941-44, res. engr., 1944-48, proj. engr., 1948 to date, dev., Natl. Aniline Div., Allied Chem. & Dye Corp. Mem.: A.C.S., A.I.Ch.E.

HAMILTON, Cliff Struthers, prof. of chem., chmn. of dept. chem. and chem. engrs., Avery Lab., U. of Nebr., Lincoln 8, Nebr.; res. 2829 Van Dorn, Lincoln 2.
Chem., tchr.; b. Blair, Nebr., Nov. 23, 1889; s. of Samuel Leigh and Lillie (Brownlee) Hamilton; ed. Monmouth Coll., B.Sc. 1912; U. of Minn.; Northwestern U., Ph.D. 1922; m. Frances Howe, Aug.

4, 1921 ch.: Robert W., Martha H., Cliff S. 1922-23 res. instr., Dept. of Phar., U. of Wis.; 1923-27 asst. and assoc. prof., U. of Nebr.; 1927-29 assoc. prof. chem. Northwestern U.; 1929 to date prof. of chem., U. of Nebr.; chmn. since 1939; res. in org.-arsen., and org.-antimony chem.; heterocyclic chem.; chem. of med. compds. Author of many res. pubs. in Jl. of A.C.S., etc. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S., A.A.U.P., A.A.A.S. Hobbies: fishing, gardening

HAMILTON, Harold Chapman, prof. of chem., hd. dept. chem., Norwich U., Northfield, Vt.; res. 116 S. Main St., Northfield.
Prof. chem.; b. Rockland, Maine, Dec. 9, 1896; s. of William Henry and Abbie Etta (Rogers) Hamilton; ed. Norwich U., B.S. in chem., high honor, valedictorian, 1921; Columbia U., A.M. chem., 1926; m. Susan A. Bingham, July 30, 1938; ch.: Woodbury Rogers, Cynthia Susan. 1922 to date instr. to prof. of chem., Norwich U.; 1918-19 2nd Lt. Inf., A.U.S. Mem.: A.C.S. Hobbies: hunting, fishing, golf, gardening.

HAMILTON, Leicester Forsyth, prof., anal. chem., exec. officer dept. of chem., M.I.T.; res. 100 Memorial Dr., Cambridge 39, Mass.
Tchr.; b. Feb. 23, 1893, Medford, Mass.; s. of Frank Herbert and Janet (Hintze) Hamilton; ed. M.I.T., S.B., 1914; m. Mary Alma Nichols, Oct. 6, 1917; ch.: Mrs. John B. Stevens, Mrs. David S. Paulsen. Asst., instr., asst. prof., assoc. prof., prof. of anal. chem., exec. officer dept. of chem., M.I.T. since 1914; chmn. Dorm. Bd., 1924-48. Author: "Calculations Quant. Chem. Analysis" (with Simpson); "Quantitative Chem. Anal." (Talbot) (with Simpson). Mem.: A.C.S., Alpha Chi Sigma.

HAMILTON, Paul Barnard, chf. of biochem., Alfred I. du Pont Inst., Nemours Foundation, Wilmington, Del.; res. 1201 Concord Pike, Wilmington, Del.
Physician, biochem., res.; b. Toronto, Ontario, Can., Nov. 9, 1909; s. of Edgar P. (dec.) and Emma A. Hamilton; ed. 1932, B.A. U. of Toronto, Canada; 1935, M.D.; 1940, Ph.D. biochem.; mem.: Alpha Omega Alpha; m. Suzanne Currelly, June 5, 1937; ch.: Paul, John, Alexander. 1936-40 tchg. fellow, Dept. Biochem., U. of Toronto; 1940-46 Hosp. of Rockefeller Inst. for Med. Res., assoc. in Dept. of Chem.; 1946 to date chf. of biochem., Alfred I. du Pont Inst., Nemours Foundation, Wilmington, Del.; res. in meths. for determ. of amino acids; sp. gr. determ. of whole blood and plasma; prep. of hemoglobin solutions for intravenous transfusion. Mem.: A.A.A.S., Harvey Soc., N.Y. Acdy. of Scs., Am. Soc. of Biolog. Chemists, A.C.S. Hobbies: music, field biology.

HAMLIN, Marston Lovell, assoc. pat. atty., Amer. Home Prods. Corp., 22 E. 40th St., New York 16. N.Y.; res. 251 Rocklyn Ave., Lynbrook, N.Y.
Chem., inventor, reg. pat. atty.; b. N.Y.C., Feb. 8, 1887; s. of Alfred D. F. and Minnie Florence (Marston) Hamlin; ed. Amherst, A.B. 1908; Columbia, M.A. 1909; U. of Strasburg (Germany), 1909-10; Columbia, Ph.D. 1912; mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, Alpha Delta Phi; m. Charlotte Cecile Marie Verlage, 1913; ch.: Marston Alfred, Cyrus, Mary. 1928-45, Barrett Div., Allied Chem. and Dye Corp.; supvr. pat. and libr. sect., Res. and Dev. Dept.; pat. program, dev. and supvn.; lic. negotiations; supvn. of literature res.; 1913-28, indust. res. chem. for: Gen. Bakelite Co., synth. resins; Butterworth-Judson Corp., explosives, intermediates; Natl. Aniline & Chem. Co., intermediates; Liggett & Meyers Tobacco Co., tobacco processing; Beech-Nut Packing Co., tropical gums; partner, Bateson & Hamlin, conslt. chems.; asst. prof. of chem., Trinity Coll., Durham, N.C., org. chem. (concurrently with employment by Liggett & Meyers); prior to 1912-13, res. chem., Harriman Lab., Roosevelt Hospital, N.Y., enzymes, particularly lipases; wk. in physiolog. chem. res.; indust. chem. and chem. engrg. res.; pat. dev. and admin. as applied to indust. res. and dev.; registered pat. atty.; holds numerous pats.; author of many arts. pub. in sc. jls. Author also (with F. M. Turner) of: "The Chem. Resistance of Engrg. Matls.," Chem. Catalog Co., N.Y., 1923. Mem.: A.A.A.S. (fellow); A.I.C. (fellow); N.Y. Horological Soc. Club: Hewlett Point Yacht. Hobbies: horology, languages, sailing.

HAMMAR, Harald Edwin, assoc. chem., Bur. Plant Ind., Soils & Agr. Engrg., U.S.D.A., Central Chem. Res. Lab., 606 Court House, Shreveport 47, La.; res. 3815 Conway St., Shreveport, La.
Chem.; b. Worcester, Mass., Sept. 3, 1902; s. of Julius Waldemar and Ida Matilda Hammar; ed. U. of Fla., B.S.A., 1925; B.S.A.E., 1925; M.S. 1927; Rutgers U. Ph.D. 1931; Oak Ridge Inst. Nuclear Studies, D.R.I.P. 1948; Grad. Sc. Taxidermist, N.W. Schl. of Taxidermy; mem.: Phi Kappa Phi, Sigma Xi, Alpha Zeta, Blue Key, Kapa Delta Pi, Pi Delta Epsilon, Alpha Gamma Rho; m. Edith Lillian Crone, Aug. 6, 1934, Iowa City, Ia. Field Asst. ,chem., Fla. Everglades Expt. Sta., 1927-28; soil chem. res., Natl. Fert. Assoc., Rutgers U. Fellow; res. soil microbiology, Amer. Pet. Inst., 1929-31; res. assoc. chem. in chg. of lab., Amer. Pet. Inst., Natl. Bur. Standards, 1931-36; asst. chem., U.S.D.A., Bur. Plant Indus., Pecan Res. Lab., 1936-46; assoc. chem. 1946-49; assoc. chem. in chg. of lab. U.S.D.A., Central Chem. Res. Lab. for Edible Tree Nuts, 1949 to date. Res. in chem. composition of pecan and other nuts in relation to nutrition and soil fertility, mineral deficiency studies in pecan trees, oil composition of pecan and peanut in relation to breeding and nutrition; use of radioisotopes in study of phosphorus utilization of pecan and peach trees; res. in chem. nature of soil org. matter; anal. some 50,000 oil well cores and marine sed. for origin of pet.; use of flame photometry and spectrophotometry in chem. anal. Co-author: "Origin and Environment of Source Sediments of Pet." with Trask and Wu, 1932, "The Relation of Microorganisms to Generation of Pet.," chap. in "Some Problems in Pet. Geology" 1934; Abstractor for "Biological Abstracts"; papers in chem. and sc. jls. on composition of plants and soils. Mem.: A.C.S., Am. Soc. Agron., Soil Sc. Soc. Amer., Am. Soc. Plant Physiol., Soil Soc. Fla., Northern Nut Grow. Assoc., S.E. Pecan Grow. Assoc., Amer. Men of Sc., A.I.C. (fellow), A.C.S. (Ark., Ia., Tex.). Clubs: Mason 32 deg. K.C.C.H., U. of Fla. (Wash., pres. 1933-36), Graduate, U. of Fla. (pres. 1926-27), Shreveport Nature Study Soc,, Shreveport Camera Club, Org. Prof. Employees Dept. Agr. Hobbies: photography, golf, taxidermy, horticulture.

HAMMERSCHMIDT, Elmer George, chf. chem., Texoma Natural Gas Co., Fritch, Tex.
Natural gas engr.; b. Moberly, Mo., Nov. 17, 1898; s. of George and Anna Marie Hammerschmidt; ed. Culver Military Acdy., sc. diploma 1918; U. of Iowa, B.S. chem. engrg. 1922; mem.: Alpha Chi Sigma, Delta Chi; m. Ethel Spencer, Oct. 4, 1922; ch.: George, Doris, Dale. Asst. supt., Empire Gasoline Plants, 1922-26; res. chem., Empire Oil & Rfg. Co., 1926-31; chf. chem., Texoma Natural Gas Co., & Natural Gas Pipe Line Co. of Am., 1931 to date. Natural gas hydrates, dehydration of natural gas, ind. water conditioning and corroision control. Mem.: A.C.S., A.I.Ch.E., Am. Gas Assn., Am. Water Wks. Assn. Award: Beal M. 1939, Am. Gas Assn. Club: Masons. Hobbies: photography, music.

HAMMES, Jack H., N.Y. Dist. Sales Mgr., Amer. Viscose Corp., 350 Fifth Ave., New York City; res. 37 Glen Rd., Verona, N.J.
N.Y. dist. sales mgr.; b. Jersey City, N.J., Feb. 14, 1897; s. of George and Miriam Hammes; ed. grammar schl.; m. Marion Lawson, Sept. 13, 1924; ch.: Sally, Peter. 5 yrs., cotton yarns, salesman; 5 yrs. rayon jobber, salesman; 25 yrs. Amer. Viscose Corp.

HAMMETT, Louis Plack, prof. of chem., dept. of chem., Columbia U., New York 27, N.Y.; res. 430 W. 118th St., New York 27.
Chem. and tchr.; b. Wilmington, Del., Apr. 7, 1894; s. of Philip M. and Louise (Plack) Hammett; ed. Harvard, A.B. 1916; Columbia, Ph.D. 1923; m. Janet Thorpe Marriner, June 4, 1919; ch.: Philip Marriner, Jane. 1917-19 chem. Bur. Aircraft Prod.; 1919-20 chem., E.C. Worden; 1920 to date instr. to prof., Columbia U.; on leave from Columbia for wk. on explosives under Nat. Defense Res. Coun. 1941-46; res. dir. Explosives Res. Lab., 1943-46; conslt. edit., Internat. Chem. Series, since 1940; chmn. div. of chem. and chem. tech., Natl. Res. Council, 1946-47. Author: "Solutions of Electrolytes," 1929; "Physical Org. Chem." 1940. Mem.: A.C.S., Chem. Soc. (London); Faraday Soc., Natl. Acdy. of Scs.

HAMMOND, Edith S., prof. chem., physics, Okla. Coll. for Women, Chickasha, Okla.; res. 1616 S. 17.
Teacher; b. DyeMound, Texas; d. of George W. and Virginia Sawyer; ed. Okla. U., A.B. 1915; U. Chicago, M.S. 1921; Ph.D. 1932; mem.: Phi Beta Kappa, Sigma Xi; m. Walter F. Hammond, 1906; ch.: Rosalind, James H. Lawton High Schl., 1915-17; Okla. Coll. for Women, 1917 to date; prof. chem. 1921 to date. Res. on ammines of chrom. chlor., publ. Jl. A.C.S. Mem.: A.C.S., Okla. Acdy. Sc. (fellow), O.E.A., N.E.A. (keymem.) Clubs: Sorosis, Home Culture, pres. Ninth Dist. Okla. Fed. Women's Clubs. Hobbies: painting, travel.

HAMMOND, George Simms, asst. prof., chem. dept., Ia. State Coll., Ames, Ia.; res. 1216 Carroll Ave.
Tchr., res. dir.; b. Auburn, Me., May 22, 1921; s. of O.K. and Marjorie T. Hammond; ed Bates Coll., 1939-43, B.S. (magna cum laude); Harvard U. 1943-47, M.S., Ph.D.; mem.: Alpha Chi Sigma; m. Marian Reese, 1945; ch.: Kenric William, Janet Kathleen. 1943 Rohm & Haas Co., res. asst.; 1945 O.S.R.D. at Harvard, res. assoc.; 1947-48 U. Calif., Los Angeles, post-doctoral fellow; 1948 to date asst. prof., chem. dept. Ia. State Coll. Res. in study of mechanism of org. reactions. Mem.: A.C.S., Chem. Soc. (London). Hobbies: sports, chess. pursuing infants.

HAMMOND, Milton B., v.p., res. dev., Standard Steel Spring Co., Coraopolis, Pa.; res. 317 Meadow Lane, Edgeworth.
Mech. engr.; b. Grand Rapids, Mich., June 9, 1902; s. of Jesse M. and Anna K. (Zuidema) Hammond; ed. Tri-State Coll. Engrg., B.S. M.E.; m. Anna M. Vander Breggen, July 3, 1928; ch.: Robert Dale, Milton B. Jr. Chf. engr. New Era Spring Spec. Co.; chf. engr. Wolverine Bumper Co.; chf. engr. Cabo Heater Corp.; v.p., gen. mgr., Michigan Bumper Corp.; chf. engr. Gordon Mfg. Co.; v.p., Standard Steel Spring Co.; res., electroplating nickel, copper, zinc, tin; electropolishing steel, nickel; corrosion resisting coatings. Mem.: A.E.S., E.C.S., S.A.E., A.S.T.M., A.O.A., N.A.C.E. Prof. engr. Penn., Ill. Missouri. Clubs: Detroit Athletic, Edgeworth. Hobby: photography.

HAMMOND, William Archie, prop., W. A. Hammond Drierite Co., 120 Dayton Ave., Xenia, Ohio; res. Hyde Rd., Greene Co., Ohio; (mailing address same as bus. address above).
Chem., chem. engr.; b. Winchester, Ky., Jan. 22, 1889; s. of William and Tempie (Frazier) Hammond; ed. Miami U., A.B. 1914; Ohio State, M.A. 1917; Ph.D. 1929; mem.: Phi Kappa Tau; m. Olive Christoe Dingle, July 8, 1919; ch.: John Philip, Robert Dingle. 1917-18 res. chem. C.W.S.; 1919-20, chf. chem. Castalia Portland Cement Co.; 1920-25, chf. chem. U.S. Gypsum Co.; 1926-30, conslt. wk. and by-prod. recov. in ceramic indus.; 1928-30, Ohio State, grad. study and res.; 1930-37, assoc. prof. chem. Antioch Coll.; 1934 to date prop. and conslt. indust. drying, W. A. Hammond Drierite Co. Contrib. sev. arts. to sc. jls. Mem.: A.C.S., A.A.A.S., Sigma Xi, A.I.C., S.C.I. Chapter chmn, Greene Co. (Ohio) Chapt., Amer. Red Cross. Clubs: Masons, K.T., etc.; past pres. Xenia Rotary; past commander of Jos. P. Foody Post No. 95, Amer. Legion. Hobbies: collection of McGuffey Readers, old chem. books, and art alabaster.

HAMOR, William Allen, asst. dir., Mellon Inst., 4400 Fifth Ave., Pittsburgh 13, Pa.; res. 322 Sixth St., Oakmont, Pa.
Indust. res., pub. and prof. relations in chem.; b. DuBois, Pa., Mar. 27, 1887; s. of George Daniel and Margaret (Means) Hamor; ed. student, U. of Pittsburgh, 1904-07; M.A., 1913, hon. D.Sc., U. of Pittsburgh, 1935; hon. Sc.D., Grove City, Pa., Coll., 1932; hon. Sc.D., U. of Louisville, 1947; hon. LL.D., U. of Miami, 1947; mem.: Sigma Xi, Sigma Gamma Epsilon, Pi Gamma Mu, Alpha Chi Sigma, Phi Lambda Upsilon. Res. chem., Coll. of City of N.Y., 1907-14; asst. to dir., Mellon Inst., Pitts., Pa., 1914-16, asst. dir. since 1916; prof. of chem., U. of Pittsburgh, 1915-18; lecturer since 1942; shale-oil spec., Canada Dept. of Mines, 1908; editorial staff, Science-History of the Universe, 1909-10; Jl. of Indust. and Engrg. Chem., 1912-14; contrib. editor, The Chemist, 1931-36; contrib. editor, PITT Quarterly, since 1939; editorial adv., Nutritional Observatory since 1940; editor, Chemical Monographs, A.C.S., since 1947. Mem.: Comm. on Airplane Fuels, Natl. Res. Council, 1917; v. chmn., Div. of Res. Extension, 1921-24; mem. Exec. Comm. and chmn. of Tech. Adv. Comm., Greater Pa. Council, 1923-34; mem. Res. Adv. Comm., Indust. Hygiene Found. of Amer. since 1942; mem. Sc. Personnel Comm., U.S. Atomic Energy Commis., 1947; mem. Adv. Panel. Sc. Manpower Br., Gen. Staff, War Dept., 1947; chmn., Smoke Abatement Comm., Allegheny Conf. for Community Dev., Pittsburgh, 1945; mem. Comm. on Indust. Economics since 1946; commis. Major, C.W.S., U.S.A., Nov. 28, 1917; in France 10 mos. as asst. chf. of Tech. Div., C.W.S. of Amer. Exped. Forces; hon. disch. Dec. 6, 1918; co-inventor of cellulosic food prods. and of proc. of preserving foods and of distilling and plasticizing sulphur. Author: "Hist. of Chem.," 1909; co-author: "The Amer. Petroleum Industry," 2 vols., 1916; "Exam. of Petroleum," 1920; "Amer. Fuels," 2 vols., 1922; "Science in Action," 1931; "Glances at Indust. Res.," 1936; author of chapters in: Baskerville's "Municipal Chem.," 1911; Baker's "The Prep. of Reports," 1924; and McKee's "Shale Oil," 1925; contrib. to Encyc. Brit. 16th and 17th eds.; Brit. Yearbooks; Americana Annuals; joint author of a series of papers on the fuels, petroleums and oil-shales of Amer. and of reports of investigations on the chem. of anesthetics; specialist in the prof. and pub. relations of sc. res.; contrib. of many arts. to prof. and popular periodicals on the value and mgmt. of res. in appl. sc.; author of annual world-wide reviews of indust. res., 1937-43; devised symbolism in new bldg. of Mellon Inst., 1935-36. Companion, Military Order of Foreign Wars & Order of Washington; Chevalier, Order of Lafayette. 1950, Pittsburgh Award, A.C.S. Mem.: V.F.W. of U.S. & Amer. Leg.; fellow, A.A.A.S., A.I.C., Chem.

Soc. of London. Mem.: A.S.T.M., A.C.S., Pa. Chem. Soc., E.S., Natl. Soc. of Prof. Engrs., Pa. Soc. of Prof. Engrs. World Power Conf., Inst. of Metals, Amer. Mgmt. Assoc., Soc. for the Advancement of Mgmt., A.Phar.A., History of Sc. Soc., I.F.T., Amer. Dairy Sc. Assoc., Chamber of Com. of Pittsburgh. Clubs: University, Pittsburgh Faculty, Chemists', and Authors' (Pittsburgh); Chemists' (N.Y.), Rotarian. Hobbies: employment problems; sociologic aspects of management; advisory guidance of prof. personnel.

HAMPEL, Clifford A(llen), supvr., extraction metallurgy, Armour Res. Foundation, 35 W. 33rd St., Chicago 16, Ill.; res. 18246 Gottschalk Ave., Homewood, Ill.
Chem. engr.; b. Minneapolis, Minn., Mar. 15, 1912; s. of Carl W. and Gertrude E. (Allen) Hampel; ed. U. of Minn., B.Ch.E., 1934; mem.: Alpha Chi Sigma; m. Merrylyn E. Edmondson, June 7, 1935; ch.: Elizabeth Anne. 1936-42, Mathieson Alkali Wks., Niagara Falls, N.Y., res. chem.; 1942-43, Diamond Alkali Co., Painesville, Ohio, res. chem.; 1943-44, S.A.M. Labs., Manhattan Project, Columbia U., N.Y., res. scientist; 1944-45, Minn. Mining & Mfg. Co., St. Paul, Minn., res. chem.; 1945-46, Cardox Corp., Chicago, Ill., asst. chf. chem.; 1946-48, Armour Res. Foundation, Chicago, Ill., res. chem., 1948-49, supvr., inorg. tech., 1949 to date, supvr., extraction metallurgy. Res. on prodn. & use of chlorine & chlorine cmpds. & ind. chem.; studies on heterogeneous equilibria in aqueous salt soluts.; economic & cost surveys of fluorides & fluosilicates, alkalis, & titanium; sea water evaporation; 28 pats. in flds. of study, also tech. articles. Assoc. edit., Encyclopedia of Chem. Reactions, Reinhold Publ. Corp., Vol. II-on, 1948; co-author chapter on Chlorine Prods., Roger's Manual of Ind. Chem., D. Van Nostrand, 1942, C. C. Furnas, edit. Mem.: A.C.S., A.A.A.S., A.I.C. (fellow, councillor Chicago Chapter 1949-52), Electrochem. Soc. (div. edit., J. of; chmn. Chicago sec., 1949-50; gen. chmn., 96th Natl. Meeting 1949 Chicago). Award: Honor Cert., War Dept. Corps of Engrs., for wk. on atom bomb. Club: Chemists' (N.Y.). Hobbies: technical writing & editing, book collecting, technical society activities to advance chemistry as a profession.

HANAWALT, Joseph Donald, mgr. magnesium div., The Dow Chem. Co., Midland, Mich.; res. 2016 Eastman Rd., Midland.
Exec.; b. Royersford, Pa., July 6, 1902; s. of Daniel Replogle and Augusta (Preston) Hanawalt; ed. U. of Akron, 1920; Oberlin Coll., A.B. phys. 1924; U. of Wis., A.M. 1926; Ph.D. 1929; U. of Mich., 1931; U. of Groningen (Holland), 1931; mem.: Sigma Xi, Gamma Alpha; m. Lenore S. Smith, Aug. 20, 1930; ch.: Philip C., Nancy Joan, Barbara Jean. 1924-28 lab. and teach. asst.; 1928-29 instr., U. of Wis.; 1929-131 Natl. Res. Fellow, Rockefeller Found., U. of Mich. 1930.; Int. Res. Fellow, U. of Groningen, 1931; 1931-34 physicist, The Dow Chem. Co.; 1934-40 dir. Spectros. & X-ray Lab. same co.; 1940-46 dir. of Metallurg. Res. same co.; 1946 to date mgr. Magnesium Div. same co. Res. in X-Ray absorption spectra; indust. appl. of X-ray diffraction anal.; studies of the corrosion behavior of magnesium; metallurgy of magnesium. Mem.: A.Phys.S., A.C.S., E.S., A.S.T.M., A.S.M., A.I.M.M.E., Am. Foundrymen's Assoc., A.A.A.S.; res. A.I.M.E. Inst. of Metals award, 1943. Clubs: Rotary; Torch. Hobbies: music and outdoor sports.

HAND, David Birney, hd., div. of food sc. & tech., N.Y. State Agr. Expt. Station, Geneva, N.Y.; res. 652 W. North St., Geneva.
Biochem.; b. Berkeley, Calif., Nov. 24, 1905; s. of Clifford Nott and Alice Bertha (Hartshorn) Hand; ed. B.A., June 1926, Pomona Coll., Claremont, Calif., grad. cum laude; Ph.D., Aug. 1930, Cornell U., Ithaca, N.Y.; mem.: Gamma Alpha, Phi Kappa Phi, Sigma Xi; m. Eleanor J. Foote, June 8, 1929; ch.: Sylvia M., Clifford W. Instr. of biochem., Cornell U., 1927-30, 1932-36; Natl. Res. Fellow, Heidelberg, Germany, 1930-32; asst. prof. of biochem., 1936-40, assoc. prof. of biochem. 1940-42, Cornell U.; tech. dir., Sheffield Farms Co. Inc., 1942-47, mem. of bd. of dir., 1946-47; hd., div. of food sc. & tech., Cornell U., N.Y. State Agr. Expt. Station, 1947 to date. Pub. articles & pats. in flds. of biochem. & foods. Mem.: I.F.T., A.C.S., Soc. of Biolog. Chemists. Mem. of Food & Nutrition Bd.; mem. of bd. of dir., The Associates, Food & Container Inst. Inc., Quartermaster Corps. Hobbies: yachting, sports.

HANDLER, Philip, prof. of biochem. & nutrition, chmn. of dept., Duke U. Schl. of Medicine, Durham, N.C.; res. 2307 Sprunt St., Durham.
Biochemist; b. N.Y.C., Aug. 13, 1917; s. of Jacob and Lena (Heisen) Handler; ed. B.S. Coll. City N.Y. 1935; M.S. U. of Ill. 1936; Ph.D. U. of Ill. 1939; m. Lucille P. Marcus, Dec. 6, 1939; ch.: Mark, Eric Paul. Jr. chem., U.S. Soybean Lab. 1937-39; instr., assoc., asst. prof. of physiol. & nutrition, 1939-44, asst. prof., assoc. prof., prof. of biochem. & nutrition 1944 to date, all at Duke U. Schl. of Medicine. 85 tech. papers on fat, carbohydrate & protein metabolism, nicotinic acid deficiency, choline deficiency, liver disease, hypertension. Mem.: A.C.S., A.S.Biol.C., Am. Inst. Nutrition, S.E.B.M., A.A.A.S., Am. Assn. of U. Prof., Sigma Xi. Award: Charles B. Mayer of N.Y. Acdy. Med. Hobbies: music. water sports.

HANDLEY, Carroll Alfred, chmn. dept. of pharmacology, Baylor U. Coll. of Medicine, 1200 M.D. Anderson Blvd., Texas Medical Center, Houston 5, Texas; res. 2334 Camden, Houston.
Res. & teaching; b. Ceres, Calif., Aug. 30, 1911; s. of Arthur and Dorothy Handley; ed. U. of Calif., 1934, A.B. in biochem., 1940, Ph.D. in pharmacology; mem.: Gamma Alpha, Sigma Psi; m. Zella Dunlop, Aug. 25, 1940; ch.: Barbara, John. U. of S.D. Schl. of Medicine, asst. prof. of phar., 1940-41; Western Regional Res. Lab., U.S.D.A., assoc. in phar., 1941-42; U. of S.D., Schl. of Medicine, prof. of phar., 1942-44; Baylor U. Coll. of Medicine, assoc. prof. of physiol. & phar., 1944-47, prof. of phar. 1947 to date. Approx. 50 pubs. concerning pharmacological action of chem. agents & drugs. Mem.: Sigma Xi, Am. Soc. for Pharmacology & Experimental Therapeutics, S.E.B.M., A.A.A.S., A.C.S., N.Y. Acdy. of Sc.

HANDLEY, Ernest Tennyson, plant mgr. of Pottstown Plant, The Firestone Tire & Rubber Co., P.O. Box 690, Pottstown, Pa.; res. Maple Gardens, Pottstown.
Plant mgr.; b. Welston, O., Sept. 24, 1902; s. of William C. and Dora R. Handley; ed. Bch.E., Ohio State U., 1923; m. Alma Snider, Feb. 28, 1922; ch.: Patricia June (Handley) Turney. Chem. engr. with Republic Steel Corp., Youngstown, O., 1923-27. Held the following positions with the Firestone Tire & Rubber Co.: Chem. engr., 1927, Akron, O.; chf. chem., Argentine Plant, 1931-35; plant mgr., Swiss Plant, 1935-41; gen. mgr. synthetic rubber div., 1941-45; plant mgr. Des Moines Plant Jan. 1945 to Nov. 1945; prod. mgr., all foreign plants, Nov. 1945 to July 1948; plant mgr., Pottstown Plant, July 1948 to present. Mem.: A.I.Ch.E.

HANDRICK, G(eorge) Richard, sr. chem., Arthur D. Little, Inc., 30 Memorial Dr., Cambridge 42, Mass.; res. 49 Westminster Rd., Newton Centre 59, Mass.
Res. chem. in org. chem.; b. Johnson City, N.Y., Jan. 1, 1917; s. of John B. and Rilla Gage Handrick; ed. Cornell U., B.Chem., 1937, U. of Ill., M.S. 1939, Ph.D. 1942; mem.: Theta Xi, Cosmopolitan Club; m. Fannie Armitt Handrick, Apr.

30, 1943; ch.: Betty Alice. Lab. instr., U. of Ill., 1939-42; res. chem., U. of Pa., 1942-46, for N.D.R.C.; res. chem., Arthur D. Little, Inc., 1946 to date. Worked at U. of Pa. for Natl. Defense Res. Comm. on high explosives chem. res., and for Comm. of Med. Res. on synthesis of antimalarials. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S.

HANDY, James Otis, conslt. chem., Fruit Treating Corp.; res. 605 W. 29th St., Orlando, Fla. Conslt. chem.; b. Barnstable, Mass.; s. of Job and Rebecca Otis Handy; ed. spec. in chem., metal., mining, M.I.T.; m. Margaret MacLachlan, Aug. 31, 1898; ch.: Rebecca, Jean, Colin. 1886-87 chem., U.P. Ry., Omaha; 1887-89 chem., B.&O.R., Balt.; 1889-1929 dir., chem., metal. investigations for Pittsburgh Testing Lab.; 1929-35 conslt., N.Y.; 1935 to date conslt. chem., Fruit Treating Corp., Orlando, Fla. Notable wk. in Butte, Mont. as witnes in Anaconda Copper Co. patent suit—was called by judge "The Very Expert Witness"; first chem., Al. Co.: Organized chems. in Pitts., promoted public water filtration in Pitts., thus eliminated highest typhoid fever death rate anywhere in the world. 1929-50, informal association with Albert M. Austin, patent atty., N.Y.C. Contrib. extens. to sc. and tech. jls. Mem.: A.C.S. (chmn. Pitts. sect.), recommended for Pitts. Award; pres. Engrs. Soc. of W. Pa., 1912; pres. Univ. Extens. Soc. (Pitts.). Clubs: Duquesne (Pitts.), Univ., (Winter Park, Fla.), Chem. (N.Y.), almost oldest life mem. Hobbies: prospecting, discovered silver mine in Cobalt, Ontario, Can. 1908; raising papayas now, chem. citrus industry.

HANFORD, William Edward, v.p. & dir. of res., The M.W. Kellogg Company, 225 Broadway, New York; res. 142 Western Dr., Short Hills, N.J. Chem.; b. Bristol, Penn., Dec. 9, 1908; s. of Thomas Cook and Irene Laing Hanford; ed. B.S. Phila. Coll. of Pharmacy & Sc., Ph.D., U. of Ill.; mem.: Phi Beta Kappa, Phi Kappa Phi, Sigma Xi, Phi Lambda Upsilon; m. Lorraine Easom; ch.: William Edward. Anal. chem., Rohm & Haas Co., Bristol, Pa., 1930-31; res. chem., E. I. du Pont de Nemours & Co., Wilmington, Del., 1935-42; asst. dir. of res., General Aniline & Film Corp., Easton, Pa., 1942-45; dir. of res. 1945 to 1946; v.p. and dir. of res., M.W. Kellogg Co., New York, N.Y., 1946 to date. Contributed to the fld. of codensation polymerization such as nylon; high pressure polymerization such as polymerization of ethylene to polyethylene; studies in acetylene chem., and general org. wk. Mem.: A.C.S., A.A.A.S., The Chem. Soc. (London), Am. Pet. Inst. Club: The Chemists'.

HANKE, Milton Theo., res. conslt., 7550 S. Green St., Chicago 20, Ill.; res. same. Res. conslt.; b. Chicago, Ill., Apr. 23, 1893; s. of Theodore J. and Fredaricka Hanke; ed. U. of Chicago, B.S. 1914, Ph.D. 1917; m. Catherine M. Graf, Mar. 29, 1925; ch.: Robert M., Anita Beth Conners. Prof. physiolog. chem., N.D. Agr. Coll., 1916-17, assoc. mem. Sprague Memorial Inst., asst. prof. of pathology 1918-29, assoc. prof. 1929-32; res. conslt. 1932 to date. Num. papers on proteinogenous amines & dental disorders. Author: "Diet & Dental Health," 1933; "Nutrition et Dention," 1937. Mem.: A.A.A.S. (fellow), A.S. Biol.C., A.C.S., Soc. for Res. in Child Dev. (charter mem.), Ill State Acdy. of Sc., Dental Forum (Milwaukee), Sigma Xi, Phi Beta Kappa.

HANKERSON, Frederick Putnam, exec. secy., Associated Cooperage Industries, 408 Olive St., St. Louis 2, Mo.; res. 141 N. Brentwood Blvd., Clayton 5, Mo. Trade assn. exec.; b. LaCrosse, Wis., Mar. 12, 1903; s. of Arthur and Johanna (Law) Hankerson; ed. U. of Mo.; mem.: Sigma Chi, Sigma Delta Chi; m. Malvina Williams, June 22, 1943. Editorial wk. on Omaha World Herald, Racine Journal News, Omaha World-Herald, Associated Press; Associated Cooperage Industries of Am. Inc., 1932 to date. Author: "The Cooperage Handbook" Chem. Publ. Co. 1947. Mem.: Ind. Packaging Engrs., A.S.T.M., Forest Prods. Res. Soc., Food & Container Inst. Hobbies: fishing, hunting.

HANKINSON, Cloyce LeRoy, dir. of res., North Amer. Creameries Inc., Paynesville, Minn.; res. Paynesville. Chem.; b. Morrice, Mich., Sept. 1, 1913; s. of Volney (dec.) and Pearl M. Hankinson; ed. B.S. Mich. State Coll., 1934; M.S. Conn. State Coll. 1935; grad. asst.; Ph.D. U. of Minn., 1939, grad. asst and instr.; mem.: Farm House, Alpha Zeta, Phi Kappa Phi, Gamma Alpha, Sigma Xi; m. Constance Eckdale, Feb. 17, 1940; ch.: Joyce Lee, Dean Edwin. 1940-45 chem., Carnation Res. Labs., Milwaukee, Wis.; 1945 to date dir. of res. North Amer. Creameries Inc., Minneapolis and Paynesville, Minn.; res. in purification and crystallization of rennin. Mem.: A.C.S., A.A.A.S., Am. Dairy Sc. Assoc., Minn. Dairy Tech. Soc. (pres. 1947-48). Trustee, Paynesville Methodist Ch. Clubs: Paynesville Lion's (dir.), cubmaster, Paynesville Boy Scouts of Amer. Hobby: fishing.

HANLE, John Edward, dir., Metal Decorating Dev. Lab., Inter-chemical Corp., Finishes Div., 224 McWhorter St., Newark, N.J.; res. 806 Shadowlawn Dr., Westfield, N.J. Chem. and chem. engr., in chg. of dev. and prod.; b. East Orange, N.J., Sept. 24, 1914; s. of John W. and Eleanor Heritage Hanle; ed. B.S. Ch.E., Newark Coll. of Engineering, 1932-36; M.Ch.E., Polytechnic Inst. of Bklyn. 1936-40; Ph.D. 1941-49; mem.: Alpha Kappa Pi, later absorbed by Alpha Sigma Phi; m. Claire Kane, Dec. 27, 1940; ch.: John E. Jr., Paul A. Chem. engr., Murphy Varnish Co., 1934-43; res. engr., Murphy Finishes Div., Interchemical Corp., 1943-45; dir., Metal decorating dev. Lab., Interchem. Corp. Finishes Div., 1945 to date; instr. in English, Newark Technical School (evening) 1938-41; instr. in chem., Newark Coll. of Engrg. (evening) 1945-48; res. and dev. of phenolic resins, vinyl and other high polymers for can coatings—especially for linings of cans for processed foods as well as decorative lithographic coatings and varnishes for cans and closures. Ph.D. thesis 1948: "A Method for the Determination of the Rate of Hydrogen—Deuterium Exchange of Cellulose in Heavy Water." Co-author with W.H. Gardner, Ind. Eng. Chem. Ind. Ed. 13,744 (1941). Co-author V.J. Frilette Ind. Eng. Chem. Anal. Ed., 19,984 (1947). Co-author with V.J. Frillette and H. Mark, J. Am. Chem. Soc., 70, 1107 (1948). Mem.: A.I.Ch.E., A.C.S., Tau Beta Pi, Phi Lambda Upsilon. Hobbies: classical music, gardening.

HANMER, Hiram Rupert, dir. of res., The Amer. Tobacco Co., 400 Petersburg Turnpike, Richmond 24, Va.; res. 3215 Hawthorne Ave., Richmond 22. Chem.; b. Lincoln, Vt., Sept. 6, 1896; s. of George A. and Frances M. (Gove) Hanmer; ed. U. of Vt., B.S. in chem. 1918; mem.: Delta Psi; m. Sallie B. Roome, June 9, 1928. 1918-21, contr. and res. chem. E. I. du Pont de Nemours & Co.; 1921-32, res. chem., 1932 to date, dir. of res., The Amer. Tobacco Co. Officer: dir. The Amer. Tobacco Co. (New York, N.Y.); dir. Cuban Land & Leaf Tobacco Co. (Havana, Cuba). Fellow, Chem. Soc. (London); A.A.A.S.; A.I.C.; mem.: A.C.S. (councilor 1944-45, chmn. Va. Sect. 1942-43); N.Y. Acdy. Scs; SC.I.; S.A.S.I. (trustee 1945 to date); T.A.P.P.I.; Va. Acdy. of Sc. (pres. 1945-46). Trustee, Crippled Children's Hosp., Richmond, Va.; Va. Inst. for Sc. Res.; dir. Va. State Chamber of

Commerce. Clubs: Chemists' (N.Y.), Commonwealth (Richmond), Torch (Richmond), (pres. 1948-49).

HANN, Victor Adams, dir., ozone proc. div., Welsbach Corp., 1500 Walnut St., Phila. 2, Pa.; res. 328 Greenview Lane, Havertown. Pa.
Engr., exec.; b. N.Y.C., Dec. 5, 1913; s. of Victor F. and Anna C. (Adams) Hann; ed. Columbia U., B.S. Engrg. 1935; mem.: Sigma Nu; m. Jean Ellen Harpster, Dec. 1, 1940; ch.: Judith Adams, Jean Elizabeth, Victoria Ann, Michael Anthony. 1935-38 Bethlehem Steel Co., engr. trainee, res. engrg., plant operator; 1938 to date Welsbach Corp., res. engr., pilot plant engr.; 1940, field supvr., 1942 dir. res., 1946 dir. ozone proc. div.; res. in des. of world's largest ozone plant. Res. on gen. of ozone & ozone applications, espec. water purification; contrib. extens. to sc. and tech. jls. Mem.: E.S., A.W.W.A., N.S.P.E., S.P.E. (Pa.); Engrs. (Phila.); pres., dir., local Civic Assn. Hobbies: bridge, sports.

HANNA, Wilson Creal, chf. chem. & chem. engr., Calif. Portland Cement Co., Colton, Calif.; res. 141 East F. St., Colton, Calif.
Chem. and chem. engr.; b. Leadville, Lake Co., Colorado; s. of John Bennett and Frances Creal Hanna; ed. Pomona Coll. and special wk. under Prof. R.C. Carpenter of Cornell U.; m. Blanche Beal, May 19, 1909; ch.: Tacie Madge Hanna (Robbins), Evanelle Beal Hanna (Springer). Chf. chem. & chem. engr., Calif. Portland Cement Co., Colton, Calif., since 1904, including the wholly owned Arizona Portland Cement Co., Rillito, Arizona, (started operation in 1949). Field wk. on deposits used in cement and lime manufacture; manuf. of all types of cement under different specifications; manuf. of lime in rotary kilns; mfg. potash from rotary kilns waste. Numerous publs. in Proceedings of A.S.T.M., Bulletin, Am. Concrete Inst. Proceedings. Rock products, etc. Mem.: A.S.T.M. (past dir., hon. member 1950, Sanford E. Thompson Award, 1948, past chmn. of So. Calif. District Council etc.), A.I.Ch.E., A.C.S. Chmn., Colton Public Library, bd. of directors, Colton Chamber of Commerce. Clubs: Rotary, Masonic, Cooper Ornithological of Calif., Northwest Bird & Mammal Soc., Am. Ornithological Union, Wilson's Ornithological Club. Hobby: collecting birds' eggs.

HANNAN, Kenneth H., secy. and asst. treas., Union Carbide and Carbon Corp., 30 E. 42nd St., New York 17, N.Y.; res. 1150 Fifth Ave., New York 28, N.Y.
Exec.; b. Lincoln, Neb., Jan. 25, 1911; s. of Wm. E. and Janet MacClymont Hannan; ed. Yale U., 1933, Yale Law School, 1936; m. Anne Berdell, Feb. 22, 1939; ch.: Kenneth, Jr., Theodore, Anne. Joined U.C.C. in July, 1936, as member of law dept.; elected asst. treas. in Dec., 1948, elected secy. in Nov., 1949.

HANSBERRY, (Theodore) Roy, dir., agr. lab., Shell Oil Co., P.O. Box 1531, Modesto, Calif.; res. 1212 Brady.
Res. dir.; b. Kennydale, Wash., Feb. 11, 1910; s. of Charles R. and Alice Maude Kinzie Hansberry; ed. Wash. State Coll., B.S. 1931; M.S. 1932; Ia. St. Coll., Ph.D. 1936; mem.: Alpha Kappa Lambda; m. Eva Lillian Haasberry, Aug. 10, 1934; ch.: John Edward, Albert Charles, Donald Gregg. Instr. entomology, Ia. State Coll. 1934-36; sr. chem. Wood River, Ill., Shell Pet. Corp. 1936-37; asst., assoc. prof., Cornell U., 1937-44 (field-insect toxicology); dir., agr. lab., Shell Oil Co., 1944 to date. Res. in toxicology of nicotine, insecticides, insecticide prep. of plant matls. Mem.: A.A.A.S., Am. Assn. Econ. Ent. Club: Del Rio Golf & Country (Modesto). Hobbies: angling, history of angling, collection of rare angling books.

HANSEN, Lester Arnold, dir. of res., Behr-Manning Corp., Troy, N.Y.; res. Averill Park, N.Y.
Dir. of chem. res.; b. Denmark, Wisconsin, May 19, 1903; s. of J.G. and Nellie (Arveson) Hansen; ed. U. of Wis., B.S., 1928; M.S. 1930; Ph.D., 1934; mem.: Alpha Chi Sigma; m. Vanessa M. Orloff Aug. 22, 1931; ch.: Vanessa Elaine, Robert Lester. 1928-34, instr. U. of Wis.; Forest Products Lab., Madison, Wis., 1934-36; 1936-43, asst. prof. Rensselaer Polytech. Inst.; 1943 to date, dir. res., Behr-Manning Corp., Troy, N.Y. Mem.: A.C.S., Alpha Chi Sigma, Sigma Xi, Phi Lambda Upsilon.

HANSEN, Waldemar C(onrad), mgr. res. labs., Universal Atlas Cement Co., Buffington, Ind.; res. 155 Maple St., Valparaiso, Ind.
Indus. res.; b. Sturgis, S.D., Feb. 9, 1896; s. of Hans and Anine S. (Ivresen) Hansen; ed. Montana State Coll., B.S. chem. 1917; Columbia U., Ph.D. 1922; mem.: S.A.E., Sigma Xi, Phi Lambda Upsilon, Gamma Alpha; m. Muriel Bruggman, May 21, 1924; ch.: Donald Waldemar, Edward Andrew. 1924-29 res. chem. Portland Cement Assoc., Natl. Bur. Stds.; 1929-34 res. chem. Am. Cyanamid Co., Linden, N.J.; 1934-38 plant mgr., Am. Cyan. & Chem. Corp., Woodbridge, N.J.; 1938-45 sr. res. chem. Portland Cement Assoc., Chicago, Ill.; 1945 to date mgr. res. labs. Univ. Atlas Cement Co., Buffington, Ind.; notable wk.: pubs. on the composition and chem. reactions of cements and on the properties of concrete. Mem.: A.C.S., Am. Ceramic Soc., A.A.A.S., A.S.T.M., Am. Concrete Inst., A.I.C., Highway Res. Bd.

HANSON, Ernest Roy, chem. conslt. F.D. Snell, Inc.; res. 53 Church St., E., Bloomfield, N.J.
Chem. conslt.; b. Moorhead, Minn., Oct. 30, 1900; s. of Nels and Betsy Hanson; ed. Fargo Coll., B.S. 1921 (cum laude); Northwestern U., M.S. 1923; Ph.D. 1925; mem.: Alpha Chi Sigma; m. Edith Ann George, Sept., 1925; ch.: Roberta Mae. 1921-22 instr., 1922-25 res. fellow, Northwestern U.; 1925-40 chf. chem., Halowax Corp.; 1940-46 res. chem., grp. ldr., Bakelite Corp., 1946 to date chem. conslt., F.D. Snell, Inc. Holder of pats. on chloronaphthalenes and vinyl resins. Preparation of orthochloro-mercuriphenol and preparation of orthoiodophenol, organic synthesis., 1925. Mem.: A.C.S., A.I.Ch.E., A.I.C., Sigma Xi, Chemists' Club (N.Y.), N.Y Acad. of Sc., Montclair Engineers Soc., N.Y. Rubber Group. Clubs: Golf of Broadacres, Fifth Quarter Club. Hobbies: golf, radio.

HAPPEL, John, prof. and chmn. dept. of chem. engrg., N.Y.U., University Heights, New York 53, N.Y.; res. 1304 Carroll St., Bklyn., N.Y.
Chem. engr. and prof.; b. Bklyn., N.Y., Apr. 1, 1908; s. of John and Emilie Happel; ed. B.S., M.I.T., 1929; M.S., 1930; Ch.E., Poly. Inst. of Bklyn., 1948; mem.: Alpha Chi Sigma. Chem. engr., Socony-Vacuum Oil Co., for 16 yrs., dur. first 9 yrs. at labs. in Bklyn., in chg. of some 50 men; at outbreak of W.W.II served on Tech. Adv. Comm. of Petroleum Indust. War Council, then became assoc. with the Neches Butane Prods. Co., as mem. of Neches Tech. Comm.; after war rep. Socony-Vacuum on a number of projs. in petrochem. fld.; since 1948 with N.Y.U. Contrib. num. arts. to sci. jls.; author of Chapter XVII in "Engineering Opportunities," edit. by R.W. Clyne, D. Appleton-Century Co., N.Y., 1939; chapt. in "The Science of Petroleum," edit. by A.E. Dunstan, Oxford U. Press, in print; holds a number of U.S. pats., chfly. in petroleum fld. Mem.: Sigma Xi, Phi Lambda Upsilon, Tau Beta Pi, A.C.S., A.I.Ch.E., A.I.C. (fellow); N.Y. State Prof. Engr. Clubs: West Side Tennis, Chem. (N.Y.), Heights Casino of Bklyn. Hobbies: tennis, skiing.

HARBER, William I., acct. exec., 21 E. Van Buren St., Chicago 5; res. 5022 Woodlawn, Chicago 15, Ill.
Indus. chem.; b. Ludlow, Mass., Aug. 20, 1915; s. of Kalman and Bessie (Seiler) Harber; ed. Iowa State Coll., Ph.D. 1940; m. Adrienne Brown, Aug. 22, 1948. 1940-41 res. chem., Swift & Co.; 1941-45 res. chem. Witco Chem. Co.; 1945-46 res. chem. Bjorksten Labs.; 1946-48 res. chem. Lever Bros.; 1948 to date instr. Wilson Jr. Coll. Pres. Res. & Dev. Corp.; dir. Tech. Serv. Conslts. Discoverer of "Witcogum"; co-developer of "Zinsper"; developer of "Nonitch Crystals." Mem.: A.I.C., chmn. Res. and Promotion Comm. Chicago Tech. Socs. Council: A.A.U.P. Hobby: thinking.

HARBIN, William Thomas, supt. chem. div., Celanese Corp. of Amer., 290 Ferry St., Newark, N.J.; res. 113 Columbia Ave., Metuchen.
Chem. engr.; b. Georgia, July 6, 1908; s. of Joseph Westley and Anna (Flanagan) Harbin; ed. Georgia pub. schls.; Ga. Inst. of Tech. 1933-38; B.S. chem. engrg.; m. Virginia Frith, Aug. 1, 1930; ch.: William Thomas, Jr., Mary Iris, Joseph Frith. 1938, proc. engr. Hercules Powder Co.; 1939, dev. engr. Union Bag & Paper Co., Savannah, Ga.; 1940, res. and dev. Chatham Processes, Savannah; 1940-46, dept. hd., org. synth., E.R. Squibb & Sons, New Brunswick, N.J.; 1946-49, asst. supt. chem. div.; 1949 to date, supt. chem. div., Celanese Corp. of Amer., Newark, N.J. Mem.: A.C.S., A.I.Ch.E., A.A.A.S. Comm. chmn. local Cub Packs, B.S.A. Hobbies: hydroponics, photography.

HARDESTY, James Early, asst. secy. and asst. treas., Davison Chem. Corp., Davison Chem. Bldg., Baltimore 3, Md.; res. 6406 Murray Hill Rd., Baltimore, Md.
C.P.A.; b. Lebanon, Marion Co., Ky., Nov. 29, 1908; s. of John Austin and Alice (Reynolds) Hardesty; ed. Mt. St. Josephs Coll., Baltimore; Johns Hopkins U., Baltimore, C.P.A.; mem.: Delta Sigma Pi; m. Dorothy W. Dunn, Oct. 11, 1939; ch.: Elizabeth Stuart, James Dunn. All business life spent with The Davison Chem. Corp. Mem.: Am. Inst. of Accts., Maryland Assoc. of C.P.A.s, Natl. Assoc. of Cost Accts. Clubs: Baltimore Country; Merchants.

HARDIN, Willett L., edit., "World Affairs Interpreter," U. of Southern Calif., Los Angeles 7, Calif.; res. 3517 So. Figueroa St., Los Angeles 7.
Editor; b. Lima, Ohio, Dec., 1868; s. of John and Elizabeth (Jacobs) Hardin; ed. Buchtel Coll. (now U. of Akron), Akron, O., B.S. 1893; U. of Pa., Ph.D. 1896; m. Isabella M. Green, 1903 (dec.); 1893-94, instr. in chem. and phys., Buchtel Coll.; 1896-1900, lecturer in phys. chem. U. of Pa.; 1899-1901, instr. in chem. U. of Pa.; 1902-07, gen. mgr. Symmes Valley Coal Co.; 1908-11, exec. secy. Mexican Natl. Gas Co. (Mexico City); 1912-29 conslt. chem. Los Angeles; 1922 pres. Calif. Avocado Assoc.; 1930 to date editor, "World Affairs Interpreter." Author: "The Rise and Dev. of the Liquefaction of Gases," (Macmillan, 1899); "Democracy; Its Problems and Its Strength," (1938). Mem.: A.C.S.

HARDING, Frederick Houghton, prodn. mgr., Amer. Molasses Co., 280 Richards St., Bklyn. 31, N.Y.; res. 30 Bonnie Heights Rd., Manhasset, L.I.
Chem. engr.; b. Brooklyn, N.Y., Mar. 17, 1908; s. of (father dec.) Sarah K. Harding; ed. Bklyn. Polytech. Inst., Ch.E.; mem.: Alpha Chi Rho; m. Florence A. Harding, 1932; ch.: Frank, Helen, Ruth, Frederick, Jr., Roberta, Pamela. Asst. chem., Amer. Sugar Ref. Co.; chem. Sucrest Corp., asst. supt., same corp., refinery supt., same corp.; prodn. mgr. American Molasses Co. Mem.: A.I.Ch.E., Sugar Industry Technicians.

HARDING, William Harry, dir., tech. service & dev. div., Stamford Res. Labs., Am. Cyanamid Co., Stamford, Conn.; res. 25 Chester St., Stamford, Conn.
Chem. engr.; b. Bklyn., N.Y., June 12, 1903; s. of Frank Fountain and Sarah (Kyle) Harding; ed. Bklyn. Polytech. Inst. 1918-21; M.I.T. 1921-23, B.S. in chem. engrg.; mem.: Alpha Chi Sigma; m. Martha A.L. Burtt (dec.), Sept. 7, 1927; ch.: Corliss Burtt, Sarah Kyle, William Harry, Jr. 1923-24, Parker Young Co., Lincoln, N.H., chem. engr.; 1924-29, Kalbfleisch Corp., Erie, Pa., N.Y. & Waterbury, Conn., chem. engr. at various plants, fld. tech. service; 1929-36, Am. Cyanamid Co., (merger with Kalbfleisch Corp.), chem. engr. at various plants, mgr. fld. & tech. service, paper & heavy chem., 1936-39 group leader, tech. serv. & dev. div., paper & heavy chem., Stamford, Conn., 1939-42 Stamford, asst. dir., TS&D div., 1942 to date, dir. Pats. on paper chem., sev. arts. on tech. service & application res. Mem.: T.A.P.P.I., A.C.S., A.I.Ch.E., A.I.C., S.C.I., Com. Chem. Dev. Assn., Alpha Chi Sigma. Club: Chemists'. Hobbies: philately, gardening.

HARDT, Henry Benjamin, hd. dept. of chem., Texas Christian U.; res. 3415 Meadowbrook Dr., Ft. Worth, Tex.
Teacher of Chem.; b. Yancey, Tex., June 6, 1897; s. of Henry George and Fannie (Wiemers) Hardt; ed. Southwestern U., B.A. 1920, M.A. 1922; Columbia U., Ph.D. 1932; mem.: Sigma Xi, Phi Lambda Upsilon; m. Lee Marion Tyson, June 8, 1924; ch.: Henry David, Janet Mozelle. Prin., DeLeon H.S., Tex., 1922-23; supt., DeLeon Schls., Tex., 1923-24; hd. dept. of phys. sc., Tex. Woman's Coll., 1924-28; instr. of chem., Columbia U., 1932-39; prof. of chem., Westminster Coll., Mo., 1939-42; prof., hd. of chem. dept., Stephen F. Austin State Coll., Tex., 1942-46; prof., hd. of chem. dept., Texas Christian U., Ft. Worth, 1946 to date. Dissociation pressures & ignition of hydrates & ammonium cmpds. Mem.: A.C.S., Tex. Acdy. Sc., Phi Lambda Upsilon, Sigma Xi. Pres., Tex. State Bd. of Examiners in the Basic Sc.; chmn., Athletic Council, Texas Christian U. Hobbies: gardening, fishing.

HARDT, Robert Andrew, v.p., dir. sales & advertising, Hoffmann-LaRoche, Inc., Roche Park, Nutley 10, N.J.; res. 366 Upper Mountain Ave., Upper Montclair, N.J.
Exec.; b. Friend, Nebr., Aug. 10, 1900; s. of David H. and Katherine (Rockel) Hardt; ed. U. of Nebr., Ph.G.; mem.: Delta Tau Delta, Kappa Psi; m. Elizabeth Condon, Aug. 15, 1927; ch.: Robert Condon, John Russell. Retail drug bus., Hastings, Nebr.; representative, E.R. Squibb & Sons, Des Moines, Iowa; Chicage branch mgr., E.R. Squibb & sons, asst. gen. sales mgr., prod. sales mgr., dir. prod. dev., v.p., dir. advertising & sales promotion, dir.; v. p., dir. of sales & advertising, Hoffmann-LaRoche Inc. Dev. wk. on curare cmpds. Author: "The Pharmaceutical Industry," Bellman Publ. Co. 1946; co-author: "Drug Res. & Dev." 1948. Mem.: A.Phar.A., Iowa Acad. of Pharmacy, Sc. Res. Soc. of Am. (Roche Res. Club). Mem. exec. comm. D.C.A.T., N.Y. Bd. of Trade. Club: Upper Montclair Country. Hobbies: map collecting, name coining.

HARDY, Russel L., dir. of prod., electrochem. dept., E.I. du Pont de Nemours & Co., Wilmington, Del.; res. 4 Tanglewood Lane, Newark, Del.
Chem.; b. Lexington, Ind., July 24, 1900; s. of Halvy Hanley and Bertha Evelyn Hardy; ed.

Indiana U., with distinction, A.B., 1922, A.M., 1923; m. Trula Sidwell, Oct. 8, 1924; ch.: Richard Wendell, Dorothy Joanne. Ohio Hydrate & Supply Co., Woodville, Ohio, June, 1923-May, 1929, control chem., asst. plant supt.; Roessler & Hasslacher Chem. Co., May, 1929-Apr., 1930, taken over by du Pont, process chem., prod. adm., dir. of prod., Jan. 1, 1948 to date. Mem.: A.C.S., Electrochem. Soc. Clubs: Chemists' (N.Y.C.), Niagara (Niagara Falls, N.Y.).

HARER, Charles R., chf. chem., Keystone Tanning & Glue Co., Keystone Glue div., Williamsport, Pa.; res. 1227 Faxon Parkway, Williamsport.
Chem.; b. Lycoming Co., Pa.; s. of John F. and Cornelie (Tuttle) Harer; ed. Phila. Coll. of Phar. & Sc., degree Dr. in Phar. 1915; m. Helen Welty, Sept. 21, 1916. July, 1915-Dec., 1915, Shoemaker & Bush, Phila., Pa., pharmaceutical mfg. dept.; Jan., 1916-Jan., 1919, anal. dept., Sharpe & Dohme, Baltimore, Md.; Mar., 1920 to date, Keystone Tanning & Glue Co., Keystone Glue div., Williamsport, Pa. Dev. one of best liquid glues on the market. Mem.: A.C.S., Tech. Div. Natl. Glue Mfrs. Assn. Trustee local Y.W.C.A., dir. local Community Chest. Club: West Branch Valley Supervisors (past pres.). Hobby: flowers.

HARING, Horace Egbert, supvr. of electrochemical research, Bell Telephone Laboratories, Murray Hill, N.J.; res. 37 Glen Oaks Ave., Summit, N.J.
Electrochemist; b. Delanco, N.J., Aug. 30, 1895; s. of Harry W. and Jennie M. Haring; ed. Franklin and Marshall Coll., B.S., 1916, Princeton U., M.A., 1917; m. Edith M. Miller, Apr. 1, 1920; ch.: Eugene M. Asst. chem., Ordnance Dept., U.S. Army, 1917-19; asst. chem., U.S. Bur. of Standards, 1919-20; assoc. chem., U.S. Bur. of Standards, 1920-28; res. electrochem., Victor Talking Machine Co., 1928-29; res. electrochem., Bell Telephone Labs., 1929 to present. Number of papers and pats. relating to electrodeposition, storage batteries, corrosion, electrolytic rectifiers and capacitors. Best known for dev. of bright chromium plating, and the lead-calcium alloy storage battery. Mem.: A.C.S., The Electromechanical Soc., v.p., Electrochem. Soc., 1938-41. Hobbies: photography, sculpture, gardening.

HARING, Malcolm Morrison, dir., Mound Lab. (operated by Monsanto Chem. Co.), Miamisburg, Ohio; res. 116 Balmoral Drive, Dayton 9, Ohio.
Prof. of chem., executive in chem. plant; b. Delanco, N.J., May 4, 1894; s. of Harry Walter and Jennie (Morrison) Haring; ed. Franklin & Marshall Coll., 1915, B.A.; Princeton U., 1916, M.A.; Columbia U., Ph.D., 1924; mem.: Alpha Chi Sigma; m. Miriam Cassel, Sept. 3, 1923; ch.: Ruth (Haring) Phelan, David Cassel, Mary Carolyn. Asst. in chem., Franklin & Marshall Coll., 1914-15; asst. chem., Princeton U., 1916-17; Army Ordnance Dept., asst. inspector of powder and explosives, Carneys Point, N.J., June, 1917-Jan. 1919; prof. chem., Lebanon Valley Coll., Feb. 1919-Aug. 1921; asst. chem. Columbia U., 1921-23; prof. physical chem. U. of Maryland, Sept. 1923-March 1926; Cooperating exp. of Intl. Critical Table, 1924-26; assoc. editor, Jl. of Chem. Education, 1934-46; res. chem. (on loan-U. of Md.), Monsanto Chem. Co., Dayton, O., Aug.-1944-June-1946; lab. dir. Monsanto Chem. Co., June 16, 1946 to date, Dayton project of the Manhattan district, (now the U.S. Atomic Energy Comm.). Numerous res. in the field of physical chem., particularly in fields of electrochem. and thermodynamics. Has held numerous offices in A.C.S. and its sections. Contrib. Specific gravity of nonaqueous soluts., International Critical Tables (Vol.3), 1928. Mem.: Alpha Chi Sigma, Phi Beta Kappa, Phi Lambda Upsilon, Sigma Xi, A.C.S., E.S., Wash. Acad. of Sc.; Trustee of Westminster Presbyterian Church, Dayton, O. Mem.: Kiwanis Club, Engrs. Club. Hobby: home improvements.

HARING, Robert Clinton, prod. mgr., John Powell & Co., 1 Park Ave., New York City; res. 95 Sterling Ave., White Plains, N.Y.
Chem.; b. Seattle, Wash., Aug. 30, 1906; s. of Reuben T. and Cora E. Haring; ed. B.S., Ch.E., U. of Washington 1929, magna cum laude, Ph.D. Chem., U. of Wis., 1933; mem. Sigma Phi Sigma; m. Alletta E. Beddoe, June 5, 1933; ch.: David R., James R. Res. Chem., National Aniline Div., Allied Chem. & Dye Corp., 1933-46; lab. dir., John Powell & Co., 1947; prodn. mgr., 1948 to date. Mem.: Phi Beta Kappa, Sigma Xi, Tau Beta Pi, A.C.S.

HARKER, Harvey M., gen. brch. mgr., Monsanto Chem. Co., 904 City Natl. Bank Bldg., Houston 2, Tex.; res. 2209 Looscan Lane, Houston.
Chem. sales; b. Argyle, Wis., June 28, 1890; s. of James Melvin and Ida Isabella (Thwing) Harker; ed. U. of Wis., chem. engr. 1912; mem. Zeta Psi; m. Christine Everts, Nov. 25, 1937; ch.: James T., Mrs. W. T. (Tina) Welch. 1914-16, wks. lab. and plant supvr., Gen. Chem. Co., Cleveland; 1916-17, acid plant supvr. at E. St. Louis, Commercial Acid Co., St. Louis; 1917-18, asst. plant mgr., Monsanto Chem. Co., Monsanto, Ill.; 1918-19, plant mgr., Lambert Chem. Co., Lake Charles, La.; 1919-26, gen. mgr., Iowa Soda Prods. Co., Council Bluffs, Ia.; 1926-31, dir. of purchases; 1931-40, asst. gen. mgr. sales-org. chem. div., Monsanto Chem. Co., St. Louis; 1940-42, dir. of operations, Monsanto Chem. Co., Melbourne, Australia; 1942-44, Chems. Bur., W.P.B., Wash., D.C.; with Monsanto Chem. Co.; 1944-47, asst. gen. mgr. sales, Organic Chem. Div., St. Louis 1947 to date, gen. branch mgr., Monsanto, Houston, Texas.

HARLAN, Harold Raymon, tech. dir., Paint Res. Lab. of Harlan Associates, 11 Duboce Ave., San Francisco 3, Calif.; res. 1826 Sixteenth Ave., San Francisco 22.
Chem. engr.; b. Union City, Ind., Jan. 26, 1898; s. of Sherley M. and Gertrude (Downing) Harlan; ed. U. of Mo. and Notre Dame; m. Grace M. Kelly, Jan. 27, 1923; ch.: John Sherley, Harold R. Jr. After W.W.I empl. by var. paint mfrs. in tech. wk. up to 1927; conslt. to Tyrex Glass Co., dev. shotgun-proof safety glass for var. Fed. agencies; opened own lab. in 1930 and in continuous operation to date, spec. in all tech. phases of the formulation, use, appl. and evaluation of paints, varnishes and lacquers. Registered Chem. Engr., State of Calif., No. 1822. Mem.: A.C.S., A.S.T.M., A.I.C. (fellow); Fed. Paint, Varnish and Lacquer Assoc., Natl. Assn. Housing Officials.

HARLAN, William Robert, asst. dir. res., Amer. Tobacco Co., 400 Petersburg Pike, Richmond, Va.; res. 329 Greenway Lane, Richmond.
Chem.; b. McCoysville, Pa., Aug. 16, 1904; s. of Stephen Robert and Anne (Considine) Harlan; ed. Las Cruces, N.M., H.S.; 1925, N.M. State Coll., B.S.; 1928, Iowa State Coll., Ph.D.; m. Helen J. Weaver, Aug. 3, 1929; ch.: William Robert, Jr., James Chamberlain, Anne Baker. 1927-28, Tobacco By-Prods. and Chem. Corp., fellow, Iowa State Coll.; 1929, res. chem. Stein Hall and Co.; 1930-35, res. chem., 1935 to date, asst. dir. of res. Amer. Tobacco Co. Mem.: A.C.S., Va. Acad. of Sc., (A.A.A.S.); (fel.); Southern Assoc. of Sc. and Industry; fellow A.I.C.; Va. Section of A.C.S., secy. 1934, chmn. 1945, councilor 1946 to date. Clubs: Commonwealth, (Richmond); Country of Virginia (Richmond). Hobbies: gardening, golf.

HARLAND, Walter J., supvr. plant dev. lab., Rohm & Haas Co., 5000 Richmond St., Phila., Pa.; res. 3438 Decatur St., Phila. 36.
Chem.; b. Phila., Pa., May 30, 1914; s. of Philip W. and Viola E. Harland; ed. Penn. State Coll., Ph.D. 1944; Muhlenberg Coll., B.S. 1936; Temple U., M.A. 1940; mem.: Sigma Xi, Phi Lambda Upsilon, Phi Kappa Phi; m. Eleanore A. Baar, May, 10, 1945. 1943 with Rohm & Haas Co.; 1945 to date supvr. same co.; contrib. arts. to sc. jls. Mem.: A.C.S.

HARLOW, Ivan Frederick, prodn. mgr., The Dow Chem. Co., Midland, Mich.; res. 1420 Sugnet Rd., R.F. 1, Midland, Mich.
Chem.; b. Springport, Mich., Mar. 16, 1885; s. of Frederick M. and Clemie R. (Pettys) Harlow; ed. Ann Arbor H.S.; U. of Mich., 1908, A.B.; m. Ruth E. Ellis, May 9, 1911; ch.: Frederick Ellis, Ivan Frank, Margaret Ann, Mary Ruth. Anal. chem., 1909-12; supvr. of Anal. Lab., 1912-22; Div. supt. Bromine Prod., Waste Disposal, Engrg. & Anal. Labs., 1922-44; prodn. mgr., 1945 to date. Pres. and dir. Ethyl-Dow Chem. Co. Work in continuous proc. for mfr. of liquid bromine; mfr. of bromine compds.; recovery of potassium carbonate from U.S. raw matls.; air oxidation of SO_2 in presence of $Mg (OH)_2$ for mfr. of epsom salts; biolog. destruction of org. compds such as phenol for waste disposal. Contrib. var. arts. to sc. jls. Mem.: A.C.S. Trustee of Kalamazoo Coll.; trustee of Baptist Ch. Clubs: Kiwanis; Benmark (Midland); Sportsman's. Hobbies: photography, hunting, fishing.

HARMON, Carlyle, dir. of res., Chicopee Mfg. Corp., Chicopee Falls, Mass.; res. 122 Pleasantview Avenue, Longmeadow, Mass.
Chem. engr.; b. Sugar City, Idaho, Jan. 17, 1905; s. of Frank M. and Sophia Harmon; ed. A.B., Stanford, 1927, great Distinction, Ch.E., 1928, Ph.D. (chem., mech. eng.) Stanford, 1930; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi, Phi Beta Kappa; m. Delta Arbon, Mar., 1929; ch.: David, Norma. Instr., Calif. State Teachers Coll., San Jose, 1928-29; mgr., Chemical Division, Marathon Corp., 1930-47; res. dir., Chicopee Mfg. Corp., 1947 to date (mem. bd. of Dir., v.p.). Res. in dev. of tannin, vanillin, dispersing agents and water treating cmpds. from waste sulphite liquor lignin; dev. of woven and nonwoven textiles from cotton, synthetic fibers and plastics. Mem.: A.C.S., Inst. of Chem. Engrs., Leather Chems. Assoc., Am. Assoc., of Tex. Chems., & Colorists, The Textile Inst., England. Club: Kiwanis.

HARMON, William C. Jr., div. mgr. of purch., Amer. Cyanamid Co., Calco Chem. Div., Bound Brook, N.J.; res. 1311 Watchung Ave., Plainfield, N.J.
Mgr.; b. New Haven, Conn., Sept. 16, 1893; s. of William C. Sr., and Mira (Cargill) Harmon; ed. Yale, Sheffield, 1915; mem.: Theta Xi; m. Ethel Thomas, Jan. 2, 1915; ch.: Elizabeth Harmon Sherwood, Jane Harmon Hetfield. With Bartlett-Hayward Co., munitions mfr.; Calco Chem. Div., Amer. Cyanamid Co.; U.S.A. Ordn.; Roberts Filter Mfg. Co. (water filtration business), Darby, Pa.; Pond Lilly Co., New Haven, Conn. (textile finishes); Calco Chem. Div., Amer. Cyanamid Co. (intermed. & chem. sales pur.). Clubs: Yale, Chemists'.

HARNDEN, Robert Clare, mgr., agr. chem. div., v.p., Chapman Chem. Co., 707 Dermon Bldg., Memphis 3, Tenn.; res. 1090 Bluebird Rd., Memphis, Tenn.
Exec.; b. Detroit, Mich., Nov. 6, 1914; s. of Charles Clare and Anna M. Biesterfeld Harnden; ed. B.S., chem. engr. U. of Mich., 1937; m. Dorothy Gordon Seymour, Nov. 1, 1941. Chem. engr. in res., The Dow Chem. Co., Midland, Mich., 1937-39; sales, The Dow Chem. Co., N.Y.C., 1939-41; mgr., Dowicide Sales Div., The Dow Chem. Co., Midland, Mich., 1942-46; mgr., agr. chemicals div., Chapman Chemical Co., Memphis, Tenn., 1946 to present. Officer: Chapman Chem. Co., Memphis, Tenn., v.p.

HARNED, Herbert S., prof. of chem., Yale U., Sterling Chem. Lab., 225 Prospect St., New Haven, Conn.; res. 207 Armory St., New Haven, Conn.
Chem. prof.; b. Camden, N.J., Dec. 2, 1888; s. of Thomas B. and Augusta Anna (Traubel) Harned; ed. A.B., U. of Pa., 1909, B.S. in chem., U. of Pa., 1910; Ph.D., U. of Pa., 1913; mem. Delta Kappa Epsilon; m. Dorothy Elizabeth; Foltz, Sept. 8, 1917; ch.: Julia, Herbert S. Jr., Louise, Eleanor. Held the following positions in U. of Pa.: Instr., 1913-1917; asst. prof., 1917-26; prof., 1926-28; prof. of Yale U., 1928 to present. Res. and about 130 papers in jl. of Amer. Chemical Soc., Transaction of Faraday Soc., etc. in field of physical chem. Author "The Physical Chem. of Electrolytic Solutions" (Reinhold Pub. Corp., N.Y., 1943, 2nd ed. 1950). Mem.: A.C.S., Faraday Soc., Natl. Academy of Scs., U.S.A.

HARNER, Harold Russell, chf. chem., Eagle-Picher Co., C. & Porter Sts., Joplin, Mo., res. 612 W. A.
Chem. (res.); b. Fulton, Mo., Feb. 7, 1901; s. of J. Frank and Clara E. Harner; ed. A.B. (cum laude) Westminster Coll.; mem. Theta Kappa Nu; m. Esther Marie Farry, Dec. 25, 1924; ch.: Betty Ann, Virginia, Dorothy, Joseph. 1923 (summer) chem., Swift & Co.; 1924-27, res. chem., Eagle-Picher Lead Co.; 1927-30, chf. chem., Calbeck Labs.; 1930-36, res. chem., Eagle-Picher Lead Co.; 1936-41, chf. res. chem.; 1941-47, chf. chem., Eagle-Picher Co.; 1947-49, act. res. dir.; 1949 to date, chf. chem., asst. res. dir. Res. in storage battery tech.; chem., metal. of Germanium, gallium. Contrib. to sc. and tech. jls., patents. Mem.: A.C.S., E.S., A.A.A.S. Hobbies: hydroponics, color photography.

HARPER, James I., chf., process dev. sec., Sun Oil Co., dev. dept., Marcus Hook, Pa.; res. Winding La., R.D. 1, Media, Pa.
Chem. engr.; b. Bklyn., N.Y., Apr. 9, 1911; s. of Charles and Louise B. Harper; ed. Rensselaer Polytech. Inst. 1932 Ch.E.; mem.: Delta Tau Delta; m. Mary Winsmore, Feb. 6, 1937; ch.: James W., Robert C. Bd. of Ed., City of N.Y., instr., 1932-34; Atlantic Refining Co., Phila., Pa., operator, 1934-36; Sun Oil Co., chf., process dev. sec., 1936 to date. Mem.: A.C.S., A.I.Ch.E. Club. Skytop. Hobbies: skiing, riding, home workshop.

HARREL, Chastain Gant, assoc. dir., res. & dev. dept., Pillsbury Mills, Inc., 208 Third Ave. S. E., Minneapolis 14, Minn.; res. 3030 Zarthan Ave., St. Louis Park, Minn.
Cereal chem.; b. Plattsburg, Mo., Mar. 13, 1894; s. of Lee and Mildred Harrel; ed. B.A. chem., William Jewell Coll., 1916; M.S. chem., U. of Kans., 1920; grad. wk., U. of Chicago; short course, cereal chem., U. of Minn.; mem.: Alpha Chi Sigma; m. Gladys Sharpless, Dec. 23, 1920. 1916-18, hd. sc. dept., Atchison, Kans.; 1918-20, chem. instr., U. of Kans.; 1920-21, chem., Kans. Flour Mills; 1921-22, chem., Campbell Baking Co.; 1922-24, chem., United Baking Co.; 1924-48, chem., Continental Baking Co.; 1928-32, dir., prods. control, Commander-Larabee Co.; 1933-40, chf. chem., 1940-46 dir. of res., 1946 to date, assoc. dir. res. & dev. dept., Pillsbury Mills. Inc. Mission to Europe with Q.M. Corps in 1945. Numerous publ. in tech. journals. Mem.: Allied Trades of the Baking Ind., A.A.C.C., A.C.S., Am. Feed Mfg. Assn. Inc., Am. Inst. of Food Tech., A.O.C.S., Am. Soc. of Bakery Eng., Assn. of

Official Agr. Chem., Millers' Natl. Fed., Nutrition Foundation. Clubs: Natl. Rifle Assn., Natl. Sheriffs' Assn. Hobbies: hunting, fishing, welding, gardening.

HARRIMAN, Benjamin Ramage, mgr., Coating Development Lab., Ansco Div., General Aniline & Film, Binghamton, N.Y.; res. 32 Crary Avenue, Binghamton, N.Y.
Chem.; b. Monroe Bridge, Mass., Aug. 9, 1913; s. of Walter Hartwell H. and Helen Ramage Harriman; ed. A.B., Dartmouth Coll., 1935; M.S., 1936, Ph.D., 1939, Pennsylvania State Coll.; mem.: Phi Kappa Sigma, Alpha Chi Sigma, Sigma Xi, Phi Lambda Upsilon, Gamma Delta Chi; m. Mary-Stuart Clements; ch.: Edward Clements Harriman, Alice Stuart Harriman. Mallinckrodt Fellowship at Penn. State, 1937-38; res. chem., Wm. S. Merrell Co., 1938-41; res. chem., Ansco Co., 1941-45; groups ldr. in res., 1945-47; dept. mgr. in dev., 1947 to present. Mem.: A.C.S., A.A.A.S. Club: Binghamton Clef Club (men's chorus). Hobbies: mycology, ornithology, skiing.

HARRINGTON, Charles D., asst. proj. mgr., 3600 N. Broadway, St. Louis, Mo., res. 3825 Roland Blvd., Normandy, Mo.
Chem.; b. White Plains, N.Y., July 22, 1910; s. of Eugene T. and Mary E. Harrington; ed. B.S. (cum laude) 1932 Harvard; M.S. 1939; Ph.D. (anal. chem.) 1941; m. Emily E. Whitney. W.C. Durfee Co., Inc., Boston, Mass., chem. 1932-36; Mallinckrodt Chem. Wks., St. Louis, Mo., res. chem. 1941-45; asst. proj. mgr. 1945 to date. Res. on determination atomic weights, res. on preservation anesthetic ether, dev. of mfg. proc. for uranium and its compds., for Manhattan Proj., Atomic Energy Comm.

HARRINGTON, Edwin Wakefield, mgr. Akron Experimental Plant, B. F. Goodrich Chem. Co., Akron, Ohio; res. R.D. 13, Box 550 A, Akron 19.
Chem. engr.; b. Youngstown, O., Nov. 19, 1917; s. of C. A. and Eva S. Harrington; ed. Case Schl. of Applied Science, B.S. in chem. engrg., 1939; mem.: Zeta Psi, Alpha Chi Sigma, Sigma Xi; ch.: Edwin W., Robert W., Charles A. 1939 res. chem. B. F. Goodrich Co.; 1942 tech. mgr. Synth. Rubber Prod.; 1945 dev. supvr.; all with B. F. Goodrich Chem. Co. Mem.: A.C.S., A.I.Ch.E., Sigma Xi.

HARRINGTON, George Aldon, chem. marketing asst., Socony-Vacuum Oil Co., Inc., 26 Broadway, New York; res. 606 Whitthill Rd., Ridgewood, N.J.
Chem.; b. Stockton, Calif., Apr. 21, 1913; s. of Arthur Strong and Flora Verle Dickinson Harrington; ed. B.S., 1934, M.S., 1935, U. of Nebraska. Ph.D., Northwestern U., 1937; m. Evelyn Anne Bergstrom, June 22, 1940; ch.: James Arthur, Donna Jean. Res. chem. The Solvay Process Co., Syracuse, N.Y., 1937-41; sr. Fellow, Mellon Inst., Pittsburgh, Pa., 1941-45; res. chem., Magnolia Pet. Co., Dallas, Texas, 1945-46; chem. marketing asst., Socony-Vacuum Oil Co., New York, 1946 to date. Mem.: A.C.S., Chem. Market Research Assoc. Club: Chemists' (New York). Hobby: hunting.

HARRINGTON, George Frederick, v.p., Thompson Hayward Chem. Co., 36 N. Guthrie, Tulsa, Okla.; res. 1840 E. 32nd St., Tulsa, Okla.
Chem. sales; b. Kansas City, Mo., Dec. 23, 1905; s. of George and Frances Bescher Harrington; ed. New Mexico Military Inst., 1922-24; B.S., Chem. Louisiana State U., 1924-28; mem.: Delta Kappa Epsilon, Alpha Chi Sigma; m. Naomi Brown, Apr. 22, 1933; ch.: Elizabeth Lee, George F., Jr. Asst. City chem., Kansas City, Mo., 1928-29; Thompson Hayward Chemical Co., 1929 to date. Mem. A.C.S. Clubs: Tulsa. Southern Hills Country (Tulsa). Hobbies: golf, boating.

HARRINGTON, Marion Thomas, pres., Agric. & Mech. Coll. of Texas, College Station, Texas; res. 100 Jones, College Station.
College pres.; b. Plano, Texas, Sept. 8, 1901; ed. B.S., A. & M. Coll. of Texas, 1922, M.S. 1927; Ph.D. Iowa State Coll. 1941; m. Ruth Norris; ch.: John. Instr. of chem., A.&M. Coll. of Texas 1924-34, asst. prof. 1934-39, assoc. prof. 1939-42, prof. 1942-46, asst. to dean of coll. 1946-47, dean of arts & sc. 1947-48, dean of arts & sc. & acting dean of coll., 1948-49, dean of coll. 1949, pres. June 3, 1950 to date. Author: "A Chem. Study of Varieties of Cotton Seed" Texas Agric. Expt. Station Bulletin; "A Study of Iron Pentacarbonyl as a Solvent & Reaction Medium," Iowa State Coll. Journal of Sc., Vol. XVII, No. 1, Oct. 1942. Mem.: A.C.S., Sigma Xi, Phi Lambda Upsilon, Tau Beta Pi, Phi Kappa Phi, Phi Eta Sigma. Clubs: Rotary, Masons.

HARRINGTON, Valentine F., dir. res., Brock Chem. Co., N. Abington, Mass.; res. Circuit St., West Hanover, Mass.
Chem.; b. Boston, Mass., Oct. 13, 1901; s. of Frank E. and Jennie E. (Fabian) Harrington; ed. M.I.T., B.S., Ph.D.; m. Lois B. King, Aug. 15, 1937; ch.: Gwendolyn, Steven, Linda. Exec. chem., B.B. Chemical Co.; res. chem., Angier Prods.; dir. res. Brock Chem. Co.

HARRINGTON, Willis Fleming, dir., E. I. du Pont de Nemours & Co. & Wilmington Trust Co., Room 9454 Nemours Bldg., Wilmington, Del.; res. 16th & Mt. Salem Lane, Wilmington.
Retired v.p. du Pont Co.; b. Farmington, Del., 1882; ed. U. of Del. 1902, M.I.T. 1905; m. Elizabeth Flett 1910; ch.: Dr. Charles J. (London, England), Willis F., George S. Commenced with du Pont Co. in 1905, holding var. positions at different locations until 1927 when elected dir.; in 1929 made v.p. & mem. of exec. comm.; retired 1947 but still dir. with du Pont as well as Wilmington Trust Co.

HARRIS, Benjamin Louis, asst. prof. of chem. engrg., Johns Hopkins U., Baltimore 18, Md.; res. 24 Township Rd., Baltimore 22.
Asst. prof. chem. engr., conslt. engr.; b. Savannah, Ga., Aug. 1, 1917; s. of Raymond B. and Edith D. Harris; ed. Johns Hopkins U., B.E. 1934-38; Ph.D. 1938-41; mem. Gamma Alpha (grad. sc. soc. frat.); m. Muriel Janet Dickmann, Oct. 4, 1942; ch.: Benjamin Stacy, Stefanie, Deborah, Penelope. Conslt. engr. (chem.) reg. Md. No. 1682; 1949 to date conslt. to Off., Chf., Chem. Corps; 1946 to date asst. prof. chem. engr. Johns Hopkins U.; 1941-46 U.S.A., Lt. to Major; res. grp. ldr. Tech. Command, Chem. Corps; notable wk.: reviewer on Adsorption for Ind. Eng. Chem.; abstractor, Chem. Abstracts; investigator, Paint Federation investigation on structure of paint films; res. on paint, adsorption, catalysis, colloidal chem., kinetics of reactions. Pres. Engrg. Res. Co. Mem.: Sigma Xi, A.A.A.S., A.C.S., A.I.Ch.E., Div. Ind. & Eng. Chem., A.C.S., Div. Colloid Chem., A.C.S. Club: Johns Hopkins. Hobbies: Boy Scouting, handicraft, boating.

HARRIS, Benjamin Raczkowski, pres., The Emulsol Corp., Chicago, Ill., 59 E. Madison St., Chicago, Ill.; res. 885 Elm Pl., Glencoe, Ill.
Chem. engr.; b. Lodz, Poland, Feb. 19, 1896; s. of Elihu and Sara Harris; ed. B.S., C.C.N.Y., 1917 (Ward M. in chem.), M.Sc., U. of Ill., 1921, U. of Chicago, 1921-22; mem.: Sigma Xi, Phi Lambda Upsilon; m. Gertrude Epstein, Feb., 1926; ch.: Elihu, Akiba David. Res. asst., U.S. Bur. of Fisheries, Woods Hole, Mass., summer, 1917; sergeant, U.S. C.W.S., 1917-18; Fellow, Ill. Engineering Expt. Station, Urbana, Ill., 1919-21; chem. Western Metal Prods. Corp., Joliet, Ill., 1922; mem. of firm, Epstein, Reynolds & Harris, consltg. chems. and engrs. Chicago, Ill., 1923 to date. Held following positions with The Emulsol Corp., Chicago, Ill.: treas., 1926

to 1937, v.p., 1938 to 1941, pres., 1950 to date. Epstein, Reynolds & Harris, mem. of firm, AMPA L, Am. Palestine Trading Corp., dir. Patented, in part, and directed, res. which led to inventions covered by over 350 pats. in U.S. and foreign countries, dealing with surface active mtls. and uses thereof in detergents, emulsions, textiles, insecticides, beneficiation foods. Co-author, jointly with M.C. Reynolds and A.K. Epstein, "Mayonnaise and Other Salad Dressings," 1937. Mem.: A.I.C., A.C.S., A.A.A.S., A.O.C.S., Inst of Food Tech., Soc. of Chem. Ind., Am. Public Health Assn., Sigma Xi, Phi Lambda Upsilon. Dir. Amer. Comm. for the Weizmann Inst. of Sc., dir. Bd. of Jewish Education of Chicago, dir. Jewish Welfare Fund of Chicago, dir., United Palestine Appeal, mem. bd. of governors of Coll. of Jewish Studies of Chic., dir., North Suburban Synagogue Beth El, Highland Park, Ill., mem., Exec. Comm., Zionist Organization of America. Hobby: gardening.

HARRIS, Chapin A., prof. in chg. synthetic textiles dept., Lowell Textile Inst., Lowell, Mass.; res. 20 Sunset Ave., Chelmsford, Mass.
Coll. prof.; b. Norwich, N.Y., July 20, 1913; s. of Chapin E. and Irene J. Harris; ed. U. of Mich., B.S. chem. 1936; M.I.T., Ph.D. chem. 1939; m. Mary Harrington, Sept. 16, 1936; ch.: C. Grandon, David C. Plymouth Cordage Co., Plymouth, Mass., 1939-47, 1939-42 res. chem., 1942-45 in chg. control lab., 1945-47 sec. leader chem. res. lab.; Lowell Textile Inst., Lowell, Mass., 1947 to date, prof. in chg. synthetic textiles dept. A meth. for estimating the internal surface of cellulose by means of thallous ethylate. Author: "Recent Res. on the Mech. Behavior of Textiles," Bull. of Lowell Textile Inst., Nov., 1948. Mem.: A.C.S., Sigma Xi, Textile Res. Inst. Hobbies: carpentry, cabinet making, model railroad, hiking.

HARRIS, Elwin (Elmer), chem. spec., Forest Prods. Lab., Madison 5, Wis.; res. 4121 Mineral Pt. Rd., Madison 5.
Res. chem.; b. Wauzeka, Wis., Nov. 11, 1897; s. of William and Mary Lena Harris; ed. gram. and h.s., Mabel, Minn.; Coll. Hamline U., St. Paul, B.S. 1921 (summa cum laude); U. of Chicago, summer 1921; U. of Minn., M.S., 1922; Ph.D. 1925; mem. Local coll. frat. at Hamline U.; m. Esther L. Cherry, June 20, 1923; ch.: Ruth (Mrs. Carl Hoth); Elwin A., Marilyn. 1918-19 pub. schl. techr., Iowa; 1920-23 instr., Gen. & Anal. Chem., Hamline U., St. Paul; 1923-25 instr. org. chem., U. of N.Dak.; 1925-28 asst. prof. org. and biochem., same U.; 1928-30 assoc. prof. org. and biochem. same U.; 1928-30 assoc. prof. org. and biochem. same U.; 1930-36 assoc. chem. U.S. Forest Prods. Lab., Madison, Wis.; 1936-42 chem., same Lab.; 1942-46 sr. chem., since 1946 chem. spec. same Lab.; res. on diphenyltrichlorethane derivatives; lignite coal and sol. prods. from lignite coal; wood lignin, chem. reac. and hydrogen.; wood hydrol., sugar prod., fermentation prods. and yeast from wood sugar. Contrib. sev. arts. to sc. jls. Mem.: A.C.S., Sigma Xi. Soc. of Amer. Foresters; Am. Men of Sci. On bd. of educ. First Methodist Ch.; bd. of dirs. Wesley Found.; trustee, Order of Eastern Star. Clubs: Mason (32nd. deg.); Technical (Madison). Hobby: photography.

HARRIS, Gorham Waller, assoc. prof. chem., emeritus, Simmons Coll., 300 The Fenway, Boston, Mass.; res. 185 Highland Ave., Newtonville 60.
Coll. prof. (ret.); b. Providence, R.I., Jan. 7, 1885; s. of Joseph and Mary (Patterson) Harris; ed. Harvard, A.B. 1907 (magna cum laude); A.M. 1909; Ph.D. 1915; mem.: Phi Beta Kappa; m. Mary Louise Dyer, June 8, 1910; ch.: Leighton Gorham, Norman Dyer, Roger Williams. 1907-08 tchr., Medford H.S.; 1908-09 asst., 1909-10 tchg. fellow, Harvard; 1910-13 instr. Simmons Coll.; 1915-25 asst. prof.; 1925-43 assoc. prof. same coll.; 1919, 1924, 1925, 1930-32 Harvard Summer Schl.; 1924-26; 1931-33 lect., Radcliffe Coll.; res., atomic weight of arsenic, floating equilibrium. Mem.: A.C.S., A.A.A.S., New Eng. Assoc. Chem. Tchrs., Assoc. Harvard Chemists.

HARRIS, Jay Jacob, chem. engr., Chem. Corps., U.S.A., 111 E. 16 St., N.Y. 3, N.Y.; res. 690 Gerard Ave., N.Y. 51, N.Y.
Chem engr.; b. Nov. 17, 1895, Troy, N.Y.; s. of George and Mina Harris; ed. Rensselaer Polytech. Inst., B.S. 1919; m. Hannah Winter, 1931. 1919-21 pet. engr., Cities Service Cos., Bartlesville, Okla.; 1922-24 chem. conslt., Jay Harris, chems., N.Y.; 1924-25 engr. ed. conslt. Oil Trade Jls., Inc., N.Y.; 1925-31 chf. chem., dir. schls., Silent Automatic Corp., Detroit, Mich.; 1932-36 Gen. mgr., Toridheet Engrg. Co., Forest Hills, N.Y.; 1936-40 inspector engrg. matls., U.S. Govt., N.Y.; 1941 to date chem. engr., chem. corps., U.S.A., N.Y. Res. in hydroxy. of fuel oils, prop. of fuel oils, combustion res., food res., metal. res. on gold, gold ores, oil burner design. Pub. many arts. on oils, combustion, pet., oil burners in var. publs. in the oil burner, pet. fields. Mem.: A.C.S., Armed Forces Chem. Assn., A.A.T.C.C., Benevolent Protective Order of Elks, Am. Legion.

HARRIS, John P., mgr. Middle West Off., Indust. Chem. Sales Div., W. Va. Pulp and Paper Co., 35 E. Wacker Dr., Chicago 1, Ill.; res. 944 Sheridan Rd., Wilmette, Ill.
Chem. sales and serv.; b. Ottawa, Kans., Nov. 1, 1886; s. of Milo R. and May (Sharpe) Harris; ed. U. of Kans., A.B. 1907; Königliche Technische Hochschule, 20 Charlottenburg, bei Berlin, 1909, Cand. der Chem.; mem.: Sigma Chi; m. Mildred James, Nov. 4, 1913; ch.: James Trowbridge. 1907-08, chem. lab., Armour & Co., Kansas City; 1909-13, oil and fat refin. supt. same co.; 1913-16, oil and fat refin. supt. Armour & Co., Fort Worth, Tex.; 1916-17-18-19, chf. chem. and refin. supt. Phoenix Cotton Oil Co., Memphis, Tenn., except while with C.W.S. dur. 1918; 1918, C.W.S., Amer. U. Exper. Sta., 1st Lieut., C.W.S.; 1919-20, installation and design. engr., Allbright Nell Co., Chicago, Ill.; 1920-21, conslt. design and instal. fat and oil equip.; 1921-22 dir. of packinghouse pract., Inst. Amer. Meat Packers, Chicago; 1922-26 conslt.; 1926 to date mgr. Chicago Off:. Indust. Chem. Sales Div., W. Va. Pulp and Paper Co. Dev. many proc. for refin. of fats, oils and related proc., sev. of which are patented; orig. and is active in num. short courses at educ. insts. for fatty oils and water treatment; author of num. arts. on fats and oils and meat packing and on water works practice. Mem.: A.C.S., Chicago Chemists' Club; past pres. and on govng. bd. and referee bd. and chmn. Educ. Comm. A.O.C.S.; very active in Am. Waterwks. Assoc. Clubs: Michigan Shores, (Wilmette); Chicago Chemists'. Hobbies: stamps, education, athletic events.

HARRIS, Lewis E., dir. Harris Labs., Nebr. Theater Bldg., Lincoln, Nebr.; res. 1920 Jefferson Ave., Lincoln.
Consltg. chem.; b. Cedar, Kansas, Dec. 3, 1910; s. of Homer E. and Cathryn A. Harris; ed. U. of Nebr., B.Sc. 1932; M.Sc. 1933; about 80% wk. on Ph.D. now complete; m. Antonia E. Synovec, June 15, 1935; ch.: Ronald Lee, Robert Bruce. 1933 to date dir. Harris Labs.; 1935 to date res. dir. Norden Labs.; 1948 to date spec. lect. in nursing chem., U. of Nebr.; res. in stabilizing of calcium gluconate solutions; dev. of sulfonamide glucosides, anti-oxidants in foods, municipal water treatment. Res. dir. J.C. Co., Inc. Mem.: Sigma Xi, Rho Chi, A.I.C. (fellow); A.C.S., A.Phar.A., Nebr. Acad. Scs., A.A.Clin.C. Dir: Cedars Home for Children. Clubs: A.F. & A.M., Scottish Rite, Cooperative Club Internat. Hobbies: photography, fishing, hunting.

HARRIS, Milton, pres., Harris Res. Labs., 1246 Taylor St., N.W., Wash. 11, D.C.; res. 4815 Middlesex La., Bethesda 14, Md.
Scientist; b. Los Angeles, Calif., Mar. 21, 1906; s. of Louis (deceased) and Naomi (Granish) Harris; ed. B.S. Oregon State, 1926; Wash. State; Ph.D. Yale U. 1929; mem.: Sigma Xi, Tau Beta Pi, Phi Lambda Upsilon, Phi Kappa Phi, Gamma Alpha; m. Carolyn Wolf Dreyfuss, Mar. 30, 1934; ch.: John, Barney Dreyfuss III (adopted). Cheney Bros. Silk Co., Manchester, Conn. 1929-31; res. assoc., Natl. Bur. of Stand. 1931-38; dir. of res., Textile Foundation 1938-45; 1945 to date, pres., Harris Res. Labs. (own lab.). Polymer Ind. Inc., Astoria, N.Y. (bd. of dir.). Cellulose chem. (voted one of the ten outstanding by Chicago Sec. of A.C.S.); protein fibers, silk & wool; newer syn. resin fibers such as nylon & vinyon. Co-author or contributor to approx. five books, over 100 res. papers. Awards: 1943, Acad. of Scs., Wash.; Olney M. for res. in fld. of textile chem. Mem.: A.C.S., A.S.Biol.C., A.A.A.S., Textile Inst. (fellow), Am. Acad. of Sc. (N.Y. & Wash.), A.A.T.C.C., S.C.C., A.O.C.S Clubs: Woodmont Country (Wash, D.C.), Cosmos (Wash., D.C.), Chemists' (N.Y.C.). Hobbies: golf, tennis.

HARRIS, Philip L., hd., biochem. dept., Distillation Prods. Industries, div. of Eastman Kodak Co., Rochester 3, N.Y.; res. 191 Seneca Parkway, Rochester 13, N.Y.
Res. biochem.; b. Detroit, Mich., May 7, 1910; s. of David C. and Agnes McCullough Harris; ed. Alma Coll., B.S. 1931; Pa. St. Coll. M.S. 1932; Ph.D. 1934; mem.: Phi Lambda Upsilon, Beta Tau Epsilon; m. Flora E. Lau, Aug. 24, 1933; ch.: David, Gordon. United Fruit Co., res. biochem. 1935-37; Med. Coll., U.S.C. 1937-40, instr.; Distillation Products Industries, 1940 to date. Conducted res. on fundamental physiolog. action of fat-soluble vitamins; on nutritive value of foods; utilization of byprods. from fruit, vegetable processing; mem.: A.C.S., A.S.Biol.C., Inst. Nut., I.F.T., A.A.A.S., S.E.B.M., Am. Stat. Assn., N.Y. Acdy. Sc., Sigma Xi. Club: Torch.

HARRIS, Stanton A(very), dir. tech. inf. dept., Merck & Co., Inc., res. labs., Rahway, N.J.; res. 306 N. Euclid Ave., Westfield, N.J.
Res. chem.; b. Middlebury, Vt., Oct. 7, 1902; s. of Charles E. and Nellie Blakely Harris; ed. Middlebury Coll., B.S. 1924; M.S. 1926; Ia. St. Coll., Ph.D. 1931; m. Mary Pilgrim, June 4, 1927; ch.: Anna Ruth, Robert Stanton, Mary Elizabeth. Grad. fellow, chem. dept., Middlebury Coll., Middlebury, Vt.; grad. asst., instr. chem. dept., Ia. St. Coll., Ames, Ia., 1926-31; asst. Rockefeller Inst. Med. Res., N.Y. 1931-35; assoc. cotton Tech., Bur. Agri. Economics, dept. of Agr., Stationed at Boyce Thompson Inst., Yonkers, N.Y. 1935-36; chem., Cellulose Lab., Boyce Thompson Inst. for plant res., 1936-37; sr. chem. 1937-38; sect. hd. 1948-50; organ., biochem. res. dept.; dir. tech. inf. dept. 1950 to date, res. labs., Merck & Co., Inc. Res. in rearrangement cinnamyl magnes. chlor., structure of yeast adenylic acid; synthesis vitamin B6, pantothenic acid; biotin, structure and synthesis of pyridoxal, pyridoxamine; structure, chem. penicillin, mgr. ed., 6 ed. Merck Index, (prog. compilation); mem.: Sigma Xi, A.C.S., N.Y. Acdy. Sc., Chem. Soc. (London), Swiss Chem. Soc.; trustee, 1941-48, pres., bd. of trustees, 1949-50, First Congreg. Ch. of Westfield, N.J. Hobbies: photography, carpentry.

HARRIS, Thomas Williams, Jr., dir. purch. dept., E.I. du Pont de Nemours & Co., Wilmington, Del.; res. R.D. No. 1, Wilmington (South of Center Meeting).
Purch.; b. Phila., Pa., Mar. 21, 1891; s. of Thomas Williams and Laura Allen (Keeney) Harris; ed. Central H.S., Phila.; Penn. State Coll., 1909-13, B.S. in M.E., 1917 M.E.; U. of Pittsburgh (p.g.wk.); mem.: Sigma Nu; m. Dorothy M. Taylor, Jan. 5, 1918; ch.: Henry M.T., Thomas Williams, III, William P., Theodore T. 1913-15 asst. to wks. steam engr. Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.; 1915-24 asst. div. pur. agt.; 1924-44 div. pur. agt.; 1945-48 pur. agt.; 1948 to date dir., E.I. du Pont de Nemours & Co. Mem. of the Coal Classif. Comm. sponsored by the A.S.T.M. for ten yrs., covering standardization of coal in dev. of grade, rank and type of coal - eventually becoming v.chmn. Dir. A.P.I., v.p. of Natl. Assoc. of Purch. Agents 1927; v.p. and financial off. N.A.P.A. 1928; chmn. N.A.P.A. Coal Comm. 1925-45; awarded J. Shipman Gold M. in May, 1938 by N.A.P.A. for outstanding wk. in purchasing. Pres. Del. Lawn Tennis Assoc. 1925-45; mem. exec. comm. Middle States Lawn Tennis Assoc. 1925-49. Clubs: Wilmington Country; du Pont Country; Wilmington Whist; Green Mill Club of Cape May, Inc. Hobbies: tennis, bridge, bowling.

HARRIS, Walter Weatherby, gen. sales mgr., The Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6, O.; res. 3151 Essex Rd., Cleveland Hts. 18, O.
Sales engr.; b. Salem, N.J., Sept. 29, 1905; s. of Walter and Katharine Richey Harris; ed. Rutgers U., Litt. B., 1927; mem.: Phi Gamma Delta; m. Doris Fletcher, June 14, 1930; ch.: Cynthia Fletcher. June 30, 1927-May, 1930, Michelin Tire Co., Milltown, N.J., sales trainee and salesman; May, 1930 to date, Harshaw Chemical Co.: salesman in Phila., N.Y., & Cleveland, to 1939; mgr. tech. sales, drier dept., district sales mgr., asst. gen. sales mgr. to 1948; June, 1948 to date, gen. sales mgr. Mem.: A.C.S. Clubs: Midday, Aurora Country. Hobby: antiques.

HARRISON, Arthur Pennoyer, supvr., lab., Stand. Brands Inc., Langdon Station, D.C.; res. 8001 Piney Branch Rd., Silver Spring, Md.
Chem.; b. Hyattsville, Md., Aug. 30, 1892; s. of Ezra Bartholomew and Nellie Frances (Young) Harrison; ed. A.B., Geo. Wash. U., 1928; M.S. 1931; m. Gertrude C. Dehler, Sept. 15, 1921; ch.: Arthur P., Jr., Raymond William. 1912-16 B.P.I., U.S. Dept. Agri., Wash., D.C., lab. aid; 1919-23 lab. aid, statist. asst.; 1923-27 Fleischmann Labs., N.Y.C., res. chem.; 1927-50 Langdon Mfgr. Branch, Stand. Brands Inc., supvr. lab. Contrib. to sc. and tech. jls.; U.S. & Can. Patents; mem.: A.C.S.; S.A.B.; A.A.A.S.; N.G.S.; Local Citiz. Assn.

HARRISON, Harold C., assoc. prof. chem., Rhode Island State Coll., Dept. chem.; res. Kingston, R.I.
Teacher; b. Rutland, Vermont, Feb. 10, 1907; s. of Charles H. and Elsie C. Harrison; ed. Wash. and Lee U., B.S., 1931; Cornell U., Ph.D., 1938; Harvard U., Post-Ph.D. res., 1946-49; mem.: Alpha Chi Sigma; m. Rowena Orr, August 17, 1936. 1933-36, grad. asst. chem., Cornell U. (Ithaca, N.Y.); 1936-41, asst. prof. chem., N.Y.S. Coll. of Ceramics; 1941-44, chf. chem., Oregon Dept. of Geology and Mineral Ind.; 1944-46, U.S. N.R., res. Naval ordnance; 1946-49, Harvard U., dept. of mineralogy and petrography, res. fellow; 1949-to date, assoc. prof. chem., Rhode Island State Coll. Res. in fields of spectroscopy and chem. microscopy. Application of these fields to problems in ceramics, geology, mining, agricultural res., biological res., forensic chem. and study of ancient art objects. Publications in field of applied spectroscopy. Mem.: A.A.A.S., Al Djebar, Gamma Sigma Epsilon, A.C.S., A.A.U.P., Keramos, Oregon A.Sc., Geologic Soc. of the Oregon Country, New England Assoc. of Chem. Teachers, Sigma Xi. Hobbies: athletics, photography, criminology.

HARRISON, Howard Heath, v.p. in chg. of mfg., Crystal Tissue Co., Middletown, O.; res. 429 Yankee Rd., Middletown, O.

Chem. engr.; b. Ft. Edward, N.Y., Apr. 27, 1897; s. of George William and Nellie Heath Harrison; ed. special student, N.Y. State Coll. for Teachers, Albany, N.Y.; Rensselaer Polytech. Inst., Troy, N.Y., Chem. Engr., 1918; mem.: Delta Tau Delta; m Edna Marie Sebald, Aug. 4, 1928. Draftsman, Great Lakes Dredge & Dock Co., 1919; chem. engr., Arthur D. Little, Inc., Cambridge, Mass., 1919-23; chf. chem., Crystal Tissue Co., Middletown, O., 1923-34, gen. supt., 1934-39, v.p. in chg. mfg., 1939 to date. Res. - Abstracter, Chemical Abstracts, 1919-23. Mem.: A.C.S., A.I.Ch.E., Tech. Assn. Pulp & Paper Ind. (exec. comm. 1940-43), Amer. Pulp & Paper Mill Supts. Assn. (president 1940), Reg. Prof. Engr. (Ohio). Trustee: Middletown Civic Symphony Orchestra. Clubs: Forest Hills County (Middletown, O.), Rotary, Masons (Commandery, Shrine). Hobby: playing cello.

HARRISON, John Green, chf. chem., Natl. Automotive Fibres, Inc., 1851 E. State St., Trenton, N.J.; res. 407 Sutherland Rd., Trenton.
Chem.; b. Macon, Ga., Feb. 24, 1912; s. of John Green and Ruth Barrett Harrison; ed. Mercer U., B.A. (summa cum laude) 1932, M.S. 1933; Poly. Inst. of Bklyn., N.Y. Ph.D. 1946; mem.: Sigma Alpha Epsilon, Blue Key; m. Thelma Lucile Singer, Apr. 9, 1937; ch.: John Green, Jr. Firestone Tire & Rubber Co., 1934-40; Vulcan Proofing Co. 1941-45; Natl. Automotive Fibres, Inc. 1946 to present. Contribd. ten publns. in chem. jls. on rubber tech., copolymerization of plastics & math. interpretation. Mem.: A.C.S. Club: Trenton Country. Hobbies: golf, bridge, chess.

HARRISON, Julia Peachy, prof. emeritus, Wilson Coll.; res. 2 Malvern Ave., Apt. 5, Richmond 21, Va.
Retired prof. of chem.; b. Richmond, Va., Apr. 30, 1886; d. of Peachy Gessner and Julia (Riddick) Harrison; ed. Richmond Coll., B.A., B.S., M.A.; Johns Hopkins U.; mem.: Zeta Tau Alpha. Carnegie Res. Asst., Johns Hopkins, 1912-13; Res. Fellow, Bryn Mawr, 1913-14; hd. of chem. dept., Sweet Briar Coll.; hd. of chem. dept., Agnes Scott Coll.; instr., Carnegie Inst. of Tech., Margaret Morrison Div., 1918-20; hd. of chem. dept., Skidmore Coll., 1920-23; hd. of chem. dept., Wilson Coll., 1923-48. Author of tech. arts. in sc. jls. Mem.: Phi Beta Kappa, A.C.S., A.A.A.S. (fellow). Hobby: stamp collecting.

HARRISON, Robert Ridinger, prodn. supt., Cliffs-Dow Chem. Co., Marquette, Mich.; res. 434 E. Ohio St.
Chem. engr.; b. Girard, Ohio, Sept. 16, 1911; s. of John Franklin and Elizabeth Harrison; ed. U. Mich., 1930-34; mem.: Phi Eta Sigma, Tau Beta Pi; m. Dorothy Wright, July 29, 1939; ch.: Ann, Donald. The Dow Chem. Co., stud. course, June, 1934-Apr., 1935; physical res. lab., Apr., 1935-Dec., 1935; Cliffs-Dow Chem. Co., Dec., 1935-June, 1936 engrg. dept., June, 1936-41, refinery supt., June, 1941 to date, prodn. supt. Mem.: A.I.Ch.E. Clubs: Rotary, Marquette Golf & Country. Hobbies: fishing, hunting, photography.

HARRISON, W. Benton, Jr., treas., Gen. Aniline & Film Corp., 230 Park Ave., N.Y. 17, N.Y.; res. 380 Dogwood Lane, Manhasset, L.I., N.Y.
Exec.; b. Atlanta, Ga., Aug. 25, 1907; s. of Wallace Benton and Bertha (Arden) Harrison; ed. Birmingham Southern Coll., 1926 B.A.; U. of Mich., 1927 M.A.; mem.: Kappa Alpha; m. Mildred Pierson, June, 1929; ch.: Sigrid, Barbara, Wallace Benton, III. Halsey Stuart & Co., 1927-32; Guaranty Trust Co., 1932-36; J. & W. Seligman & Co., 1936-40; Kidder, Peabody & Co., 1940-42; Gen. Aniline & Film Corp., 1942 to date, treas. Trustee, Am. Council for the Community. Mem. Bds. of Dirs. N.Y. State Citizens' Council and Internatl. Soc. for General Semantics; Schl. Bd., Manhasset, L.I. Club: Seawanhaka Corinthian Yacht. Hobby: sailing.

HARRISON, Ward Duncan, v.p. chg. of prodn., Riegel Paper Corp., Milford, N.J.; res. 685 Metz St., Phillipsburg, N.J.
Exec.; b. Blue Earth, Minn., Sept. 15, 1909; s. of Charles H. and Grace P. Harrison; ed. 1932 Iowa State Coll. B.S. Ch.E.; 1934, Inst. of Paper Chem., M.S., 1936, Ph.D.; mem.: Phi Kappa Psi; m. Martha Jentz, Sept. 5, 1936; ch.: Frederick W., Martha Ann, Lynn L. Riegel Paper Corp., 1936-41, chem. engr.; Ecusta Paper Corp., 1941-48, tech. dir., asst. gen. mgr.; Riegel Paper Corp., 1948 to date, v.p. chg. of prodn. Dir. Riegel Paper Co.

HARRISON, William J., gen. mgr., Chemo Textiles, Inc., P.O. Box 169, West Warwick, R.I.; res. R.F.D. No. 2, Frenchtown Rd., East Greenwich.
Text. chem., text. fin. conslt.; b. Pawtucket, R.I., Apr. 20, 1908; s. of John and Elizabeth (Donaldson) Harrison; ed. R.I. Schl. of Design, 1926; exten. courses, Brown U., R.I. Coll. of Ed., Boston Coll.; m. Ruth Donaldson, Mar. 27, 1937; ch.: David Alan, Timothy Alden. Sub-mgr. of bleachery, J. and P. Coates (R.I.) Inc., Pawtucket; blchy. mgr. North Georgia Proc. Co., Toccoa, Ga.; dir. res. The Trion Co., Trion, Ga.; hd. text. lab. and sales dev., Monsanto Chem. Co., Everett, Mass.; gen. mgr., Chemo Textiles, Inc., Crompton, W. Warwick, R.I. Dev. of a commercial method of single end treating yarns, (cotton, glass, rayon, nylon) and cords, etc., with resins, plastics, and spec. finishes. Patentee and development of commercial application of colloidal silica to improve spinning properties of fibers and in finishing of fabrics, felts, paper, etc. Mem.: A.A.T.C.C.

HARRISSON, Joseph (W.E.), exec. dir., LaWall & Harrisson; assoc. prof. Pharm., Phila. Coll. Pharm. Sc.; 1921 Walnut St., Philadelphia, Pa.; res. Landsdowne, Pa.
Conslt.; b. Binghamton, N.Y., Aug. 10, 1896; s. of Bowditch and Jeannette (McIndoe) Harrisson; ed. Phila. Coll. Pharm. Sc. 1916, Pharm. D., Pharm.M., Sc.D.; m. Roslyn Cirwithen, Aug. 10, 1921; ch.: William J., Charles B., Feank D., Evan McI. 1917 Arthur H. Thomas & Co., chem. supply div.; 1918 to date LaWall & Harrisson, dir., conslt., bacteriolog., chem., pharm. problems; 1919 to date Penn. Dept. Agr., Bd. Conslts., chmn. since 1937; 1928 to date Phila. Coll. Pharm. Sc., dir. lab., biochem., pharm.; Contrib. author Remington Practice Pharm., 5, 6, 7, 8 eds. Contrib. extens. to sc. and tech. jls.; mem.: A.I.C., A.P.H.A., A.A.A.S., A.Phar.A., Penn Chem Soc, AC.S. (council.); Anal. Soc. British. Clubs: Engrs., Chem. (N.Y.), Union League (Phila.). Hobby: horticulture.

HARROLD, Gordon Coleson, Ph.D., conslt., dir., Industrial Health, Hygiene & Safety Service, 6432 Cass Ave., Detroit, Mich.; res. 903 E. Lincoln Ave., Royal Oak, Mich.
Ind. Hygiene Conslt.; b. Mt. Jewett, Pa., July 5, 1906; s. of John and Clarissa Coleson Harrold; ed. B.S., Antioch Coll., 1930, M.A., U. of Cincinnati, 1931, Ph.D., 1934; m. Florence Bristow, Oct. 7, 1927; ch.: Dianne, Lynn, Susan. Chf. chem., Chrysler Corp., Ind. Hygiene Dept., 1935-45; conslt.-dir., Industrial Health, Hygiene & Safety Service, 1945 to present. Production Equipment Co., partner. Res. in dev. of chem. methods for atmospheric pollution problems in ind. plants and out-doors; methods for detection of damage to the human organism from ind. poisons; hydraulic fluids-corrosion inhibitors. Contrib. extensively to sc. and tech. journals. Mem.: A.C.S., Pub. Health Assn. (fellow), Inst. Chem. (fel-

low), Htg. & Vent. Soc., Amer. Ind. Hyg. Assn., A.A.A.S., co-chmn., 1st Midwest Conference on Occupational Diseases (Detroit, 1937), Amer. Conference on Ind. Diseases, (Cleveland, 1939), secy-treas. Amer. Ind. Hyg. Assn. 1939 (secy. 1940-42, Bd. of Dir. 1942-45), Sigma Xi, Eng. Soc. (Detroit), vent. code com., State of Mich., Consultant to Dept. of Laber & Ind. (Mich.). Hobbies: horticulture, photography.

HARROW, Benjamin, chmn. chem. dept., City Coll. of N.Y., Convent Ave. & 139th St., New York 31, N.Y.; res. 333 Central Park West, New York 25.
Chem. b. London, England, Aug. 25, 1888; s. of Emil and Ernestina Harrow; ed. Finsbury Technical Coll., London; Columbia U., B.S. (chem.), A.M., Ph.D.; m. Carolyn Solis, July, 1917; ch.: Margaret. Asst. in biochem., Columbia, 1914-28, also assoc. in biochem.; asst. prof., assoc. prof., prof., City Coll. of N.Y., 1928 to date. Res. in intermediate metabolism, hormones and detoxication. Author of 12 or 13 books incl.: "Eminent Chemists of Our Time," 1928; "Organic Chem." (with Lowy), 6th ed., 1943; "Biochemistry," 5th ed., 1950. Fellow, Royal Soc. of Arts; English Biochem. Soc., A.S.Bio.C., N.Y. Acdy. Medicine, etc. Hobbies: music, literature.

HARSCH, John William, chf. engr., Leeds & Northrup Co., 4901 Stenton Ave., Phila. 44, Pa.; res. Sumneytown Pike, Springhouse, Pa.
Chem. engr.; b. Ottumwa, Iowa, July 17, 1896; s. of Benjamin Franklin and Oliva (Layne) Harsch; ed. U. of Ill., 1916-20, B.S. in chem. engrg. with special hon. in chem. engrg.; mem.: Square & Compass, Phi Lambda Upsilon; m. Julia Hitchens, Nov. 23, 1921; ch.: John Theodore, Robert Franklin, Margaret Ann, William Edward, Richard Lee. In war serv., C.W.S.; Dev. Div. Defense Dept. 1917-18 asst. engr.; Met. Inland Steel Co., 1920; Met. on fatigue of metals investigation under N.R.C. & Engrg. Foundation at U. of Ill., Eng. Expt. Station Met., 1920-23; Res. F., Mellon Inst. of Ind. Res., Pitts., 1923-24; res. met., now chf. engr., Leeds & Northrup, Phila., Pa. Aided in dev. of short meth. of metal fatigue testing; inventor dental alloy, also pats. on elec. furnaces & process controls for heat treat. of metals. Tech. papers, fatigue properties of steel in relation to heat treat. & on heat treat. of metals. Mem.: S.A.M.A., A.S.T.M., A.S.M., Franklin Inst., Mason, Am. Legion. Hobbies: farming, working in tool shop, bridge.

HARSHAW, William Jacob, pres., Harshaw Chem. Co,. 1945 E. 97th St., Cleveland 6, Ohio; res. 19201 S. Park Blvd., Shaker Heights, Cleveland 22, Ohio.
Exec.; b. Cleveland, Ohio, Jan. 27, 1891; s. of William Andrew and Ella (Price) Harshaw; ed. Yale U., New Haven, Conn., 1909-12 McGill U., Montreal, Canada, 1912-17, B.Sc. C.E.; 1949, D. Sc., honorary degree, Western Res. U., Cleveland, Ohio; mem.: Phi Delta Theta, Sigma Xi, Alpha Chi Sigma; m. Ellen Marie Leahy, July 26, 1919; ch.: William Andrew, II, Jean (Harshaw) Bostwick. Harshaw Chem. Co., 1917 to date, plant chem., factory supt., gen. supt. of plants, v.p. 1925-36, pres. since 1936 & a dir. N.Y. Ohio Chem. Corp., pres., dir.; Nyotex Chems. Inc., pres., dir.; Lake Chem. Co., v.p., dir.; Calumet & Hecla Consolidated Copper Co., dir. 25 U.S. pats. principally on mfr. of hydrofluoric acid, electrodeposition of nickel, ceramic compositions. Mem.: A.C.S., A.I. Ch.E., Electrochem. Soc. Clubs: Union (Cleveland), Kirtland Country, Pepper Pike. Hobby: golf.

HART, John F., tech. supt., Longview Fibre Co., Longview, Wash.; res. Corman Rd., Longview, Wash.
Pulp & paper chem.; b. Indianapolis, Ind., Apr. 1, 1910; s. of Eugene L. and Pearl M. Hart; ed. U. of Arizona, A.B., with distinction 1931, U. of Wash., M.S., 1932, Ph.D. 1935; mem.: Sigma Xi, Phi Lambda Upsilon, Phi Sigma, Theta Chi; m. Elizabeth Schenk, Apr. 4, 1934; ch.: John Peter, Patrick Eugene. U.S. Bur. of Fisheries, 1934-35, chem.; Longview Fibre Co., 1936, chem.; 1942, asst. chf. chem., 1944, control supvr., 1946, tech. supt. Mem.: A.C.S., Tech. Assoc. of the Pulp and Paper Ind. Club: Elks.

HARTE, Robert A., res. adm., Sharp & Dohme, Inc., Glenolden, Pa.; res. 55-9 Revere Rd., Drexel Hill, Pa.
Biochem.; b. N.Y.C., July 28, 1911; s. of Edward A. and Sadie (Martin) Harte; ed. C.C.N.Y., 1931, B.S.; m. Florence R. Powell, 1934; ch.: Janet H. 1932-42, Rockefeller Inst. for Medical Res.; 1942-49, Arlington Chem. Co.; 1949 to date, Sharp & Dohme, Inc. Publ. in anal. chem., immuol., nutrition, statistics. Assoc. edit., Remington's Practice of Pharmacy, 9th & 10th editions. Mem.: A.C.S., N.Y. Acdy. of Sc., Am. Statistical Assn., Coll. of Allergists, Metropolitan Microchem. Soc., A.A.A.S.

HARTFORD, Winslow H(opper), res. supvr., Mutual Chem. Co., of America, Baltimore 31, Md.; res. 4421 Harcourt Rd., Baltimore 14, Md.
Chem.; b. Newtonville, Mass., June 1, 1910; s. of James B. and Alice Winslow Hartford; ed. A.B., Boston U., 1928, S.B., M.I.T., 1930, Ph. D., M.I.T., 1933; m. Mary E. Haviland, May 27, 1939; ch.: Douglas Bennett, Janet Winslow. Res. asst., Merrimac Chem. Co., Woburn, Mass., summer 1928-29; res. asst., Borden Co., Syracuse, N.Y., summer 1930-31; asst., M.I.T., Cambridge, Mass., 1930-33; res. chem., Mutual Chem. Co. of America, Cambridge, Mass., 1933-34; res. chem., Mutual Chem. Co. of America, Baltimore, Md., 1934-45; res. supvr., 1945 to date. Res. in chem. and tech. of chromium cmpds.; preparation and properties, pigments, metallurgy, wood preservation; thesis on condensed cmpds. of boric acid. Mem.: A.C.S. (exec. comm., Md. section), A.A. A.S., Am. Wood Preservers' Assn. (Comm. P-4 and R-13), A.S.T.M. (Comm. D-1 and D-7). Clubs: Engineers (Baltimore), Mountain of Md., Mutual Male Chorus. Hobbies: hiking, skiing, male chorus singing, amateur dramatics.

HARTKEMEIER, Leonard W(illiam), assoc. prof. chem., Colorado School of Mines, Golden, Colo.; res. 330 Marion St., Denver 3.
Coll. prof.; b. Apr. 17, 1900; s. of J. Fred, Sr. and Mathilda (Reichenbacher) Hartkemeier; ed. U. of Louisville, B.S. chem. 1921; U. of Minn. M.S. chem. engr. 1924; mem.: Beta Theta Pi, Alpha Chi Sigma; m. Dorothy Schroer, June 19, 1930. 1924-25 asst. chem. Minn. Highway Dept.; 1925-26 asst. chem. Northern Pacific R.R.; 1926-27 instr., 1927-35 asst. prof., 1935 to date assoc. prof., Colorado Schl. of Mines; conslt. work on various problems of pipe line corrosion, boiler corrosion, industrial water anal., ore anal. Author: "Quantitative Anal. for Students in Mining, Metallurgy, and Geology" 3rd ed. 1940. Mem.: A.C. S., Am. Soc. for Engrg. Ed., A.A.U.P. Club: Teknik.

HARTLEY, Fred L., General Supt. of Operations, Union Oil Co. of Calif., ,Wilmington. Calif.; res. 4136 Via Nivel, Palos Verdes Estates, California.
Prof. chem. engrg.; b. Vancouver, B.C., Canada, Jan. 16, 1917; s. of John William and Hannah Mitchell Hartley; ed. Bachelor of Applied Sc. in chem. engrg., U. of British Columbia; m. Margaret A., Nov. 2, 1940. Held following positions with the Union Oil Co. of Calif.: res. engr., 1939-41, refinery process supvr., 1942, mfg. process supvr., 1943 to 1950, general supt. of operations, Los Angeles Refinery, 1950 to date. Res. in dev. and design pet. refinery processes

and plants. Mem.: A.I.Ch.E., (past chmn., Southern Calif. Section), dir. Calif. Natl. Gasoline Assoc., Registered Prof. Chem. Engr., (Calif.). Clubs: Pres., Alumni Assoc., U. of British Columbia, (Southern Calif. Section). Hobbies: swimming, reading, piano.

HARTMAN, Robert J(ames), v.p., secy., Skinner Paint & Varn. Corp., 750 W. Main St., Galesburg, Ill.
Exec.; b. Ft. Wayne, Ind., Oct. 18, 1906; s. of Joseph H. and Clara (Hettler) Hartman; ed. Ind. U., A.B. 1928, A.M. 1929, Ph.D. 1930; Cornell U., grad. study 1928; U. of Wis. 1929; mem.: Kappa Delta Rho, Sigma Xi, Alpha Chi Sigma, Sigma Gamma Epsilon, Phi Lambda Upsilon. Ind. U., grad. asst. 1929-30, instr. 1930-34, asst. prof. 1934-38, assoc. prof. 1938-41; Dow Chem. Co., res. chem., fld. tech. serv. & dev. 1941-45; Arco Co., dir. of ind. div. 1945-48; Skinner Paint & Varn. Corp., v.p., secy., 1945 to date. Author: "Colloid Chem." (Houghton-Mifflin, 2nd edit. 1947); 60 or more publ. in chem. jls. in fld. of physical chem. Mem.: A.C.S., A.O.C.S.

HARTSOOK, Arthur J., prof. of chem. engrg., chg. of dept., The Rice Inst., Houston 1, Tex.; res. 1406 Branard, Houston 6.
Prof. chem. engrg.; b. near Lincoln, Nebr., Nov. 17, 1891; s. of William F. and Lizzie F. Hartsook; ed. Nebr. Wesleyan, A.B. 1911; Nebr. State U. 1911-12, 1918-19; M.I.T., 1919-21, S.B., M.S. in chem. engrg.; m. Gertrude Joy. June 20, 1914; ch.: Edmund A. 1912-13 sc. tchr., Stromsberg, Nebr. H.S.; 1913-15 sc. tchr. Nebr. City H.S.; 1915-18 City Schl. Supt., Fairmont, Nebr.; 1918 (summer) War Schl. instr., Nebr. State U.; 1921 to date with The Rice Inst. in following positions: 1921-28 instr. in ind. chem.; 1928-40 asst. prof. of chem. engrg.; 1940 to date prof. of Ch.E., chg. of dept. Mem.: A.I.Ch.E., A.S.E.E., Tau Beta Pi, Sigma Xi, Phi Lambda Upsilon, Houston Philosoph. Soc., prof. engr. (Texas). Hobbies: mountain fishing and climbing.

HARTSUCH, Paul Jackson, lithographic conslt., Internatl. Printing Ink, 161 W. Harrison St., Chicago, Ill.; res. 334 S. Kensington Ave., La Grange, Ill.
Res. chem. & conslt. in fld. of lithographic printing; b. Kendallville, Ind., Sept. 17, 1902; s. of George W. and Agnes I. Hartsuch; ed. Mich. State Coll., B.S. in chem. engrg., 1924, prof. degree of Chem. Engrg. 1934; U. of Chicago, M.S. 1928, Ph.D. phys. chem. 1935; m. Lucile Grover, July 2, 1925; ch.: Grover, George. Teacher, Hazel Park H.S., Hazel Park, Detroit, Mich., 1924-27; instr., Case Inst. of Tech., Cleveland, Ohio, 1927-33; lab. asst., U. of Chicago, 1933-34; Seymour Coman fellow of medical chem., St. Luke's Hosp., Chicago, 1934-38; prof. of chem., Central Y.M.C.A. Coll., Chicago, 1938-45; assoc. phys. chem., Armour Res. Foundation, 1945-47; res. supvr., Lithographic Tech. Foundation, 1947-50; lithographic conslt., Internatl. Printing Ink, 1950 to date. Res. in fld. of lithographic printing; one pat. on surface treat. of aluminum. Mem.: A.C.S., Tau Beta Pi, Sigma Xi. Club: Chicago Chemists'. Hobbies: piano, camping.

HARTUNG, Walter H(enry), prof. of phar. chem., U. of N.C.; res. Chapel Hill, N.C.
Prof.; b. Welcome, Minn., Jan. 4, 1895; s. of Charles H. and Mina (Bicknase) Hartung; ed. B.A., U. of Minn., 1918; Universite d'Aix-Marseille, 1919; Ph.D., U. of Wis. 1926; mem.: Phi Delta Chi; m. Corda Baumhoefner, June 15, 1926; ch.: Homer Arthur, Richard Walter, Victor Meyer. Taught in high schls. at Forest Grove, Ore., Welcome, Minn., Gary, S.D.; asst. in org. chem., U. of Wis., 1923-26; res. chem., Sharp & Dohme, 1926-36; prof. of phar. chem., U. of Md., 1936-48; prof. of phar. chem., U. of N.C., 1948 to date. Res. & publ. in amino alcohols; babrituric acid derivatives; isoquinolines; palladium catalysis; amino acids. Co-author: "The Chem. of Org. Medicinal Prods." with Jenkins 3rd edit. 1949; "Lab. Exercises in the Chem. of Medicinal Prods." with Sumerford & Dunker, 1942. Mem.: Phi Lambda Upsilon, Sigma Xi, Rho Chi, Franklin Inst., A.A.A.S. (fellow), A. Phar.A. (chmn. sc. sec. 1942, Ebert Award 1947), A.I.C. (fellow, chmn. Baltimore chapter 1945-47), A.C.S. (councilor 1942, secy. Medicinal Div. 1936-38, chmn. Medicinal Div. 1939, chmn. Baltimore Sec. 1944).

HARTWIG, Carl E., dir. of res., Swan-Finch Oil Corp., RCA Bldg. W., New York 20, N.Y.; res. Manasquan, N.J.
Chem.; b. New York, N.Y., Nov. 16, 1896; s. of Carl and Elisabeth (Erichs) Hartwig; ed. Friends Seminary, N.Y.C.; Western Maryland Coll.; Tech. H.S., Dresden, Germany; Columbia U., N.Y.C., B.S., M.A.; m. Edith Hannum, June 24, 1922. Res. chem. Natl. Aniline & Chem. Co., 1919-21; C.W.S., Edgewood Arsenal, 1921-22; Garfield Worsted Mills, chf. chem., 1922-27; res. chem. Wallerstein Co., 1927-28; res. chem. Barrett Co., 1928-33; consltg. wk., textiles, 1933-37; res. chem. Amer. Chicle Co., 1937-42; dir. of res., Swan-Finch Oil Corp., 1942 to date. Mem.: A.C.S., Fellow, A.I.C., Assoc. of Res. Dirs., S.C.I., A.I.Phys., Soc. Rheology, A.S.T.M. Club: Chemists'. Hobbies: golf, swimming.

HARTY, Roger P., sales mgr., The Exolon Co., Tonawanda, N.Y.; res. 133 St. James Pl., Buffalo 22, N.Y.
Sales mgr.; b. Sept. 9, 1916; s. of W.A. and Agnes G. Harty; ed. A.B., Dartmouth Coll.; mem.: Zeta Psi; m. Anne Piper, May 17, 1940; ch.: Hilary P., Althea T. Started with The Exolon Co., Jan., 1940 in the sales dept., became sales mgr. in May, 1946. Clubs: Buffalo Tennis and Squash, Buffalo. Hobbies: photography, tennis, squash.

HARTZELL, Allen Reiff, assoc. prof. of chem., St. Lawrence U., Dept. of Chem.; res. 25½ State St., Canton, N.Y.
Teacher of chem.; b. Perkasie, Pa., Dec. 12, 1894; s. of John Andrew and Mary Magdeline (Reiff) Hartzell; ed. Franklin & Marshall Coll., B.S. 1917; Pa. State Coll., M.S. 1921; mem.: Lambda Chi Alpha; m. Catharine May Weiser, Dec. 28, 1922; ch.: Ralph Royden (dec.), Elsie Janet. Teacher in Pa. rural schls.; undergrad. teacher of high schl. sc., N.J.; instr. in chem., Lehigh U., 1917; U.S.A., Medical Corps & C.W.S. 1917-19; instr. in chem., Pa. State, 1919-21; asst. prof. chem. 1921-29, assoc. prof. chem. 1929 to date, St. Lawrence U. Use of acid open-hearth slag for mfr. of cement, in connection with chem. res. done in the employ of Bethlehem Steel, also anal. of nitrates in presence of interfering agents. Mem.: A.A.U.P., Priest Sc. Soc., Chem. Soc., Porter Sc. Soc. (secy. 1916, pres. 1917), A.C.S., N.Y. State Sc. Teachers Assn., Gamma Sigma Epsilon (faculty advisor). Clubs: Torch, Lions (pres. 1947-48), Am. Legion. Hobbies: gardening, music, fishing.

HARVEY, Adelbert W(illiam), sr. fellow, Mellon Inst., 4400 Fifth Ave., Pittsburgh, Pa.; res. 445 Arden Rd., Pittsburgh.
Res. chem.; b. Central Square, N.Y., Mar. 8, 1894; s. of Clarence D. and Charlotte T. Harvey; ed. Syracuse U., B.S. Chem. (cum laude) 1917; U. Pgh., M.S. 1919; Ph.D. 1922; mem.: Alpha Chi Sigma; Phi Lambda Upsilon; Sigma Xi: m. Marcella Schwer, 1921; ch.: Elizabeth Ann. Federal Dyestuff Corp., 1917; Aetna Chem. Co., 1917; U. Pgh., instr. 1917-22; Mellon Inst., indust. fellow, 1922-41; sr. fellow 1941 to date. Res. in antisept., anesthet., fats, oils, proteins, fur, fur felt. Author: "Lab. Dir., Study Quest.

in Inorgan. Chem. 1919"; mem.: A.C.S., A.A.T.C.C. Clubs: Faculty, U. Pgh.

HARVEY, Aubrey Eaton, Jr., assoc. prof. of chem., chem. dept., U. of Ark.; res. 824 Rush Dr., Fayetteville, Ark.
Anal. chem.; b. Lynchburg, Va., Sept. 28, 1911; s. of Aubrey E. and Janie (Thornhill) Harvey; ed. B.S. in chem., U. of Va., 1939; M.S., Syracuse U., 1941; Ph.D., U. of Va., 1946; mem.: Sigma Chi, Alpha Chi Sigma; m. Jaquelin Ambler Nicholas, Aug. 26, 1939; ch.: Aubrey Eaton III. Instr., U. of Va., 1943-46; asst. prof., Va. Military Inst., 1946-47; asst. prof., U. of Louisville, 1947-49; assoc. prof. of chem., U. of Ark., 1949 to date. Arts. in sc. jls. Co-author: "First Year Qualitative Analysis," Likes & Harvey, Thomas Y. Crowell Co., 1947. Mem.: A.C.S., A.I.C., Am. Assn. of Coll. Professors, Ark. Acad. of Sc., Sigma Xi.

HARVEY, Dr. Edmund N(ewton), Jr., res. chem., Interchem. Corp., 432 W. 45th St., N.Y. 19, N.Y.; res. 101 Cliff Ave., Pelham 65, N.Y.
Chem.; b. Baltimore, Md., Dec. 16, 1916; s. of E(dmund) Newton and Ethel (Browne) Harvey; ed. A.B., Princeton, 1938, Ph.D. chem. 1941; m. Jeanette Hickman, June 15, 1946; ch.: Virginia Nicholson, Sara Newton. Res. chem., Interchem. Corp., 1941 to date; Natl. Defense Res. Cmt. 1942-45. Res. on adsorption, rheol. of suspensions, wetting & other surface & interfacial phenomena. Mem.: A.C.S., Soc. of Rheol., N.Y. Acad. of Sc.

HARWOOD, Arthur Albert, prof. of Phar. Chem., Butler U., 802 E. Market St., Indianapolis, Ind.; res. 2223 Brookside Parkway S.D., Indianapolis, Ind.
Coll. prof.; b. Grant Co., Wis., July 12, 1898; s. of Thomas and Robie Harwood; ed. B.S., U. of Wis., 1923; M.S., 1926, Ph.D. 1929; mem.: Kappa Psi; m. Florence J. Koltes, Oct. 10, 1930; ch.: John and Philip. Chem., Procter & Gamble Co., 1923-25; asst. phar. dept., U. of Wis., 1925-26; instr., phar. dept., 1927-29; prof. phar. chem., College of Phar., Valparaiso U., 1929-39; prof. phar. chem., Indianapolis Coll. of Phar., 1939-45; prof. phar. chem., Butler U., Coll. of Phar., 1945 to date. Res. non-volatile constituents of monarda punctata; bound water content of monarda punctata sap. Mem.: A.C.S., Am. Phar. Assoc., Phi Sigma, Sigma Xi.

HASCHE, R(udolph) Leonard, scientific counsel, Tennessee Eastman Corp., Kingsport, Tenn.; res. 1107 Southwest Avenue, Johnson City, Tenn.
Chem. conslt.; b. Doon, Iowa, June 20, 1896; s. of Carl Hermann and Clara Belle (Lemon) Hasche; ed. B.S. Tarkio Coll. 1918; M.S. Washington & Jefferson Coll. 1919; Ph.D., Johns Hopkins, 1924; Natl. Res. Fellow, Calif., 1924-25; Int. Ed. Bd. Fellow, Berlin and Vienna, 1925-26; mem.: Phi Beta Kappa, Sigma Xi, Gamma Alpha; m. Blanche Knox, Aug. 25, 1920; ch.: Blanche Geraldine (Mrs. Richard P. Clarke). Res. chem., Am. Smelting & Refining Co., 1926-30; Supt. of Res., Am. Smelting & Refining Co., 1930-31; Dir. Chem. Res., A.O. Smith Corp., 1931-34; Dir. Res. and Dev., Tennessee Eastman Corp., 1934-43; Scientific Counsel, Tennessee Eastman Corp., 1943 to present; pres., chmn. Bd., Carbonic Dev. Corp., 1931 to present. Dollar-a-Year conslt. for W.P.B. during W.W.II; appointed by Federal Economic Administration as an Investigator of German I.G. Plants during summers of '45 and '46 in Germany; conslt. F.E.A. 1945; mem. of tech. deferment comm. W.P.B. 1943; W.W.I, C.W.S.; conslt. Referee Bd., O.P.R.D., 1942. Co-author, with Charles C. Winging "Plastics, Theory and Practice" (the technology of high polymers). Mem.: A.A.A.S. (fellow), A.I.Ch.E., A.C.S., Soc. of Chem. Ind., Am. Pet. Inst., Am. Soc. of Refrigerating Engineers. Officer: Bd. of Trustees, Tarkio College, Tarkio, Mo.

HASCHKE, Theodore Arthur, sales mgr., Stauffer Chem. Co., 420 Lexington Ave., N.Y.C.; res. 38 Edgewood La., Bronxville, N.Y.
Sales exec.; b. Austin, Tex., Aug. 24, 1898; s. of William and Ernestine (Schubert) Haschke; ed. public schls., bus. coll., Austin, Tex.; m. Olive L. Kriebs, Sept. 5, 1938. U.S.A., Dec., 1917-Oct., 1919; Round Rock White Lime Co., Round Rock, Tex., Oct., 1919-Aug., 1926, sales & gen. adm.; Stauffer Chem. Co., Houston, Tex. & N.Y.C., Aug., 1926 to date, sales & gen. adm., sales mgr. 1942 to date. Old Hickory Chem. Corp. (dir.), Phila. Quartz Co. of Calif. (dir.). Clubs: Chemists' (N.Y..), Uptown (N.Y.C.), Siwanoy Country (Bronxville, N.Y.). Hobbies: golf, gardening.

HASKEW, Caleb Archibald, hd. of dept. of chem. and phys., Winthrop Coll., Rock Hill, S.C.; res. 713 College Ave., Rock Hill.
Tchr.; b. Whatley, Ala., Feb. 12, 1892; s. of John and Sara M. Haskew; ed. Birmingham-Southern Coll., A.B. 1914; U. of Mo., A.M. 1924; U. of Chicago, summer quarters, 1927-32; mem.: Pi Kappa Alpha; m. Daisy E. Block, Sept. 1, 1915. 1914-15 princ. of H.S., Newbern, Ala.; 1915-17 prof. in Scarritt-Morrisville Coll., Morrisville, Mo.; 1917-18 supt. of schls., Breckenridge, Mo.; 1918-20 prof. of chem. and phys., Wentworth Milit. Acad., Lexington, Mo.; 1920-24 prof. of chem., Southern Coll., Lakeland, Fla.; 1924-33 prof. of chem. Lander Coll., Greenwood, S.C.; 1933-43 dean of Lander Coll. and hd. of dept. of chem.; 1943-47 assoc. prof. of chem., Winthrop Coll., Rock Hill, S.C.; 1947-49 acting hd. of dept. of chem. and phys. same coll.; 1949 to date hd. of same dept. same coll. Mem.: A.C.S.: A.A.A.S. (fellow); A.A.U.P.; S.C. Acad. of Sc. Club: Rotary. Hobbies: walking, gardening, glassblowing (as an amateur).

HASLAM, George Stevenson, assoc. chf. dev. engrg. div., N.J. Zinc Co.; address: Palmerton, Pa.
Assoc. chf. dev. engrg.; b. Williamsport, Pa., Dec. 12, 1898; ed. R.I. State Coll., B.S. 1924; m. L. Esther Westfall, Palmyra, N.Y., Aug. 6, 1927; ch.: 1 son. N.J. Zinc Co., res. div., chf. pig. phys. sect., chf. rubber pig. sect., chf. rubber pigment res., assoc. chf. dev. engrg. div. Res. on papers on plastic flow, optical prop. microscopy and rubber with spec. ref. to pig. Mem.: A.C.S. Club: Blue Ridge Country. Hobbies: golf, sports.

HASLAM, Robert Thomas, v.p., Stand. Oil Co. (N.J.), dir. & mem. exec. comm., Ethyl Corp., 30 Rockefeller Plaza, N.Y. 20, N.Y.; res. 9 Shore Edge Lane, Short Hills, N.J.
Chem. engr.; b. North Adams, Mass., Apr. 3, 1888; s. of Robert Henry and Emma Dawson (Lynch) Haslam; ed. B.S. chem. engrg., M.I.T., 1911; ch.: Robert T. Jr. Asst. in qualitative & quantitative anal., M.I.T., 1911-12; Natl. Carbon Co., Cleveland, Ohio, res. lab. & asst. supt., 1912-20; prof. chem. engrg., M.I.T., 1920-27. also dir. res. lab. of Applied Chem. & dir. Schl. of Chem. Engrg.; practice in chg. of course in gas & fuel engines. 1927-35; v.p., gen. mgr., Stand. Oil Dev. Co. (subsid. Stand. Oil Co., N.J.) 1931-35; v.p. Hydro Engrg. & Chem. Co.; gen. sales mgr., Stand. Oil Co. of N.J., 1935-42; v.p., 1937-42; dir., Plantation Pipe Line Co., 1940-42; dir., Stand. Oil Co. (N.J.) 1942-50; v.p. Stand. Oil Co. (N.J.) Dec., 1945 to date; dir. Ethyl Corp., 1943-48, mem. exec. comm., Jan., 1948 to date; Comm. on World Travel, Incl.-dir. Apr. 6, 1948 to date. Co-author: "Fuels & Their Combustion" with R.P. Russell 1926. one of co-authors of Britain's fuel problems; contrib. Journal of Ind. Engrg. & Chem. & other publ. Mem.: Inst. of Fuel (Brit.), Inst. of Pet.

(Brit.), A.I.Ch.E. (v.p. 1927, dir. 1928-30, 1932-34), S.A.E., Soc. of Chem. Engrs., Am. Pet. Inst. (chmn. public relations operating comm. 1945-47), Alpha Chi Sigma, Tau Beta Pi, Chevalier in French Natl. Order of the Legion of Hon. Mem. of Corp. M.I.T. 1949 to date. Clubs: Madison Sq. Garden, University, Twenty-Nine (N.Y.), Clove Valley Rod & Gun, Gatineau Fish & Game (Canada), Baltusrol Golf. Hobbies: fishing, hunting, photography.

HASLER, Maurice Fred, dir. of res., pres., Applied Res. Labs., 4336 San Fernando Rd., Glendale, Calif.; res. 3205 Cornwall Dr., Glendale, Calif.

Spectro-chemistry, Instrument Mfg.; b. N.Y.C.; s. of Fred and Johanna Hasler; ed. Calif. Inst. of Tech., B.S., 1929, M.S., 1930, Ph.D., 1933; m. Helen Ott, Jan. 14, 1939; ch.: Andrea, Stephen. Co-Founder, Applied Research Labs., 1934, dir. of res., 1941, pres. 1950. Research-instruments and methods spectro chemical field. Mem.: A.C.S., Am. Physical Soc., Am. Optical Soc., A.S.T.M.

HASS, Henry Bohn, mgr. res. and dev., Gen. Aniline & Film Corp., 230 Park Ave., New York 17, N.Y.; res. 67-66 108th St., Forest Hills, L.I., N.Y.

Chem. exec.; b. Huntington, Ohio, Jan. 25, 1902; s. of Frederick William and Alma Marie (Bohn) Hass; ed. Ohio Wesleyan U., B.A. 1921 (magna cum laude); Ohio State U., M.A. 1923; Ph.D. 1925; hon. D.S. Ohio Wesleyan U. 1942; hon. LL.D. U. of Chattanooga, 1945; mem.: Alpha Sigma Phi, Phi Beta Kappa, Phi Lambda Upsilon, Sigma Xi, Alpha Chi Sigma, Alpha Kappa Lambda; m. Georgia M. Herancourt, 1921; ch.: Robert Henry, Charlotte Frances Hudgin, Thomas William, Richard Frederick. 1925-28 res. dir. Baltimore Gas Engrg. Corp.; 1928-49 dept. chem. (hd. of dept. 1937-49) Purdue U.; 1949 to date with Gen. Aniline & Film Corp.; principal res. in flds. of activated carbon, aliphatic nitrations and chlorinations and synth. of substances of pharmacolog. interest; vapor-phase nitration proc. orig. by Dr. Hass and his students at Purdue are in large-scale operation at Peoria, Ill. at plant of Commercial Solvents Corp.; over 700 org. compds. have been rendered available by this tech. and further proc. based upon the nitroparaffins; from 1942 to 1946 connected with Manhattan Proj. in dev. of fluorocarbons. Mem.: A.C.S., Internat. Congr. of Anesthetists, Res. Soc. of Amer., Assoc. of Res. Dirs., Royal Soc. for the Encouragment of Arts, Indust. Res. Inst.; dir. Purdue Res. Found. Clubs: Chemists', Ohio Soc. of N.Y. Hobbies: long-distance swimmer, mountain climbing, silviculture, music.

HASSELSTROM, (Karl) Torsten (H.A.), hd. org. unit, chem. labs., res. & dev., Phila. QM. Depot, 2800 So. 20 St., Phila. 45, Pa.; res. 1520 Pine St., Phila. 2, Pa.

Org. chem.; b. Helsingfors, Finland, Mar. 2, 1895; s. of Karl A. and Elisabeth Wehmeyer Hasselstrom; ed. Swedish High schl., Tavastehus, Finland, 1914; M.A. Chem. Engr., Tech. Inst. of Finland, Tekniska Hogskolan i Finland, Helsingfors, 1920; Dr. Sc., "Teknologie Doctor," Technolog Inst. of Finland, Helsingfors, 1925; mem.: Sigma Xi, (chpt. Columbia U.), Phi Lambda Upsilon; m. Cecilia Sandberg, M.A., Dec. 17, 1921. Geol. expedition, S. Siberia, N. Mongolia, 1917 (asst. geologist, Scandinavian geol. expedition); asst. mgr. Teka Soap, Glue Wks., Finland, 1920; asst. inorg. chem., Tech. Inst. of Finland, Helsingfors, Finland, 1921; instr. 1922-28; prof. org. chem., temp. appoint. 1929; Rockefeller Foundation Res. Fellow Columbia U., N.Y. 1929-30; Columbia U. Res. Fellow 1930-32; Resin Oil Inst. Res. Fellow; Columbia U. 1932-36; dir. res., G. & A. Labs., Savannah, Ga. 1936-44; dept. hd., res. assoc., U.S. Indust. Chems., Inc., N.Y. 1945-47; conslt., negotiator, N.Y. 1947-48; hd. org. lab. unit, QM Depot, Dept. of Army, Phila., Pa., 1948 to date. Res. in pioneering res. on pine tree resin acids, tall oil, bicyclic terpenes. Coordinat. of res. (awarded first prize for essay on subj. in contest spons. by Scandinavian Assn. Norden, Stockholm, Sweden, 1938), natural and synth. resins, terpenes. Gen. org. chem., phenanthrenes, sterols; biolog. active compds. Org. synth. Separation, identification of org. compds.; Author: "Action of Phosphorpentachloride on Bicyclic and Apo-Camphors, Doctor Dissertation, Helsingfors, Finland, 1923; contrib. extens. to sc. and tech. jls.; mem.: A.A.A.S. (fellow); A.I.C., (fellow); A.C.S., Tech. Assn., Pulp and Paper Ind., (chem. prods., fundamental res. comms.); N.Y. Acdy. Sc. Clubs: Chem. (N.Y.), Phila. QM. Off. Hobbies: historical reading, fishing.

HASTINGS, A(lbert) Baird, Hamilton Kuhn Prof. of Biolog. Chem., Harvard U. Med. Schl., 25 Shattuck St., Boston 15, Mass.; res. 495 Boylston St., Brookline 46, Mass.

Biochem.; b. Bellevue, Ky., Nov. 20, 1895; s. of Otis Luther and Elizabeth (Henry) Hastings; ed. Shortridge H.S., Indianapolis, Ind., 1909-13; U. of Mich., 1913-17, B.S.; Columbia U., 1918-21, Ph.D.; mem.: Sinfonia (Phi Mu Alpha), Alpha Chi Sigma, Sigma Xi, Alpha Omega Alpha; m. Margaret Johnson, 1918; ch.: Alan Baird. Chem., U.S. Pub. Health Serv., 1917-21; asst., Rockefeller Inst. for Med. Res., 1921-22; assoc., Rockefeller Inst. for Med. Res., 1922-26; lecturer, U. of S. Calif., summer, 1924; prof. of physiolog. chem., U. of Chicago, 1926-28; prof. of biochem., same U., 1928-35; visiting prof., Peiping Union Med. Coll., 1931; Hamilton Kuhn Prof. of Biolog. Chem., Harvard Med. Schl., 1935 to date; res. in physiology of fatigue; acid-base balance; salt and water exchange; biolog. oxidations; intermed. metabolism; quantiative histochem.; use of isotopes as biochem. tracers. Pub. 183 arts. in sci. jls. Rec. Sc.D. U. of Mich., 1941; Harvard, Sc.D. 1945; M. for Merit, 1948. Mem.: Amer. Acad. of Arts and Scs. (Permanent Sc. Fund Comm. 1946 to date); A.A.A.S., Amer. Assoc. for Cancer Res.; A.C.S., Amer. Inst. of Nutrition, A.Phil.S., (Membership Comm., Cl. II, Geolog. and Biolog. Scs., 1947 to date, chmn., 1949 to date), Amer. Physiolog. Soc., A.S.Biol.C., (treas., 1936-40, v.p., 1943-44, pres. 1945-47, edit., Jl. of Biolog. Chem., 1941); Amer. Bur. for Med. Aid to China, dir., 1939; Assoc. of Amer. Physicians; Biochem. Soc. of Gr. Britain; Gerontological Soc.; Natl. Acad. of Scs., Advis. Comm., Sugar Prizes, Natl. Sc. Fund, 1945 to date, Joseph Henry Fund Comm., 1949 to date; Natl. Advisory Cancer Comm.; Natl. Advisory Health Council, 1947-48; Natl. Res. Council, Div. of Med. Scs., (Fellowship Bd.), Comm. on Growth (Exec. Comm., 1945-46), Bd. of Food and Nutrition, Nutritional Aspects of Ageing (dissolved in 1947); Soc. for Study of Development and Growth; S.E.B.M., (v.p. 1943-45, pres. 1945-47, edit., Proc. Soc. Exp. Biol. Med., 1935-41); on Advisory Comm., Nominations for Annual Res. Award, Amer. Pharmaceut. Mfrs. Assoc., 1947-48; Advisory Council, Life Insur. Med. Res. Fund, 1946-50; Scient. Advisory Comm., The Nutrition Foundation, 1949 to date; Scient. Advisory Bd., Cancer Res. Inst., N.E. Deaconess Hosp., 1950 to date; Advisory Bd., Biochem. Preparations, 1945 to date; Comm. on Med. Res., Off. of Sc. Res. and Dev., 1941-47; Interim Advisory Comm. on Isotope Distrib., 1946-48; Bd. of Review, U.S. Atomic Energy Comm., 1947; Scient. Advisory Comm., Children's Hosp. Res. Found., Cincinnati, 1937-47; Exec. Comm., Ella Sachs Plotz Found. for the Advancement of Scient. Investigation, 1939-49; Syndic: Harvard U. Press, 1936-46; 1947 to date. Trustee, Brookhaven Natl. Lab., Assoc. Univs. Inc., 1948 to date; conslt., Comm. on Biol. and Med., U.S. Atomic Energy Comm., 1947-50. Clubs: Century Assoc. (N.Y.); Cosmos (Washington); Chicago Literary; Harvard (Boston and N.Y.); St. Botolph (Boston).

HATCH, Aram Harry, chf., Water & Labs. Branch, Municipal Div., Panama Canal, Pedro Miguel, Canal Zone; res. Balboa, Canal Zone.

Chem.; b. Aintab, Cilicia, May 31, 1889; s. of Hovhan and Sadie Hatch; ed. S.B., Harvard, 1913, cum laude, distinctive in chem.; M.A., Harvard Grad. Schl. of Arts & Sc., 1916; m. Dorothea M. Jenne, Dec. 22, 1917; ch.: Aram Harry, Jr. 1913-16, Austin Teaching Fellow, Harvard U.; 1916-17, chem., Boston Transit Commis.; 1917-27, chem. in chg. of testing labs., Panama Canal; 1927-50, chf. chem. in chg. of water purification plants & testing labs., Panama Canal; 1950 to date, chf. Water & Labs. Branch, Municipal Div., Panama Canal. Var. res. wk. in chem. fld. in Panama Canal serv. Mem.: A.W.W.A., New England Water Wks.

HATCHER, David B(urnell), sales mgr., glues and indust. resins, Plaskon Div., Libbey-Owens-Ford Glass Co., 2112 Sylvan Ave., Toledo 6, Ohio; res. 3133 Muirfield, Toledo 14.

Sales; b. Van Buren, Ind., Jan. 13, 1918; s. of Charles E. and Laura E. Hatcher; ed. Manchester Coll., A.B., 1939 (with honors); Purdue U., Ph.D. 1944; mem.: Sigma Xi, Phi Lambda Upsilon; m. Audrey Foust, Apr. 21, 1940; ch.: David Lee, Robert Alan. 1939-41 grad. asst. Purdue U.; 1941-43 res. fellow, Purdue Res. Found.; 1943-46 sr. res. chem. Sharpless Chems., Wyandotte, Mich.; 1946-48 sr. res. chem. Plaskon Div., 1948-49 grp. ldr. same div.; 1949-50 assoc. dir. of res. same div.; 1950 sales mgr. glues & ind. resins, Plaskon Div., Libbey-Owens-Ford Co.; res. on silicones, wet strength paper resins, thermosetting resins. Mem.: A.C.S. Hobbies: skiing, sailboating.

HATFIELD, James Elisha, wks. mgr. Willard Storage Battery Co., 246 E. 131st St., Cleveland 1, Ohio; res. 17422 Lomond, Shaker Heights 20, Ohio.

Exec.; b. Washington, Ind., Sept. 22, 1908; s. of Walter H. and Lucile W. Hatfield; ed. Indiana U., 1932, A.B.; 1936, Ph.D.; Lafayette Coll., 1933, M.S.; U. of Mich., 1930; mem.: Phi Gamma Delta, Sigma Xi, Sigma Delta Psi, Alpha Chi Sigma; m. Ruth Gill, 1934; ch.: Sally L., Hayes H., James G. 1933 res. engr. Pile Oil Co.; 1934 res. engr. Eagle-Picher Lead Co.; 1939 chf. engr. Grant Storage Battery Co.; 1942 to date wks. mgr. Willard Storage Battery Co.; res. in lead acid storage batteries; particle size of oxide studies; temperatures of formation of batteries; fluidity of chems. normally solid at rm. temps. Mem.: A.C.S., E.S., Am. Mgmt. Assoc. Hobbies: fishing, hunting, bowling.

HATFIELD, Marcus Rankin, hd. of wks. dev. and control labs., Natl. Carbon Div. of U.C.C., Cleveland 1, Ohio (Box 6087); res. 12531 Clifton Blvd., Lakewood 7, Ohio.

Chem. engr.; b. Chicago, Ill., Dec. 21, 1909; s. of William Hugh and Lida (Holland) Rankin; ed. U. of Maryland, B.S., 1931 (2nd honors); M.S. 1932; Ph.D. 1935; mem.: Sigma Tau Omega, Alpha Chi Sigma, Phi Kappa Phi, Sigma Xi. 1929-31 lab. asst. Maryland State Lab.; 1931-35 grad. asst. U. of Maryland; 1935 to date with Natl. Carbon Div. of Union Carbide & Carbon Corp. in following positions: 1935-48 res. chem. engr.; 1948 to date hd. of Dev. Lab. Pubs. on electrode potential, fluid flow thru porous carbon, heat flow thru carbon, properties of Karbate Corrosion Resist. Equip.; pats. on machining carbon, resolutions of oil emulsions, battery construction, etc. Mem.: A.C.S., A.I.Ch.E., Am. Electrchem. Soc., A.A.A.S. Clubs: Hermit, Harlequin Dance. Hobbies: sports, music, photography.

HATFIELD, William Durrell, supt., Sanitary Distr. of Decatur, Ill.; res. 249 Linden Pl., Decatur, Ill.

Sanitary chem. engr.; b. Jacksonville, Ill., July 7, 1892; s. of Elmer E. and Jennie M. Hatfield; ed. Ill. Coll., B.S. 1914; U. of Ill. M.S. 1916; Ph.D. 1918; mem.: Alpha Chi Sigma; m. Clarinda J. Wyne, Feb. 15, 1919; ch.: Eleanor W., Richard D., Walter L. Chem., bacteriol., Ill. St. Water Survey, 1916-18; Lt. Sanitary Corps., U.S.A. 1918-19; asst. prof. org. & physical chem., Mont. St. Coll., Bozeman, 1919-20; supt. Filtration Water Dept., Highland Park, Mich., 1920-23; supt., Sanitary Distr., Decatur, Ill., 1924 to date. Res. in water purif., sewage disposal, disposal & recovery of industrial wastes, anal. of sewage & indust. wastes. Mem. joint edit. bd. Stand. Meths. of Water Anal., Sewage Sect., 8th ed., 1936; 9th ed., 1946; 10th ed., 1952. Mem.: Alpha Chi Sigma, Sigma Xi, A.C.S., A.W.W.A., A.S.C.E., Ill. Soc. Prof. Engrs., Central States Sewage Wks. Assn., Federation of Sewage Wks. Assn., pres. City Plan Comm., 1948; mem. 1940-50; Boy Scouts of Am. Club: Rotary. Hobbies: sail boating, golf.

HATLELID, Elbert L., sr. res. chem., Central Research Laboratories, Continental Oil Co.; res. 837 N. Palm, Ponca City, Okla.

Res. chem.; b. Lignite, N. Dak., May 6, 1915; s. of Ole Hatlelid and Josephine Simenstad Hatlelid; ed. 1936, Concordia Coll., Moorhead, Minn., B.A., magna cum laude; 1939, M.A., 1942, Ph.D., U. of Nebr., Lincoln, Nebr.; mem.: Mondamin; m. Agnes H. Ronning, June 6, 1942; ch.: Carl, Anna Marie, John, Joseph. Sept., 1936 to June, 1937, Concordia Coll., Moorhead, Minn., instr. in chem.; Sept., 1937 to Feb., 1942, U. of Nebr.. grad. asst., Parke, Davis Fellow and N.D.R.C. chem.; Feb., 1942, to Feb., 1946, Monsanto Chem. Co., St. Louis, Mo., res. chem.; Feb.. 1946 to July, 1949, Skelly Oil Co., Pawhuska, Okla., chf. chem.; Aug., 1949 to present, Continental Oil Co., Ponca City, Okla., sr. res. chem. Res. in chemicals from pet. Mem.: A.C.S., Sigma Xi, Phi Lambda Upsilon. Hobbies: amateur photography.

HAUBER, Edward Stephen, S.J., chmn. chem. dept., Loyola Coll., Baltimore, Md.; res. same.

Tchr.; b. Bound Brook, N.J., Sept. 2, 1904; s. of George A. and Mary (McCabe) Hauber; ed. St. Andrew on Hudson, Poughkeepsie, N.Y., 1922-26; Weston Coll., Weston, Mass., 1926-29; Holy Cross Coll., Worcester, and Woodstock Coll., Woodstock, Md.; Boston Coll., A.B., 1928; Holy Cross Coll., M.S., 1929-30; Fordham U., 1937-42. Tchr., Loyola Coll., 1930-32; chmn. chem. dept., Loyola Coll., Balt., 1942 to date. Mem.: A.C.S., A.I.C. (fellow), Assoc. of Jesuit Scientists.

HAUCK, Chester Mearl, dir. of quality control, Ricker Labs., 8480 Beverly Blvd., Los Angeles, Calif.; res. 3175 Coolidge Ave., Los Angeles.

Phar. chem.; b. Toledo, Ohio, Feb. 27, 1903; s. of Henry Melvin and Clara M. Hauck; ed. Ohio State U., Coll of Phar., Ph.C. 1925; B.S. 1926; mem. Delta Sigma Phi; m. Dorothy A. Arbuckel, 1925; ch.: Robert Melvin, Jack Eugene. Suzanne. 1926 phar., Todds Pharmacy, Columbus, Ohio; 1926-42 phar. chem., Parke-Davis & Co., Mich.; 1942-44 res. chem. Gelatin Prods., Mich.; 1944-47 res. chem. Don Baxters, Inc., Calif.; 1947-48 sr. chem. Rexall Drug Co., Calif.; 1948-50 assoc. dir. prod. dev., Rexall Drug Co.; 1950 dir. control Ricker Labs., Calif. Prod. dev. of chemotherapeutic agents for consumer use; dev. of parenteral solutions; drug mfr. and standardization. Fellow: A.C.S., A.Phar.A., Mich. Acdy. of Scs.

HAUGHT, John William, sect. mgr., polychems. dept., E. I. du Pont de Nemours & Co., Exper. Sta., Wilmington, Del.; res. 203 Harker Ave., Liftwood, Wilmington, Del.

Chem.; b. Keyser, W. Va., Jan. 13, 1907; s. of T.W. and Helen W. Haught; ed. B.S., W. Va. Wesleyan Coll., 1927; M.S., W. Va. Univ., 1930; Ph.D., Yale, 1933; mem.: Sigma Xi, Phi Lambda Upsilon; m. Hazel Schmidt, 1942; ch.: Susan, Deborah. With du Pont 1933 to date in following capacities: chem., Plastics Dept., 1933-35; supvr. 1935-49; res. mgr. July, 1950; Polychemicals Dept., sect. mgr., July, 1950 to date; res. in plastics. Mem.: A.C.S.,, civilian tech. rep. of C.W.S. in Germany at end of W.W.II, 1945.

HAUSEMAN, David N., pres., Houdry Proc. Corp., 1528 Walnut St., Phila. 2, Pa.; res. Wynnewood Plaza Apts., Wynnewood, Pa.
Exec., res. and dev. of petroleum, (Brig. Gen. U.S.A., retired); b. Mar. 4, 1895; s. of Morris E. and Sallie (Rudy) Hauseman; ed. U. of Pa., B. S. in Ec., 1917; M.I.T., B.S. in M.E., 1928; Harvard U., M.B.A., 1935; mem.: Gamma Eta Gamma; m. Rosa Pegues, June 13, 1920; ch.: David P. Enlisted U.S.A., 1917; priv. to Brig. Gen., 1917-46; chf., Phila. Ord. Distr., 1940-43; chf., Readjustment Div., War Dept., 1944-46 (in chg. of settlement of terminated war contracts); v.p., Temple U., 1946; pres., Res. Inst. of Temple U., 1947; to date, pres., Houdry Proc. Corp., a res. and dev. organization. Chmn. of bd., Catalytic Construction Co.; dir., Girard Trust Co. Awarded Distinguished Serv. M., Leg. of Merit, Army Commendation, and Navy Commendation 1946. Trustee, Temple U. Clubs: Racquet (Phila.); Army & Navy Country (Wash., D. C.); F. & A.M. — Army Ord. Assoc.; Harvard (N.Y.). Hobbies: rifle and pistol shooting, fishing, hunting, equitation, golf.

HAUSER, Charles Roy, prof. organic chem., dept. chem., Duke U., Durham, N.C.; res. 1020 Rosehill Ave., Durham.
Teacher, res. worker in organ. chem.; b. Calif., March 8, 1900; ed. U. of Florida, B.S., 1923, M. S., 1925; State U. of Iowa, Ph.D., 1928; m. Madge L. Baltimore, 1930; ch.: Betty L., Frances M., Charles F. 1928-29, instr., Lehigh U.; 1929 to date, Duke U., instr., asst. prof., assoc. prof., full prof. Res. in field of organ. chem., especially on Condensations, eliminations and rearrangements published in the Jl. A.C.S. and Jl. Organ. Chem. Mem.: A.C.S., A.A.A.S., Am. Assoc. U. Prof., Sigma Xi, Phi Lambda Upsilon, Gamma Sigma Epsilon, Phi Kappa Phi.

HAUSER, Ernst Alfred, prof. of colloid chem., M.I.T., Cambridge 39, Mass.; res. Apt. 20, 573 Washington St., Brookline 46, Mass.
Educator, scientist; b. Vienna, Austria, July 20, 1896; s. of Alfred C. and Alice (Sobotka) Hauser; ed. Akademisches Gymnasium, Vienna, Baccaiaureate, 1914; Ph.D., U. of Vienna, 1921; m. Vera M. v. Fischer, Apr. 8, 1922; ch.: Ernest Felix, Wolf Dieter, George Werner. Hd. of res. dept., Rohstoff Trocknungs Ges., Frankfurt-am-Main, Germany, 1922-25; chf. chem., Colloid Chem. Lab., Metallges. A.G., Frankfurt, Germany, 1925-32; chf. chem., Semperit, Austro-Amer. Rubber Wks. Ltd., Vienna, 1933-35; apptd. nonresident assoc. prof. chem. engrg., M.I.T., 1928; assoc. prof. (res.) chem. engrg., M.I.T., 1935-48; prof. colloid chem., M.I.T., 1948 to date; visiting prof. colloid chem., W.P.I., 1949 to date; conslt., Natl. Lead Co. Pioneer res. in colloid chem. of rubber and latex and clay; X-ray structure rub. and analogous high molecular cmpds.; microdissect. latex particles; inventor "Revertex" process (latex concentration); inventor "Alsifilm" (synth. mica); wk. on microporous rub. diaphragms, sev. extensive contrib. theory thixotropic gels and gel struct., surface tension and film formation, adsorption, etc.; new utramicroscopic technique for study of lyogels; new photomicrographic technique using Land-Polaroid camera. Author: "Latex" 1927, Eng. edit. 1930; "The Colloid Chem. of the Rubber Ind." 1929; 'Handbuch der gesammten Kautschuktech.," 1934; "Experiments in Colloid Chem.," 1940; "Colloidal Phenomena," 1939; "Silicic Chem." in prep. Over 200 arts. Mem.: Sec. chmn., German Soc. Rubber Chem., 1927-33; secy.-treas., Colloid Div., A.C.S., 1938; v.chmn., 1939; chmn., 1940; founder and first chmn. of Elastomers and Plastics Grp. of Northeastern Sec., A.C.S.; hon. mem., exec. comm., awarded Plaquette of German Rubber Soc., 1931; Harries M. 1933; Silver M. of Malayan Agr. Hort. Soc., 1927; mem.: A.C.S.; fellow, Inst. of Rubber Indus.; A.I.Ch.E.; A.A.A.S.; Sigma Xi; fellow, A.I.C. Club: Chemists' (N.Y.). Hobbies: photography, skiing.

HAVENHILL, Robert Samuel, dir. of rubber lab., St. Joseph Lead Co., Monaca, Pa.; res. 1286 Corporation St., Beaver, Pa.
Chem., chem. engr.; b. Lawrence, Kans., Mar. 9, 1903; s. of L.D. and Myra (Buck) Havenhill; ed. U. of Kans., Lawrence, Kans., B.S. chem. engrg. 1925; mem.: Tau Beta Pi, Sigma Xi, Alpha Chi Sigma; m. Monte Rey Breakey, June 10, 1925; ch.: Myra Winifred, John Robert. 1925-30 with B.F. Goodrich Co. in following positions: 1925-26 anal. chem., 1926-28 rubber res. chem.; 1928-30 raw matls. dev. and res.; 1930 to date with St. Joseph Lead Co. as rubber res. chem. and rubber lab. dir. Holder of pats. on zinc pigments, rubber adhesives, indust. electronic controls and electrostatic measuring equip.; designer of rubber testing equip.; author or co-author of tech. papers on zinc oxide and its use in natural and synth. rubber compds.; reinforcement, anisotropy, hysteresis and electrostatic properties of natural and synth. elastomers. Mem.: A.C.S., A.S.T.M. sub-comm. chmn. Hobbies: home workshop, motor boating, radio and television dev.

HAVENS, Richard A(aron), dir.-owner, Superior Labs., 10 West Ohio St., Indianapolis 4, Ind.; res. 3821 E. 13th St., Indianapolis 1.
Food tech., microscopist; b. Kokomo, Ind., May 27, 1909; s. of Rev. Aaron Ward and Lulu May Havens; ed. Butler U., Indianapolis, Ind., 1930-32; Ind. Bus. Coll., 1927-28, Kokomo H.S. grad. 1926; (spec. Food & Drug) U.S. Schl. for Microscopy of Foods, 1926-27 summers, and 1936-37; mem.: Butler Indep. Students Assoc.; m. Lepha Wilson, Sept. 7, 1933. 1929 Georgia State mgr. for Davis Co., Inc.; 1930 chf. fld. food tech. for Commercial Labs., Indianapolis; 1931-33 asst. to head of Butler U. Botany Dept. & instr. of Food Microscopy; 1933 to date owner-dir. of Superior Labs. (food proc. conslts., techs. and chems.). Chmn. bd. of dirs. Equipment Sales, Inc.; treas. Road Service, Inc. Co-author of copyright of "Havens-Haldeman Canners Slide Rule"; co-inventor of "Ultra-sonic Flash Homogenizers" for human food; contrib. num. arts. to sc. jls. and to "World Book" encyc. Mem.: Inst. of Food Techs., A.A.A.S. Clubs: Masonic, Chapter, Commandery and A.A.O.N.M. Shrine. Hobbies: psychology, chess.

HAWES, William Lucius, chem. engr., 437 MacCorkle Ave., So. Charleston, W. Va.; res. 1010 Valley Rd., Charleston 2, W. Va.
Chem. engr.; b. Lithia Springs, Ga., Apr. 9, 1898; s. of Lucius Adolphus and Willie Reynolds Hawes; ed. Ga. Tech., B.S. Chem. Engrg. 1920; M.I.T., M.S. Chem. Engrg. 1922; mem.: Phi Kappa Sigma; m. Effie Christie Ross, Dec. 6, 1926, (dec. Jan. 17, 1934); (2nd) Lenschen Armor Peters, Feb. 8, 1936; ch.: Christie, Sally. 1916-18 du Pont Co., Hopewell, Va., H2SO4 Lab., contr. chem.; 1922-24 du Pont Nitrate Co., oficina Pena Grande, Iquique, Chile, chem. engr., res. chg. of contr. lab., all nitrate, iodine prod. operations; 1924-28 du Pont Co., Eastern Lab., Gibbstown, N.J., chem. engr. assoc. with dev. of ammonia oxidation processes for prod. of nitric acid (in N.J.) and trouble shooting on contact sulfuric acid mfg. in Wis., Colo., Ala. 1928-29 Carbide & Carbon Chem. Corp., So. Chas., W. Va., chem. engr., res. chg. isopropyl alcohol synth. plant; 1930-43, res. chg. H2SO4 mfg. & reconcentration plants assoc. with synth. of ethyl alcohol; 1944, C.&C.C.C., N.Y.C.,

chem. engr., Liaison work between C.&C.C.C., S.A.M. Lab., Columbia U., on gaseous diffusion proc. for separating U-235, Manhattan Proj.; 1945 C.&C.C.C., Oak Ridge, Tenn., Manhattan Proj., asst. prod. supt. K-25 & K-28 gaseous diffusion plants for separating U-235; 1946-49 C.&C.C.C., So. Chas., W. Va., sr. design engr. in res. chg. design of sulfuric acid reconcentration plants; 1949 to date, chem. engr. chg. of survey of utility reguirements of entire So. Chas. plant. Res. in improvements in design, operation of air-blown sulfuric acid concentrators with particular ref. to attainment of greater economy, flexibility, elimination of fume nuisance. Mem.: A.I.Ch.E., Oak Ridge Assn. of Atomic Scs., A.A.A.S. Hobbies: theatre, theology.

HAWKES, Albert W., chmn. bd. of dir., Congoleum-Nairn Inc., 195 Belgrove Dr., Kearny, N. J.; res. 166 Upper Mountain Ave., Montclair, N.J.

Exec.; b. Chicago, Ill., Nov. 20, 1878; s. of Moses A. and Louise Restieaux (Starrett) Hawkes; ed. public schl.; Chicago Coll. of Law; Lake Forest U., LL.B.; Lewis Inst. of Chicago; honorary Chancellorship for the ensuing yr. & deg. of Dr. of Civil Laws conferred by Union Coll., June 1946; Dr. of Laws deg. conferred by Bloomfield Coll. & Coll. of S. Jersey; m. Frances Olive Whitfield, May 25, 1901; ch.: Louise R. (Hawkes) Padelford, Dr. A. Whitfield Hawkes (dec.) Major in 9th Army Med. Corps. 1893 started with Nichols Chem. Co.; Gen. Chem. Co., dir. of sales, v.p., exec. v.p.; v.p., Wing & Evans & with Allied Chem. & Dye Corp.; 1926, pres., Congoleum-Nairn, Inc., 1937 pres. & chmn. of bd.; 1943-49, U.S. Senator from N.J.; 1941, pres. U.S. Chamber of Com. now dir. & mem. of sr. council; v.p., dir., N.J. State Chamber of Com.; pres., dir., Congoleum Canada Ltd., Montreal. Michael Nairn & Greenwich, Ltd., London, England (dir.); Technicolor, Inc. (mem. exec. comm., dir.); Technicolor Motion Picture Corp. (dir.); Standard Brands Inc. (dir.). When exec. v.p., Gen. Chem. Co. served as a dir. of Chem. Alliance, Inc., Wash., D.C., during W.W. I. Stevens Inst. of Tech., mem. bd. of trustees; mem. bd. of trustees, Ithaca Coll. Clubs: Union League (N.Y.), University (N.Y.), Economic (N.Y.), Montclair Golf, Essex (Newark, N.J.), Kiwanis (N.Y.), Metropolitan (Wash., D.C.), Newcomen Soc. (England), Montclair Chapter Sons Am. Revolution. Hobbies: fishing, golf.

HAWKINS, George Andrew, prof. of thermodynamics, Westinghouse res. prof. of heat transfer, associate dir., Engrg. Experiment Stations; Purdue U., Lafayette, Ind.; res. 701 Crestview, W. Lafayette, Ind.

Prof.; b. Denver, Colo., Dec. 11, 1907; s. of George H. (dec.) and Mrs. Charles R. Stratton; ed. Purdue U., B.S.M.E., 1930, M.S.M.E. 1932, Ph.D. 1935; mem.: Kappa Beta Pi, Pi Tau Sigma, Sigma Xi, Sigma Pi Sigma; m. Alma M. Williams, Aug. 15, 1931; ch.: James Edward. Teaching: Purdue U., 1930 to date, prof. of thermodynamics; visiting prof. of engrg., U. of Calif., Los Angeles, 1949-50; res.: Purdue U., 1932 to date, Westinghouse Res. prof. of heat transfer; associate dir., Engrg. Experiment Station; grad. schl.: Purdue U., asst. dean, July 1, 1947 to date; acting dean, Feb. 1, 1948-Apr. 1, 1949. Corrosion of alloy steels by high-temp. superheated steam; heat transfer & thermodynamic res. Co-author: "Supplementary Notes on Applied Thermodynamics," with H. L. Solberg, Burgess Publ. Co., Minneapolis, Minn., 1942; "Elements of Heat Transfer & Insulation" 2nd edit., with Max Jakob, John Wiley & Sons, 1950; Author: "Thermodynamics" John Wiley & Sons, 1946. Mem.: A.S.M.E., A.I.Ch.E., A.Phys.S., Am. Soc. for Eng. Ed. Awards: Pi Tau Sigma Gold M., 1940; War Dept. Cert. of Appreciation, 1945. Clubs: B.P.O. Elks, F.&A.M. Lodge No. 724, W. Lafayette, Lafayette Country Club, Lions Internatl. Hobbies: photography, shop work.

HAWKINS, John Erskine, prof. chem. and dir., Naval Stores Research, U. of Florida, Gainesville, Fla.; res. 530 N.E. 10th Ave., Gainesville.

Chem. and educator; b. Media, Pa., May 17, 1899; s. of John Howard and Anna (Wright) Hawkins; ed. U. of Pa., B.A., 1919; B.S. in Ch.E. 1922; M.S. 1924; Ph.D. 1927; m. Trella Esther Yoder, Feb. 26, 1927; ch.: Mary Diane. 1921-22 asst. chem. U. of Pa.; 1922-32 instr. chem. same coll.; 1932-33 plant supvr. P. J. Ritter Co.; U. of Tampa, hd. dept. chem., 1933-35; U. of Ela. act. hd., chem. engr. 1935-36; asst. prof. chem., assoc. dir. naval stores res. 1936-37; assoc. prof. chem., 1937-45; prof. since 1945; dir. naval stores res. since 1946. Contrib. num. arts. in flds. of phys. chem. and naval stores to sc. jls. Mem.: A.C.S., A.I.C., A.A.A.S., E.S., Fla. Acad. Sci., A.A.U. P., Alpha Chi Sigma, Gamma Sigma Epsilon, Sigma Xi. Clubs: Gainesvilles Golf and Country. Hobbies: sports, travel.

HAWLEY, Lee F(red), retired assoc. dir. Forest Prods. Lab.; res. 1 Langdon St., Madison 3, Wis.

Retired chem.; b. Steamburg, N.Y., Feb. 12, 1882; s. of Myron C. and Kittie (Beals) Hawley; ed. Cornell U., A.B. 1903; A.M. 1905; Ph.D. 1907; mem.: Alpha Chi Sigma. Cornell, asst. and instr. chem., 1902-07; U.S. Dept. Agr., Forest Serv., chem., 1907-13; Arthur D. Little, Inc., chem. 1913-15; Forest Prods. Lab., chem. 1916 to retirement, 1942. Author of "Wood Distillation" 1923; "Wood Chem.," 1926 (with L.E. Wise). Mem.: A.C.S., Soc. Am. Foresters, Sigma Xi, Alpha Chi Sigma. Clubs: Madison, University.

HAWLEY, Thomas Gardner, Jr., dir. of res., United Merchants Laboratories, 601 W. 26th St., N.Y.C.; res. 324 Lantana Ave., Englewood, N.J.

Textile chem.; b. Chicago, Ill., June 10, 1904: s. of Thomas Gardner and Mary Dimmick Hawley; ed. 1925, B.S., Oregon State College, 1928; Ph.D., org. chem., Yale U.; mem.: Delta Upsilon, Alpha Chi Sigma, Gamma Alpha; m. Elizabeth McDonough, Feb. 25, 1933; ch.: Anne Gardner Hawley, Charles Dimmick Hawley. 1928-33, Cheney Bros., dev. chem.; 1931-34, Wallerstein Co., dev. chem.; 1934-43, U.S. Rubber Co., dev. chem.; 1943-44, Rapinwax Paper Co., asst. tech. dir.; 1944-48, Diversey Corp., dir. of res.; 1948 to present, United Merchants, dir. of res. Textile Res. Institute (dir.).

HAYDEN, Edmund McKendree, secy., v.p., dir., Stanley Chem. Co., East Berlin, Conn.; res. 367 Lincoln St., New Britain, Conn.

Tech. dir., chem. engr.; b. Colo. Springs, Colo., July 29, 1893; s. of Edmund M. and Charlotta (Pastorius) Hayden; ed. Yale 1914 B.A.; M.I.T. 1916 B.S.; mem.: Zeta Psi; m. Lloyd S. Schafer, Nov. 11, 1916; ch.: Edmund McKendree, Jr., Nancy Virginia. Merck & Co., chem. engr.; chem. engr. Bur. of Mines; 1st. Lieut. Chem. Warfare & Commanding Officer of Kingsport Plant of Edgewood Arsenal; Stanley Chem. Co., chem., tech. dir., wks. mgr. Mem.: Sigma Xi, A.C.S., A.I.C. (fellow). Clubs: Yale (N.Y.C.), Shuttle Meadow, New Britain, Collectors (N.Y.C.). Hobbies: stamp collecting, photography, golf.

HAYDEN, J(ames) David, Eastern sales mgr., R. P. Scherer Corp., 630 Fifth Ave., N.Y. 20, N.Y.; res. 240 Central Park South, N.Y.C.

Phar.; b. Erie, Mich., May 1, 1911; s. of Olin E. and Mary E. Hayden; ed. U. of Mich., class of 1931, B.S. chem. & pharmacy; mem.: Pi

Kappa Phi; m. Irene M. Reichert, July 8, 1933. 1928-31, U. of Mich. Hosp. Pharmacy, student pharmacist; 1928-31, Byron Swift, retail drug clerk; 1931, Upjohn Co., sales rep.; 1932-33, James Lyons, retail pharmacist; 1933-37, Eli Lilly & Co., sales rep.; 1937-40, Sharp & Dohme, Inc., sales rep.; 1940 to date, R. P. Scherer Corp., Eastern sales mgr. Mem.: A.C.S., Am. Pharmaceutical Assn., A.A.A.S. (fellow). Treas., Natl. Vitamin Foundation, Inc. Clubs: Rockefeller Center Luncheon, Sands Point Bath & Tennis. Hobbies: people, fishing.

HAYDEN, Oliver Mills, sales mgr., tech. chems. div., Organic chem. dept., E. I. du Pont de Nemours & Co., Wilmington, Del.; res. 1018 Overbrook Rd., Wilmington.
Chem.; b. Windsor, Conn., Aug. 20, 1893; s. of William Owen and Katherine (Mills) Hayden; ed. Clark U., A.B. 1914; mem. Locridion frat.; m. Dorothy L. Clark, Apr. 26, 1919; ch.: Mrs. Jane H. Frelick. 1914 salesman, Phoenix Mut. Life Ins. Co., Hartford, Conn.; 1915-17 adjuster, Hartford Accident & Indemnity Co., Hartford; Apr., 1917 to Oct., 1919, U.S.A. (all grades up to 1st Lt. Sanitary Corps); 1919-26, chem., Fisk Rubber Co., Chicopee Falls, Mass.; 1926-27, tech., rubber lab. org. chem. dept., E. I. du Pont de Nemours & Co.; 1927-40 mgr. same lab. and dept. of same co.; 1940-48, asst. mgr. rubber chem. div., org. chem. dept., same co.; 1948 to date, sales mgr. tech. rubber chem. div., org. chem. dept. same co. Wk. in application of natural and synthetic rubbers in industry; rubber chem. Mem.: A.C.S. Trustee and v.p. Prisoners' Aid Soc. of Del.; trustee Joseph Priestley Home (for Aged), Phila., Pa. Hobby: gardening.

HAYES, Anson, gen. management conslt. on res. and devel., Armco Steel Corp., Middletown, Ohio; res. 311 Stanley St., Middletown.
Res. and devel.; b. Sigourney, Ia., Jan. 31, 1882; s. of Daniel Webster and Katie (Lee) Hayes; ed. B.S., Drake U., Des Moines, Ia., 1908; M.S., Iowa State Coll., Ames, Ia., 1917; Ph.D., U. of Chicago, 1921; ch.: Dan M., Anson Mack, Ted. R. Instr. and principal of high schools, 1904-14; instr., asst. prof., assoc. prof. and prof. physical chem., Iowa State Coll., 1915-28; dir. of res. and v.p., Armco Steel Corp., 1928-48; dir. emeritus of res. & gen. management, conslt., 1948 to date; dir. Armzen Corp. Factors affecting rate of decomposition of iron carbide in iron carbon alloys, isolation of a heavy fraction from separation of isotopes of chlorine; devel. of non strain aging steels; devel. of hot dipped aluminum coated steels; devel. of oriented electrical steels; devel. of thermodynamics of iron carbide; devel. of new zinc coated steels. Mem.: A.C.S., A.A.A.S., A.S.M., A.I.M.E., Sigma Xi, Phi Beta Kappa, Phi Kappa Phi, Gamma Sigma Delta, Phi Lambda Upsilon; dir. of The Ohio State U. Res. Foundation. Club: Sportsman Pilots Assoc. Operates 650 acre farm in Iowa, flies own plane on business.

HAYES, Kenyon Joseph, chf., Div. of Chem., Eaton Labs. Inc., 17 Eaton Ave., Norwich, N.Y.; res. 105 So. Broad St., Norwich, N.Y.
Res. chem.; b. Attleboro, Mass., Dec. 3, 1916; s. of Louis E. and Gladys C. Hayes; ed. Brown U., Sc.B. in Chem. (magna cum laude), 1938; grad. wk., U. of Chicago and Harvard U.; m. Alice B. Kerr, Nov. 22, 1943; ch.: Margaret K., Caroline K. Instr. in chem., Hobart Coll., Geneva, N.Y., 1938-41; private asst. to Prof. Jones, Harvard U., 1941-42; Lieut., U.S.N.R., Naval Res. Lab., Wash., D.C., 1942-46; Eaton Labs. Inc., res. chem., 1946-48; chf., Div. of Chem., to date; res. in pharmaceutically useful furan and hydrazine cmpds. Author of tech. arts. Mem.: Sigma Xi, A.C.S., Alpha Chi Sigma. Hobbies: antiques, hunting.

HAYNER, Joseph Halmer, chf. chem. engrg., U.S. Atomic Energy Comm., Wash., D.C.; res. 9719 Kingston Rd., Kensington, Md.
Chem. engr.; b. Troy, N.Y., Apr. 30, 1903; parents deceased; ed. Ch.E., Rensselaer Poly. Inst., 1924, M.S. in Ch.E. (scholarship) Carnegie Inst. of Tech., 1925; mem.: Sigma Nu; m. Loretta M. Carlin, June 13, 1942. Dev. engr., Leeds & Northrup Co., 1925-29; conslt., Amer. Diatom Co., 1929; chf. sales service, E. I. du Pont Co., 1929-36; asst. chf. test engr., Amer. Locomotive Co., 1936-41; U.S. Treasury, 1941-43; sr. tech. asst., W.P.B., 1943; asst. chf. metallurgical engr., Bendix Aviation Corp., 1943; to date chf. chem. engrg., div. of eng., Manhattan Project, Atomic Energy Comm. Res. in dev. of photo electric cell, washable wall paper, safety shoe, non-inflammable lacquers, textile fire-proofing, nuclear reactor matls. Mem.: A.C.S., A.I.Ch.E., A.A.A.S., Sigma Xi, Tau Beta Pi, Professional Eng. Lic. No. 20477 N.Y. Clubs: Congressional (Wash., D.C.), Engineers (Phila.), Chemists' (N.Y.). Hobbies: golf, swimming, gardening.

HAYNES, Charles Rogerson, mgr., rubber service, Binney & Smith Co., 41 E. 42nd St., New York 17, N.Y.; res. 405 E. 54th St., New York 22, N.Y., also Carter Hill, Clinton, Conn.
Chem. engr.; b. Dedham, Mass., July 18, 1882; s. of Frederic Marshall and Annie Louise (Rogerson) Haynes; ed. Hyde Park Mass. High Schl., S.B., M.I.T., 1904; m. Annette Austin of Galveston, Tex., July 21, 1915. Chem., Boston Rubber Shoe Co., 1904-07; res. chem. and foreman, Boston Woven Hose and Rubber Co., 1907-12; chf. chem. and asst. supt., Mechanical Rubber Co. of Cleveland, 1912-15; chf. chem. and supt., Goodyear Metallic Rubber Co., 1915-19; tech. dir., Footwear Factories (U.S. Rubber Co.) 1919-28; factory mgr., Boston Rubber Shoe Co., 1928-31; asst. purch. agent, U.S. Rubber Co., 1931-34; mgr., rubber serv., Binney & Smith Co., from Jan. 1, 1935 to date. Mem.: A.C.S. (secy. of its div. of rubber chem. since 1946). Club: Engineers (N.Y.). Hobby: music (piano and orchestral).

HAYNES, Chester W., pres. and treas., C. W. Haynes Labs., 61 Chandler St., Springfield 4, Mass.; res. 130 Rogers Ave., West Springfield, Mass.
Chem.; b. Springfield, Mass., Mar. 30, 1895; s. of J. Everett and Ella (Rice) Haynes; ed. Bradford Durfee Text. Schl., Fall River, Mass.; m. Helen Stacy, Mar. 1, 1924; ch.: Robert S., Marcia Elizabeth, Marilyn. 1917-18 chem. anal. res. wk. Hersey Co.; 1919-20 salesman, J.B. Ford Co.; 1920-22 chf. dyer, Bay State Thread Wks.; 1922-24 salesman, Natl. Aniline & Chem. Co.; 1924-25 asst. supt. Adams Mfg. Co.; 1925-27 salesman, Natl. Aniline & Chem. Co.; with C. W. Haynes Labs., (org. 1927, inc. 1930). Pres. & treas.-dir. res., Haynes Prods. Co.; private, C. W.S., 1918-19; res. on dev. and mfg. lacquers and syn. finishes; lemon and lime juice, new form of mfg. Mem.: A.F.&A.M., Hampden Lodge, Melha Temple, Shrine. Clubs: Rotary, Springfield Yacht and Canoe (pres. 1923). Longmeadow Country Club. Hobbies: boating, golf.

HAYNES, (Nathan Gallup) Williams, conslt. chem. economist, author, publisher, 161-63 Water St., Stonington, Conn.; res. Stonecrop Farm, Stonington.
Conslt. chem. economist, author, publisher; b. Detroit, Mich., July 29, 1886; s. of David Oliphant and Helen Dunham (Williams) Haynes; ed. Johns Hopkins, spec. student in chem., biology, economics, 1908-11; mem.: Delta Phi; m. 1st, Elizabeth Bowen Batchelor, June 10, 1911; m. 2nd. Dorothy Farrand, June 5, 1926; ch.: Elizabeth (Mrs. Richard Simons), Rhoda Farrand, Helen. Publisher of Drug & Chem. Markets, 1920, estab.

as separate papers, Drug & Cosmetic Industry, 1926-31, and Chemical Industries, 1926-39; Plastic Products (now Modern Plastics), 1932-34; pres., Haynes Pubs. Inc. 1920-39; pres. Haynes & George Co. since 1930; pres. Pequot Press since 1945; editor, "Chemical Who's Who" since 1928; editor-in-chf., Am. Industries Series, Doubleday & Co., since 1948. Mem. Hoover Comms. of Business Pubs. and Chem. Stds., 1919-21; organized Salesmen's Assoc. 1921, (secy. 1921-23, Exec. Comm. 1924-30); chmn. Joint Comm. on Uniform Sales Contract, 1924; mem. Advis. Comm. Chem. Exposition, 1924-39; mem. Chem. Round Table, Williamstown Inst. Politics, 1926; Brackett Lecturer, Princeton U., 1936; dir., The Chemical Fund, 1937-40. Author: "Chemical Economics," 1933; "Men, Money & Molecules," 1935; "Chemistry's Contribution," 1936; "Chemical Pioneers," 1939; "Sulphur, the Stone that Burns," 1942, 2d. edit., 1950; "Rationed Rubber" (with Ernst Hauser), 1942; "This Chemical Age," 1942, 2d. edit., 1943; English edit., 1945, Spanish transl., 1943, Portuguese, 1945, Italian, 1946, French and Swedish, 1947; "The Chemical Front," 1943, Spanish Translation, 1945, Portuguese, 1946; "American Chemical Industry: a History," 6 vols., 1945-50; "Southern Horizons," 1946; "The Stonington Chronology," 1949; "Cellulose, the Chemical that Grows," 1950. Mem.: A.C.S. (Council 1922-26); S.C.I. (London); Am. Econ. Assoc.; Am. Historians.; Conn. Hist. Soc.; Newcomen Soc.; fellow, Royal Econ. Soc.; hon. mem. Salesmen's Assoc.; Phila. Chem. Club; R.I. Kennel Club; St. Hubert's Soc.; Princeton Engrg. Soc. Trustee, Pequot-sepos Wildlife Sanctuary, since 1945; chmn., Stonington Tricentenary Comm., 1949. Clubs: Chemists' (N.Y.C.); Lawn (New Haven); Ariston (New London); Wadawanuck (Stonington). Hobbies: breeding and showing fox terriers; antiquities and early hist.; colored photography.

HAYNES, William G., res. chem., Union Pacific R.R. Co., Omaha 2, Nebr.; res. 2859 Corby St., Omaha 10.
Res. chem.; b. Wash., D.C., 1892; s. of William H. and Elizabeth A. Haynes; ed. U. of Pitts., 1914, B.S.; m. Eleanor Pulpress, June 2, 1919; ch.: William P. Richardson Drug Co., asst. chem., 1914-16; Union Pacific R.R. Co., 1916 to date. Mem.: A.C.S. Hobbies: photography, electricity.

HAYS, Edwin Everett, dir. of biochem. res., Chem. Res. & Dev. Div., Armour & Co., Chicago, Ill.; res. 528 So. Main St., Lombard, Ill.
Biochem.; b. Denver, Colo., Oct. 28, 1915; s. of Fred W. and Julia (Skillen) Hays; ed. U. of Denver, B.S. 1937; U. of Colorado, M.S. 1939; U. of Chicago, Ph.D. 1942; m. Marian Ferril, Dec. 26, 1939; ch.: Sandra Ann, Cynthia Mae. 1935-37 chem. res. asst., U. of Denver; 1937-39 chem. res. asst. U. of Colorado; 1939-42 biochem. res. asst. U. of Chicago; 1942-44 instr. in biochem., 1944-46 sr. instr. in biochem., St. Louis Univ. Schl. of Med.; 1946-48 asst. prof. in biochem., U. of Vermont Coll. of Med.; 1948-49 sect. hd., Armour & Co. res. div.; 1949 to date dir. of biochem. res., Armour & Co. res. div.; res. in pituitary hormones, thyroid and liver fractions. Mem.: Sigma Xi, Phi Lambda Upsilon, A.S.Biol.C., Soc. Exp. Biol. and Med., Am. Assoc. for Study of Endocrinology, A.A.A.S., A.C.S., N.Y. Acad. Scs.

HAYWARD, George M., individual operator, 601 Westover Rd., Kansas City, Mo.
Chemical sales; b. Kansas City, Mo., June 10, 1891; s. of Francis M. and Kate Hayward; ed. Central High, Kansas City, Mo., and Prep.; m. Ellen A. Jackson, Oct. 7, 1916; ch.: Thomas R., Jean Adair. Food & Drug inspection, Kansas City, Mo., 1912-15; Peet Bros. Mfg. Co., 1915-17;; Thompson Hayward Chem. Co., 1917-45; sales, warehousing and chem. proc., carbon & charcoal prod., 1945 to date. Club: Rockhill Tennnis. Hobbies: tennis, bridge, travel.

HAYWARD, Ralph Malcolm, Jr., business mgr., res. & dev. div., Merck & Co. Inc., Rahway, N.J.; res. 1276 Central Ave., Westfield, N.J.
Exec.; b. Salem, Mass., Nov. 9, 1918; s. of R.M., Sr. and Alice (Millett) Hayward; ed. M.I.T., B.S. 1940; m. Grace Darling; ch.: R.M., III, Hilary D. 1940 to date, wtih Merck & Co. Inc.

HAZEL, George R., med. dir., Abbott Labs., North Chicago, Ill.; res. 409 Witchwood Lane, Lake Bluff, Ill.
Med. exec.; b. Longansport, Ind., Apr. 12, 1907; s. of Richard and Elizabeth Hazel; ed. Indiana U., B.S., M.D. 1931; mem.: Phi Chi, Delta Chi; m. Frances Berg, Mar. 16, 1940; ch.: Carol Ann. 1931-34 intern. res. and chf. res. Lucas County (Maumee Valley) Hosp.; private practice of med. Hobart, Indiana, 1934-35; special med. rep. Abbott Labs., 1935-39; medical dept., 1939-42; clinical res. dir., 1942-50; med. dir. 1950. Mem.: Ill. State Med. Soc., A.M.A. Club: Glen Flora Country. Hobbies: golf, reading.

HAZLET, Stewart E(merson), Dean of the Graduate Schl. and Prof. of Chem., The Graduate School, The State College of Washington, Pullman, Wash.; res. 212 Pioneer Way, Pullman, Wash.
Dean; b. Freeport, Ill., Feb. 4, 1910; s. of Luther A. and Veretta M. (Voorhees) Hazlet; ed. A.B., U. of Dubuque, 1931; M.S., State U. of Iowa, 1933, Ph.D., 1935. Honors. Mem.: Sigma Xi, Phi Lambda Upsilon, Pi Kappa Delta; m. Ann Louise Crow, Dec. 26, 1936; ch.: Ruth Ann, Stewart Kirk, William George. Grad. asst. in chem. U. of Iowa, 1931-35; instr. in chem., George Washington U., 1935-36; instr. in chem., State Coll. of Washington, 1936-41; asst. prof., 1941-45; assoc. prof., 1945-47; prof. since 1947 and Dean of The Graduate School since 1947; instr. in math. U. of Dubuque, (summer) 1931, instr. in org. chem., U. of Ill., (summer) 1936. Res. in amides of benzene sulfinic and benzene sulfonic acids; esters of sulfonic acids, derivatives of vanillin; substitutions in esters containing diphenyl groups; crossed Cannizzaro reactions; derivatives of phenothiazine; reductions with activated iron. Mem.: A.C.S., A.A.A.S., Acad. of Sc. (Iowa), Northwest Science Assn., Alpha Chi Sigma. Club: Rotary.

HAZLETON, L(loyd) W(alter), dir. Hazleton Labs., P.O. Box 333, Falls Church, Va.; res. same.
Pharmacology; b. Chelan Falls, Wash., Feb. 4, 1911; s. of William H. and Mabel (Croker) Hazleton; ed. B.S., U. of Wash., Seattle, 1933; M.S. 1937; Ph.D. (pharma.) 1939; m. Harriet Rosenzweig, 1939; ch.: Harriet Elaine, William Lloyd, Mary Janet. Instr. in pharma., Georgetown U. Med. Schl., Wash., D.C. 1939-40; asst. prof., Geo. Washington U. Schl. of Pharm., Wash., D. C., 1940-45; assoc. prof., 1945-46; owner and dir., Hazleton Labs., Falls Church, Va., 1946 to date; spec. lecturer in pharma. Georgetown U. Med. Schl., Wash., D.C. 1948 to date. Wk. in fld. of toxicology. Mem.: Sigma Xi. Phi Sigma. Rho Chi, Am. Soc. for Pharma. & Experimental Therapeutics, S.E.B.M., A.C.S., Am. Indust. Hygiene Assoc., A.Phar.A., A.A.A.S.; winner of Ebert Prize (A.Ph.A.) 1946.

HEAD, Robert Carl, chem. engr., drug prods. div., Procter & Gamble Co., M.A.&R. Bldg., Cincinnati 17, Ohio; res. 795 Greenville Ave., Glendale, Ohio.
Chem. engr.; b. Cleveland, Ohio, June 29, 1910; s. of Louis Hayes and Cora Bertha Head; ed.

Case Inst. Tech., B.S. Chem. engr. 1933; mem.: Alpha Chi Sigma; m. Hilda Louise Bonacker, Apr. 25, 1936; ch.: Diana, Jonathan. Gen. Chem. Co., Willow, Ohio, anal. chem. 1933-34; Diamond Alkali Co., Painesville, Ohio, dev. engr. 1934-41; Stand. Silicate Div. Cincinnati, Ohio, plant engr. 1941-43; Procter & Gamble Co., Cincinnati, Ohio, div. engr. 1943-48; chem. engr., drug prods. div., 1948 to date. Dev. continuous crystallization proc. Mem.: Sigma Xi; A.I.Ch.E. Hobbies: gardening, woodworking.

HEADINGTON, Clifford E., div. res. dir., The Atlantic Refin. Co., 2700 Passyunk Ave., Phila., Pa.; res. 525 Country Club Lane, Havertown, Pa.
Chem.; b. Decorah, Iowa, May 1, 1905; s. of E. A. and Nellie M. Headington; ed. Upper Iowa U., A.B. 1927; Iowa State Coll., M.S., 1929; m. Marion E. Hull, 1931; ch.: Edward E., Daryl C. (dec.). 1929-44 chem., 1944-47 anal. supvr., 1947 to date div. dir. of res., Atlantic Refin. Co., res. and dev. dept.; anal. res. on petroleum and its prods.; appls. of mass, infra red, ultraviolet, emission, X-ray, Raman and microware spectroscopy. Mem.: A.C.S., A.P.I. Hobbies: astronomy, minerology, genealogy.

HEADLEE, Alvah John Washington, chf. chem., W. Va Geological Survey, Box 879, Mineral Industries Bldg., Morgantown, W.Va.; res. R.D. No. 4, Morgantown.
Chem.; b. Spraggs, Pa., Apr. 16, 1902; s. of O. A. and Hannah (Mariner) Headlee; ed. Waynesburg, Pa., B.S.; W. Va. U., Morgantown, W. Va., M.S. and Ph.D.; mem.: Delta Sigma Phi; m. Mary Evelyn Jones, Dec. 22, 1924; ch.: Mary Kathleen, Hannah Ruth, Linden Ralph, Nancy Christine, David Alvah. 1924-28 principal, Aleppo Township H.S.; 1929-34 grad. asst., W.Va. U.; 1935 to date chem., W.Va. Geological Survey; res. in geochemistry of natural gas, petroleum and oil. Author: "Characteristics of Minable Coals of West Virginia," pub. 1940; "Physical and Chemical Properties of Natural Gas in W. Va.," pub. 1937. Mem.: W.Va. Acad. of Sc., Appalachian Geolog. Soc., Spectroscopy Soc. of Pittsburgh, A.C.S., A.P.I., Phi Lambda Upsilon, Sigma Xi, A.A.A.S.

HEALD, Robert Franklin, hd. soaps div., res. & dev. dept., Colgate-Palmolive-Peet Co., 105 Hudson St., Jersey City, N. J.; res. 27 Hampton Pl., Nutley 10, N.J.
Res. chem. engr.; b. Lincoln, Nebr.; s. of Matt and Blanche (Knepper) Heald; ed. B.Ch.E., 1922 Ohio State U., Ph.D. 1927; M.S., 1925, U. of Ill.; mem.: Phi Lambda Upsilon; m. Theo Ruth Morrow, June 14, 1922; ch.: Theo Jean, Jo Ann. June 1922-Aug. 1923, chem., Swift & Co., Chicago, Ill.; 1927-28, du Pont Cellophane Co., Buffalo, N. Y., res. chem. engr.; 1928-June 1929, Barrett Co., Phila., Pa., res. chem. engr.; June 1929-Oct. 1931, Swan Corp., Anniston, Ala., res. chem. engr.; Apr. 1932 to date, Colgate-Palmolive-Peet Co., Jersey City, N.J., hd. soaps div., res. & dev. dept. Mem.: A.I.Ch.E., Sigma Xi, Oil Chemists Soc., A.C.S. Pres., Nutley Historical Soc,. Nutley, N.J. Club: Masonic. Hobbies: woodworking, antiques.

HEALY, John J. Jr., asst. gen. mgr., Merrimac Div., Monsanto Chem. Co., Everett Station, Boston 49, Mass.; res. 211 St. Paul St., Brookline, Mass.
Exec.; b. Boston, Mass., July 10, 1899; s. of John J. and Mary (Gately) Healy; ed. Harvard Coll., 1915-19, A.B. chem. 1919; M.I.T. 1919-21, B.S. chem. engrg. 1921; m. Mary A. Croker, Oct. 5, 1929. Merrimac Chem. Co., wks. chem. 1921-22, res. chem. 1922-26, group leader sulfuric acid res. 1926-30; Monsanto Chem. Co., Merrimac Div., in chg. of tech. serv. 1930-35, dir. of dev. 1935-47, asst. gen. mgr. 1947 to date. Mem.: A. C.S. (chmn. Northeastern Sec. 1940, councilor 1942-45, 1947-48), A.I.Ch.E. (chmn. Boston sec. 1935-36, dir. 1948 to date, admissions comm. 1944-49, chmn. local sec. comm. 1948 to date), A.I.C., Am. Soc. for Engrg. Ed., Engrg. Societies of N. E., Chem. Market Res. Assn., Com. Chem. Dev. Assn., S.C.I. Clubs: Harvard (Boston), Harvard (N.Y.), Chemists' (N.Y.), Tennis & Racquet (Boston), Scituate Harbor Yacht, M.I. T. Club of N.Y. Hobby: fishing for cod & haddock.

HEARON, William Montgomery, asst. dir. res., Central Res. Dept., Crown Zellerbach Corp., Camas, Wash.; res., 305 N.E. 7th St., Camas.
Res. chem.; b. Kankakee, Ill., Feb. 20, 1914; s. of William Edward and Dora (Wilson) Hearon; ed. U. of Denver, B.S., 1935; M.S., 1937; Mass. Inst. Tech., Ph.D., 1940; mem.: Lambda Chi Alpha; m Barbara Cutting Olsen, Dec. 16, 1944; ch.: Steven Edward. 1938, summer, Eastman Kodak Co. (Rochester), mfg. chem.; 1940-43 Eastman Kodak Co., res. chem.; 1943-46, U.S.A., Manhattan Corps of Engrs., Major; 1946-47, M.I. T., (Cambridge, Mass.), asst. prof.; 1947 to date, asst. dir. res., Crown Zellerbach Corp. Res. in Nitro group, heterocyclics, carbohydrates, cellulose, wood chem. pulping. Published several jl. articles. Carl Melzer Award, U. Denver; A. D. Little Fellow, M.I.T.; mem.: Phi Lambda Upsilon, Sigma Xi, A.C.S,. A.A.A.S., T.A.P.P.I. Hobbies: tennis, music.

HEATH, Fred Harvey, prof. of chem., U. of Fla.; res. 561 N.E. 7th Ave., Gainesville, Fla.
Chem. prof.; b. Werner, N.H. Feb. 25, 1883; s. of Benj. F. and Julia A. Wadleigh Heath; ed. B.S., U. of N.H., Ph.D., Yale U.; one summer at U. of Marburg, Germany; ch.: Frank H. Instr., physical chem., at M.I.T., 1909-10; instr., Case School, Cleveland, O., 1910-11; instr., Wesleyan U., Conn., 1911-12; instr. and asst. prof., U. of No. Dakota 1912-17; asst. prof. U. of Washington, (Seattle), 1917-23, chem. prof., Florida, 1923 to present. Has taught chem. of photography for 20 yrs. Res. of water State of N. Dak., platinum ores of Washington; invented selenium mustard gas, 1918; reserve officer chem. warfare "Gas conslt." on Fla. State Defense Council, W.W. II. Res. on anal. chem., sponges. etc. Co-author with Tennant and Ward, brief book on chem. of photography. Lab. Manual of Quant. Analysis, 2nd ed., 1920-21, Lab. Manual of Gen. Chem. & Quiz Book, 1924-26. Text book (jointly), Gen. Chem. 1925. Adv. Experiments Gen. Chem. 1935. Mem.: A.C.S. (pres. of Puget Sound and Fla. sections, several terms councilor of Fla. section); active in Div. of Chem. edu. of the A.C.S. and for some time past, a member of its sub. comm. on examinations in qual. and quant. analysis; helped on its survey of content of courses in anal. chem. in about 200 colls. and univs.). Mem.: Sigma Xi, Phi Kappa Phi, Alpha Chi Sigma, Gamma Sigma Epsilon. Club: Rotary. Hobbies: astronomy, photography, wood work.

HEATH, Ronald Wayland, v.p., Signal Oil and Gas Co., 811 W. 7th St., Los Angeles, Calif.; res. 5454 E. Ocean Blvd., Long Beach, Calif.
Chem. engr.; b. San Jose, Calif., Feb. 11, 1899; s. of Harold and Elsie Shelly Heath; ed. B.A., Stanford U., 1920; mem.: Phi Delta Theta; m. Olivia Van Anda, Aug. 3, 1928; ch.: Ronald Byers, Shelly. Engr., City of Palo Alto, 1922-23; engr., mgr. gas dept., 1928 to —, dir. 1947 to —, v.p. 1948 to —; Signal Oil and Gas Co., Signal Royalties Co., dir. and v.p. Past pres., Calif. Natural Gasoline Assoc.; misc. tech. arts. on natural gasoline operations. Mem.: A.P.I., A. I.M.E., Calif. Natural Gasoline Assoc. Professional Chem. and Mechanical Engr., (Calif.).

Club: Pacific Coast Club (Long Beach). Hobbies: swimming and research.

HEATH, Roy E., mgr., industrial detergents dept., Wyandotte Chems. Corp., Wyandotte, Mich.; res. 26277 E. River Rd., Grosse Ile, Mich.
Chem.; b. Hastings, Mich., Feb. 6, 1915; s. of George B. and Lenore C. Heath; ed. Muskegon Jr. Coll., 1934; Albion Coll., 1936, A.B.; Western Reserve U., 1940, Ph.D.; mem.: Sigma Chi, Alpha Chi Sigma; m. Anne E. MacLaughlin, July 1, 1937; ch.: Christine A., Cheryl L. Scholar, Western Reserve U., 1936-37; Natl. Carbon Research Fellow, Western Res. U., 1937-39; lecturer in chem., Western Res. U., 1939-40; instr. in chem., U. of Wis., 1940-42; mgr. Market Res., Michigan Alkali Co., 1942-43; mgr., Market Res., Wyandotte Chemicals Corp., 1943; res. grp. ldr. and section hd., Manhattan Proj., U. of Chicago, 1943-44; mgr., Industrial Detergents Dept., Wyandotte Chems. Corp., 1945 to date. Mem.: A.C.S., E.S., Armed Forces Chem. Assoc., Am. Electroplaters Soc., Sigma Xi, Delta Sigma Rho, Phi Rho Pi. Hobbies: boating, woodworking.

HEBBARD, George Miller, v.p. of operations, The Davison Chem. Corp., Davison Chem. Bldg., Baltimore 3, Md.; res. 100 River Dr., Bay Ridge, Annapolis, Md,
Chem. engr.; b. Washington, D.C., Dec. 14, 1908; s. of George Edward and Ottilia Charlotta Hebbard; ed. Lehigh U., Bethlehem, Pa., 1925-29; Ch.E. (cum laude); U. of Mich., Ann Arbor, Mich., 1931-33 Sc.D. in chem. engrg.; m. Ina Jean, Nov. 29, 1933; ch.: G.M., Jr., Joan O. 1933-34 with The Dow Chem. Co., Midland, Mich., in following positions: chem. engr.; asst. to pres.; engr. mgr., Styrene Div.; plant supt. Dow Styrene Plant; 1945 admin. off. in chg. prod. div., off. of rubber res.; 1945-46 deputy dir., Off. of Rubber Reserve, RFC., Wash., D.C.; 1947 to date v.p. operations. The Davison Chem. Corp. Mem.: A.I. Ch.E.; Chem. Soc. of Wash.; A.C.S.; Mem. State Bd. of Registration for Prof. Engrs. & Land Surveyors; A.A.A.S. Clubs: Maryland; Sigma Xi; Phi Lambda Phi; Sigma Phi Soc.; Tau Beta Pi. Hobbies: yachting, fishing, hunting.

HEBERT, Raymond L., asst. res. chem., Darworth, Inc., Div. of Ensign Bickford, Simsbury, Conn.; res. 22 Belden Terrace, Simsbury, Conn.
Chem.; b. Lawrence, Mass., Dec. 21, 1913; s. of Napoleon and Josephine Gaudreau Hebert; ed. Lowell Textile Inst., 1939; extension courses in chem., physics, art, Boston U., 1943-46. Control chem., Bennett Inc., Lawrence, Mass. 1942; supvr. of control and production, Cuprinol Inc., Boston, Mass. 1943-46; control chem., Kalix Mills, Lawrence, Mass., 1946-47; asst. res. chem. Darworth, Inc., div. of Ensign Bickford, Simsbury, Conn., 1948-50. Hobbies: music, art, horticulture.

HECKEL,, Fred J., conslt. chem. and indust. chem., 57 Main St., Room 4, Bradford, Pa.; res. 47 William St. Bradford, Pa.
Chem. and oil prodncer; b. Buffalo, N.Y., Aug. 22, 1875; s. of Fred and Jane Heckel; ed. Penn. State Coll., State College, Pa., B.S. 1899; M.S. 1912; mem.: Kappa Sigma, Theta Nu Epsilon. Chem., Rock Glycerine Co.; chem. assayer, metallurgist for Montana Ore Purchasing Co., Butte, Mont. 1900-02; with Grand Encampment Smelting Co., 1904; mfg. chem. for Lewis Run Mfg. Co., T.H. Quinn & Co., Custer City Chem. Co., 1911-14; estab. gen. lab. 1914; res. on the var. prods. from the hardwood destructive distillation of wood; holds U.S. pat. on "Plastics and Processes for Prod. Same," 1940. Treas. and mgr., Heckel Oil Co.; treas. and mgr. Bigshanty Oil Co., Petroleum Engrg. & Oil Scout, Bradford, Pa. oil field. Mem.: A.C.S. Clubs: Bradford Club, Masonic Lodges and Consistory, Mecca Shrine, N.Y., B.P.O.E. Elks Lodge, Bradford, Pa.; Circus Saints & Sinners Club, Lillian Litzel Tent, Bradford, Pa. Penn. State Archery Assoc., Ancient Order Fireside Pumpers. Hobby: hunting with bow and arrow.

HECKER, Arthur E., gen. staff, Am. Cyanamid Co., 30 Rockefeller Plaza, N.Y.; res. 77 Park Ave.
Mech. engr.; b. Greenville, Pa., Oct. 9, 1891; s. of James S. and Frances L. Hecker; ed. U. Mich., 1913-17, B.S.M.E.; mem.: Tau Beta Pi; m. Mary C. Garrett, Dec. 23, 1949. Tech. apprent., 1909-12, Morgan Engrg. Co., Alliance, O.; U. Mich., 1913-17 degr. M.Engr.;, Am. Steel Foundries, engr., Ind. Harbor, 2 mos.; U.S.A., July, 1917-July, 1919, Capt. Ord. Dept., first plant for fixation of nitrogen in U.S.A.; fixed nitro labs., Wash., D.C., 1919-22, dev. high pressure technique; Mathieson Alkali Wks., 1924-29, designed, built, operated 1st 300 atmospheric nitro. plant U.S.A., later was supt. of enlarged installation; 1929-40 Nitrogen Engrg. Corp., now Chem. Constr. Corp., res. engr. on nitro. plant constr. in Europe, Russia, Japan, China, res. rep. France, 3 yrs., Eng. 3yrs.; 1940-42 res. mgr. constr. Welland Chem. Wks., gen. mgr.; 1942 to date pres.; 1941-45 v.p., pres. Chem. Constr. Corp.; 1945-49 chf. engr. Am. Cyanamid Co.; 1949 to date gen. staff. Mem.: A.S.M.E., A.C.S. Club: Univ.

HECKERT, Winfield Walter, mgr. tech. div., rayon dept., E. I. du Pont de Nemours & Co., Inc., Nemours Bldg., Wilmington, Del.; res. Ravine Rd., R.D. 3, Wilmington.
Chem.; b. Kasson, Minn., Dec. 19, 1902; s. of John W. and Winifred (Yahn) Heckert; ed. Miami U., B.S. 1923; Ohio State U., M.A. 1926, Ph.D. 1928; mem.: Gamma Alpha; m. Clarice M. Upson, Sept. 9, 1933; ch.: John Upson, Frances Eleanor, Rowena Louise, Clark Webster. E.I. du Pont de Nemours & Co., Inc.: res. chem., chem. dept., Aug. 1, 1928-July 1, 1938; res. supvr., rayon dept., nylon div., July 1, 1938-Sept. 23, 1940; res. mgr. of nylon res. sec., tech. div., Sept. 23, 1940-Sept. 1, 1942; asst. dir., nylon res. sec. Sept. 1, 1942-Jan. 1, 1947; dir., nylon res. sec., Jan. 1, 1947-July 1, 1947; dir., acetate res. sec., July 1, 1947-Feb. 1, 1949; asst. mgr., tech. div., Feb. 1, 1949-Apr. 1, 1950; mgr., tech. div., Apr. 1, 1950 to date. Delusterants & dye-modifiers for rayon, crush-resistant velvets, nylon spinning processes. Mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, A.C.S. Club: Torch. Hobbies: gardening, bee-keeping.

HECKMAN, Eugene M., chem., technician, B. K. Elliott Co., Pittsburgh, Pa.; res. 807 Orchard Ave., Avalon, Pittsburgh 2, Pa.
Chem.; b. Pitts., Pa.; s. of Jos. C. and Agnes M. Heckman; ed. U. of Pa., Phila., Pa.; mem.: Kappa Alpha; m. Margaret Marie Sauer, Oct. 4, 1916; ch.: Margaret Agnes, Josephine Marie. Am. Mineral Prods. & Color Co., chem., supt.; Am. Pigment Co., chem., supt.; B.K. Elliott Co., chem., technician. Iron hydroxides reclaimed from waste sulphur mud & used in purification of gas (patented); iron oxide for use in syn. dry cleaning solvents as filter aid (patented); tone control meths. in prod. of iron oxide pigments from iron sulfate; res. in fld. of light sensitive photographic emulsions. Hobbies: photography, wood working.

HEDGES, Charles Cleveland, professor, dept. chem., A.&M. Coll. of Texas; res. Coll. Station, Texas.
Educator chem. engrg.; b. Walton, Ky., Sept. 22, 1884; ed. Ky., B.S. 1906; Cornell, A.B., 1908, Ph. D. 1912; m. Eula Howard; ch.: 1 son, 1 daughter. Cornell U., asst. instr. chem. 1906-08, instr. chem.

1908-12; A.&M. Coll. Texas, assoc. prof. chem., chem. engrg. 1912-13, hd. dept. 1913-48; 1948 to date, Professor Stud. Army Train. Corp., A.&M. Coll. Texas, res. div., teaching staff 1914-18. Author: "Lab. Manual Agr. Chem.," "Lab. Manual Inorg. Chem. Qualit. Anal.," "Applic. Chem. to Agr." Mem.: A.C.S. Clubs: Masons (Shrine, Comdry., Chap., Counc., Blue Lodge), Rotary.

HEDGES, William D(reisbach), chem. supt., Columbus Coated Fabrics Corp., Columbus, Ohio; res. 1182 Parkway Dr., Columbus 12, O. Chem.; b. Ashville, Ohio, Apr. 1, 1909; s. of Benj. O. and Anne D. Hedges; ed. B.S., Miami, Ohio, 1931; M.A., Boston, 1932; m. Georgiana Lee Lindsay, Mar. 21, 1936. Chem., 1933-40, chem. supt., 1940 to date, Columbus Coated Fabrics Corp.; civilian with Office Quartermaster Gen.; Fld. Info. Agency Tech.; Office Mil. Govt., Germany, Chem. Soc. Alkyd resin, vinyl paste dev.; syn. resins paints; German coated fabric ind. Mem.: A.C.S., A.S.T.M.

HEDKE, Richard Carl, v.p. and mng. dir., Eaton Chem. and Dyestuff Co., 1490 Franklin St., Detroit, Mich.; res. 2607 Riverside Dr., Trenton, Mich.
Exec.; b. Neuwedel, Germany, Oct. 16, 1885; s. of Gustave and Bertha (Block) Hedke; ed. pub. schls. of Cleveland, Ohio, and Trenton, Mich.; m. Louise L. Lilley, June 22, 1907; ch.: Genevieve, (Mrs. Herschell Blanks); Charlotte (Mrs. George W. Mans); Evelyn, (Mrs. H.K. Robinson); Janet, (Mrs. George F. Pinkerton). 1907 salesman; 1911-17 sales mgr:; 1911-20 secy.; 1921 to date v.p. and mgr. dir. Eaton Chem. and Dyestuff Co.; dir. United Savings Bank of Detroit. Mem.: Acdy. of Political Sc.; Fellow: Natl. Geographic Soc.; decorations: Order Chevalier de la Legion d'Honneur (France); Gold M. Order of Merit of the Lebanese (Lebanon). Dir. and past pres. Detroit Convention and Tourist Bur.; past pres. Tuberculosis Soc. of Detroit and Wayne Co.; mem. Advisory Bd. Salvation Army; dir. of Detroit Inter-Amer. Center and of the Detroit Civic Light Opera Assoc.; mem. Detroit Area Council of Boy Scouts and dir. of Boys' Club of Detroit. Clubs: Rotary (Detroit), past pres. Rotary Internatl. 1946-47; Athletic (Detroit); Grosse Ile Golf and Country.

HEFFERNAN, Howard Jerome, gen. mgr. of sales, Monsanto Chem. Co., Chemical Lane, Everett Station, Boston 49, Mass.; res. 57 Lothrop St., Beverly, Mass.
Gen. mgr. of sales; b. Hoboken, N.J., Sept. 8, 1897; s. of William and Minnie V. Heffernan; ed. Demarest H.S., Hoboken, N.J.; Lafayette Coll., Easton, Pa., 1 yr.; Fordham Law Schl., N.Y.C., 1 yr.; mem.: Sigma Nu; m. Dorothea Fuller, Sept. 4, 1948; ch.: Howard J. Entered Monsanto 1926 as salesman, N.Y. office; 1929 made Branch Mgr., N.Y. office; 1945 made asst. gen. mgr. of sales, Monsanto, Everett, Mass.; 1947 to date, gen. mgr. of sales.: Mem.: Mfg. Chemists' Assoc., Synthetic Organic Chemical Mfrs. Assoc., Compressed Gas Assoc., Inc. Clubs: Algonquin (Boston), Chemists' (N.Y.), Salem Country (Salem, Mass.), BIMS of Boston, Amer. Marketing Assoc. Hobbies: golf, baseball.

HEFLEY, Dana G., chf. res. engr., Dowell, Inc., 524 Kennedy Bldg., Tulsa, Okla.; res. 3304 S. Utica, Tulsa, Okla.
Chem. engr.; b. Muskogee, Indian Territory, Jan. 25, 1906; s. of John T. and Minnie Rose Hefley; ed. B.S. in chem. engrg., U. of Okla., 1926, M.S. in engrg., U. of Okla., 1927; mem.: Tau Beta Pi, Sigma Tau, Alpha Chi Sigma; m. Emma E. Bloomberg in 1932; ch.: Richard D. Hefley. 1927-28, Marland Oil Co., Refinery chem.; 1928-35, Indian Territory Illuminating Oil Co., chf. chem., 1935-37 Dowell, Inc., chf. chem.; 1937 to present, Dowell, Inc., chf. engr. Mem.: A.C.S., A.I.Ch.E., Am. Pet. Inst.

HEGGIE, Robert, dir. res., Amer. Chicle Co., 30-30 Thomson Ave., L.I.C. 1, N.Y.; res. 9 Transverse Rd., Garden City, L.I.
Chem.; b. Glasgow, Scotland, Jan. 19, 1909; s. of Robert Heron and Agnes Russell (Lawrie) Heggie; ed. M.I.T., S.B. 1933, Ph.D. 1936; mem.: Sigma Xi; m. Florence Theresa Sokovich, Nov. 25, 1939; ch.: Patricia Robin, Frances Jean. 1936-39 res. assoc. M.I.T. 1939-44 chem., Amer. Chicle Co.; 1944 to date dir. res. same co.; res. asynmetric synth.; reaction rates; vitamin chem.; high polymers; chem. of flavors. Mem.: S.C.I. (hon. secy. 1946-49); (hon. comp. 1949); A.C.S., N.Y. Acdy. of Sc.; Amer Inst. of Phys., Soc. of Rheology, Assoc. of Res. Dirs. Club: Chemists'. Hobbies: sailing, golf.

HEIBERGER, Charles Adam, res. dir., Ohio-Apex, Inc., Nitro, W. Va.; res. 44-21st St. Nitro.
Chem.; b. Bethlehem, Pa., Feb. 1, 1915; s. of Charles T. and Carrie E. Heiberger; ed. B.S. chem. engrg., Lehigh U., 1935, highest honors; M.S. chem. engrg. 1937; Ph.D. org. chem., 1939; mem.: Honorary-Pi Mu Epsilon, Newtonian Soc.; m. Dolores N. Hess, May 23, 1942; ch.: Susan J., Peter C. Asst. in chem. (teaching) Lehigh U., 1935-39; group leader, U.S. Rubber Co., General Labs., Passaic, N.J., July 1939-Nov. 1945, res. dir., Ohio-Apex, Inc., Nitro, W. Va., 1945 to date. Res. in process and product dev. in synthetic org. chemicals, plasticizers, synthetic polymers and textile finishes; contributor wk. on synthetic rubber, "Asbeston" firefighting suits and heating ducts, casting and laminating resins, aralkyl cmpds., carbonate ester plasticizers (new process). Mem.: A.C.S., F.A.I.C., A.A.A.S., A. C.S. (divisions of org. chem., rubber and plastics). Club: Lions. Hobbies: bridge, golf and other sports, reading, church activity (Presbyterian).

HEIBERGER, Philip, hd., lacquer & thermoplastics dept., Atlas Powder Co., Stamford, Conn.; res. 17 Revere Dr., Stamford.
Chem. (paint, resin); b. New York, N.Y., Mar. 15, 1919; s. of Louis and Clara Heiberger; ed. Bklyn. Polytech., B.Sc. chem. 1939; Cornell U., M.A., 1941; mem.: Phi Lambda Upsilon; m. Betty Donner, 1943; ch.: Richard Martin, Jean Ellen. With industrial finishes div., Atlas Powder Co.; indus. finishes div. Interchemical Corp., (sr. dev. chem.); proj. grp. ldr., Ralph L. Evans Associates; anal. chem., Colgate-Palmolive-Peet Co. Mem.: A.I.C. (fellow); A.C.S., N.Y. Paint & Varnish Prod. Club.

HEID, John Laurence, gen. mgr., Golden Citrus Juices, Inc., P.O. Box 552, Fullerton, Calif.; res. P.O. Box 608, Fullerton.
Exec.; b. Pinckneyville, Ill., June 29, 1900; s. of Jacob and Flora Ann Slimpert Heid; ed. Cairo, Ill. pub. schls., Heidelberg U., Mo. Schl. of Mines & Engrg., 1920, B.S. in chem. engrg., George Washington U., 1923; m. Marjorie Williams, May 1, 1949. U.S.D.A., Washington, D.C., 1921-23; U.S.D.A., Cincinnati, Ohio, 1924; U.S. D.A., Kansas City, Mo., 1925-26; Skinner Mfg. Co., Omaha, Nebr., 1927-29; U.S.D.S., Los Angeles, 1930-31; U.S.D.A., Weslaco, Texas, 1932-40; Calif. Citrus Juices, 1941; Florida Citrus Canners Cooperative, Lake Wales, Fla., 1943-50; Golden Citrus Juices, Inc., Fullerton, Calif., gen. mgr. 1950 to date. Res. technology of fruit and vegetable processing frozen concentrated citrus juices dev. Chapter contributed to "Refrigeration Abstracts." Mem.: A.A.A.S. (fellow), Am. Soc. of Refrigeration Engrs., I. F.T.; member - A.C.S., A.P.H.A., Citrus Prods.

Res. Council, Assoc. Editor of Food Technology and Quick Frozen Foods. Club: Rotary. Hobbies: food technology, horticulture and mountain recreations.

HEILIGMAN, Harold A., gen. mgr., tech. dept., E.J. Lavino & Co., P.O. Box 29, Norristown, Pa.; res. 2203 Coles Blvd., Norristown.
Gen. mgr.; b. Reading, Pa., Jan. 8, 1900; s. of Max and Bertha (Fidler) Heiligman; ed. Lehigh U., Ch.E. 1921; m. Marion E. Bailey, Mar. 15, 1933. 1922-26 chem., 1926-43 res. engr., asst. tech. dir., 1943 to date gen. mgr., tech. dept., E. J. Lavino & Co. Co-author of tech. arts. in spec. fld. Mem.: A.C.S., A.S.M., Amer. Inst. of Chem., A.Cer.S., A.S.T.M., A.I.M.E., E.S., Penn. Ceramic Assoc.

HEILIGMANN, Randall George, supvr. plastics div. Battelle Memorial Inst., 505 King Ave., Columbus 1, O.; res. 1824 S. Champion Ave., Columbus 7.
Res. chem.; b. Phila., Pa., Feb. 22, 1913; s. of Gustav A. and Alberta K. Heiligmann; ed. B.S., Temple U., 1935; M.A. 1937; Univ. of Pa., 1942-45; m. LaDonna E. Williams, Sept. 6, 1941; ch.: Randall Bruce, Alan Kent. Res. chem., The Permutit Co., 1937-40; hd.-chem. & Physics, Bordentown Military Acdy., 1940-42; res. chem., The Atlantic Refining Co., 1942-45; res. chem., Battelle Memorial Inst., 1945-47; asst. supvr., plastics 1947-49, supvr. plastics, 1950 to date. Sev. arts. in sc. jls. Mem.: A.C.S.

HEILMAN, Howard Henry, conslt. chem. engr., 612 S. Flower St., Los Angeles 17, Calif.; res. 841 S. Serrano Ave., Los Angeles 5.
Conslt. chem. engr.; b. Phila., Aug. 12, 1912; s. of David H. and Pauline (Kraft) Heilman; ed. U. of Pa., B.Sc. in Ch.E. 1934; Ch.E., 1942; m. Lieselotte Susanne Schirm, Mar. 29, 1947. 1934-37, dev. eng., Natl. Carbon Co.; 1937-38 dev. engr. Sun Oil Co.; 1938-43, prod. supt. United Gas Improvement Co.; 1943-45, chem. engr. Rubber Reserve Co.; 1945 to date, independent consulting chem. engr. Mem.: Tau Beta Pi, Alpha Chi Sigma, Sigma Tau, Pi Mu Epsilon, A.C.S., A.I.Ch.E. Club: Jonathan (Los Angeles).

HEINDL, Raymond A., chf. refractories sec., Natl. Bur. of Stands. Wash., D. C.
Technologist (ceramics); b. Marinette, Wis., July 21, 1892; s. of Casper and Mary (Schneider) Heindl; ed. George Washington U., B.S. chem. 1917; mem.: Phi Sigma Kappa; m. Margaret H. Machen 1919; ch.: Ray Jr., Mary Louise, Gasper E. Carborundum Co., 1917, chem., Niagara Falls, N.Y.; 1918-23, Al. Co. of Am., chem., Badin, N.C. & Niagara Falls, N.Y.; Internatl. Abrasive Co., chem. & asst. supt., Niagara Falls, Canada; Natl. Bur. of Stands., Wash., D.C., 1923 to date, chf. refractories sec., 1927 to date. Many papers on refractory matls. Mem.: A.S.T.M. (comm. C-8), Am. Ceramic Soc. (fellow).

HEINEMANN, Benno, anal. chem., 44 Trinity Pl., N.Y.C., N.Y., res. 720 W. 181 St., New York, N.Y.
Anal. chem.; b. Fuerth, Germany, (Am. zone of Bavaria), Oct. 4, 1902; s. of Moses and Bertha Heinemann; ed. higher secondary schls. Nuremberg, Fuerth, U. Erlangen, M.S., Ph.D., 1925, 1932; m. Frieda H. Schild, Nov. 30, 1936; ch.: Max Michael, Henry Naphtali, Hannah, Miriam, Joseph, David. 1926-28, Municipal Gas & Water Wks., Fuerth, Germany, anal. chem., plant contr. chem.; 1929-30, mfg. co. rucksacks & horsecovers, Fuerth, text. chem.; 1937-38, Pharmaco-chem. H. Schwarz, Munich, res. wk. cosmetics; 1939-40, Dr. H.L. Lehmann, & Dr. H. Bondi, conslt. chems., London, England, anal. chem. non-ferrous metals; 1946-49, Tech. Coll. Luton, Beds., England, anal. wk. esp. organ. chem.; Apr. 1950 to date, Sam Tour & Co., Inc. anal. chem. During yrs. not mentioned held teaching positions in secondary schls. Lecturer at Luton Tech. Coll. (Beds., England) esp. for sc. German, 1946-49; Author: "Res. to the knowledge of Chlorchinaldine obtained from o-Toluidine and from p-Phenitidine" (thesis under Prof. Dr. Otto Fischer), Erlangen 1925; "The Idea of Centralization in the teaching of sc. subj. on secondary schls.," Nuremberg, 1932. Mem.: A.S.E.C.; former mem. Deutsche Chemische Gesellschaft.

HEINEMANN, Gustave, chf. chem., tech. dir., Southern Alkali Corp., P.O. Box 4026, Corpus Christi, Texas; res. 1013 Oak Park, Corpus Christi.
Chem. engr.; b. St. Paul, Minn., Mar. 11, 1908; s. of Gustave and Anna V. Heinemann (both deceased); ed. U. of Minn., B.Ch.E., 1929; M.S. Ch.E., 1930; m. Mildred L. McQulkin, July 15, 1935; ch.: Frank Willard, Martha Ann. 1930-34 chem. engr. Columbia Chem. Div., Pittsburgh Plate Glass Co.; 1934-45 chf. chem., 1945 to date chf. chem., tech. dir. Southern Alkali Corp. Mem.: Sigma Xi, A.C.S., Natl. Assoc. Corrosion Engrs., E.S.; Corpus Christi Lodge No. 189 A.F. & A.M.; Perham No. 91 RAM; Perham Council No. 55 R.&S.M.; Corpus Christi Commandery No. 57 K.T.; Corpus Christi Cosmos Club. Hobbies: citriculture, baseball.

HEINEMANN, Heinz, proj. dir., Houdry Proc. Corp., Marcus Hook, Pa., res. 10-1 Wilde Ave., Drexel Hill, Pa.
Res. chem.; b. Berlin, Germany, Aug. 21, 1913; s. of Felix and Edith Heinemann; ed. U. Berlin (Germany); U. Basle (Switzerland) Ph.D.; m. Elaine P. Silverman, Feb. 12, 1948; ch.: Susan, Caroll. 1937-38 Frank's Labs., Berlin, res. chem.; 1938-39 Rodessa Oil & Ref. Corp., Shreveport, La., chf. res. chem.; 1939-40, Danciger Oil & Refs., Pampa, Tex., res. chem.; 1941 Carnegie Inst. Tech., Pitts., Pa., res. fellow; 1941-48, Attarulgus Clay Co., Phila., Pa., res. supvr.; 1949 to date, Houdry Proc. Corp., proj. dir. Num. publs., patents in fields of hydrocarbon catalysis, adsorbents, adsorption, carbohyd., hydrocarb., conversion; sec. ed., The Pet. Ref. Mem.: Sigma Xi, A.A.A.S. (fellow), A.C.S., A.Crys.S., N.Y. Acdy. Sc.; dir., Contemporary Art Assn. (Phila.); Catalysis Club (Phila.).

HEISE, George W., dept. hd. and conslt., Natl. Carbon Res. Labs., P.O. Box 6087, Cleveland 1, Ohio; res. 18550 Rivercliff Dr., Fairview Park, Cleveland 26.
Electrochem.; b. Milwaukee, Wis., June 27, 1888; s. of Paul Edgar and Dora (Tyre) Heise; ed. U. of Wis., B.S. chem. 1909; M.S. 1912; fellow in chem. 1912-13 (U. of Chicago, 1910); mem.: Sigma Xi, Alpha Chi Sigma, Phi Lambda Upsilon; m. Margaret Armstrong, 1915; ch.: Margaret D., Alice M. (dec), George A. Instr. chem. Grinnell Coll., Grinnell, Ia.; instr. chem. and phys., DePaul U., Chicago; phys. chem., Bur. of Sc., Manila, P.I. (chf. of sect., acting chf. of div.); Capt. QMC and CWS., U.S.A. 1917-19, Camp Grant, Ill. and Chem. Plant No. 4, Saltville, Va.; res. chem. Natl. Carbon Co., Fremont, Ohio, 1919-21; res. chem. U. C. & C. Res. Labs., Inc., L.I. City, N.Y., 1921-25; res. chem. Natl. Carbon Res. Labs., Cleveland, Ohio, 1925 to date, (dept. hd. and conslt. since 1935); res. in electrochem.; primary batteries, particularly dry cells and the Air Cell Battery; porous electrodes (gas electrodes, electro-winning, electrosynth.); graphite anodes for brine electrolysis; corrosion (cathodic protection); catalytic carbon; Philippine water supply (also radio-activity of natl. waters, incl. sea water); activated carbon for gas masks (CWS and N.D.R.C. 1942-44). Holds about 75 pats. on electrochem. inventions, and

over 40 papers pub. in tech jls.; contrib. to Enc. Brit. (Primary Batteries). Author (with A.S. Behrman) of "Philippine Water Supplies," Manila, 1916. Mem.: E.S., (v.p. 1935, 1946; natl. pres. 1947); fellow, A.A.A.S., mem.: A.C.S., Faraday Soc., S.C.I., Am. Interprof. Inst., reg. prof. engr. State of Ohio (chem., indust., elec.).

HEISER, Henry D., mgr. Wilmington dist., synthetics dept., Hercules Powder Co., Wilmington, Del.; res. Baynard Blvd., Carrcroft, Wilmington 281, Del.
Salesman; b. Cleveland, O., Sept. 21, 1906; s. of R. Arthur and Martha M. Heiser; ed. Case Inst. of Tech., B.S. chem. engr. 1928; mem.: Phi Pi Phi, Alpha Chi Sigma; m. Harriet King Scott, Feb. 26, 1938; ch.: Richard Scott. 1928, Graesselli Chem. Co., E. Chicago, Ill., operator; 1929, Cleve. Elec. Ill. Co., Cleveland, O., water chem.; 1929-41, The Glidden Co., Reading, Pa., Devel., varnish alkyds, spec. prods., indust. salesman; 1941-44, The War Prod. Bd., Wash., D.C., systems planning, dev., and control for allocations—Prod. Req. Plan, Controlled Matls. Plan, Orders Officer for Operations, v. chmn.; 1944 to date synth. dept., Hercules Powder Co., mgr., Wilmington dist. (sales). Mem.: A.C.S. Club: Natl. Assoc. Watch & Clock Collectors. Hobbies: gardening, restoration of antiques.

HEISER, Thomas G., chf. chem., res. dir., Stein Davies Co., 12-10 Jackson Ave., L.I. City 1, N.Y.; res. 47-12 161 St., Flushing.
Chem.; b. Reading, Pa., Oct. 17, 1902; s. of George M. and Caroline (Igle) Heiser; ed. Cooper Union, N.Y.C., B.S. in chem. 1929; m. Gladys M. McPoland, June 16, 1928; ch.: Patricia A., Carol E., George M. 1918-19 lab. asst. Parish Mfg. Co., Reading, Pa.; 1921 lab. asst., chf. chem. 1929 to date, Stein Davies Co., L.I. City; res. and dev. on starch prods. such as dextrins, gums, used as adhesives, textile sizes and finishes, and in food prods., etc. Mem.: A.C.S., A.I.C. (fellow). Asst. v.p. Stein Davies Co., Inc.

HEISIG, Gladstone Bering, assoc. prof. inorg. chem., U. of Minn.; res. 2400 35th Ave. S., Minneapolis 6, Minn.
Teacher; b. Houston, Texas, Oct. 6, 1893; s. of Ernest Samuel and Emma Cornelia Heisig; ed. B.A., 1917, M.S. 1918, Rice Inst.; M.A. 1921, Ph.D. 1931, Princeton; m. Lucille M. Kranz, Aug. 1921; ch.: Charles G., Doris L. Asst. in chem., 1918; jr. chem., Chem. Warfare, 1918; instr. 1918, asst. prof. 1932, assoc. prof. 1939 in inorg. chem., U. of Minn.; summer schl. U. of Ill., 1934; Biarritz Am. U., Biarritz, France, 1945; U. of So. Calif. 1946; Chem. effects produced by radon, qualitative anal., coordination cmpds. Author: "Experiments in Chem. for Engrs.," "Theory & Practice of Semimicro Qualitative Anal." Mem.: A.A.A.S. (fellow), Phi Lambda Upsilon, Sigma Xi, Alpha Chi Sigma, A.C.S. Hobbies: gardening, swimming, canoeing.

HELLER, Harry, v.p., chg. of engrg., Mutual Chem. Co. of America, 1348 Block St., Baltimore 31, Md.; res. 208 Paddington Rd., Baltimore 12, Md.
Chem. engr.; b. Phila., Pa., June 14, 1886; s. of Herman and Isabel A. Heller; gd. B.S. in chem. engrg., U. of Pa., 1908; m. Esther Cady Bouton, June 25, 1913; ch.: John Bouton Heller, Mrs. Roger K. Taylor. Cadet engr., Great Western Sugar Co., 1908-10; asst. supt., Billings Sugar Co., 1910-14; chem. engr., Mutual Chem. Co. of America, 1914-18; chem. engr., chg. of new construction, Mutual Chem. Co. of America, 1918-22; plant mgr., Jersey City plant, Mutual Chem., 1922-33; assoc. mgr., Baltimore plant, Mutual Chem., 1933-45; v.p., chg. of engrg., Mutual Chem., 1945 to date. Res. in engineering, operations, des. and constr., in the manuf. of chromium chems. Mem.: A.I.Ch.E., A.C.S., A.A.A.S., Amer. Assoc. Leather Chemists, Acdy. of Sc. (Md.). Clubs: Chemists' (New York), Engineers (Baltimore). Hobbies: travel, bridge, whodunits, double crostics.

HELLER, Hugh A(ndrews), assoc. prof. chem., Franklin & Marshall Coll., Lancaster, Pa., res. 910 Pleasure Rd.
Coll. prof.; b. Riegelsville, Pa., Oct. 13, 1908; s. of Glenn Conley and Mary Belle Stahr Heller; ed. 1930 B.Sc. Chem. (high hon.) Rutgers U.; 1932 M.S.; 1938 Ph.D., U. Md.; mem.: Alpha Chi Sigma; m. Esther Amsler, Feb. 24, 1945; ch.: Christopher Amsler, Margaret Jane. 1933 anal. chem., United Dye Corp., Paterson, N.J.; 1933-35, res. chem., Sloane-Blabon Corp., Phila., Pa.; 1935, res. chem. Armstrong Cork Prods. Co., Lancaster, Pa.; 1936-38, grad. asst. chem., U. Md.; 1938-43, instr. math. Franklin & Marshall Acdy., Lancaster, Pa.; 1941-43, asst. principal; 1942 to date instr. (1942), asst. prof. (1945), assoc. prof. (1949), Franklin & Marshall Coll. Mem.: Phi Lambda Upsilon, Phi Beta Kappa, Sigma Xi, A.C.S., A.A.A.S., A.A.U.P., Pa. Acdy. Sc. Club: Am. Bus.

HELLER, Victor G., prof. of biochem., Dept. Agr. Chem. Okla. A. & M. Coll., Stillwater, Okla.; res. 1421 W. Third St., Stillwater, Okla.
Biochem.; b. El Paso, Ill.; s. of Adolph S. and Helen (Terwillegar) Heller; ed. B.S. Lake Forest U., 1909, Ph.D., Iowa State Coll., 1924; mem.: Acacia; m. Helen Maceman, June 17, 1913; ch.: Myrtice, Louise, Elaine, David. Chem. teaching and adm., 1909-19; instr. and graduate, Iowa State Coll., 1919-24; hd. dept. Agr. Chem. Res., Oklahoma A. and M. Coll., 1925-50 to date. Res. in nutrition and vitamins for farm animals; injurious effects of saline waters and grass research. Contrib. extens. to sc. and tech. jls. Mem.: Sigma Xi, Phi Lambda Upsilon, Phi Sigma, Alpha Zeta, Phi Kappa Phi, A.C.S., Am. Biol. Chem., Inst. of Nutrition. Mem.: all Masonic orders.

HELLERMAN, Leslie, assoc. prof. of physiol. chem., Johns Hopkins U., School of Medicine, 710 N. Washington St., Baltimore 5, Md.; res. 4012 Liberty Heights Ave., Baltimore 7.
U. Prof. and Investigator (res. chem.); b. Hammond, Ind., Feb. 5, 1896; s. of Adolph and Jeanette (Kuttner) Hellerman; ed. U. of Chic., B.S., 1917, Ph.D., chem., 1923; m. Ida Claire (Liebmann), in 1920; ch.: Edward A. Chem. Warfare Service, U.S.A., 1918, res. chem., Lindsay Light Co., Ill., 1919-21; res. instr., org. chem., U. of Chicago, 1923-27; asst. prof., and assoc. prof., of Physiol. chem., Johns Hopkins U., 1927—; consulting chem., Bur. Chem. and Soils, U.S. Dept. Agr., 1928-37; mem. cmt. catalysis, Natl. Res. Council, 1940-41; official investigator and conslt., Natl. Defense Res. Comm., O.S.R.D., 1941-43; responsible investigator, Cmt. Med. Research, O.S.R.D., 1943-45; consultant, Natl. Inst. Health, U.S. Pub. Health Service, 1946 to date. Res. aliphatic diazo cmpds. and intramolecular rearrangements, metallo-organic derivatives, arginase, sulfhydryl enzymes, oxidation of amines and amino acids, oxidative catalysis, nature and control of enzymatic action; chemical processes interfering with cellular metabolism. Mem.: A.C.C. (councilor, 1946), A.A.A.S., Am. Soc. Biol. Chemists, N.Y. Acdy. Science (fellow), Sigma Xi (pres., J.H. Chapter, 1941). Clubs: Johns Hopkins.

HELLMERS, Henry D., gen. wks. mgr., West End Chem. Co., West End, Calif.
Chem. engr.; b. Varel, Germany, May 27, 1891; s. of D. C. Hellmers; ed. U. of Calif., Berkeley; m. Christine Turner, Dec. 1921; ch.: Dorothy. West End Chem. Co., chf. chem. 1920-24, supt. 1924-41, gen. wks. mgr. 1941 to date. Dev. of

process for recovery of soda ash & borax from lake brine. Mem.: A.C.S., A.I.Ch.E. (active). Hobbies: photography, fishing.

HELMER, Oscar M., hd. of dept. physiolog. chem., Lilly Lab. for Clinical Res.; res. 5015 N. Illinois St., Indianapolis, Ind.
Med. res.; b. Portland, Ore., Mar. 13, 1900; s. of Eric and Emely (Peterson) Helmer; ed. B.S., Ore. State, 1922; M.S., U. of Ill., 1924; Ph.D., U. of Chicago, 1929; mem.: Alpha Chi Sigma, Gamma Alpha; m. Lois Ethel Steffy, July, 1928; ch.: J. Eric. Asst., Rockefeller Inst. for Med. Res., 1927-31; Lilly Lab. Clinical Res., 1931 to date, hd. dept. physiolog. chem.; assoc. prof. of experimental medicine, U. of Ind. Schl. of Medicine, 1949 to date. Studies in hypertension, anemias, vitamines & cancer. Mem.: Sigma Xi, A.S.Biol.C., Am. Soc. Cancer Res., Central Soc. for Clinical Res., S.E. B.M., A.C.S., A.A.A.S., Am. Federation for Clinical Res. Hobby: pastel portraiture.

HELMER, Raymond G., factory lab. mgr., 9015 W. Maple, West Allis 14, Wis., res. 8217 Hillcrest Dr., Wauwatosa 13, Wis.
Ind. chem. engr.; b. May 12, 1899, Little Falls, N.Y.; s. of Fred I. and Nellie Grant Helmer; ed. Pratt Inst. 1919; m. Cordelia L. Whited, 1929; ch.: Raymond G., Jr., Philip, David I. (1919 to date); Chr. Hausen's Lab., Inc., Little Falls, N.Y., 1919-31; Chr. Hausen's Lab., Inc., West Allis, Wis. 1931 to date. Mem.: A.C.S., I. F.T. Hobbies: hunting, fishing, travel.

HELMICK, Homer Henry, hd., chem. dept., chmn., div. of natural sc., Elmhurst Coll., Elmhurst, Ill.; res. 224 Alexander Blvd., Elmhurst.
Prof. of chem.; b. Defiance, Ohio, Apr. 4, 1890; s. of William and Anna (Prueser) Helmick; ed. Defiance Coll., Defiance, Ohio, A.B. 1909, M.A. 1910; U. of Chicago, Ph.D. 1918, Sigma Xi, 1918; m. Helen C. Kramer, Oct. 7, 1920; ch.: William K. Prof. of chem., hd. of dept., Wheaton Coll., 1911-15; instr., U. of Chicago, 1917-18; 2nd Lt., Sanitary Corps, U.S.A., 1918-20; res. chem., Radium Co. of Colo., 1922-23; prof. of chem., hd. of dept., Elmhurst Coll., 1923 to date. Author: "Some Theoretical Parts of First Year Chem." 1933; "First Year Chem. Manual" 1933. Mem.: A.C.S., A.A.A.S., Sigma Xi.

HEMBREE, Ernest Elliott, hd. of standards and prods. serv., Buckeye Cotton Oil Co., Chem. Pulp Div., 2899 Jackson Ave., Memphis, Tenn.; res. 924 East Dr., Memphis.
Chem.; b. Anderson, S.C., Sept. 6, 1905; s. of James R. and Daisy Lee (Cook) Hembree; ed. U. of S.C., B.S. in chem. 1928; mem.: Phi Pi Phi; m. Lucy Reed Ray, Apr. 18, 1929; ch.: Ernest Elliott, Jr. 1929 anal., Tenn. Coal, Iron & R.R. Co.; 1930 chem. Celanese Corp. of Amer.; 1931 chem. Southern Railway Testing Lab.; 1932-36 chem. Indust. Rayon Corp.; 1936 to date grp. ldr., now hd. of stds. & prods. serv., Buckeye Cotton Oil Co., Chem. Pulp Div. Interests in cellulose and cellulose derivatives. Mem.: A.C. S. (Memphis Sect.: secy. 1942-43, chmn. 1947-48, alternate councillor 1950-53); Engrs. Club of Memphis; Carolina Sci. Soc. Hobbies: hydroponics, gardening.

HEMEON, Wesley C.L., engrg. dir., Industrial Hygiene Foundation, Mellon Inst., 4400 Fifth Ave., Pitts. 13, Pa.; res. 4111 Alequipa St., Pitts. 13.
Chem. engr.; b. Leominster, Mass., Dec. 26, 1903; s. of Chester O. and Edith A. Hemeon; ed. M.I. T. S.B. 1926, S.M. 1927; m. Catherine Daunt, July, 1937. 1927-32, chem. engr., Rockland & Rockport Lime Corp., Rockland, Me.; 1932-33, plant supt., Hoosac Valley Lime Co., Adams, Mass.; 1933-36, res. engr., Dewey & Almy Chem. Co., Cambridge, Mass.; 1936-43, engr., Mass. Dept. of Labor & Ind.; 1943 to date, Ind. Hygiene Foundation of Am. at Mellon Inst. of Ind. Res., engrg. dir. & sr. fellow. Air Pollution & control. Mem.: A.C.S., Am. Soc. of Heating & Vent. Engrs., Am. Meteorolog. Soc., Am. Ind. Hygiene Assn., Prof. Engr. (Pa.).

HEMINGWAY, Harry J., exec., Empire State Building, 350 5th Ave., N.Y.; res. Douglas Rd., Far Hills, New Jersey.
Business exec.; b. Bloomfield, N.J., Mar. 15, 1903; s. of Frank C. R. and Eppie (Lodge) Hemingway, ed. Rutgers Prep., (Brunswick), 1921; Case Schl. Applied Sc., (Cleveland), 1921-23; mem.: Sigmu Nu; m. Feron Newbery; ch.: Frank L., Stuart N., Phillip A., Peter C. 1923-24, statistical dept., White Motors (Cleveland, O.); 1924-26, sales dept., Brunswick-Balke-Collender Co. (Cleveland); 1926-29, v.p., Robinson-Butler-Hemingway & Co., (N.Y.); 1929-37, pres., R-B-H Dispersions, Inc. (Bound Brook, N.J.); 1937-46, chmn. bd.; 1937-44, pres., Standard Coated Prods. Corp.; 1944-47, pres., Standard Coated Prods. Div.-Interchem. Corp.; 1946-47, pres. Murphy Paint Div.-Interchem. Corp.; 1947 to date, v.p., dir., Interchem. Corp. Clubs: Chemists'; Union League.

HENCKEN, Harold Gray, res. engr., Taco Heaters, Inc., 342 Madison Ave., New York 17, N.Y.; res. Pecksland Rd., Greenwich, Conn.
Chem.; b. New York City, Apr. 28, 1916; s. of William F. and Georgia Gray Hencken; ed. The Choate School, Bard Coll., Columbia U. A.B., 1940; mem.: Sigma Alpha Epsilon; m. Charlotte B. Phillipson June 17, 1938; ch.: Brainerd, William, Leslie, Meredith. Calco Chemical Co., res. chem.; Wm. M. Grosvenor Labs., Inc., res. chem.; mem. of Sr. Scientific Staff, Div. of War Research (Manhattan Project), Columbia U.; William S. Gray & Co., chem. dir. Club: Chemists'.

HENDERSON, Everette Lee, prof. of chem. U. of Detroit, 4001 W. McNichols, Detroit 21, Mich.; res. 17301 Warrington Dr., Detroit 21, Mich.
Univ. prof., conslt. in chem.; b. Rogers, Ark., Jan. 20, 1896; s. of Everette C. and Olive B. (Layman) Henderson; ed. U. of Ark. B.S. chem. 1919; grad. honors; M.S. chem. 1923, and Ph.D. chem. 1931, Iowa State Coll. (honors); mem.: Phi Kappa Phi, Phi Lambda Upsilon, Phi Delta Chi; m. Katharine E. Moore, Dec. 27, 1919; ch.: Everette Chester (dec.); Richard Moore. 1919-20 instr. chem. Tulsa, Okla. H.S.; 1920-21 instr. anal. chem. Iowa State Coll.; 1921-29 asst. prof. chem., U. of Tenn., (Memphis Branch); 1929-32 instr. gen. chem. Iowa State Coll.; 1932-33 asst. prof. phys. chem. U. of Detroit; 1933-39 assoc. prof. phys. chem. same U.; 1939 to date prof. of inorg. chem. same U., and 1941 to date dir. div. inorg. chem.; notable wk.: corrosion studies in hot water and steam heating systems; rapid meths. of malleabigation of white cast iron; electroplating of copper-lead alloys; boiler water softening. Author: "Experimental Studies for Students of Gen. Chem." Mem.: A.C. S., Div. of Chem. Educ., Div. of Inorg. and Phys. Chem.; Assoc. of Atomic Scientists. On adv. bd., Detroit Round Table of Catholics, Jews and Protestants; dir. University Speakers' Bur. Hobby: vegetable gardening.

HENDERSON, LaVell Merl, asst. prof. chem., chem. dept. U. of Ill., Urbana; res. 307 S. Garfield, Champaign, Ill.
Biochem.; b. Swan Lake, Idaho, Sept. 9, 1917; s. of Merl and Marie G. Henderson; ed. B.S. Utah State Agr. Coll. 1939, M.S. U. of Wis., 1941; Ph.D., 1947; mem.: Alpha Chi Sigma, Gamma Alpha; m. Maurine Criddle, Aug. 16, 1939; ch.: Janet, Jeanne, Linda. Nutrition Officer,

U.S. Army, 1941-46; instr. Biochem., U. of Wis., 1946-48; res. asst. biochem., 1939-41; asst. prof. of biochem., U. of Ill., 1948 to present. Res. in nutrition and biochem. chiefly B-vitamins and amino acids. Mem.: A.C.S., Am. Soc. Biol. Chemists, Sigma Xi, A.A.A.S.

HENDERSON, Robert Lee, gen. supt., Apache Powder Co., Benson, Ariz.; res. Benson.
Chem. engr.; b. Terre Haute, Ind., Feb. 4, 1900; s. of Robert and Dora (Hendrixson) Henderson; ed. B.S. chem. engrg., with hon., 1922; Ch.E. 1932, Rose Polytech. Inst., Terre Haute, Ind.; mem.: Sigma Nu; m. Doris Zimmer, Dec. 25, 1925; ch.: Joanne Lee, Phyllis Ruth. 1923-27, Hercules Powder Co., explosives operations at Kenvil, N.J., Emporium, Pa., & Carthage, Mo.; chem. in prod. & dev.; 1927-30, E. I. du Pont de Nemours & Co., explosives operations at Seneca, Ill., (originally Grasselli) & Gibbstown, N.J., acid supvr.; 1930-34, Burton Explosives, Inc., explosives operations at New Castle, Pa. (later Am. Cyanamid), asst. supt.; 1934 to date, Apache Powder Co., explosives operations at Benson, Ariz., progressively explosives supt., asst. plant mgr., gen. supt. Mem.: A.C.S., Tau Beta Pi. Trustee, Benson Comnmuity Presbyterian Church. Club: Masons. Hobbies: gardening, bridge.

HENDERSON, William F., consltg. chem., Visking Corp., 6733 W. 65th St., Chicago 38, Ill.; res. 9833 S. Hamilton Ave., Chicago 43.
Chem. (semi-ret.); b. Decatur, Ill., July 10, 1892; s. of George A. and Maria J. (Fulton) Henderson; ed. Jas. Millikin U., A.B. 1914; U. of Pitts., M.S. 1921, Ph.D. 1922, Phi Lambda Upsilon, Phi Kappa Phi; m. Gladys A. Berkshire, 1915; ch.: Albert F., Paul B. 1914-20, instr. in chem., Jas. Millikin U.; 1920-26, fellow, Mellon Inst. of Indus. Res.; 1926-49, chf. chem., Visking Corp., 1949 to date consltg. chem. Chem. of cellulose, dev. of cellulose sausage casings. Mem.: A.C.S., Chicago Entomolog. Soc., Chicago Acdy. of Sc., I.F.T., T.A.P.P.I., Am. Assn. Dyers & Col., Modern Pioneer (Am. Assn. Manuf.). Trustee, James Millikin U.; trustee (honorary) Chicago Acdy. of Sc. Clubs: Am. Philatelic Soc., Beverly Hills Philatelic Soc. Hobbies: collecting postage stamps, butterflies & moths, flower gardening, photography, natural history, oil panting.

HENDLIN, David, hd., nutrition grp., microbiolog. dept. res. & dev., Merck & Co., Inc., Rahway, N.J.; res. 1 DeWitt Rd., Elizabeth 3, N.J.
Microbiologist; b. Harbin, China, Mar. 8, 1920; s. of Louis and Minna Hendlin; ed. Bklyn. Coll., N.Y., B.A. 1941; Iowa State Coll., Ames, Iowa, M.Sc. 1943; Rutgers U., Ph.D. 1949; m. Ruth Maltz, Jan. 2, 1944; ch.: Susan, Harriet. 1941-43, res. fellow, Bacteriology Sect., Iowa Agric. Exper. Sta., Iowa State College, Ames, Iowa; 1943-48, res. microbiologist, Merck & Co., Inc.; 1948 to date, hd., microbiolog. nutrition grp., res. in nutrition and metabolism of microorganisms, growth factors, vitamin B 12, antibiotics, fermentations. Mem.: N.Y. Acad. of Sc., Soc. of Am. Bacteriologists, Am. Inst. of Biologists, Soc. for Gen. Microbiology, Sigma Xi, A.A.A.S.

HENDRICKS, Bernard Clifford, prof. of chem., U. of Nebr., 302 Avery Lab., U. of Nebr., Lincoln 8, Nebr.; res. 3415 T St., Lincoln 3, Nebr.
Tchr.; b. Jasper, Mo., Jan. 26, 1883; s. of James Perry and Mary Elizabeth Hendricks; ed. Jasper, Mo. H.S., 1898; Peru Normal, 1906; Peru Teachers Coll., B.Ed. 1910; U. Nebr., B.Sc., 1911; U. Chicago, M.S. 1914; U. Nebr., Ph.D. 1922; mem.: Alpha Chi Sigma, Sigma Xi, Phi Lambda Upsilon, Pi Delta Kappa; m. Mary Elizabeth Curry, Aug. 28, 1913; ch.: Mary Edith (Feusner), Margaret Ruth (Leymaster). Brock (Nebr.) rural schl. 1901-02; grade schl. 1902-04; Nemaha, Nebr. princ., 1904-05; Pender, Nebr., supt. schl. 1906-08; Peru State Teachers Coll., inst., 1908-10; asst. prof., 1911-13; assoc. prof., 1914-18; U. of Nebr. asst. prof., 1918-23; assoc. prof., 1923-41; prof. 1941-51; instr. in the S.A. T.C. Radio Schl., summer 1918; admin. coord. of A.S.T.P. courses in gen. chem. at U. of Nebr. 1943-44; res. principally in fld. of thermochem. of sugars; some wk. on diffusion phenomena; contrib. edit. for Jl. of Chem. Educ.; active participant in wk. of the A.C.S. Comm. on Exams. Author of num. arts. on exams. in chem. Author: "Manual of Everyday Physics" (1914-18) pub. priv.; "Students' Lab. and Study Guide for Gen. Chem." 1941, pub. by Univ. Lithoprinters, Ypsilanti, Mich.; jun. author "Introductory Coll. Chem.," Wiley & Sons, 1942. Mem.: A.C.S., A. A.A.S., A.A.U.P., Nebr. Acad. of Scs. Trustee of Cotner Coll. Hobby: writing for sc. pubs.

HENDRICKS, James Owen, asst. dir., central res. dept., Minn. Mining & Mfg. Co., 900 Fauquier Ave., St. Paul. Minn.; res. 222 Sixth St., White Bear Lake, Minn.
Chem.; b. Waynetown, Ind., Sept. 3, 1909; s. of Stanley M. and Edith (Lindley) Hendricks; ed. Wabash Coll., A.B., 1931, Phi Beta Kappa; gen. hon., U. of Calif., 1931-33; U. of Ill., 1936, Ph.D.; mem.: Tau Kappa Epsilon; m. Verna Jackson, June 13, 1936; ch.: Betty Mae, Nina, James Jackson. 1933-34, Kendall Refining Co., anal. chem.; 1936 to date, Minn. Mining & Mfg. Co., res. chem. adhesives 1936-41, hd. org. sec. central res. dept. 1941-42, hd. colloid sec. central res. dept. 1942-47, asst. dir. central res. dept., 1947 to date. Composition & properties of rubber base adhesives. Mem.: A.C.S., Sigma Xi. Clerk of Session, Presbyterian Church, White Bear Lake, Minn. Hobby: gardening.

HENDRIX, Byron Murray, prof. biochem., nutrition, Med. Branch, U. Texas, Galveston, Texas; res. 2902 Ave Q.
Prof.; b. Preble Co., Ohio, May 16, 1886; s. of Edwin W. and Martha Jordon Hendrix; ed. Ohio St., B.S. 1909; Yale U., 1915; mem.: Alpha Chi Sigma; m. Roberta C. Cowgill, 1922; ch.: Robert C., Jean Hendrix Cobbe. Instr., asst. prof. physiol. chem., U. Pa. 1915-22; prof. Med. Branch, U. Texas, 1922 to date. Res. in protein denaturation, chem. of urine formation. Mem.: A.C.S., A.S.Biol.C., A.A.A.S., Sigma Xi, S.E.B.M. Hobby: books.

HENLEIN, Carl A., mgr. textile colors div., Columbian Carbon Co., 41 E. 42nd St., New York 17, N.Y.; res. 131 Chapel Rd., Manhasset, Long Island, N.Y.
Chem.; b. Cincinnati, Ohio, May 7, 1897; ed. U. of Cincinnati, spec. stud. Ch.E. 1921; mem.: Sigma Delta Pi; m. Elizabeth Dunbar Yager, June 23, 1933; ch.: M. Estill, Carl A. 1921-23, anal. and res. chem. Ault & Wiborg Co.; 1923-33, Ky. Color & Chem. Co. (chem. dir.); 1933-38, dir. of color res. and dev., Hilton-Davis Co., Div. of Sterling Drug Co.; 1938-45, tech. sales General Dyestuff Corp., N.Y.; 1945 to date, mgr. of textile colors div., Columbian Carbon Co. Author: "Chem. and Phys. Characteristics of Lake Pigments," 1928; "Observations on Dry Colors," 1933; "Identification of Pigments and Dyestuffs," 1933. Secy. and treas. of Paint & Varnish Prod. Clubs, 1931-38. Mem.: A.A.T.C.C. 1938 to date. Clubs: Chemists' (N.Y.); Strathmore-Vanderbilt Country. Hobbies: boating, golf.

HENNING, George, pres. treas., Belmont Smelting & Refining Wks., Inc., 330 Belmont Ave., Bklyn 7, N.Y.; res. Muttontown Rd., Syosset, L.I., N.Y.
Exec.; b. Bklyn., N.Y., Feb. 21, 1913; s. of

George and Elsie H. Henning; ed. M.I.T., Cambridge, Mass. S.B. 1933; Columbia Schl. Mines, M.S. 1935; mem.: Phi Alpha Eta, Phi Mu Delta; m. Lucy Rauch, Nov. 4, 1936; ch.: Helene E., Frances L., Janet R. 1933 to date Belmont Smelting & Refining Wks., Inc. Mem.: N.A.M., A.S.M., A.S.T.M., A.I.M.M.E., A.F.A., Bklyn. C.C.; bd. trustees, East N.Y. Savings Bk., Ottilie Orphan Home, Jamaica, N.Y. Clubs: Engrs., Nassau Country. Hobbies: golf, fishing, photography, gardening.

HENNINGER, Arthur H., plant supt., Glyco Prods. Co., Inc., P.O. Box 110, New Martinsville, W. Va.; res. 517 Second St., Marietta, Ohio.
Chem.; b. Bklyn., N.Y.; May 20, 1899; s. of William H. and Caroline (Lueckert) Henninger; ed. pub. schls. of Bklyn., Stuyvesant H.S., (N.Y.), Polytech. Inst. of Bklyn., grad. 1922 with B.S. in chem.; grad. courses at Columbia U.; mem.: Phi Theta; m. Dorothy Margaret Hughes, Aug. 26, 1927; ch.: Joyce Barbara, Arthur Conrad, Phyllis Ann. 1915-16, anal. Nichols Copper Co.; 1916-25, chf. chem. Bull & Roberts; 1925-40, res. chem. Gen. Chem. Co.; 1940-44, asst. v.p. Natural Prods. Refin. Co.; 1944-45, spec. asst. to wks. mgr. Mutual Chem. Co.; 1945-47, gen. wks. mgr. Marietta-Harmon Chems. Inc., (later Calco Chem. Div.); 1947 to date, plant supt. Glyco Prods. Co., Inc. Holds 19 U.S. and Can. pats. Mem.: A.C.S., Armed Forces Chem. Assoc. Ex-pres. Marietta Y.M.C.A. Clubs: Cornucopia Lodge, No. 563, F. & A.M. (Flushing, N.Y.); Pentalpha Chapter No. 206 R.A.M. (Flushing); Trinity Commandery No. 68 K.T. (Flushing); Kismet Temple, A.A.O.N.M.S. (Bklyn.); Marietta Shrine Club; Marietta Country Club (Marietta, Ohio). Hobbies: golf, gardening, woodwork, cards.

HENNION, George F(elix), Julius Arthur Nieuwland prof. of chem., U. of Notre Dame, Notre Dame, Ind.; res. 1441 E. LaSalle Ave., South Bend 17, Ind.
Prof. of chem.; b. South Bend, Ind., Aug. 23, 1910; s. of Rene C. and Elodie (Van de Walle) Hennion; ed. U. of Notre Dame, B.S. in chem. engrg. 1932; Ph.D. 1935; m. Alice C. Braunsdorf, Aug. 23, 1933; ch.: Mary Claire, Alice, George, Jr., Margaret Ann. 1932-35 grad. asst. in chem. U. of Notre Dame; 1935-38 instr.; 1938-41 asst. prof.; 1941-45 assoc. prof.; 1942-45 dir. of res. in chem.; 1945 to date Julius Arthur Nieuwland prof. of chem. Regular contrib. to chem. jls.; pubs. on acetylene chem.; org. reactions with borontrifluoride; alkylbenzenes; mechanisms of reactions; etc. Mem.: Indiana Acdy. of Sc. (fellow); A.C.S. (chmn. St. Joseph Valley Sect. 1938-39); Indiana Chem. Soc. (pres. 1944-45); A.A.A.S.

HENRIQUES, Frederick Cohane, Jr., tech. dir., Tracerlab, Inc., 130 High St., Boston 10, Mass.; res. 14 Gloucester St., Boston 15, Mass.
Nucleonics; b. San Francisco, Calif., Feb. 2, 1917; s. of Frederick Cohane (dec.) and Geraldine (Green) Henrigues; ed. U. of Calif., 1934-37, B.S.; Brown U., 1937-38; U. of Rochester, 1938-40, Ph.D.; m. Eileen Cowell, Sept. 12, 1938; ch.: Keith Aris, Clark, Paul. 1940-42 res. worker, Dept. of Chem., Harvard U.; 1942-44, co-official investigator in chg. of O.S.R.D. contract, Dept. of Chem., Harvard U.; 1944-46 co-official investigator, Dept. of Legal Medicine, Harvard Med. Schl.; 1946-47 res. assoc., Radiation Lab., U. of Calif.; Mar., 1947 to date, tech. dir., Tracerlab, Inc. Contrib. num. arts. to sc. jls.; also "The Mechanism of Cutaneous Injury by Mustard Gas. An Experimental Study using Mustard Prepared with Radioactive Sulfur, to November 10, 1943" (co-author), O.S.R.D. 3620 (U.S. Dept. of Commerce), 1944; "An Experimental Investigation of the Physiolog. Mechanisms Concerned in the Prod. of Casualties by Flame Thrower Attack" (co-author), O.S.R.D. 4029 (U.S. Dept. of Commerce), 1944; Progress Report on "A Study of the Fixed Mustard in Skin Tissues" (co-author), O.S.R.D. 1825, (U.S. Dept. of Commerce), 1945; "Additional Studies Pertaining to the Mechanisms of Cutaneous Injury by Mustard Gas. An Experimental Study using Mustard Prep. with Radioactive Sulfur, Oct. 1, 1945" (co-author), O.S.R.D. 3620-A (U.S. Dept. of Commerce), 1945; "An Experimental Investigation of the Physiolog. Mechanisms Concerned in the Prod. of Casualties by Flame Thrower Attack, to Oct 1, 1945" (co-author), O.S.R.D. 6182 (U.S. Dept. of Commerce), 1945. Mem.: Sigma Xi, Pi Mu Epsilon, A.C.S., A. Phys.A., A.A.A.S.

HENRY, John Francis, v.p., Jos. Turner & Co., Ridgefield, N.J.; res. 33 Berkeley Pl., Glen Rock, N.J.
Sales mgr.; b. Bklyn., N.Y., Mar. 30, 1908; s. of John and Sarah (Kirkup) Henry; ed. Art Students' League of N.Y.; Stevens Inst. of Tech.; m. Evelyn E. Lindars, Dec. 27, 1930; ch.: Susan K., Peter E., Richard S. 1930-31 North River Chem. Corp., pres.; 1931-38 Jos. Turner & Co., mgr. resale div.; 1938-42 same co., dist. sales mgr.; 1946 to date, same co., v.p. in chg. chem. sales in the East; 1942-46, U.S.N.R. Mem.: Salesmen's Assoc. Amer. Chem. Indust. Clubs: Chemists' (N.Y.); Officers' (N.Y.); Commis. Officers Mess, Bklyn. Navy Yard; Artists & Writers Club. Hobbies: boating, golf, music.

HENRY, Raymond W., treas., Whitmoyer Labs., Inc., Myerstown, Pa.; res. 306 N. College St., Myerstown.
Bus. adm.; b. Reading, Pa., Mar. 2, 1916; s. of Irwin L. and Lottie S. Henry; ed. Reading, Pa. H.S.; U. of Pa. Eve. Schl. (accts. & finance); mem.: Pi Delta Epsilon; m. Dorothy A. Reed, June 22, 1940; ch.: Judith Ray. Gen. off. wk., bkpr., off. mgr., cred. mgr., controller, treas., and dir. Whitmoyer Labs., Inc. Mem.: Natl. Off. Mgmt. Assn., Indust. Mgmt. Club: Amer. Leg. Hobby: sports.

HENRY, Ronald Andrew, sr. chem., 1609 Michelson Lab., China Lake, Calif.; res. 313 A Groves, China Lake, Calif.
Res. chem.; b. Yakima, Wash., Jan. 26, 1916; s. of William G. and Elizabeth Heron Henry; ed. B.S. in chem., magna cum laude, 1938, U. of Wash., Ph.D., 1942; m. Mary Ann Hasemeier June 1, 1942; ch.: Kathryn Elizabeth, Douglas Gilbert. Res. chem. Procter & Gamble Co., Cincinnati, 1942-47; res. chem., U.S. Naval Ord. Test Station, Inyokern, Calif., 1947 to date. Res. nitrogen cmpds., hydrogenation, synthetic detergents, explosives. Mem.: A.C.S., Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon. Hobbies: fishing, hiking, gardening, philately.

HENRY, William Foley, res. chem., Lauhoff Grain Co., Danville, Ill.; res. 7 E. Voorhees St., Danville.
Res. chem.; b. Paris, Ill., Aug. 23, 1908; s. of Abner B. and Grace S. Henry; ed. U. of Ill., B.S. 1929 (with honors), M.S. 1930, Ph.D. 1932; mem.: Alpha Chi Sigma, Sigma Xi, Phi Lambda Upsilon; m. Catherine May Hall, Nov. 30, 1935; ch.: Ronald William, Joyce Adele. 1934-37 chf. chem. Ill. Cereal Mills, Paris, Ill.; 1937-43 res. chem. grp. ldr., Corn Prods. Ref. Co., Argo, Ill.; 1943-47 res. chem., Ill. Cereal Mills, Paris, Ill.; 1947 to date res. chem. Lauhoff Grain Co., Danville, Ill.; res. in steeping and processing of corn. Mem.: A.C.S., A.A.C.C. Hobby: music (amateur pianist).

HERELD, Peter Claude, exec. v.p., Chemo Puro Mfg. Corp., 26-32 Skillman Ave., Long Island

City 1, N.Y.; res. Richmond Rd., East Hempstead, L.I.
Scientific dir.; b. Hanover, Germany, Nov. 20, 1920; s. of H.A. and Alice Steinberg Hereld; ed. N.Y. Univ., Columbia Univ.'s Coll. of Phar.; m. Ruth M. Brown, Dec. 24, 1944; ch.: Richard C., Randi A. Apprentice, Chemische Fabrik Lehrte, Hanover, Ger., 1936-38; salesman, City Chem. Corp., New York, 1939-40; sales mgr., Ayrton Chem. Corp., N.Y., 1940-41; founder and sales mgr., Chemo Puro Mfg. Corp., 1941-43; dir. sales & purchases, Chemo Puro Mfg. Corp., 1943-50; exec. v.p. & scientific dir., Chemo Puro Mfg. Corp., 1950 to present. Contributor to monographs in "National Formulary, 8th edition" and to "New & Non Official Remedies (A.M.A.)," 1947. Mem.: A.C.S., A.Phar.A., Drug, Chemical & Allied Trades Section, New York Bd. of Trade, Amer. Feed Mfgrs. Assoc., Proprietary Assoc. of Am. Chmn. (1948 campaign) Drug & Chemical Sect., Queens Div., American Cancer Soc. Hobby: automobile racing.

HERLONG, Byron E., pres., Foremost Fertilizer Co., 311 N. Palmetto, Leesburg, Fla.
Mfgr., citrus grower; b. Sumterville, Fla., Sept. 2, 1913; s. of A.S. and Cora (Knight) Herlong; ed. B.S. U. of Fla., honor student, 1936; mem.: Pi Kappa Phi; m. Frances Letton, Apr. 18, 1937; ch.: Nancy, Byron, David, Philip. Prodn. mgr. and dir., A.S. Herlong & Co.; pres. Mid-Lakes Motor Co.; pres., Foremost Fertilizer Co., dir., Lacue Corp., treas., Prudential Producers, Inc., treas., Crestview Groves, Inc., v.p. Clubs: Elks, Kiwanis, American Legion, Vet. F.W., Mason. Hobbies: golf, boating.

HERMANN, Charles Edward, pres., Reliance Whiting Co., 16th & Alby Sts., Alton, Ill.; res. 4382 Westminster Pl., St. Louis 8, Mo.
Prof. engr.; b. St. Louis, Mo., Dec. 20, 1900; s. of Edward A. and Florence (Pitzman) Hermann; ed. Cornell U., C.E. 1921; m. Jessie Tyler, Sept. 26, 1929; ch.: Jessie Hilgard, Nancy Tyler. 1922-30, prop. Hermann Diamond Drills, v.p. Reliance Whiting Co.; 1930-42, dir. of res., Williams Pat. Crusher & Pulv. Co., St. Louis; 1942 to date, pres. Reliance Whiting Co. chmn. of bd. of Rice Island Nickel Mining Co., Ltd. Designed a lge. percentage of air classifying and fine grinding equip. used in chem. fld., particularly pigments; owner of num. pats. in this fld., super-separator, etc.

HERNDON, Lyle Kermit, dir. res., Mathieson Chem. Corp., Niagara Falls, N.Y., Balt., Md.; res. 2303 Onandaga Dr., Columbus, Ohio.
Chem. engr.; b. Buckhannon, W.Va., June 25, 1905; s. of James Edward and Wilna J. Conn Herndon; ed. B.Ch.E., Ohio St. U. 1929; M.Sc. (chem. eng.) 1931; Ch.E. (prof.) W.Va. U. 1934; Ph.D. (chem. engr.) Ohio St. U. 1938; mem.: Phi Kappa Tau, Tau Beta Pi, Phi Lambda Upsilon, Gamma Alpha, Sigma Xi; m. Ruth E. Weinman, July 3, 1939. City chem. Charleston, W. Va. 1925-28; chem. engr. St. Water Comm. W.Va. 1929-33; chem. engr. E. I. du Pont de Nemours & Co. Belle, W.Va. 1933-36; instr. 1936-38, asst. prof. 1938-44, assoc. prof. 1944-46; prof. chem. engr. Ohio St. U. 1946 to date; Research Supervisor, Ohio State U. Research Foundation 1944-date, Consulting Engr. and Dir. of Res., Southern Acid & Sulphur Co. 1945-49; conslt. chem. engr. Mathieson Chem. Corp. 1949; dir. res., 1949 to date. Mem. bd. dir., Weinman Pump Mfg. Co., Columbus, Ohio. Res. in Indust. waste treatment; recovery elem. sulf. from H_2S. or SO_2 bearing gases, pet. sludges; proc. dev. phosp., nitro., potash, sulf., related fields; mem.: A.C.S., Chem. Soc. (London) (fellow). A.I.Ch.E., A.S.T.M., A.S.M.E., A.I.M.E., E.S., A.S.E.E., S.C.I.; clubs: Faculty (O.S.U.), Athletic (Columbus, O.), Niagara (Niagara Falls, N.Y.), Univ. (N. Y.C.). Hobby: books.

HERNDON, Thomas Corwin, prof. chem., Eastern Ky. St. Coll., Richmond, Ky.
Coll. prof.; b. Ferguson, Ky., Oct. 27, 1898; s. of Thomas C. and Fannie L. (Rutledge) Herndon; ed. B.S., U. Ky. 1923; M.A. George Peabody Coll. 1926; Ph.D., 1930; grad. study, U. Chicago, 1928; mem.: Sigma Alpha Epsilon, Alpha Chi Sigma, Phi Delta Kappa; m. Lucile Hays, Oct. 15, 1925; ch.: Nina Sue Adams. Middlesboro, Ky., H.S., Sc., 1923-24; Bethel Coll. (Ky.), 1924-26, Chem., physics; Knoxville, Tenn., H.S., chem., 1926-27; Eastern Ky. St. Coll. 1930 to date; Summer sessions, 1928, 1929, 1930, George Peabody Coll. Res., A system of non-hydrog. sulf. qualitative anal.; A new type of refractometer. Author: "A Study of Benzaldehyde Electrode, 1931," "An Outline of Element. Qualitative Anal." 1945; mem.: A.C.S., A.A.A.S., Ky. Acdy. Sc., Ky. Assn. Chem. Tchrs., A.F.T., was one of 6 Am. educators partic. in UNESCO Seminar on Education, Berkampstead, Eng., 1948. Club: Lions Internatl. (pres. local 1949-50). Hobbies: fishing, bridge.

HERR, Donald Shaeffer, dir., tech. serv. lab., Shell Chem. Corp., 1120 Commerce Ave., Union, N.J.; res. 70 Sycamore Ave., Berkeley Heights, N.J.
Chem.; b. Lancaster, Pa., June 14, 1915; ed. Franklin & Marshall Coll., 1937, B.S. (cum laude); Brown U., 1938; U. of Rochester, Ph. D. 1941; m. Marion Van Geem. With Rohm & Haas Co., 1941-46, res. chem.; dir. Tech. Serv. Lab., Shell Chem. Corp. since 1946. Mem.: Phi Beta Kappa, Sigma Xi, A.C.S.

HERRINGTON, Barbour Lawson, prof. dairy chem., dept. of dairy ind., Cornell U., Stocking Hall, Ithaca, N.Y.; res. 316 Eastwood Ave., Ithaca.
Tchg., res.; b. Akron, O., June 12, 1904; s. of Ernest and Elinore Herrington; ed. Montana State Coll., B.S.; Cornell U., Ph.D.; mem.: Alpha Chi Sigma; m. Irma Sharp, Aug. 10, 1932; ch.: Bruce. 1925-28 asst. chem. Montana State Coll.; 1928 to date prof. dairy chem., Cornell U.; res. in chem. of milk. Author: "Milk and Milk Processing," 1948. Rec. Borden Award, Chemistry of Milk, 1948; mem.: A.C.S., Amer. Dairy Sc. Assoc., I.F.T. Hobby: photography.

HERRIOTT, Roger Moss, prof. of Biochem., Johns Hopkins School of Hygiene, 615 N. Wolfe St., Balto. 5, Md.; res. 504 Highland Ave., Towson 4, Md.
Prof. of biochem.; b. Des Moines, Ia., Mar. 13, 1908; s. of Frank I. and Mary Haines Herriott; ed. Drake U., A.B., 1928; Columbia U., A.M., 1929, Ph.D. 1932; mem.: Alpha Tau Omega; m. Cynthia D. Walker, Oct. 22, 1932; ch.: Alison, Jon Roger, Michael Walker. Asst. in Gen. Physio. Dept. Rockefeller Inst. for Med. Res., Princeton, N.J.; assoc. in Gen. Physiology Dept., Rockefeller Inst. for Med. Res., Princeton; prof. of Biochem., Johns Hopkins School of Hygiene & Public Health, 1948, Baltimore, Md. Res. in isolation, chem. and nature of proteolytic enzymes, some viruses, and proteins in general. Co-author with John H. Northrop and M. Kunitz "Crystalline Enzymes," 2nd edition, 1948. Mem.: Sigma Xi, Phi Beta Kappa, A.A.A.S., A.C.S., Soc. of Biological Chems., Maryland Branch of Am. Bacteriological Soc.

HERRLY, Clarence John, sales mgr., Niacet Chemicals Div., U.S. Vanadium Corp., Un. C. & C. Corp., 910 Niagara Bldg., Niagara Falls, N.Y.; res. 602 Riverside Dr., Niagara Falls.
Chem. engr.; b. Pittsburgh, Pa., Jan. 29, 1893; s. of Peter E. and Theresa (May) Herrly; ed. Parochial Schools, preparatory wk. at Mt. St.

Mary's College, Emmitsburg, Md.; Phar. Chem. Degree, Medico-Chirurgical Coll., Phila., Pa.; B.S. in chem. engrg., Pa. State Coll., State Coll., Pa.; mem.: Phi Kappa; m. Florence Elizabeth Nelson, Feb. 2, 1929. During last 3 yrs. of coll., worked during summers at Jones & Laughlin Steel Co., Pittsburgh, Pa. After grad. in June, 1915, became night supt., Penn. Coal Prods. Co., Phenol Plant, redesigned and had chg. of Phenol plant operation for British-American Chemical Co., until coming to Mellon Inst., Pittsburgh, Pa., in June, 1917, with Union Carbide & Carbon Corp. Synthetic Organic Chem. Fellowship for commercial expansion of chemicals for acetylene. In 1923, designed and constructed first semi-commercial Acetylene chemical plant in this country at Niagara Falls, N.Y., put into operation in 1924 under his supvn. Plant expanded into Niacet Chemicals Corp., when became plant supt. In 1927, transferred to sales and follow. yr. made sales mgr. present position with Niacet Chemicals Div., U.S. Vanadium Corp., Union Carbide & Carbon Corp. Res. dev. and production and sales of synthetic org. chem. from Acetylene. "Acetylene Chemical Industry in America" paper presented before International Acetylene Assoc., Apr. 26, 1949. Mem.: A.C.S., A.I.Ch.E. Mem. bd. of dirs., Mt. St Mary's Hospital, Niagara Falls, N. Y., mem. bd. of dirs. of the Blue Cross Hospital Service Corp. of Western N.Y., Buffalo, N.Y. Clubs: Chemists' (N.Y.C.), Niagara Club, Niagara Falls Country, University, (Niagara Falls, N.Y.), Chamber of Commerce, (Niagara Falls). Hobbies: golf. fishing, flower-gardening.

HERRMANN, Carl V(ictor), supt., E. I. du Pont de Nemours & Co., Grasselli Chem. Dept., 5215 Kennedy Ave., E. Chicago, Ind.; res. 2139 Ridgewood Ave., Highland, Ind.
Chem. engr.; b. Cleveland, O., Oct. 21, 1909; s. of Carl and Hedwig Herrmann; ed. B.S., Case Schl. of Applied Science, 1931, M.A., Western Reserve U., 1934; mem.: Sigma Chi; m. Ruth Ice, June 10, 1933; ch.: Phyllis Jane, Douglas James. Held following positions with E. I. du Pont de Nemours & Co.: Res. Chem., 1931-34; group ldr. 1935-37; sulfuric acid tech., 1938-42; special studies 1943-44; asst. to mgr. Process Improvement 1945; asst. supt., 1946-47; supt. 1948 to date. Res. in sulfuric acid tech. (pats.), chem. engrg. aspects of centrifugal fan design, Mem. A.I.Ch.E. comm. on testing standards and techniques in chg. of sub-comm. chem. pumps. Contrib., Perry's Chem. Eng. Handbook. Mem.: A.I.Ch.E., A.C.S., Sigma Chi. Club: Lions International.

HERRMANN, Henry F., mgr. sales serv., General Dyestuff Corp., 435 Hudson St., N.Y. 14, N.Y.; res. 32 Whitehall Blvd., Garden City, N.Y.
Chem.; b. July 2, 1890; s. of the Reverend E. Albert and Fredericka Herrmann; ed. B.Sc. 1913, C.C.N.Y. (hon. cert. chem.); post-grad. wk. in coal tar dyes, 1914-15, Bklyn. Polytech. Inst.; m. Charlotte A. Dougherty, Sept. 28, 1918; ch.: Robert H., William E. Cassella Color Co., 1913-15, dye appl. chem.; Century Colors Corp., 1915-16, asst. chf. chem.; Natl. Aniline, Chem. Co., Inc. 1917-28, mgr. sales serv.; Gen. Dyestuff Corp. 1928-40, mgr., N.Y. sales distr. lab.; prodn. mgr., 1940-49; mgr. sales serv. 1949 to date. Gen. Land Improv. Co., v.p. Sc. of dyeing lectures 1926-27; sc. contr. of dyeing, 1928; information labeling of text. 1934, 1936, 1938, 1943; mem.: A.A.T.C.C. (chmn. N.Y. Sec. 1936-39, v.p., 1944-46, pres. 1947-49, councilor 1938), bd. dirs., Textile Res. Inst., 1948-50; dir. Garden City Property Owners Assn., 1949-51; secy., L.I. Golf Assn., 1939-42. Club: Garden City Country (v.p. 1944, dir. 1936-51). Hobbies: golf, photography, electronics (audio systems, television).

HERRMANN, William E., mgr. of sales, special products div., General Electric Co., 1 River Rd., Schenectady, N.Y.; res. Hedgewood Lane, Schenectady.
Physicist; b. Mineola, Feb. 10, 1922; s. of H. F. and C.A. Herrmann; ed. Cornell U., A.B., Physics, 1943; mem.: Theta Delta Chi; m. Margaret Teter, Sept. 6, 1947; ch.: Patricia H. General Dyestuff Corp., Lab. Chem., General Electric Co., mgr. of sales, special products div. Res. in pioneering new chem. anal. instrumentation such as mass spectrometers,, X-ray photometers, electron diffraction and microscopes equipments.

HERRON, David Poston, v.p., Atlantic Res. Corp., exec. v.p., Dryomatic Corp., 812 N. Fairfax St., Alexandria, Va.; res. Box 415 R.F.D. 1, Mt. Vernon, Alexandria.
Chem. engr.; b. Crawfordsville, Ind., Aug. 30, 1919; s. of Austin R. and Florence Scott (Poston) Herron; ed. M.I.T., B.S., S.M., 1938-42; Harvard Business Schl., 1947-49 M.B.A. (with distinction); mem.: Beta Theta Pi, Alpha Chi Sigma, Tau Beta Pi, Sigma Xi; unm. 1942-44 instr., asst. prof., M.I.T.; 1944-46 chem. engr. General Electric Co.; 1946-47 instr., M.I.T.; 1949 to date v. p. Atlantic Res. Corp.; 1950 exec. v.p. Dryomatic Corp. Mem.: A.C.S., A.I.Ch.E. Clubs: Century, Belle Haven Country. Hobbies: electronics, fishing, mountain climbing.

HERSBERGER, Arthur Bucher, mgr., chem. prods. sect., Atlantic Ref. Co., 260 S. Broad St., Phila., Pa.; res. 5240 Apache Lane, Drexel Hill, Pa.
Chem., mgr.; b. Jan. 13, 1912, Canada; s. of Arthur C. and Verlinde J. Hersberger; ed. U. Md., B.S. 1932; M.S. 1933; Ph.D. 1936; mem.: Theta Chi, Sigma Xi; m. Lucille Stinnett, July 1, 1932; ch.: Gaye Caskie, Arthur Lee. Res. & dev. dept., Atlantic Ref. Co., 1936; group leader, 1939; Divisional dir. of R.&D., 1944; mgr. of chem. prods. sect., 1947 to date. Res. in plastics, detergents, asphalt, fuels. Mem.: A.C.S., A.I.Ch. E., A.P.I., A.A.A.S. Club: Exchange. Hobbies: photography, gardening, hunting.

HERSHBERGER, A(rlan) R(ussell), hd. dept. of chem., prof., Westmar Coll., 10th St. & 3rd Ave. S. E., LeMars, Ia.; res. R.F.D. 2, LeMars.
Chem. teacher; b. E. Canton, Ohio, Jan. 8, 1899; s. of Calvin and Ida (Sherer) Hershberger; ed. McKinley H.S., Canton, Ohio; Ohio State U., M.Sc. 1925, Ph.D. 1939; m. I. Marie Heidenreich, June 17, 1926; ch.: James Calvin, Robert Lee. Summers while attending coll., steel mills & Tinken Roller Bearing Co., Canton, Ohio; teacher, Coal City, Ill., H.S., 1923-24; anal. chem., Grasselli Chem. Co. (du Pont), Cleveland, 1925-27; hd. chem. dept., Westmar Coll., 1927 to date. Author: "Principles of Photography" 1950. Mem.: Sigma Xi, A.C.S. Sioux Valley Sec. South Dakota Acad. of Sc. Hobbies: gardening, archery, photography.

HERSHEY, Alan Unger, tech. dir., McCloskey Varn. Co. of the West, 5501 E. Slauson Ave., Los Angeles, Calif.; res. 6335 King Ave., Bell, Calif.
Chem., surface coatings; b. U.S.A., June 13, 1917; s. of Louis and Diana Hershey; ed. N.Y. U., 1933-36, B.S. in chem.; U. of Ill., 1936-38, M.S.; m. Fredda Hershey, May 13, 1941. U.S.A.A.F. meteorologist, 1942-44, Chanute, Ill.; U.S.A. Engr., radiochem., 1944-46, Los Alamos, New Mexico; McCloskey Varn. Co. of West, tech. dir., 1946 to date, Los Angeles, Calif. Club: L.A.S.F.S., O.S. Hobbies: science fiction, fine press books, anthropology.

HERSTEIN, Karl M., consulting chem., pres., Herstein Laboratories, Inc., 128 Water St., New

York 5, N.Y.; res. 160 W. 87th St., New York 24, N.Y.
Conslt. chem.; b. Elizabeth,, N.J., Nov. 29, 1896; s. of Bernard and Anna Moren Herstein; ed. B.S., Columbia, 1917, Post Graduate, 1917; m. Mae H. Solomon, Nov., 1927; ch.: Bernard. Chem., U.S. Navy Dept., 1917-18; Sackett & Wilhelms Lithographing Co., 1919-21; chem., American Tobacco Co., 1922; Hochstadter Laboratories, Inc., 1922-35; v.p., Kenney-Herstein, Inc., 1935-37; pres., Herstein Labs., Inc. 1937 to date. Author: " The Chemistry and Technology of Wines and Liquors," 2nd edition, 1949. Mem.: A.I.C., A.C.S., Acad. of Sc. (New York), The Chemists' Club, Soc. of Chem. Industry.

HERTY, Charles Holmes, Jr., asst. to v.p. in chg. of steel plant operations, Bethlehem Steel Co., Bethlehem, Pa.; res. R.D. 1, Hellertown, Pa.
Admin. chem. engr.; b. Athens, Ga., Oct. 6, 1896; s. of Charles H. and Sophie (Schaller) Herty; ed. Asheville Schl., Asheville, N.C., 1912-14; U. of N.C., B.S. 1914-19; M.I.T., M.S., D.Sc. 1919-24; mem.: Phi Beta Kappa, Sigma Xi, Delta Kappa Epsilon, Alpha Chi Sigma; m. Kathleen Malloy, Nov. 13, 1929; ch.: Dorothea, Charles H. III, Kathleen S., Timothy. 1924-26 res. assoc. Schl. of Engrg. Pract., M.I.T.; 1926-31 metallurg. res., Bur. of Mines, Pittsburgh, Pa.; 1931-34 dir. of res., Metallurg. Adv. Bd., Pittsburgh; 1934-42 res. engr. Bethlehem Steel Co., Bethlehem, Pa.; 1942 to date asst. to v.p., same co.; wk. in phys. chem. res. on open hearth proc. of steel-making. Pub. approx. 85 tech. papers. Mem.: Natl. Acad. Sci.; Am. Iron & Steel Inst.; The Iron & Steel Inst. (British); A.C.S., Am. Ord. Assoc.; The Newcomen Soc.; A.I.M.M.E. (dir.); A.S.M. (pres. 1946), Sauveur Achievement Award. Clubs: M.I.T. of Lehigh Valley; Engineers of Lehigh Valley; Saucon Valley Country; The Bethlehem. Hobby: golf.

HESS, Paul S., res. chem., 195 Belgrove Dr., Kearny, N.J., Congoleum-Nairn, Inc.; res. 45 Kew Gardens Rd., Kew Gardens 15, N.Y.
Chem.; b. Mannheim, Germany, Feb. 2, 1918; s. of Ernest and Lena Levy Hess; ed. dept. chem. engr., U. Mich. 1936-39; N.Y.U., chem. 1939-43, B.A. chem.; Bklyn. Polytech. Inst. 1943-47, M. S. chem.; mem.: Phi Lambda Upsilon (hon. chem. frat.); m. Helen Jean Goldburg, June 7, 1942; ch.: Peter John, Margaret A. 1939-44 Stand. Varn. Wks., S.I., paint, varn. chem.; 1944-47 Natl. Lead Res. Labs., Bklyn., N.Y., res. chem., vegetable oil chem.; 1947 to date Congoleum-Nairn, Inc., res. chem., vegetable oil chem. Publ.: Physical test. of polymeriz. and oxidiz. linseed oil,; reactions of vegetable oils on oxidation; ultraviolet spect. of vegetable oils; abstractor for chem. abstracts. Mem.: A.C.S., A.I.C. (fellow), A.O.C.S., N.Y. Paint & Varn. Prod. Club; Phi Lambda Upsilon. Hobbies: sports of all kinds, photography, stamp collecting, tropical fish.

HESS, Raymond W., hd., operating improvements and pollution res., Natl. Aniline Div., Allied Chem. & Dye Corp., Buffalo 5, N.Y.; res. 171 Linwood Ave., Buffalo 9.
Chem.; b. Plover, Iowa, Sept. 21, 1889; s. of Phillip Gage and Harriet Adaline (Olds) Hess; ed. Morningside Coll., A.B. 1912; U. of Ill., A.M. 1914; Ph.D. 1916; m. Janet Grace Little, July 9, 1913; ch.: Helen Dorothy (Mrs. M. J. Moore). 1912-16 asst. U. of Ill.; 1916-18 res. grp. ldr., Sherwin Williams Co.; 1918 to date supervision of res., dev. and operations, Natl. Aniline Div., Allied Chem. & Dye Corp.; res. in sulfur dyes, mineral flotation agents, indust. wastes, water pollution abatement; chmn. of comms. on Water Pollution Abatement, Mfg. Chemists' Assoc., Inc., and Assoc. Industries of N.Y. State, Inc. Mem.: A.C.S., A.I.Ch.E., N.Y. Sewage & Indust. Wastes Assoc., A.A.A.S., Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma. Clubs: Torch; Illinois; Central Park Men's. Hobbies: topography, trees, semantics.

HESS, Walter C., prof. biolog chem., Georgetown Med. Schl., Washington, D.C.; res. 3607 Chesapeake St., N.W., Washington, D.C.
Prof. biolog. chem.; b. Phila., Pa., July 19, 1899; s. of Edward and Theresa C. Hess; ed. U. of Pa., B.S., 1920; Geo. Wash. U., Ph.D., 1930; m. Jeanette S., June 11, 1922; ch.: Walter, Jr. Protein chemistry-nutrition. Mem.: A.C.S., S.E.B.M., Wash. Acdy. Sc., A.S.Bio.C., Int. Assoc. Dent. Res. Past Dept. Comm. Disabled American Veterans.

HESSEL, Frederick A., pres., Montclair Res. Corp., 4 Cherry St., Montclair, N.J.; res. 100 Clarewill Ave., Upper Montclair, N.J.
Exec.; b. Antwerp, Belgium, May 13, 1898; s. of Louis and Adrienne (Spelten) Hessel; ed. Licencie Sciences Chimiques-Meurice Inst., Brussels, Belgium, 1922; diploma Pet. Inst., U. of Strasbourg, France, 1923, doctor, 1924; m. Mary Stanley Hinrichs, Aug. 23, 1930; ch.: Adrienne. Vacuum Oil Co., 1925-29, res. chem.; 1929-39, investment banking; Ellis-Foster Co., pat. negotiator, 1939 to date; Montclair Res. Corp., pres., 1941 to date. Number of pats. granted in org. chem. fld. Co-author: "Chem. in Warfare" 1940; "Strategic Matls. in Hemisphere Defense" 1942; co-translator, "Acetylene, Homologs & Derivatives" 1950. Mem.: A.C.S., S.C.I., Brazilian Chem. Soc., Inst. of Pet., A.I.C. (treas. since 1943). Clubs: Chemists', Montclair Golf.

HESSELBART, Robert C(lifton), chf. chem., Mid-West Abrasive Co., 510 S. Washington St., Owosso, Mich.; res. 1201 Adams St., Owosso.
Chem.; b. Woodville, Ohio, Feb. 9, 1915; s. of Clifton G. and Mabel (Sparks) Hesselbart; ed. U. of Toledo, Ohio, B.Sc. 1937; Ohio State U., M.Sc. 1938; m. Delette Woodring, Apr. 13, 1941; ch.: Allen R., John C., Roland J., Carl S. Plaskon Div. Libbey-Owens-Ford Glass Co., Toledo, Ohio, 1939-48 res. & dev., group leader glue & ind. resins div., 1948-49 tech. serv. dept., in chg. of tech. serv. of glue & ind. resins div.; Mid-West Abrasive Co., 1949 to date, chf. chem. Mem.: A. C.S., T.A.P.P.I., A.I.C.

HESTER, William Frederic, admin. fellow (for Koppers Co. Fellowships), Mellon Inst. of Indust. Res., 4400 Fifth Ave., Pittsburgh 13, Pa.; res. 1013 Sheridan Ave., Pittsburgh 6.
Res. chem.; b. Indianapolis, Ind., May 3, 1904; s. of Frank DePauw and Marie (Gwynne) Hester; ed. A.B., 1925, DePauw U. (also hon. D.Sc. 1948); A.M. 1927, Ph.D. 1929, Harvard U.; mem.: Phi Beta Kappa, Beta Theta Pi, Pi Epsilon Delta, Alpha Chi Sigma; m. Cornelia Hypes Allen, Sept. 14, 1927; ch.: Mary Cornelia, William Alexander, Helen Hypes, Blanche Edna, Frank Allen. Summers, 1926-27, Eli Lilly Co., Indianapolis, Ind., res. asst.; 1929-48 Rohm & Haas Co., Phila., Pa., res. chem.; (dir. of insecticide and fungicide res. 1936-48); Mar. 31, 1949-June 30, 1949, Koppers Co., asst. to asst. dir. of res.; July 1, 1949 to date, admin. fellow for Koppers Co. Fellowships at Mellon Inst. of Indust. Res. Holds 50 U.S. pats. in flds. of insecticides, fungicides, tanning agents, alkylated phenols. Mem.: Phi Beta Kappa, A.C.S., Alpha Chi Sigma. Dir. of DePauw U. Alumni Assoc. Club: University, (Pittsburgh, Pa.), Beta Theta Pi. Hobbies: music, photography, scouting (Scouter's Award).

HETCHLER, John D., N.Y. mgr. chem. prod. dept., Werner G. Smith Co. Div. of A.D.M., 233 Broadway, N.Y.C.; res. 20 Jackson Village, Rutherford, N.J.

Mgr. sales and tech. serv.; b. Howell, Mich.; s. of Claude and Leola Hetchler; ed. Mich. State Coll., B.S. Ch.E., 1935; m. Donna F., Dec. 25, 1936. 1935-36 mech. goods dept., U.S. Rubber Co, Detroit, Mich.; 1936 to date with Werner G. Smith Co. Div. of Archer Daniels Midland Co. in following positions: 1936-38 chf. chem. Wyandotte, Mich. plant; 1938-42 asst. supt. same plant; 1942-46 tech. sales in N.Y. territory, Eastern Div.; 1946 to date N.Y. mgr. chem. prods. dept. Co-patentee on pat. for synth. rubber copolym. Mem.: A.C.S., A.O.C.S., A.I.C., Chemists' Club, N.Y. Rubber Group, A.A.T.C.C., Sales Exec. Club. Hobbies: golf, gardening, work.

HETLER, Donald McKinley, prof., chmn. dept. of bact., Montana State U., Missoula, Mont.; res. 322 E. Beckwith Ave., Missoula.
Prof. of bact.; b. Osage City, Kans., Feb. 19, 1896; s. of Thos. Jefferson and Katharine (Slusser) Hetler; ed. U. of Kansas, A.B. 1918; M.A. 1923; Yale U., Ph.D. 1926; mem.: Acacia, Alpha Chi Sigma, Gamma Alpha, Sigma Xi, Phi Sigma; m. Rossleene Merle Arnold, Jan. 1, 1928; ch.: Katharine Jane. 1918-21, acid chem., Hercules Powder Co., Parlin, N.J.; 1921-24, grad. asst. U. of Kans.; 1924-26, Natl. Tuberculosis Assoc. Fellowship, Dept. of Chem., Yale U.; 1926-28, asst. Rockefeller Inst. for Med. Res., N.Y.C.; 1928-31, instr. Dept. of Bact., Wash. U. Schl. of Med., St. Louis, Mo.; 1931-37, asst. prof. same schl.; 1937-38, assoc. prof. dept. of bact., Montana State U., Missoula, Mont.; 1938 to date, prof. and chmn. dept. of bact. same U.; res. chem. study of bacteria; mechanisms and action of bacteriophage; chem. modifications, sera for therapeutic use; effects of nutrition upon allergy. Mem.: A.C.S., A.A.A.S. (fellow). On Missoula Park Board. Hobbies: photography, gardening, fishing.

HETTRICK, Ames Bartlett, asst. mgr. of manuf., Calco Chemical Div., American Cyanamid Co., Bound Brook, N.J.; res. 982 Madison Ave., Plainfield, N.J.
Mech. engr.; b. Clinton, Iowa, Nov. 29, 1904; s. of George D. and Lucy Bartlett Hettrick; ed. M.I.T., 1924-28; mem.: Phi Mu Delta, Pi Delta Epsilon; m. Frances C. O'Brian, Sept. 17, 1932; ch.: John Lord, Ames B. Jr., George Harrison. Stone & Wesbter Engineering Corp., 1928-30; Southern Mineral Products Corp., 1930-36; v.p. & gen. mgr., Virginia Chem. Corp., 1936-44; works mgr., Calco Chem. Div. Amer. Cyanamid Company, Piney River, Virginia Works, 1944-46; asst. mgr. of mfg., same co., Bound Brook, N.J., 1946 to date. Mem.: Am. Soc. Mech. Engrs., A.I.M.M.E., A.I.Ch.E., (assoc. member). Clubs: Chemists' (New York), Farmington Country, Boonsboro Country, Plainfield Country. Hobby: woodworking.

HETZEL, Harry Thomas, res. chem., Lee S. Smith & Son Mfg. Co., 7325 Penn Ave., Pitts. 8, Pa.; chem. & tech. sales, Royston Labs. Inc., Blawnox, Pa.; res. 116 Gallatin Ave., Connellsville, Pa.
Chem. & tech. sales; b. Connellsville, Pa., Nov. 25, 1917; s. of Harry and Eva Hetzel; ed. Bethany (W. Va.) Coll., B.S. cum laude & distinction, W. Va. U., U. of Pa., Maryville (Tenn.) Coll., U. of Pitts., M.Litt.; mem.: Sigma Nu, Alpha Kappa Kappa, Kappa Beta Phi; ch.: Rheiner. Robertshaw Thermostat Co., res. technician, 1940; Pitts. Coke & Iron Co., chem., chf. chem., 1941-43; U.S.A. Air Force, aerial navigator, instr. & supvr. of U.S. Armed Forces Inst., 1943-46; Pitts. Coke & Chem. Co., res. chem., 1946-47; Lee S. Smith & Son Mfg. Co., res. chem., 1947 to date; Royston Labs. Inc., chem. & tech. sales, 1950 to date. Dev. of activated carbon from coal for Pitts. Coke & Iron Co. (C.W.S.); dev. of Kalginate (an irreversible hydrocolloidal impression matl. for dentistry). Mem.: Sigma Xi, Internatl. Assn. for Dental Res., Phi Sigma, A.C.S., Natl. Assn. of Corrosion Engrs.

HEUER, Russell Pearce, v.p. chg. res., Gen. Refractories Co., 1520 Locust St., Phila. 2, Pa.; res. 1241 Ridgewood Rd., Bryn Mawr, Pa.
Chem. engr; b. Phila., Pa., June 13, 1896; s. of Harry and Anna Lillie (Pearce) Heuer; ed. Central H.S. of Phila.; U. of Pa. B.S. 1917, Ch.E. 1922, Ph.D. 1927; mem.: Sigma Alpha Epsilon, Sigma Xi; m. Elizabeth Lacy Crimian, June 19, 1926; ch.: Russell Pearce, Jr., Charlotte Seabury. Chem. engr., U.S. Bur. Mines, 1918-19; metallurgist, Chase Mtl. Wks., 1919-22; instr. chem., U. of Pa. 1922-27; v.p., dir. of res., Gen. Refractories Co., 1927 to date. Northwest Magnesite Co. (dir.). Recip. more than 50 pats. relating to metallurgy of oxygen-free copper, operation of blast furnaces with acid slags, desulfurization of pig iron, suspended furnace construction & mfr. of refractory matls. from diverse raw matls., incl. magnesite, chromite, silica, fireclay, etc. Author several tech. papers relat. to metallurgy & mfr. & use of refractory matls. Mem.: A.I.Ch.E., A.C.S., Am. Ceramic Soc., Electrochem. Soc., A.I.M.M.E., British Ceramic Soc. Clubs: Union League of Phila., Phila. Country.

HEUSER, Emil F.F., prof. emeritus, 33 Vista de la Playa, La Jolla, Calif.
Cellulose chem.; b. Stralsund, Germany, Sept. 15, 1882; s. of Carl and Olga Oborn Heuser; ed. 1903-05 Tech. U., Munich; 1905-07 Tech. U. Karlsruhe (Baden); 1907-09 U. Graz, Austria, 1909 Dr.-Ing. (Dr. in chem. engrg.) Karlsruhe; m. Frieda Thiele, July 2, 1910; ch.: Heinrich, Dietrich, Klaus, Andreas. 1909-12 chf. chem. various German, Austrian pulp, paper mills; 1912-23 prof. org., cellulose chem. Tech. U. Darmstadt; 1923-26 dir. res. Vereinigte Glanzstoff-Werke (rayon) Seehof, near Berlin; 1926-38 dir. res., Canadian Internatl. Paper Co., Hawkesbury, Ontario; 1938-47 chg. cellulose chem. Inst. Paper Chem., affiliated with Lawrence Coll., Appleton, Wis.; 1948 retired from active duties at Inst. to La Jolla, Calif. 1918-26 secy. German Assn. Pulp, Paper Chem., Engrs. (Berlin); 1923-26 hon. prof. cellulose chem., Tech. U. Berlin (Charlottenburg); 1918-23 ed. "Papierfabrikant"; 1920 founder and ed. of "Zeitschr. f. Cellulose-Chemie (until 1926); author: "Das Färben des Papiers auf der Papiermaschine," Berlin, 1913; "Lehrbuch der Cellulose-Chemie," Berlin 1921, rev. (3rd) 1927; trans. into English from second ed. by C.J. West, G.J. Esselen, N.Y. 1924; into Russian by L.K. Lepin, N.A. Shilova, Moscow, 1923; "The Chem. of Cellulose," N.Y. 1944; contrib. extens. to sc. and tech. jls. Mem.: A.C.S. (chmn. div. cellulose chem. 1937); hon. mem. German Assn. Pulp, Paper Chem. and Engrs. 1926; Goldmedal of Tech. Assoc. Pulp, Paper Ind., N.Y. 1947. Hobbies: writing, studying in above fields, reading (arts, music, history).

HEWES, Charles Kay, chf. chem., Richfield Oil Corp., Box 787, Wilmington, Calif.; res. 4123 Sea View Ave., Los Angeles 65, Calif.
Chem. engr.; b. Quincy, Ill., June 3, 1889; s. of Charles T. Hewes and Mary E. Sinnock Hewes; ed. B.S. in chem. engrg., U. of Ill., 1912, Preliminary and final honors, M.S. in Organic chem., 1914; mem.: Alpha Chi Sigma, Phi Lambda Upsilon; m. Frances Marjorie Kilburn, July 29, 1914. Res. chem., Mexican Petroleum Corp., 1914-16; chf. chem., General Petroleum Corp., 1916-29; chf. chem., Richfield Oil Corp., 1929 to date. Res. in composition, production and application of all types of pet. products. Mem.: A.C.S., A.S.T.M., Amer. Pet. Inst., Amer. Ordnance Assoc. Hobby: gardening.

HEWITT, Harold George, dean, Coll. of Pharmacy, U. of Conn., 150 York St., New Haven 11, Conn.; res. Hank's Hill Road, R.D. No. 2, Storrs, Conn.
Prof. of chem.; b. Milwaukee, Wis., Oct. 14. 1901; s. of Bert Edwin and Ada Belle (Collins) Hewitt (both dec.); ed. B.S. 1923, M.S. 1925, Ph.D. 1926, U. of Wis.; mem.: Tau Kappa Epsilon, Kappa Psi, Sigma Xi, Phi Sigma, Gamma Alpha, Rho Chi; m. Martha Cummings Alexander, Aug. 18, 1926. Instr. to prof. of chem., 1926-47; 1947 to date prof. of chem. and dean of the College of Pharmacy, U. of Conn. Mem.: A.C.S., A.A.A.S., A.Phar.A., A.A.U.P. Clubs: Graduates (New Haven), Lawn (New Haven). Hobbies: gardening, travel.

HEWITT, Lowell Cleland, v.p., dir. res., Laclede Christy Co., 4705 Ridgewood Ave., St. Louis 16, Mo.; res. 813 Westwood Dr., Clayton 5, Mo.
Ceramic engr.; b. Aug. 13, 1894, New Hampton, Ia.; s. of James Cleland and Amanda Elizabeth Hewitt; ed. 1913-17 Ia. St. Coll., Ames, Ia., B.S. Ceramics; m. Ida Link, Dec. 4, 1917; ch.: Joan. 1917-19 burning dispatcher, Laclede Christy Co.; 1919-23 indust. engr.; 1923-43 dir res.; 1943 to date v.p., dir. res.; 1932-42 also Ind. Fellow, Mellon Inst., Pitts., Pa. Res. in dev. of refractories for ind. furnaces; mem.: Am., English, Canadian Ceramic Socs., Soc. Glass Tech. (English), A.S.T.M., A.I.M.M.E., Inst. Ceramic Engrs.; grade of fellow Am. Ceramic Soc., (hon.) Ceramic Order of Keramos; Award Modern Pioneer, Natl. Assn. Mfgrs. Hobbies: fishing, hunting.

HEWITT, Redginal Irving, parasitologist, Lederle Labs. Div., Am. Cyanamid Co., Pearl River, N.Y.; res. Ehrhardt Rd., Pearl River, N.Y.
Parasitologist; b. Sheffield, Pa., Feb. 6, 1911; s. of Frank Bowen and Anna May Sever Hewitt; ed. B.S., Allegheny Coll., 1932; M.S., Syracuse U. 1936; Sc.D. Johns Hopkins U. 1939; m. Mary Roberta Philp, 1934; m. (2nd) Dorothy Barnett, 1948; ch.: Arthur Alden. Instr., protozoology, Johns Hopkins Schl. of Hygiene, Public Health, 1938-39; Jr. Malariol., T.V.A. 1940-41; asst. malariol., 1942; assoc. malariol. 1943-44; assoc. prof. preventive med., U. Tenn. Med. Schl., 1942-44; parasitol., Lederle Labs. Div., Am. Cyanmid Co. 1944 to date. Responsible investigator, O.S.R.D., chemotherapy of malaria, 1942-44; exp. chemotherapy of filariasis—hetrazan, 1947; author: "Bird Malaria" (The Johns Hopkins Press), 1940.

HEYN, Antonius Nicolaas Johannes, prof. of natural & syn. fibers, Clemson Agr. Coll., Clemson, S.C.
Prof.; b. Delft, Holland, Jan. 25, 1906 s. of A. Ch. and J. (van Rinsum) Heyn; ed. Utrecht U., Holland, Ph.D. 1931, studies for Rockefeller Foundation Coll. de France, Paris & U. of Leeds, England. 1929-36 Utrecht U.; 1931-32 Rockefeller fellowship; 1936-46, ind. adviser in chg. of fiber & textile res. for Netherlands East Indies Govt. in Dutch East Indies also wk. in plant industries; 1947 to date, prof. of natural & syn. fibers, Clemson Coll., S.C. Molecular structure of cellulose & chitin in plant cell walls & fibers; x-ray structure of fibers; plant growth hormones; res. natural & syn. fibers; also wk. in plant industries. Num. publs. in tech. jls. Mem.: A.C.S., A.A.A.S., Bot. Soc. of Am., T.A.P.P.I., Am. Crystallographic Assn., S.C. Acdy. of Sc., A.A.T.C.C. Hobby: sportflying (pilot).

HICKEY, Rev. Frederick Cornelius, O.P., prof. of chem., Providence College; res. Providence College, Providence, R.I.
Priest, chem. prof.; b. Detroit, Mich., Feb. 3, 1904; s. of Edward J. and Louise Mehling Hickey; ed. Georgetown U., B.S. 1926; Yale U., Ph.D. 1937. Joined faculty of Providence Coll., 1937, hd. of chem. dept., 1945-47; hd. sc. dept. 1947-48. Res. in solution chem., war gases and carbon tracer, studies of metabolism. Mem.: A.C.S., Sigma Psi. Hobbies: photography, glassblowing.

HICKEY, Robert Brandon, spinning dept. supt., Tenn. Eastman Corp., Kingsport, Tenn.; res. 1517 Kings Rd., Kingsport.
Chem. engr.; b. Leipsic. Ohio, Sept. 27, 1911; s. of Brandon D. and Maude M. Hickey; ed. Purdue U., B.S.Ch.E. 1930-34; m. Mary C. Stevenson, June 15, 1940; ch.: Mary Elizabeth, William Stevenson. Tenn. Eastman Corp.: 1934-35, plastics dev. engr.; 1935-37, spinning dept. chem. engr.; 1937-42, rayon dev., sec. hd.; 1942-47, rayon dev., dept. supt.; 1947 to date, rayon spinning dept., dept. supt. N.D.R.C. work 1942-44. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S., A.I.Ch.E., Textile Res. Inst. Club: Ridgefields Country. Hobbies: music, photography.

HICKS, Elija Maxie Jr., tech. supt., E.I. du Pont de Nemours & Co., Buffalo, N.Y.; res. 49 Circle Ct., Harris Hill, Williamsville, N.Y.
Chem.; b. Florence, S.C., Aug. 26, 1920; s. of Elija M. and Jessie (Bryant) Hicks; ed. Furman U., B.S. chem. 1941 summa cum laude; Princeton U., M.A. chem. 1943, Ph.D. 1944; mem.: Sigma Alpha Epsilon; m. Joanne Campbell Sly, Mar. 25, 1944; ch.: Elija John, Joanne Bryant. du Pont Co.: Apr. 4, 1944, res. chem., Richmond, Va.; 1947, plant res. supvr., Old Hickory, Tenn.; 1950 to date, tech. supt., Buffalo, N.Y. Halogenation of aryl hydrocarbons & ketones, syn. studies related to syn. of adreno cortical hormones. Mem.: A.C.S., A.A.A.S., Chi Beta Phi, Sigma Xi. Hobbies: sports, woodworking.

HICKS, Gilbert H., chf. engr., Eagle-Picher Co., ft. of Blanchard St., Newark 5, N.J.; res. 412 Wells St., Westfield, N.J.
Chem. engr.; b. Wash., D.C., Apr. 21, 1896; s. of Gilbert H. and Elva E. Hicks; ed. U. of Cincinnati, Ch.E., 1923; mem.: Beta Theta Pi; m. Cicely Burt Lloyd, Aug. 2, 1923; ch.: Gilbert H. Jr., Cicely B., Samuel L. Evans Lead Co., Charleston, W. Va., 1923-28, plant engr.; Andrews Lead Co., L.I.C., N.Y., 1928-30, dev. engr. & supt.; Eagle-Picher Co., Newark, N.J., plant engr. 1930-35, plant mgr. 1935-46, chf. engr. 1946 to date. Mem.: N.Y. Paint & Varn. Prod. Club, N.J. Soc. of Prof. Engrs. Hobbies: photography, stamp collecting, gardening.

HICKS, Glenn Hamby, tech. dir., Acme White Lead & Color Wks., 8250 St. Aubin, Detroit, Mich.; res. 1517 Edgewood Dr., Royal Oak.
Chem.; b. Garnett, Kans., May 5, 1903; s. of Oscar L. and Lillie P. Hicks; ed. U. of Kansas, A.B. 1926; mem.: Alpha Chi Sigma; m. Martha Hardy, June 11, 1927; ch.: John Milton. 1926-37 tech. dir. lacquer div., Cook Paint & Varnish Co.; 1937 to date tech. dir. Acme White Lead & Color Wks. Mem.: A.C.S., A.I.C. (fellow), A.S.T.M., Amer. Ord. Assoc., Engr. Soc. of Detroit, S.A.E.

HICKS, Joseph Skean, dir. of chem. dept., Sam Houston State Tchrs. Coll., Huntsville, Tex.; res. Angier Lane, Route 4, Huntsville.
Chem., indust. and tchg.; b. Ben Franklin, Tex., May 21, 1902; s. of Joseph Harkess and Adda (Gudekoontz) Hicks; ed. N. Texas State Coll., B.S. 1923; U. of Chicago, M.S. 1925, Ph.D. 1927; Wayne U., (Detroit), LL.B. 1939; mem.: Sigma Xi, Delta Theta Phi, Law School; m. Josephine Couch Doty, Oct. 18, 1938; ch.: Robert Whalen, Joseph Richard, Melburne Isabelle. 1927-29 asst. dir. of res. and qual. control, Hecker H-O Co., Buffalo, N.Y.; 1929-31 res.

chem. Natl. Aniline & Chem. Co., Buffalo; 1931-34 res. chem. Sherwin Williams Co., Cleveland and Detroit; 1934-40 conslt. chem. Briggs Mfg. Co., Detroit; 1940-41 tech. serv. engr. Indust. Tape Corp., New Brunswick, N.J.; 1941-45 U.S.A.; 1945-47 tech. coord. in plastics sales div., Owens Corning Fiberglas Corp., Toledo, Ohio; 1947-49 lect. in chem. U. of Toledo; 1949 to date dir. of chem. dept., Sam Houston State Tchrs. Coll., Huntsville, Tex. Author first book and only one thus far pub. on low pressure molded or reinforced plastics; this new fld. of dev., accentuated dur. W.W.II. Author: "Low Pressure Laminating of Plastics," 1947, Reinhold Pub. Co., N.Y.C. Mem.: A.C.S., Sigma Xi, Texas State Tchrs. Assoc. Clubs: Rotary (Huntsville, Tex.); Reserve Off. Assoc. Hobbies: finance, travel.

HICKS, R(ussell) Lowell, prof., hd. chem. dept., Franklin Coll., Franklin, Ind.; res. 250 S. Hougham St.
Tchr. chem.; b. near Goreville in Johnson Co., Ill., Juy 27, 1913; s. of Hugh Hill and Sallie E. Fergus Hicks; ed. B.Ed., So. Ill. U., Carbondale, 1934; M.S., U. Ill., 1936; Ph.D., 1939; mem.: Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma; m. Mabel Ackerman, Apr. 5, 1942; ch.: Sharon Lou, Linda Sue. Prin. high schl., supt. grades, Pomona, Ill., 1934-35 academic year; grad. asst. chem., U. Ill., 1935-39; res. chem., Union Oil Co. Calif., New Wilmington, Calif., summer, 1938; Aug. 15, 1939-Dec. 31, 1941 res., dev. chem., Natl. Aniline Div., Allied Chem. & Dye Co., Buffalo, N.Y.; res. assoc. org. chem., Inst. Gas Tech., Chicago, 1942-43; res. chem., Bell Co., Chicago, 1943-44; prof., hd. chem. dept., Franklin Coll., Franklin, Ind., 1944-46; assoc. prof. chem., Westminster Coll., New Wilmington, Pa., 1946-47; prof., hd. chem. dept., Franklin Coll., 1947 to date. Mem.: A.C.S., Ind. Acdy. Sc., Ind. Chem. Soc., Blue Key. Hobbies: tennis, golf, music, dancing.

HIERS, Glen Sefton, res. chem., Collins & Aikman Corp., 5000 Parkside Ave., Phila. 31, Pa.; res. 130 Cynwyd Rd., Bala-Cynwyd, Pa.
Chem.; b. Connersville, Ind., Aug. 17, 1896; s. of Franklin E. and Pearl Augusta Hiers; ed. Miami U. (Oxford, O.), B.S. (cum laude) 1919; Northwestern U. (Evanston, Ill.) M.A. 1921; U. of Ill., (Urbana, Ill.) M.S. 1924; Ph.D. 1926; mem.: Phi Kappa Tau; m. Mildred Douthitt, June 15, 1920; ch.: Thomas Sefton, Richard Hyde. 1918 C.W.S., Wash., D.C.; 1926-28 res. chem. E.I. du Pont de Nemours, Wilmington, Del.; 1928-31 res. fellow, Mellon Inst., Pittsburgh, Pa.; 1931 to date res. chem. Collins & Aikman Corp.; res. in catalytic reduction, synth. of cyclohexyl alkyl acids and derivatives; holds pats. on rubber compdg., adhesives, dyestuffs application, methods for mfg. flocked fabrics and latex tech. Mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, A.C.S., A.A.A.S., A.A.T.C.C. Clubs: Cynwyd, Penn. A.C. Hobbies: gardening, fishing.

HIESERMAN, Clarence Edward, prod. supt., sec. hd. developmental dept. syn. org. chem., Celanese Corp. of Am., Cumberland, Md.; res. Braddock Rd., Cumberland.
Chem.; b. Iowa Park, Texas, Jan. 15, 1917; s. of Edd and Emma (Weeth) Hieserman; ed. 1933-37, Texas Tech. Coll., B.S.; 1937-39, Mich. State Coll., M.S. biol. chem.; 1939-42, Texas A.&M. Coll., predoctorate wk.; mem.: Alpha Chi Sigma; m. J. Margaret Turner, May 24, 1942; ch.: James Edward. 1939-40, chem. dept., Texas State Exp. Station; 1940-42, grad. asst. chem. dept., Texas A.&M. Coll.; 1942 to date, Celanese Corp. of Am., tech. & adm. Mem.: A.C.S.

HIGBURG, William, chem. sales, 725 E. 58 St., Indianapolis 20, Ind.
Chem. sales; b. Wheaton, Minn.; s. of Peter G. and Ellen (Westin) Higburg; ed. U. Minn. B.S. chem. engrg. 1917; mem.: Alpha Chi Sigma; m. Bernice Putnam, Aug. 26, 1922; ch.: Mary Ellen Higburg. 1917-19, U.S.A., chem. warfare serv., priv. to 2nd Lt.; 1919-49, Republic Creosoting Co., Reilly Tar & Chem. Corp., as sales, advertising mgr. 1949 to date self-employed—chem. sales.; mem.: A.C.S., A.S.M., A.W.P.A.; N.A.C.E., A.I.S.I., Alpha Chi Sigma. Clubs: Torch (Indianapolis); Chem. (N.Y.); Columbia; Indianapolis Country, Junto (Indianapolis); Elks; Scottish Rite. Hobby: golf.

HIGGINS, Charles Alfred, pres., chmn. bd. of dir., Hercules Powder Co., Wilmington, Del.; res. 906 du Pont Rd., Westover Hills, Wilmington.
Exec.; b. Gillingham, Kent, Engand, July 2, 1888; s. of George and Elizabeth Eleanor (Wheeler) Higgins; ed. private schls. England, came to U.S. 1915, naturalized 1931; m. Marion Dunham, June 4, 1921. Chem., New Explosives Co. Ltd., England, 1910-15; chf. chem., Union Powder Corp., Parlin, N.J., 1915-16; Hercules Powder Co., Wilmington, since 1916 as mgr. dev. dept., v.p., pres. 1939 to date, chmn. bd. 1944 to date. Mem.: Acad. of Political Sc. Clubs: Wilmington (Wilmington), Wilmington Country, (Wilmington), Hercules Country (Wilmington), The Pilgrims of U.S. (N.Y.).

HIGGINS, H.B., pres., Pitts. Plate Glass Co., 2000 Grant Bldg., Pitts. 19, Pa.; res. Woodland Rd., Sewickley, Pa.
Exec.; b. Sept. 7, 1882; s. of James Henry and Alice Ann (Cheney) Higgins; ed. Harvard U. A.B. 1904; m. Helen Agnew, Nov. 14, 1910; ch.: Elizabeth (Higgins) Rhodes, James H. II. Pitts. Plate Glass 1905 to date. Pitts.-Corning Corp. (pres.), A.M. Byers Co. (dir.), Westinghouse Elec. Corp. (dir.), Southern Minerals Corp. (dir.), Southern Pipe Line Co. (dir.), Southern Alkali Corp. (dir.), Murphy Paint Co. Ltd. (Canada - dir.), Pennsylvania R.R. Co. (dir.), The Pennsylvania Co. (dir.), Westinghouse Airbrake Co. (dir.), Union Switch & Signal Co. (dir.), Duff-Norton Co. (dir.). Pres., bd. of trustees, Elizabeth Steel Magee Hosp.; trustee, U. of Pitts.; trustee, Dollar Savings Bank. Clubs: Duquesne (Pitts.), Allegheny Co. (Sewickley, Pa.), Rolling Rock (Ligonier, Pa.). Hobby: shooting.

HIGGINS, Rathbun Romeyn, prod. supvr., chem. div., The Sherwin Williams Co., 116th St. and Champlain Ave., Chicago 28, Ill.; res. Lincolnshire, Crete, Ill.
Chem. engr.; b. Coudersport, Pa., Dec. 14, 1899; s. of Henry R. and Belle L. Higgins; ed. U. of Mich., 1922, B.S. Ch.E.; m. Eleanor S. Dunlap, Nov. 16, 1946; (first wife dec.); ch.: Marilyn, Richard, Gordon. From 1923 to date with The Sherwin Williams Co. in following capacities: 1923, anal. chem. at Chicago plant; 1924 chem. operator, same plant; 1931, tech. asst., gen. sales mgr., N.Y. plant; 1940, mgr. sales serv. and promotion dept. (pigment, color and chem. div.), Chicago plant; 1942, expeditor plant construction and operation, Chicago; 1945, prod. supvr. (Chem. Div.), Chicago. Mem.: A.I.Ch.E., A.C.S. Club: Chicago Chemists'. Hobbies: philately and photography.

HIGGINS, Walter Mayo, in chg. of phar. res., G.D. Searle & Co., Box 5110, Chicago 80, Ill.; res. 130 Callan Ave., Evanston, Ill.
Phar. chem.; b. Springer, Okla., Dec. 30, 1917; s. of Herbert Albert and Emma Nora Higgins; ed U. of Okla., B.S. 1940; U. of Wis., Ph.D. 1943; mem.: Rho Chi, Phi Delta Chi, Phi Lambda Upsilon, Sigma Xi; m. Laura Marie Willamsen, Sept. 5, 1942; ch.: Carol Jean, Diana Marie.

1943-46, Burroughs-Wellcome & Co., res. pharmacist; 1946-48, Jamieson Pharmacal Co., chf. dev. chem.; 1948 to date, G.D. Searle & Co., in chg. of phar. res. Mem.: A.C.S., A.Phar.A., A.A. A.S.

HIGNETT, Travis Porter, chf. dev. sect., div. of chem. engrg., Tenn. Valley Authority, Wilson Dam, Ala.; res. 102 Village One, Sheffield, Ala.
Chem. engr.; b. Maxwell, Iowa, Dec. 30, 1907; s. of Edwin and Eva Hignett; ed. Drake U., Des Moines, Iowa, 1925-29; A.B. 1929; gen. honors and departl. honors in chem.; m. Marion Daugherty, Apr. 6, 1933. 1929-33 jr. chem. U.S. Dept. of Agric., Bur. of Chem. and Soils, Wash., D.C.; 1933-34 chem. engr. Research Corp., Wash., D.C.; 1935-38 chem. engr. Research Assocs. Inc., Wash., D.C.; 1938 to date chem. engr., chf of dev. sect. (since 1947), T.V.A., div. of chem. engrg., Wilson Dam, Ala. Mem.: A.C.S., A.I.Ch.E., A.A.A.S.

HILBERT, Frederic L., tech. dir. U.S. Process Corp., 369 Lexington Ave., New York 17, N.Y.; res. 139 Longview Ave., Leonia, N.J.
Technologist-leather-paper, textiles; b. Worcester, Mass., Jan. 30, 1882; s. of Baptiste and Julia (Quelet) Hilbert; ed. B.S., Ch.E., Worcester Polytechnic Inst., 1905; m. Mary Elizabeth Waite, Dec. 4, 1906; ch.: Mary Elizabeth. Res. chem., Graton & Knight Co., Worcester, 1905-10; tannery mgr., Green and Hickey Leather Co., Winchendon, Mass., 1910-18; leather expert, War Dept., Q.M.C., Boston, Mass., 1918-20; v.p. Marden, Orth and Hasting Co., Inc., 1920-24; v.p., Hunnell Co., Inc., 1922-24; gen. mgr., Mobile Mills, American Dyewood Co., N.Y., 1924-34; dir., American Dyewood Co., 1930-34; v.p., Cobus Corp., 1930-34; pres. Hilbert-Topp Tanning Corp., Johnstown, N.Y. 1934 to date; tech. dir., U.S. Process Corp., 1936 to date. Res. on Army shoe leather, also on design and construc. of Army Shoes during W.W.I and II. Res. on sanitized process in shoe, paper, and textile industries. Author: "Technology of Tanning" serial form, "Leather and Shoes" started in 1934, a 5 volume work in preparation for publication. Contrib. extens. to sc. and tech. journals. Mem.: A.A.A.S., A.C.S., A.A.T.C.C., A.A.P.S.S., A.P.S., A.L.C.A. Club: Circus Saints and Sinners, N.Y. Hobbies: fine arts, and scientific and historical writing.

HILBERT, Guido E., chf. Bur. of Agri. & Indus. Chem., 5121 S. Bldg., U.S. Dept. of Agri., Washington, D.C.; res. 5325 McKinley St., Bethesda, Md.
Adm. of chem. res.; b. Holyoke, Mass., Nov. 20, 1901; s. of Guido G. and Selma I. (Graupner) Hilbert; ed. Ch.E., Rensselaer Polytechnic, 1924, M.S., Lafayette Coll., 1925, Ph.D., Yale U., 1928; mem.: Gamma Sigma Delta, Alpha Chi Sigma, Sigma Xi; m. Martha Louise Doering, June 26, 1926. Yale U., Sterling res. fellow 1928-30; Bur. Chem. and Soils, U.S. Dept. of Agr., in charge org. investigations sec. of fertilizer res. div. 1930-38; Bur. Agr. Chem. & Engrg., U.S. Dept. Agr. scientific advisor to chf. 1938-40; Bur. Agr. Chem. & Engrg. and successor Bur. Agr. & Indus. Chem., U.S.D.A.; in charge starch and dextrose div. of Northern Regional Res. Lab., 1940-45; dir. of Northern Regional Res. Lab., 1946-48; chf. of Bur. Agr. & Indus. Chem. 1948 to date. Res. in org. nitrogen compds., esp. pyrimidine nucleosides; synthesized org. nitrogen compds. through interaction of org. matls. with activated N. Participated in dev. of process of isolating chlorophyll from plants; obtained first evidence of H bonds in polymerized org. compds. Mem.: A.C.S., A.A. A.S., Am. Assoc. of Cereal Chems., Am. Soybean Assoc. Clubs: Cosmos (Washington, D.C.). Hobbies: hunting, fishing, study of Am. wild life, especially birds.

HILDEBRAND, Joel H., dept. chem., U. Calif., Berkeley 4, Calif., also Dean, Coll. Chem.; res. 500 Coventry Rd., Berkeley 7.
Prof. chem., Dean, Coll. Chem.; b. Camden, N.J., Nov. 16, 1881; s. of Howard O. and Sarah Swartz Hildebrand; ed. U. Pa., B.S. 1903; Ph.D. 1906; Sc.D. (hon.) 1939; mem.: Phi Delta Theta, Phi Beta Kappa, Sigma Xi; m. Emily Alexander, Dec. 17, 1908; ch.: Louise, Alexander, Milton, Roger H. Instr. chem., U. Pa., 1907-13; asst. prof. U. Calif., 1913; assoc. prof., 1917; prof., 1918; dean, coll. letters & sc., 1939-42; dean Coll. Chem., 1949 to date; conslt. chem. U.S. Bur. Mines, 1924-26; O.S.R.D., London, 1943-44, Kings M., expert conslt., Q.M.C., 1942-45; chem. Referee Bd., W.P.B. 1942-43; Capt. Ord. Res. C., Nov., 1917; Major, Chem. Warfare Serv., June, 1918; Lt. Col. Nov. 8, 1918; Comm. Exp. Field, A.E.F. Gas Def. Schl.; hon. discharge, Dec. 28, 1918; Dist. Serv. M. Faculty Res. Lect., U. Calif., 1936; Walker Mem. Lecture, Edin. 1944, Guthrie Lect. Phys. Soc., London, 1944; Remsen Mem. Lect. 1949; originated use of He in deep diving. Contrib. extens. to sc. and tech. jls.; mem.: Natl. Acdy. Sc., (council, 1949-52), Roy. Soc. Edin., (hon. fellow); A.C.S., A.Phys. S., A.A.A.S., Nichols M. Clubs: Bohemian (S.F.), Sierra (pres., 1937-40), Faculty. Hobbies: skiing (mgr. 1936, U.S. Olympic Ski Team), mountaineering, photography, music, grandchildren.

HILDEBRAND, John G. Jr., lab. dir., Esselen Res Div., U.S. Testing Co., Inc., 857 Boylston St., Boston, Mass.; res. 81 Fairmont St., Belmont 78, Mass.
Res. chem. conslt.; b. Waterloo, Iowa, Jan. 13, 1906; s. of John G. and Jennie (Chapple) Hildebrand; ed. B.Sc.Chem. State U. of Ia., 1928, A.M. Columbia U., 1929, Ph.D., 1933; mem.: Alpha Chi Sigma, Phi Lambda Upsilon; m. Helen M. Swedberg, June 10, 1935; ch.: John Grant III, Helen Esther, David Chapple. Conslt. in N.Y.C., 1933-35; Esselen Res. Corp., Boston, 1935-50; Esselen Res. Div., U.S. Testing Co., Inc., Boston, 1950 to present. Mem.: Sigma Xi, Inst. of Radio Engrs., Soc. of Motion Picture and Television Engrs., A.C.S. Clubs: Chemists' (N.Y.C.). Hobbies: photography, electronics, instrumentation.

HILDEBRANDT, Frank Merrill, dir. of labs., U.S. Indust. Chems. Co., Baltimore 3, Md.; res. 198 Oakdale Rd., Baltimore 10. P.O. Box 1956.
Res., bact. and indust. fermen.; b. Baltimore, Md., Dec. 26, 1888; s. of Frank M. and Laura (Patterson) Hildebrandt; ed. Johns Hopkins U., A.B. 1913; Ph.D. 1917; mem.: Phi Beta Kappa; m. Grace Brooks, Mar. 25, 1918; ch.: John B., Philip M. 1917 milit. serv., hon. disch. as Capt., Sanitary Corps; worked at Mellon Inst., Pittsburgh, 1919-23; with Ward Baking Co. 1923-25; with U.S. Indust. Chem. Co. from 1925 to date; res. in fld. of indust. fermentations. Pub. papers on subj. of yeast and bacterial fermentations. Mem.: A.A. A.S., A.C.S., S.A.B. Clubs: Chemists' (N.Y.C.), Johns Hopkins Faculty. Hobbies: telescope making, boat bldg., sketching.

HILEMAN, Joseph L., dir. of labs., Dairymen's League Coop. Assoc., 810 Burnet Ave., Syracuse, N.Y.; res. 105 Downing St., Dewitt, N.Y.
Chem.; b. Pittston, Pa., Sept. 7, 1898; s. of John S. and Lucy (Chumard) Hileman; ed. Pa. State, B.S., 1919; Cornell, M.S., 1923; Syracuse U., grad. courses in chem.; mem.: Alpha Zeta; m. Mabelle Shaffer, Aug. 22, 1927; ch.: John Carl. 1919-22, Nestle's Food Co., New York; 1923, St. Louis Dairy Co.; 1923-24; Iowa Dairy Co.; 1924 to date, Dairymen's League Cooperative Assoc., Inc.

HILER, Malvern J., exec. v.p., Commonwealth Engrg. Co. of Ohio, 1771-1777 Springfield St., Dayton 3, Ohio; res. 2401 Fairmount Ave., Dayton 9 (Oakwood), Ohio.
Chem., exec.; b. Au Train, Mich., Aug. 21, 1913; s. of Grover A. and Lydia B. Hiler; ed. Mich. State Normal Coll., B.A., 1937; U. of Mich., grad. schl., 1938-39; m. Margaret Ethel Barrett, Feb. 25, 1939; ch.: Susan J., Margaret A., Gaylord A., Arthur B., Lawrence E., Richard B. 1938-41, res. chem., Sharples Solvents Co., Wyandotte, Mich.; 1941-42, tech. sales, Sharples Chem. Inc., Phila., Pa.; 1942-46, district sales mgr., Sharples Chem., Chicago, Ill.; 1946-48, dir. of res. & dev., Stepan Chem. Co., Chicago, Ill.; 1948 to date, v.p., Commonwealth Engrg. Co. of Ohio, Dayton, Ohio. Officer: New Wrinkle, Inc. (v.p., dir.); Chadeloid Corp. (v.p., dir.); Chem. Dev. Corp. (v.p., dir.); K-O-L Inc. (v.p., dir.); Step-Freeze Corp. of Fla. (pres., dir.); Extraction, Inc. (v.p., dir.). Mem.: A.C.S., A.I.C. (fellow), A.W.W.A., Chicago Drug & Chem. Assn. Clubs: Engrs. of Dayton, Itasca Golf. Hobbies: golf, photography.

HILL A(lfred) Garrett, tech. dir., chem. dept., Am. Cyanamid Co., Calco Chem. Div., Bound Brook, N.J.; res. Mt. Horeb Rd., R.D. 1, Martinsville, N.J.
Chem.; b. West Point, Miss., June 21, 1906; s. of Asa Edwin (dec.) and Bettie Alberta (Garrett) Hill; ed. 1922-26, A.B., M.A. in chem., with high hon., Baylor U.; 1929-32, Ph.D. in chem., Sigma Xi, Yale U.; mem.: Alpha Chi Sigma; m. Lois Jenkins, Dec. 25, 1935. 1926-28, hd., sc. dept., Burleson Coll., Greenville, Texas; 1928-29, instr., dept. of chem., Baylor U., Waco, Texas; 1932-44 res. & dev. chem., 1944-46, chf. chem. intermediates dept., 1946-48, asst. mgr. of process dev. dept., 1948 to date, tech. dir. chem. dept., Am. Cyanamid Co., Calco Chem. Div. Articles & pats. on chem. & intermediates; vapor phase catalysis, nitrations, & other unit processes. Mem.: A.C.S., A.I.C., A.I.Chh.E., A.A.A.S. Chmn., Disaster Comm., Warren Township, N.J. Branch, Am. Red Cross. Chmn., Civilian Defense Council, Warren Township; past pres., Warren Township Civic Assn.; past pres., Warren Township Bd. of Edn. Hobbies: farming, golf, photography.

HILL, Allan Chaloner, v.p. of Montmorency Paper Co., Inc., 400 Madison Ave., New York, N.Y.; res. 13 Outlook Dr., Darien, Conn.
Chem. and sales exec.; b. Fairville, N.B., Canada, May 19, 1905; s. of Allan Massie and Mary W. (Chaloner) Hill; ed. B.Sc. Dalhouse, 1925; M.Sc. McGill U. 1927; Ph.D. 1929; mem.: Sigma Xi; m. Gwendolyn W. Belyea, July 1, 1932; ch.: Alison Mary, Nancy Chaloner. 1925-27 Pulp and Paper Div., Forest Prods. Labs. of Canada, Montreal; 1929-31 res. dept. Canada Power and Paper Corp., Grand-Mere, Que.; 1931-37 res. dept. Canadian Internat. Paper Co., Hawkesbury, Ont.; 1937 to date Development Dept., Anglo-Canadian Pulp and Paper Mills, Ltd., and assoc. companies: v.p. Northeastern Paper Prods. Ltd., Quebec City, and asst. gen. mgr. Gaspesia Sulphite Co. Ltd., Chandler, P.Q., v.p. and dir. of Montmorency Paper Co., Inc., 400 Madison Ave., New York, N.Y.; wood chem. and indust. res. in pulp and paper; exec., admin. wk. in pulp and paper industry. Mem.: Sigma Xi, T.A.P.P.I., T.S.-C. P.P.A., A.C.S., Fellow, Canadian Inst. of Chem. Clubs: Canadian (N.Y.); Garrison (Quebec). Hobby: travel.

HILL, Carl McClellan, prof. chem., hd. dept. Tenn. A. & I. St. Coll., Nashville, Tenn.; res. 1618 - 22 Ave., No. Nashville.
Chem.; b. Norfolk, Va., July 27, 1908; s. of William F. and Sarah A. Hill; ed. Hampton Inst., Va., B.S. (highest hons.), 1931; Cornell U., M.S. 1935; U. Pa., summers 1938, 1939, 1940; Cornell U., Ph.D. 1941; mem.: Omega Psi Phi; m. Mary Elliott, Sept., 1927; ch.: Doris Elizabeth. 1931-41 instr., asst. prof., Hampton Inst., Va.; 1941-44 assoc. prof., chem., Agri. & Tech. Coll., Greensboro, N.C.; 1942-44 instr. in S.T. A.R. Army Prog., Greensboro, N.C.; 1942-44 instr. E.S.M.W.T. Prog., U.S. Dept. of Ed., Wash., D.C.; 1944 to date prof. chem., hd. dept., Tenn. A. & I. St. Coll.; res. conslt., Tenn. Valley Auth. (Knoxville, Tenn.); Res. Corp. of N.Y. Res. in field "Studies of Ketenes, Derivat.," Alpha Beta-Unsat. Ethers, Grignard Reagents," "Quality Level of Froz. Fruits, Veg.," publs. J.A.C.S.; Tenn. Acdy. Sc. Jl., Transactions Natl. Inst. Sc., Jl. of Food Tech.; Co-Author: "General Coll. Chem.," 1948; "Exp. in Org. Chem." 1948. Mem.: A.C.S., A.A.A.S., I.F.T., Tenn. Acdy. Sc., Natl. Inst. Sc. (pres. 1947), Soc. Sigma Xi (Cornell Chpt.). Hobbies: fishing, golf.

HILL, Charles Warren, retired chem. and exec.; res. 476 Sylvan Dr., Winter Park, Fla.
Chem. and exec.; b. Clarion, Iowa, Apr. 6, 1884; s. of Charles and Emily (Huntington) Hill; ed. U. of Minn., B.A. 1905; U. of Wis., Ph.D. 1910; mem.: Phi Gamma Delta, Sigma Xi, Alpha Chi Sigma; m. Velma Stevens, June 21, 1910; ch.: Marian, Elizabeth. Instr. in chem., U. of Wis., 1906-10; asst. dir. Res. Lab., Natl. Carbon Co., Cleveland, 1910-12; conslt. and res. chem., Cleveland, 1912-15; asst. prof. chem., Syracuse U., 1915-16; res. chem., Westinghouse Res. Lab., E. Pittsburgh, 1916-20; gen. wks. mgr., Atlanta Terra Cotta Co., Perth Amboy, N.J., 1920-26; v.p. and mgr., Peter Cailler Kohler Swiss Chocolates Co., Fulton, N.Y., 1926-48. Res. in tech. factory control and tests carbon mfr.; non-ferrous metallurgy; terra cotta; chocolate and cocoa prods. Club: N.Y. Club of Phi Gamma Delta.

HILL, Earl S., chem. engr., Shell Development Co., Emeryville, Calif.; res. 9 La Cresta, Orinda, Calif.
Chem. engr.; b. Dallas, Ore., July 11, 1907; s. of Perry S. and Hattie Hill; ed. B.S., Oregon State Coll., 1930, M.S., Calif. Inst. of Tech., 1931, Ph.D., 1934 Calif. Inst. of Tech.; m. Muriel Jackson, Sept. 3, 1935; ch.: Lynn S., Alan J. Res. Fellow, Amer. Petroleum Inst., 1930-34; res. asst., Penn. State Coll., 1934-35; res. engr., Stanolind Oil and Gas Co., 1936-39; chem. engr., Shell Dev. Co., 1939 to present. Mem.: A.I.Ch.E., A.I.M.M.E., A.A.A.S.

HILL, Erle G., dir. metallurgy and development, Wheeling Steel Corp., Wheeling, W. Va.; res. R.D. 1, Short Creek, W. Va.
Metallurgist; b. Santa Ana, Calif., Apr. 21, 1890; s. of Herbert C. and Julia Etta Hill; ed. U. of Calif., B.S.; m. Helen Harper, July 3, 1936; ch.: Ann Harper, Erle H. Instr., Carnegie Inst. Tech.; prof., U. of Pittsburgh; fellow, Mellon Inst.; dir. res., Lukens Steel Co.; asst. gen. supt., Gary Wks., Carnegie Ill. Steel Co.; dir. metallurgy and development, Wheeling Steel Corp. Mem.: A.I.M.E., A.S.T.M., A.S.M.E., A.W.S., A.S.M., A.C.S. Club: Fort Henry. Hobby: fishing.

HILL, G(eorge) Albert, prof. of chem., Wesleyan U., Middletown, Conn.; res. 4 Gordon Pl., Middletown, Conn.
Prof. of chem., highway commis. for State of Conn.; b. Worcester, Mass., Mar. 22, 1892; s. of George Edmond and Lottie Lydia (Drake) Hill; ed. B.S. in chem., Worcester Polytech. Inst. 1913; M.A. Harvard 1914, Ph.D. 1917; U. Scholar & Thayer Scholar at Harvard; mem.: Alpha Chi Rho (hon.); m. Katharine Graton Wight, Aug. 17, 1918 (died June 28, 1945), Nora Evans Lucas, Sept. 6, 1947; ch.: George Edmond II. Asst.

in org. chem., Worcester Polytech. Inst. 1914-16; instr. in chem., Harvard 1917-19; assoc. prof. chem., Wesleyan U., 1919-24, prof. 1924 to date; consltg. chem., Natl. Defense Res. Commis.; mem. Conn. State Water Commis. 1942; adm. War Transportation Commis., Middletown, 1942 to date; pres., Conn. State Highway Safety Assn. 1941 to date; State Highway Commis. for Conn., 1947 to date. Org. chem. plant prods.; cyclopropanes; relative activity of certain hydrogen atoms; toxic principle of poison ivy. Co-author: "Org. Chem." (with Dr. Louise Kelley) 1932 & rewritten 1943. Award: President's Cert. of Merit. Mem.: A.C.S. (ex-pres. Conn. Valley Sec.), New England Assn. of Chem. Teachers, Am. Assn. Highway Officials, Tau Beta Pi, Sigma Xi, Alpha Chi Sigma, Phi Beta Kappa. Dir., Wesleyan Ind. Sc. Res.; trustee, First Congregational Church; dir., Middletown Old Burying Grounds Assn. Clubs: Faculty, Rotary.

HILL, J(oseph) Bennett, dir., chem. & engrg. div., res. & dev. dept., Sun Oil Co., Marcus Hook, Pa.; res. 402 Wynmere Rd., Wynnewood, Pa.

Chem. engr.; b. Philadelphia, Oct. 3, 1891; s. of Horace G. and M. Louisa Bennett Hill; ed. U. of Pa., B.S., in chem. 1913, Ph.D. 1916; m. Margaret Morris Howe, Oct. 24, 1929; ch.: J. Bennett, Jr., Priscilla. The Barrett Co., Lab. Mgr., 1916-24; Natl. Assn. Dyers & Cleaners, res. chem., 1922-23; The Atlantic Refining Co., chf. chem., 1924-34; Sun Oil Co., mgr., dev. div., 1934-48; Sun Oil Co., dir., chem. & engineering div., res. & dev. dept., 1948 to date. Mem.: A.C. S. (chmn. Phila. Sect. 1926-27, chmn. Pet. div. 1927-30), A.I.Ch.E., Inst. Pet. Tech., Am. Pet. Inst., Soc. Automotive Engrs., Industrial Res. Inst., A.A.A.S.

HILL, Julian Werner, asst. lab. dir., E.I. du Pont de Nemours & Co., Exp. Sta., Wilmington, Del.; res. 1106 Greenhill Ave.

Chem.; b. St. Louis, Mo., Sept. 4, 1904; s. of Werner K. and Pearl Samesreuther Hill; ed. Warrenton, Mo. publ. schl., 1911-17; Central Wesleyan Acdy., 1917-20; Wash. U., St. Louis, Mo. 1920-24; B.S., M.I.T., 1924-28 Ph.D.; Swett Fellow, 1927-28; mem.: Tau Kappa Epsilon, Alpha Chi Sigma, Tau Beta Phi, Sigma Xi; m. Mary Louisa Butcher, July 23, 1932; ch.: Louisa Custer, Joseph John, Jefferson Borden. Chem. dept., E.I. du Pont de Nemours & Co., res. chem. 1928-35; group leader 1935-42; asst. lab. dir. 1942 to date; mem.: A.C.S.; Wilmington Music Schl., bd. dirs. Clubs: Wilmington Country, Phila. Skating, Humane Soc. Hobbies: tennis, ornithology, music.

HILL, Paul E., plant mgr., Am. Viscose Corp.; res. 527 Randolph St., Meadville, Pa.

Chem.; b. Emlenton, Pa., Apr. 2, 1896; s. of Wm. B. and Mary M. Hill; ed. Allegheny Coll., B.Sc., 1917, M.Sc. 1919; Yale U., grad. study 1927-28; mem.: Sigma Alpha Epsilon, Alpha Chi Sigma; m. Mildred L. Knight, Sept. 4, 1924. Allegheny Coll., asst. prof. chem., 1919-29; Am. Viscose Corp., asst. chf. chem. 1929-38, asst. plant mgr. 1938-40, plant mgr. 1940 to date. Merchants Natl. Bank & Trust Co. (dir.); McCroskey Tool Corp. (dir.); Meadville Housing Corp. (dir.). Mem.: A.C.S. Trustee & dir., Meadville Y.M.C.A. Clubs: Rotary, The Country Club, Iroquois Boating & Fishing, Literary Union, Meadville Round Table.

HILL, Reuben L(orenzo), prof. of chem. and hd. of chem. dept., Utah State Agric. Coll., Logan, Utah; res. 645 N. 8th, E. Logan.

Coll. prof.; b. Ogden, Utah, Mar. 24, 1888; s. of George Richard and Elizabeth Nancy (Burch) Hill; ed. B.Y.U. (Provo) Utah State Agric. Coll., B.S.; Cornell U., Ph.D.; m. Theresa Snow, Aug. 30, 1911; ch.: Dr. Reuben; Cornella (Mrs. Mac. Novak); Richard Snow, Theresa Marie (Mrs. Donald Ashdown); Wesley Sherwin; Alwyn Spencer; Edward Eyring; Carl David. 1914-16, instr. biochem. Cornell U.; 1916, biochem. U.S.D.A. Bur. Chem.; 1916-18, biochem. Md. Agric. Exp. Sta.; 1918-19, nutritionist (1st Lieut. San. Corp. U.S.A.); 1919 to date, prof. of chem. and hd. dept. chem., Utah State Agric. Coll.; 1919-41, nutrition investigations Utah Agric. Exp. Sta.; 1941-44, nutritionist (Major) U.S.A.; now Lt. Col., U.S.A. retired; res. wk. on milk secretion and "soft curd milk"; pioneered the res. on "soft curd milk." Mem.: A.C.S., A.A.U.P., Sigma Xi, A.A.A.S., Utah Acdy. of Arts, Sci. and Letters.

HILL, Robert McClaughry, prof. of biochem., U. of Colorado, Dept. of Medicine, 4200 E. 9th Ave., Denver 7, Colo.; res. 6611 Richthofen Pl.

Prof. of biochem.; b. Carthage, Ill., Oct. 27, 1894; s. of William K. and Katharine Griffith Hill; ed. Carthage Coll., B.S., 1916, U. of Ill., M.S., 1921, U. of Ill., Ph.D., 1923; m. Katherine Stanley, Aug. 12, 1929; ch.: Peter, Susan, Muriel, Katherine. Asst. prof. of biochem., Loyola U. Medical School, Chicago, 1923-25; U. of Colorado Medical School, 1925; Professor of Biochemistry 1945 to present. Res. in plasma proteins, body temperature control and dev. of temperature control in young animals. Mem.: A.C.S., Am. Soc. of Biological Chemists, Soc. for Experimental Biology and Medicine, Am. Assoc. of Clinical Chemists, Comm. on Clinical Chem. of A.C.S., and A.S.Biol. C., Comm. on Edu. of A.A.Cl.C.

HILLE, Ernst Carl Hermann, pres., Hille Labs., 6007 N. Lincoln Ave., Chicago 45, Ill.; res. Wilmot Rd., Bannockburn, Deerfield, Ill.

Res., mfg. chem.; b. Moelln, Germany, June 7, 1871; s. of Hermann and Charlotte Beckmann Hille; ed. U. Wurzburg, 1894-98, Ph.G., 3 semesters in Roentgen's lab. during period when he discovered X-Ray; U. Heidelberg, 1898-1900, Ph.D.; mem.: Landsmannschaft Teutonia, Wurzburg; m. Christina Aarronson, June 16, 1906; ch.: Mona Wandanita. Res. chem. H.K. Mulford Co., Phila., Pa., 1900-02; partner Barnes & Hille, Phila., Pa., 1902-08; founder, pres. Hille Labs., Chicago, 1908 to date. Mem.: A.C.S., A.A.A.S. (life); A.Phar.A.; German Med. Soc., S.W. Mo. Med. Soc. (hon.).

HILTY, Wayne W., asst. hd. anal. dept., Eli Lilly & Co., Indianapolis, Ind.; res. 331 N. Webster, Indianapolis.

Anal. chem.; b. Pandora, O., Mar. 4, 1913; s. of Adam S. and Allie (Pope) Hilty; ed. Ohio State U., B.S. 1936; m. Phyllis Campell, Feb. 2, 1936; ch.: Jon Campbell, Hedy Sue. 1936-50 control chem., Eli Lilly & Co.; 1950 asst. hd. anal. dept. same co. Contrib. following publications: "Determination of Iodine in Thyroid by Cerate Oxidimetry"; "Determination of Ephedrine in Various Medicinal Preparations"; "Assay of Compounds Having Caffeine as a Common Ingredient"; "Turbidimetric Determination of Pepsin"; "Analytical Chemistry's Review of Pharmaceuticals and Neutral Drug" for 1949 and 1950. Mem.: A.C.S., A.Ph.A.

HINCKE, William B., dept. supt., Tenn. Eastman Corp., Kingsport, Tenn.

Chem. engr.; b. Pinckneyville, Ill., Mar. 31, 1901; s. of George E. and Anna C. Hincke; ed. U. of Ill. B.S. 1923; Cal. Tech. Ph.D. 1929; m. Kate Lackey, June 28, 1924; ch.: Anne (Hincke) Evans, William G. Union Oil Co. of Calif. 1923-26 chem.; Grad. Schl., 1926-29; U.S. Bur. of

Mines, 1929-30, phys. chem.; A.O. Smith Corp., 1930-34, phys. chem.; Tenn. Eastman Corp., 1934 to date, dept. supt.

HINDS, Horace, Jr., asst. dir. of engrg., chem. div., Corn Prods. Refining Co., Box H, Argo, Ill.; res. 254 Main St., Glen Ellyn, Ill.
Chem. engr.; b. Gautier, Miss., July 20, 1910; s. of Horace and Mary (Miller) Hinds; ed. Millsaps Coll., 1 yr. gen.; Tulane U., 4 yrs., B.E. in chem. engrg., Tau Beta Pi; mem.: Alpha Chi Sigma, Sigma Phi Delta, Tau Beta Pi; m. Constance Addenbrooke, Oct. 24, 1936. Corn Prods. Refining Co., ind. engr. 1933-35, process & shipping clerk & experimenter 1935-36, prod. frmn. & supvr. sugar dept. 1936-38, chem. engr. & asst. hd. dept. dev. & experiment 1938-42, chem. engr. & hd. of dept. Pekin Dev. & Expt. 1942-44, chem. engr. & sec. leader chem. div. 1944-47, chem. engr. & asst. dir. engrg. chem. div. 1947 to date. Mem.: A.C.S., A.I.Ch.E., Farm Chemurgic Council, Alpha Chi Sigma, Tau Beta Pi. Hobbies: weaving, photography, metal & wood working, gardening.

HINES, Leonard Russell, hd. biochem. dept., E.R. Squibb & Sons, New Brunswick, N.J.; res. 1139 Hillside Ave., Plainfield, N.J.
Biochem.; b. Mechanicsville, Iowa, Feb. 8, 1913; s. of Forrest Payne and Mary Elain Hines; ed B.A., Cornell Coll., 1934; Ph.D., U. of Iowa, 1943; mem.: Gamma Alpha, Alpha Chi Sigma; m. Bernadine Laverne Stocks; ch.: Carolyn Kay, Susan Karen. Res. chem., Wilson & Co., Chicago, Ill., 1934-37; res. asst. dept. of biochem., U. of Chicago, 1937-41; teaching asst., dept. of biochem., U. of Iowa, 1941-43; res. biochem., E.R. Squibb & Sons, New Brunswick, N.J., 1943-46, hd. biochem. dept. 1946 to date. Mem.: Phi Lambda Upsilon, Sigma Xi, A.C.S., A.A.A.S., N.Y. Acdy. of Sc. Hobbies: golf, bridge, gardening.

HINKLE, Samuel Forry, plant mgr., Hershey Chocolate Corp., Hershey, Pa.; res. 124 Java Ave., Hershey, Pa.
Chem. engr.; b. Columbia, Pa., June 9, 1900; s. of Samuel W. and Elizabeth F. Hinkle; ed. Pa. State Coll., B.S. 1922, first honors; mem.: Alpha Chi Sigma; m. Margaret S. Joseph in 1935; ch.: Samuel F., Jr., James E. 1922-23, chem. in chg. of lab., Norton Co., Chippawa, Ont.; 1923-24, chf. chem., Natl. Abrasive Co., Niagara Falls, Ont.; 1924-47, chf. chem. & dir. of res., Hershey Chocolate Corp., Hershey, Pa.; 1947 to present, plant mgr. Hershey Chocolate Corp. (dir.). Hershey Trust Co. (dir.). Res. dev. and production of army rations W.W.II. Mem.: Phi Kappa Phi, Phi Lambda Upsilon, A.C.S., Inst. of Food Tech., Natl. Confectioners Assn. Research Comm., Assn. Candy Technologists. Bd. of Mgrs. Hershey Ind. School, Hershey Foundation, Tuberculosis and Health Soc., dir. Clubs: Rotary International, F. & A.M., Hershey Country, American Legion.

HINMAN, Herbert Henry Smith, project engr., Socony-Vacuum, 26 Broadway, New York 4, N.Y.; res. 130 Morris Ave., Mountain Lakes, N.J.
Chem. engr.; b. Moose-Jaw, Sask., Canada, Dec. 7, 1910; s. of Warren Platt and Louisa Smith Hinman; ed. Cornell U., 1932, B. chem., Drexel Inst. (night), chem. engrg.; mem.: Alpha Chi Sigma; m. Margaret Deknatel, 1938; ch.: Susan Gail, Carol Joan, Robert Donald. Held following positions with Socony-Vacuum: chem., 1935-36; pilot plant operator, 1936-37; chem. engr., 1938-43; project engr., 1943-50. Mem.: A.I.Ch.E. Trustee and v.p., Mountain Lakes Library. Hobbies: antique furniture.

HINNER, Elmer Francis, gen. mgr., Va. Cellulose Dept., Hercules Powder Co., 9th & Market Sts., Wilmington, Del.; res. P.O. Box 58, Mendenhall, Pa.
Exec., chem. engr.; b. Reading, Pa., May 12, 1905; s. of Elmer F. and Lulu B. Hinner; ed. Reading, Pa., grade & high schl.; Pa. State Coll., B.S. in chem. engrg.; mem.: Omega Epsilon (now Phi Kappa Psi), Phi Lambda Upsilon, Sigma Tau; m. Mae Thelma Hinner, June 14, 1927; ch.: Nancy Ellen, Susan Yost, Virginia Mae. Hercules Powder Co., 1927, chem., 1931, supvr., 1938, supt., 1942 asst. gen. mgr., 1950 gen. mgr. Author: chapter in "Cellulose & Its Derivatives" on cotton linters; several arts. on same. Mem.: T.A.P.P.I., A.C.S., Wilmington Sales Exec. Club, Chemists' Club of N.Y. Clubs: Hercules Country, Wilmington Country. Hobbies: golf, tennis.

HINTON, Henry David, prof. of chem., Chem. Hall, U. of Notre Dame, Notre Dame, Ind.; res. 412 Tonti Ave., South Bend, Ind.
Tchr.; b. Mulberry Grove, Ill., Feb. 27, 1895; s. of James Sherman and Bertha Hinton; ed. Ill. Coll., B.S. 1919; U. of Chicago, M.S. 1926; U. of Notre Dame, Ph.D. 1930; m. Ella M. King, Sept. 4, 1926; ch.: Robert David, William Henry. 1925-28 instr. Mich. State Coll.; 1930 to date prof. U. of Notre Dame. From 1930-40 did res. wk. on acetylene reactions; since then has devoted time to tchg. and sc. educ. Author of: "Lab. Manual-Exp. in Gen. Chem.," since 1935; "La. Manual-Exp. for Eng. Students," since 1935. Mem.: A.C.S., Indiana Chem. Soc., Internat. Platform Assoc. Clubs: Knife & Fork, (So. Bend); Engineers' (So. Bend). Hobby: fishing.

HIRSCH, Joel H., hd. of process res. engrg. sec., Gulf Res. & Dev. Co., P.O. Box 2038, Pittsburgh 30, Pa.; res. 530 Eleventh St., Oakmont, Pa.
Chem. engr.; b. Mason City, Iowa, Feb. 12, 1909; s. of Herbert and Henrietta S. Hirsch; ed. B.S. in chem. engrg., State U. of Iowa, 1930; M.S. in chem. engrg. practice, M.I.T., 1932; mem.: Tau Beta Pi, Phi Lambda Upsilon, Sigma Xi, (associate); m. Eleanor Rosner, Oct. 10, 1935; ch.: Helen Ruth. 1932-40, Luis de Florez, consltg. pet. engr., N.Y.C., engaged in plant scale test wk., correlation of chem. engrg. data & process design of de Florez cracking units & vertical heaters; 1941-44, Foster Wheeler Corp., N.Y.C., engaged in process of thermal & catalytic cracking units & tech. supervision of dev. wk. & pilot plant activities; 1944 to date, Gulf Res. & Dev. Co., Pitts., Pa., hd. of process res. engrg. sec., this sec. engages in the math. & engrg. treat. of process res., incl. economic evaluation of new processes & correlation of engrg. & pilot plant data. Publications: Projection of lab. reaction velocity data into com. design; correlation of operating variables in the polyform process; 10 U.S. pats. on pet. refining & related subjects. Mem.: A.I.Ch.E. (active mem.), A.C.S.

HIRSCH, Marx, pres., chmn. of Molybdenum Corp. of Amer., 500 Fifth Ave., N.Y.C.; res. 1185 Park Ave., N.Y.C.
Exec.; b. Corpus Christi, Tex., Sept. 4, 1887; s. of David and Olivia (Benedict) Hirsch; ed. U. of Texas; U. of Wis., B.S. 1908; LL.B. 1911; mem.: Phi Delta Phi; m. Charlotte Pleshette July 29, 1928; ch.: Olivia Benedict, Ann. 1911-30 conslt. chem. in assoc. and partnership with Dr. Alcan Hirsch; 1930 to date pres., chmn. of Molybdenum Corp. of America; res. and dev. of metallurg. and chem. prods. and construc. of various chem. and metallurg. plants. Dir. Ronson Art Metal Wks., Inc., and of Cleveland Tungsten, Inc. Mem.: A.C.S., A.I.C. Clubs: Chemists', (v.p. 1949, trustee 1950); Quaker Ridge Golf; Harmonie.

HIRSCHFELDER, Joseph Oakland, prof. chem., dir., U. Wis., Naval Res. Lab., U. Wis., Madison, Wis.; res. U. House, Eagle Hgts., Madison.
Chem., physicist; b. Balt., Md., May 27, 1911; s. of Arthur Douglass and May Rosalie Strava Hirschfelder; ed. U. Minn. 1927-29; Yale (Sheffield Sc.), B.S. 1931; Ph.D., Princeton 1936; Inst. Adv. Study 1936-37; mem.: Sigma Xi, Gamma Delta, Delta Chi Sigma, Phi Lambda Upsilon. Res. assoc., Princeton 1936-37; Wis. Alumni Res., res. assoc. 1937-39; U. Wis., chem. dept. 1937 to date, instr. to full prof.; group leader Interior Ballistics Div. I., N.D.L.C. (Geo. Lab.) 1941-43; constl. N.D.R.C. Div. III, 1941-43; group leader Loc. Alum. Lab. 1943-46, conslt. since then; P-7, hd. T. Physics Div., N.D.T.S., 1945-46; chf. phenomenol., Bikini Bomb Test 1946. Contrib. extens. to sc. and tech. jls. Author: "Effects Atomic Weapons," 1950, chmn. bd. ed. Mem.: A.C.S., A.Phys.C. (fellow), Am. Accou. Soc., A.A.A.S. (fellow), pres. Wis. sect. A.C.S 1950, v.p., Wis. Sect. Sigma Xi, 1950. Conslt. to Navy Bur. Ord., O.N.R., Army Ordn., Natl. Res. Council, N.A.C.A., A.E.C. Club: Cosmos. Hobbies: tennis, flying, hiking, golf.

HIRSCHLAND, Franz H., chmn. of bd. of dir., Metal & Thermit Corp., 100 E. 42nd St., N.Y. 17, N.Y.; res. Kenilworth Rd., Harrison, N.Y.
Chem. & metallurg. engr.; b. Essen, Germany, June 18, 1880; s. of Isaac Simon and Henriette Simon; ed. Schl. of Tech., Hanover, Germany, M.E., D.E., 1906; Inst. of Tech., Berlin, Germany, M.E., 1902; m. Gula V. Anderson, Sept. 14, 1909; ch.: Richard Simon, Herbert Ernest. V.p., Goldschmidt Detinning Co., 1908-17; pres., Metal & Thermit Corp., 1922-45, chmn. bd. of dir., 1945 to date. N.Y. Hanseatic Corp. (dir.); Chromium Corp. of Am. (dir.); United Chromium Inc. (dir.); Merchants Fire Assurance Corp. of N.Y. (dir.); Merchants Indemnity Corp. (dir.); Washnigton Assurance Corp. (dir.). Hobby: art.

HIRST, Lester Larsen, chf., coal to oil demonst. branch, Bur. Mines, Louisiana, Mo.; res. 9 Ordonia, Louisiana.
Chem.; b. Paradis, Utah, Nov. 30, 1903; s. of Charles T. and Caroline L. Hirst; ed. B.S.Chem. Utah St. Agr. Coll., Logan, Utah, 1925; Ph.D. Physical Chem., U. Calif, Berkeley, Calif. 1929; m. Catherine G. Wood, May 24, 1930; ch.: Margaret R., Lester L., Jr., C. Louise, George C. Bur. Mines, physical chem., Pitts., Pa., 1929-30; A. O. Smith Corp., physical chem., Milwaukee, Wis., 1930-32; res., dev. dept., Standard Oil Co. Calif., res. chem., Richmond, Calif., 1932-35; Bur. Mines, physical chem., Pitts., Pa., 1935-45; Bur. Mines, Louisiana, Mo., chg. coal to oil demonst. plant wk., 1945 to date. Res. in synth. fuels from coal. Mem.: A.C.S., Sigma Xi, Engrs. (St. Louis.).

HIRTLE, Donald Stephen, dir of res. lab., Hilton-Davis Chem. Co., 2235 Langdon Farm Rd., Cincinnati 13, Ohio; res. 3126 Linview Ave., Cincinnati 8.
Chem.; b. Melrose, Mass., Sept. 22, 1911; s. of Stanley A. and Katherine M. Hirtle; ed. Boston U., B.S. 1932; Yale U., Ph.D. 1937; m. Julia A. Lerette, June 11, 1940; ch.: Stanley A. Res. chem., Calco Chem. Co., 1937-40; res. chem., Hilton-Davis Chem. Co., 1940-45, dir. of res. lab. 1945 to date. Mem.: Phi Beta Kappa, Sigma Xi, A.C.S., Engrg. Soc. of Cincinnati.

HITCH, Vernon Kenneth, v.p., Akron Chem. Co., 255 Fountain St., Akron 4, O.; res. 576 Greenwood Ave., Akron 20, Ohio.
Sales engr.; b. Evansville, Ind., Sept. 18, 1904; s. of George and Mary Elizabeth (Simpson) Hitch; ed. Purdue U., B.S., Ch.E., 1932; mem.: Sigma Chi, Phi Lambda Upsilon; m. Elizabeth Kirkpatrick, July 2, 1932; ch.: Nancy Louise (10 years old). 1932-35, lab. tech., rubber technologist, B.F. Goodrich Co.; 1935 to date, salesman, Akron Chem. Co. (dir.). Mem.: A.C.S., Akron City Club, Fairlawn Country Club. Hobbies: working with tools, woodworking.

HITOV, Joseph J., dir. of res., Flexrock Co., 3609 Filbert St., Phila. 4, Pa.; res. 124-A Wallworth Park Apts., Haddonfield, N.J.
Chem. engr.; b. Phila., Pa., Feb. 16, 1916; s. of Max and Sonia Hitov; ed. B.S., Ch.E., U. of Pa. 1938; M.S., Ch.E., Bklyn. Polytech. Inst. 1947; m. M. Minnie Abott, July 14, 1940; ch.: Eleanor, Steven, Naomi. 1941, marine engr., U.S. Dept. of Navy, Phila., Pa.; 1942, designer, M.W. Kellogg Co., N.Y.C.; 1943-46, chem., Resistoflex Corp., Belleville, N.J., 1947-49 molding engr.; 1950 to date, dir. of res., Flexrock Co., Phila., Pa. Vega Engrg. Co. (partner). Dev. aromatic solvent resistant printing rollers & printing plates; pats.; dev. heat & solvent resistant flexible hose composition for conducting refrigerant gases; pat.; dev. meth. for mfg. small diameter, flexible packing for ind. pumps, valves, etc. Author: 'Some Properties & Mech. Applications of Compar." Transactions of the A.S.M.E., Feb. 1948. Mem.: A.C.S. Hobbies: chess, phonograph records.

HIXON, Ralph Malcolm, prof. chem. and dean grad. coll., Iowa State Coll., Ames, Iowa; res. 419 Pearson Ave., Ames.
Prof. chem., dean grad. coll.; b. Crown Point, Ind., May 7, 1895; s. of Ernest H. and Amy C. Hixon; ed. Iowa State Coll., B.S. 1917; Amer.-Swedish Fellow, Nobel Inst., Stockholm, Sweden, 1919-20; U. of Wis. Ph.D. 1921; res. fellow, Karlsruhe, Germany, 1921-22; m. Stella Sadler, Jan., 1921; ch.: Ernest H., Walter S., Elizabeth M., Raymond R., James E. 1917-19 C.W.S.; 1923 asst. prof. and higher ranks to pres. position; 1945-50 hd. chem. dept.; 1948 dean grad. coll. Author tech. papers in carbohydrate chem. Mem.: A.C.S., Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma, Phi Kappa Phi, Gamma Sigma Delta. Hobbies: fishing, gardening.

HIXSON, Arthur Norman, assoc. prof., chem. engrg., U. of Pa., Phila. 4, Pa.; res. Moylan, Rose Valley, Pa.
Chem. engineering; b. Iowa City, Ia., July 30, 1909; s. of Arthur W. and Edetha M. Hixson; ed. Columbia Coll., 1926-30; Columbia Engineering Schl., 1930-33, Columbia Grad. Schl., 1938-41. A.B., B.S., Ch.E., Ph.D.; mem.: Sigma Chi, Theta Tau; m. Clara E. Sherwin, Sept. 2, 1939; ch.: Gwen E., Stephen S., Arthur N., Jr. Chem. engr., Intermetals Corp., Newark, N.J., 1933-35; chem. engr., du Pont Co., Wilmington, Del., 1935-38; instr., asst. prof., assoc. prof., U. of Pa., 1938 to present; conslt., raw materials division, Beth. Steel Co., 1943 to present. Res. on use of liquid propane as selective solvent, res. on liquid-liquid extraction, P-V-T properties, fluo-solid reactions, and ore treatment problems. Mem.: Tau Beta Pi, Phi Lambda Upsilon, Sigma Xi, A.I.Ch.E., A.C.S. Club: Lebanon Golf. Hobby: golf.

HIXSON, Arthur Warren, prof. emeritus of chem. Havemeyer Hall, Columbia U.; res. 206 Hilcrest Ave., Leonia, N.J.
Teacher, consltg. chem. engr.; b. Mifflinburg, Pa., July 7, 1880; s. of William E. and Anna E. (Shiffer) Hixson; ed. A.B., M.S., Kans. State U.; Ph.D., Columbia U.; mem.: Acacia; m. Edetha M. Washburn, June 17, 1907; ch.: Arthur Norman, Rachel Marjorie (Hixson) Wilhelm. Metallurgist & assayer, Detroit Copper Co., Morenci, Ariz., 1906-07; chem., Ill. Agr. Expt. Station, Urbana, Ill., 1908-09; prof. & hd. dept. of mining engrg., State U. of Iowa, 1909-12, prof. metallurgy & ind. chem. 1912-17; chem. engr., High Explo-

sive Div. U.S.A. Ordnance 1918-19; Columbia U., assoc. prof. chem. engrg. 1919-27, prof. 1927-49, hd. dept. 1941-49, prof. emeritus 1949 to date. Asphalt & tar emulsions, yeast & yeast prods., al. from clay, titanium pigments, chlorine from salt & sulphur, solvent refining of oils, vitamin A concentration, concentration & purification of uranium cmpds., unit operations of chem. engrg. especially agitation extraction & crystallization, heat transfer, mass transfer; also in processes for utilization of agr., urban & ind. wastes; specialist in process dev. & chem. plant design. Mem.: A.C.S., A.I.Ch.E., S.C.I. (Gt. Brit.), Am. Soc. of Engrg. Ed, Sigma Xi, Tau Beta Pi, Phi Lambda Upsilon. Chmn., Town Planning Bd. & Zoning Commis. 1924 to date, Leonia, N.J. Club: Columbia U. Faculty. Hobbies: gardening, plant hybridization, Pennsylvania Dutch folk-lore & poetry, fungi, pre-Revolutionary history of N.J., local municipal government.

HIXSON, G. Paul, chf. chem., M.B. Suydam Div., Pittsburgh Plate Glass Co., Island & Peble Ave., Pittsburgh 28, Pa.
Paint & Varnish Chem.; b. Ruffsdale, Pa., Oct. 20, 1893; s. of George S. and Clara Suter Hixson; ed. Gettysburg Coll., 1917, B.S.; mem.: Kappa Delta Rho; m. Loeta Eakin in 1938; ch.: Barbara Lowe Hixson, G. Paul Hixson, Jr. 1917, Lackawanna Steel Co., Buffalo, N.Y., chem.; 1917-29 Pa. R.R., Altoona, Pa., chem.; 1929 to present, M.B. Suydam Div., Pittsburgh Plate Glass Co., Pittsburgh, Pa., chf. chem. Hobbies: model railroading, stamps.

HLADKY, Emil, asst. mgr., titanium dept., Calco Chem. Div., Am. Cyanamid Co., Piney River, Va.; res. Piney River.
Chem. engr.; b. N.Y.C., Jan. 8, 1911; s. of Stephen and Mary Hladky; ed. Columbia Coll., A.B. 1931; Columbia U. Engrg. Schl., B.S. 1932, Ch.E. 1933; m. Page Whitehead, Aug. 30, 1941; ch.: Stephen Baldwin, William Effinger. 1934-35, chem. engr., Southern Mineral Prods. Corp., Piney River; 1935-44, chf. chem. engr., Va. Chem. Corp., Piney River; 1944-48, tech. asst. to asst. gen. mgr., 1948 to date, asst. mgr., titanium dept. Calco Chem. Div., Am. Cyanamid Co. U.S. Dept. of Com., FIAT Final Report No. 1061, The Smelting of Ilmenite in Germany, E.N. Kramer, E. Hladky, J.A. Lane; FIAT Final Report No. 1062, The Sturzelberg Process for Mfg. Pig Iron, E. Hladky, J. A. Lane, E. N. Kramer. Mem.: A.I.Ch.E., A.C.S., A.I.M.M.E., Am. Management Assn., Sigma Xi, Phi Lambda Upsilon Club: Chemists'. Hobbies: photography, gardening, sports.

HOAK, Richard D(augherty), sr. fellow, Mellon Inst., Pittsburgh 13, Pa.; res. 1115 Girard Rd., Pittsburgh 27.
Chem. engr.; b. Lancaster, Pa., Aug. 13, 1905; s. of Frank B. and Ella M. Hoak; ed. F. & M., 1923-24; M.I.T., 1924-28, S.B.; 1928-29 S.M.; U. of Pittsburgh 1942-48, Ph.D.; m. Orpha G. Hostetter, Feb. 24, 1940; 1929-31 asst. dir. M.I.T. Schl. of Chem. Engrg. Pract.; 1931-32 tech. serv., Mead Corp.; 1932-34 partner, Hoak & Andes; 1934-36 chem. and bact., City of Lancaster, Pa.; 1936-40 distr. engr. Penn. Dept. of Health; 1940 to date sr. fellow, Mellon Inst. Notable wk.: water bacteriology; industrial waste treatment, esp. in waste pickle liquor disposal; water and pollution policy. Contrib. numerous papers and arts. to sc. jls. incl.: "A Correlation of Differential Tests for the Coli-Aerogenes Group," (J. Penn. Water Works Operators' Assn., 1935) for which he won the H.M. Freeburn Cup; and chapt. on "Waste Pickle Liquor," A.C.S. Monograph "Industrial Waste Treatment," William Rudolfs, Ed. (in press). Mem.: A.I.Ch.E. (v. chmn., chmn. Pittsbgh. Sect., 1945-46, 1946-47; chmn. Industrial Waste Comm. 1947 to date; Program Comm. 1948 to date; A.I.Ch.E. rep. on Natl. Water Policy Panel of E.J.C., 1948 to date); A.C.S.; Penn. State Chamber of Com. Pollution Abatement Comm. 1945 to date; Penn. Chem. Soc. (Bd. of Govs. 1946 to date); Federation of Sewage Wks. Assns. (Std. Methods Comm. 1947 to date; Comm. on Research, 1949 to date); Engineers Soc. of Western Penn.; American Water Wks. Assn. (Trustee, Western Penn. Sect., 1945-48); Penn. Water Works Operators Assn. (H. M. Freeburn Cup, 1935); Sigma Xi; rep. iron and steel ind. on Natl. Tech. Task Comm. on Industrial Wastes; reg. prof. engr. (Pa.). Clubs: Faculty (Pittsbgh.), South Hills Country. Hobbies: fine bindings, classical phonograph recordings.

HOBSON, Edwin L., III, sales mgr., Thermoplastic Molding Matls. Dept., Monsanto Chem. Co., plastics div., Springfield, Mass.; res. 18 Nevins Ave., Longmeadow, Mass.
Sales mgr.; b. July 3, 1915, Richmond, Va.; s. of R. Archer and May Hartley Hobson; ed. M.I.T., B.S. (Chem. Engrg.), 1937; Harvard U., Grad. Schl. Bus. Adm.; Cert. Bus. Mgt. 1946; mem.: Tau Beta Pi, Delta Kappa Epsilon, Osiris, Beaver Club, Grogo; m. Jane Phyllis Smith, Nov. 25, 1947; ch.: Jane Elizabeth. 1937-41 Sales engineer, Bakelite Corp., N.Y.; dur. war, U.S.A. Quartermaster Gen. Off., Wash., D.C.; 1946-47 asst. plastics br. mgr., Monsanto, N.Y. Off.; 1948 to date sales mgr., thermoplastic molding matls. dept., Monsanto, plastics div. As Lt. Col. Quartermaster Corps, dir. tech. phases of prog. involv. fabricat. plastic raw matls. into wide variety of Quartermaster items.; supvr., coordinated activities of large staff engaged in res., des., dev., stand. specifica., maint. of raw matls. supply of all Q.M. plastic, synth. rubber artls. equip.; included items as helmet liners, ponchos, textured enamels, corrosion resistant coatings, cements, mess trays. Mem.: S.Pl.I., S.P.I. Engrs., A.C.S. Clubs: Chem. (N.Y.C.), Delta Kappa Epsilon (N.Y.C.), Univ. (Wash., D.C.), Army-Navy (Arlington, Va.). Hobbies: golf, tennis, hunting.

HOCHSTADTER, Irving, conslt. chem. engr., 52 Vanderbilt Ave., New York 17, N.Y.; res. 1255 Far Rockaway Blvd., Far Rockaway, N.Y.
Chem. engr.; b. New York City, Oct. 8, 1887; s. of Sigmund and Bettie Hochstadter; ed. Horace Mann H. Schl., 1905, B.S. and chemist, Columbia U., 1909; graduate study abroad; mem.: Sigma Nu; m. Blanche Sanders, Dec. 20, 1909; ch.: Doris Haas, Jane Levin. Pres. and dir., Hochstadter Labs., Inc., 1909-43; pres. and dir., Stillman & Van Siclen, Inc., 1914-43; res. dir., Gallowhur Chem. Co., Inc., 1943-44; private practice, 1944 to present. Service: War wk. in both World Wars. Mem.: A.C.S., A.I.C., A.I.Ch.E., N.Y. State Soc. Prof. Engrs.; licensed prof. engr. in N.Y. and N.J. Clubs: Chemists', Inwood Country. Hobbies: golf, motoring.

HOCHWALT, Carroll Alonzo, v.p. res., dev. & pat. coord., Monsanto Chem. Co., St. Louis 4, Mo.; res. 7 Upper Ladue Rd., Clayton 24, Mo.
Exec.; b. Dayton, Ohio, Apr. 29, 1899; s. of Albert Frederick and Adele Marie (Butz) Hochwalt; ed. U. of Dayton, 1916-20 (B.Ch.E.); 1935 (D.Sc.); m. Pauline Burkhardt, Sept. 27, 1922; ch.: Carroll A., Jr., Richard A., Paula Marie. 1920-24 res. chem., Gen. Motors Corp.; 1924-25 prod. mgr. Ethyl Gas. Corp.; 1926-36 v.p. Thomas & Hochwalt Labs., Inc.; 1936-45 assoc. Central Res. Dir., Monsanto Chem. Co.; 1945-48 dir. of Central Res. Dept., Monsanto; 1948 to date coord. of res., dev. and pats., Monsanto; elected v.p. Monsanto 1947; elected mem. bd. of dirs. Monsanto, 1949; pres. of Chemstrand Corp., joint org. formed by Monsanto and Amer. Viscose Corp., 1949. Dir. Boatmen's National Bank of St. Louis. Work on anti-knock matls. for motor fuels at

Gen. Motors, contrib. to program which resulted in prod. of tetra ethyl lead; author of numerous tech. papers and signer of over 50 U.S. and foreign pats., specializing particularly in flds. of phosphates, anti-knock agents, fuels, lignin, fermentation, fire extinguishers, pigments, lubricants, resins, styrene, removing carbon deposits, nitrocellulose lacquers, detergents, plastics, protective coatings, polym. of dienes, rubber, resin from wood dist., bromates, organo-metallic compds. Dur. W.W. II served on Natl. Def. Res. Comm. in dev. solid propellants, and actively engaged in wk. of Manhattan Distr. Proj. of res. on atom bomb. Mem.: A.C.S., A.A.A.S., A.I.Ch.E., S.C.I., E.S., A.I.C, A.Phys.S., Sigma Xi. Trustee: Charles F. Kettering Found., mem. of bd. of trustees, U. of Dayton. Clubs: Racquet (St. Louis); Noonday (St. Louis); Chemists' (N.Y.).

HOCK, Reuben L., plant mgr., U.S. Industrial Inc., 5101 Distillery Ave., Baltimore, Md.; res. 13 Elmwood Rd., Baltimore 10.
Chem. engr.; b. Gretna, La., Nov. 17, 1902; s. of Reuben B. and Marguerite (Trauth) Hock; ed. Tulane U., New Orleans, Ch.E., 1923; grad. studies, Tulane, 1924; U. of Md., 1924-26; m. Ethelyn Gelbke, Dec. 30, 1924; ch.: Charles L., Ethel Lynn. Sept. 1923-June 1924, teaching fellowship, Tulane U.; Oct. 1924-June 1927, res. chem., U.S. Industrial Chem. Inc.; June 1927-June 1933, chf. chem., asst. plant mgr., U.S. Industrial Inc., New Orleans Plants, June 1933-Aug. 1942 plant mgr., Aug. 1942 to date plant mgr., Baltimore, Md. Hobbies: outdoor sports, photography, gardening.

HOCKER, Carl DeWitt, assoc. prof. of chem., Union Coll., Schenectady 8, N.Y.; res. 1539 Regent St., Schenectady 8.
Prof.; b. Rockville, Ind., Oct. 4, 1890; s. of George E. and Harriet Shortridge (Hocker); ed. A.B. Wabash College, 1912, Ph.D., U. of Mich., 1916; mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, Gamma Alpha; m. Flora B. Ames, June 30, 1917; ch.: Eleanor (Hocker) Ramsey. Bell Telephone Labs., 1916-46; Union Coll., 1946 to date. Res. in telephone work, including several fields, notably corrosion and wood preservation. Mem.: A.C.S., A.S.T.M., A.W.P.A. Club: Mohawk (Schenectady).

HOCKETT, Robert Casad, sc. dir., Sugar Res. Foundation, 52 Wall St., New York 5, N.Y.; res. 72 Howell Ave., Larchmont, N.Y.
Org. chem.; b. Fayette, Mo., July 1, 1906; s. of Homer Carey and Amy Francisco Hockett; ed. The Ohio State U., B.A. (honors) 1925, M.A., 1928, Ph.D., 1929; mem.: Delta Alpha Pi (now Phi Mu Delta), Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma; m. Margaret E. Dixon, Sept. 4, 1930; ch.: David Lloyd, Susan (deceased), James D., Abigail Jane, Casad. Grad. asst., Ohio State, 1925-27; U. Fellow, 1927-28; du Pont Fellow, Ohio State, 1928-29. Natl. Res. Fellow, Natl. Inst. Health, 1929-31; assoc. tech., same, 1931-35; asst. prof. org. chem., M.I.T., 1935-41; assoc. prof. chem., M.I.T., 1941 to July 1, 1950 (on leave since Nov. 1, 1943). Sc. dir., Sugar Res. Foundation, Inc., since 1943. Over 50 res. papers on chem. of sugars, numerous arts. and adresses on sugar utilization, lecturer for Am. Swiss Foundation for Scientific Exchange in Switzerland, 1946. Visiting prof. U. Ill. and N.C. Mem.: Am. Acdy. Arts & Scs. (fellow), Phi Beta Kappa Associates, A.C.S. (chmn. div. sugar chem., 1945-46), A.A.A.S., Am. Public Health Assoc., Am. Diabetes Assoc., Am. Soc. Biol. Chemists, Soc. Chem. Ind., I.F.T., Sugar Ind. Technicians, Soc. Sugar Cane Technologists, Beet Sugar Technologists Assoc. Food Industries Advisory Comm., Nutrition Foundation, Conslt. Bur. of Agr. and Industrial Chem., U.S. Dept. Agr. Clubs: Chemists', Larchmont Shore.

HOCKETT, Sebern Waldo, res. chem., Bonewitz Chems., 101 N. 3rd St., Burlington, Iowa; res. 413 Broadway Ave., Mt. Pleasant, Iowa.
Res. chem.; b. Earlham, Iowa, Aug. 4, 1883; s. of Stephen David and Ruth (Stanley) Hockett; ed. State U. of Iowa, Iowa City, Ia., B.Sc. and M.Sc.; mem.: Sigma Xi; m. Esther Donnelly, Feb. 14, 1941. 1910-12, prof. and hd. of dept. chem. State Tchrs'. Coll., Moorhead, Minn.; 1912-14, same position, Winthrop State Normal Coll. for Women, Rock Hill, S.C.; 1914-15, asst. prof. State U., Mich. (½ time working on doctorate); 1916-20 chem., Mare Island Navy Yard; 1920-21 prof. sc., etc., Eureka Coll., Ill.; 1921-30, prof. appl. sc. and math., Penn Coll., Oskaloosa, Ia.; 1930-31, prof. chem. Junior Coll., Muscatine, Ia.; 1931-37, edit. and publ. of 2 local newspapers; 1937-41, assoc. prof. chem. Montana State Coll., Bozeman, Mont.; 1940-42, prof. chem. and State Chem. for State Hwy. Comm., Billings, Mont. (Polytech. Inst.); 1942-48, prof. chem. Iowa Wesleyan Coll.; 1948 to date, res. chem. Bonewitz Chems. Wk. in mfg. of synth. gasolines from low grade fuels, incl. coals, wastes, etc.; U.S. Cong. Record pp. A2291, 2, 3; of Apr. 8, 1948; "Quimica" (Natl. Chem. Org. of Brazil), March, Apr., 1948, "Consideracoes basicas sobre a liquifacao de combustiveis solidos," Vol. IV. N. 2. Mem.: A.A. A.S., A.C.S., Iowa Acdy. of Sc., Iowa Sec. A.C.S. Hobbies: gardening, fishing (sport).

HOCKLEY, Chester Fox, chmn. of the bd. and pres., The Davison Chem. Co., 101 N. Charles St., Baltimore 1, Md.; res. Clarkson's Hope, Fork, Md.
Exec.; b. Watsontown, Pa., May 22, 1882; s. of Alfred and Harriet (Fox) Hockley; ed. Emporium (Pa.) High School and Pa. State Coll., State Coll., Pa.; m. Grace Eugenia Leete, Dec. 1, 1906; ch.: Roscoe Leete, Alice Harriet. 1900-03, Snow Steam Pump Wks., Buffalo, N.Y., Lackawanna Steel Co., Westinghouse Machine Co., Bethlehem Steel Co., American Piston Ring Co., Bartlett-Hayward Co. 1933-35; co-receiver The Davison Chemical Co., pres., since 1936; receiver Silica Gel Corp., 1933-35. Arts.: "Phosphates on the Farm," "Pastures for Horses;" "Hidden Hunger and You" (in trade and agr. publications). Mem.: Natl. Assoc. of Manufacturers, Newcomen Soc. of England, Maryland Historical Soc. Baltimore Natl. Bank, dir., Baltimore Assoc. of Commerce, dir., Cons. Gas El. Lt. & Power Co. of Baltimore, dir., Md. Casualty Co., dir., Md. Drydock Co., dir., Glenn L. Martin Co., dir., Mt. Vernon-Woodberry Mills, Inc., dir., Sylvania Electric Products, dir. Clubs: Maryland, Cedar Point. Hobbies: raising thoroughred horses.

HOCKLEY, Roscoe Leete, v.p., The Davison Chem. Corp., 101 N. Charles St., Baltimore 1, Md.; res. 318 Overhill Rd., Baltimore 10.
Engr.; b. Emporium, Pa., Apr. 15, 1908; s. of Chester Fox and Grace (Leete) Hockley; ed. Gilman Country School, Baltimore, Polytechnic Inst., Phillips Andover Acdy., Cornell U., class 1931; mem.: Sigma Alpha Epsilon; m. Elizabeth Smull, Mar. 2, 1935; ch.: Laura Anne. Engr., Campbell Metal Window Co., Baltimore, 1929; statistician, W.W. Lanahan Co., Baltimore, 1929-30; ind. engr., Worthington Pump Co., Buffalo, 1930-34; ind. engr., G. D. Penniman Jr. & Assoc., Baltimore, 1934; 1934 to present, The Davison Chem. Corp., various positions, made v.p. in 1942. Sylox Corp., pres. Contrib. extens. to sc. and tech. journals. Mem.: A.S.R.E., Cornell Soc. of Engrs., Am. Management Assoc., Natl. Federation of Sales Execs., Engineers Club (Baltimore), Baltimore Assoc. of Commerce, Newcomen Soc. of Eng. (Amer. branch), Industrial Club (Baltimore). Bd.

of Dirs., Franklin Sq. Hosp., Bd. of Dirs., Baltimore Safety Council. Clubs: Baltimore Country, Baltimore Yacht, Annapolis Yacht, Maryland Club, Solomons Island Yacht, Enterprise.

HOCKMAN, Robert, mgr. gen. labs., Kroger Food Foundation, 1212 State Ave., Cincinnati 4, Ohio; res. 3205 Manning Ave., Cincinnati 11, Ohio. Chem., food tech.; b. Blanchester, O., May 20, 1915; s. of Roger E. and Hazel (Hesler) Hockman; ed. Miami U., A.B., 1939; M.I.T., 1940; mem.: Sigma Chi; m. Jean Petticrew, Oct. 4, 1941. With Kroger Food Foundation, chem., sr. chem., sr. tech., mgr. Gen. Labs.; refrig. res., dev. of Army fld. rations; res. in wrapping fresh meat for retail sale. Mem.: A.C.S., A.S.R.E. Clubs: York Rite Mason. Hobbies: photography, hunting, fishing.

HODGE, Harold Carpenter, prof. of pharmacol. & toxicol., U. of Rochester Schl. of Medicine & Dentistry; res. 40 Nunda Blvd., Rochester, N.Y. Prof.; b. Chicago, Ill., Dec. 19, 1904; s. of James A. and Angie (Carpenter) Hodge; ed. B.S., Ill. Wesleyan U., 1925; M.S., State U. of Iowa 1927, Ph.D. 1930; D.Sc., Ill. Wesleyan U., 1949; mem.: Alpha Chi Sigma; m. Katherine Talbot, Nov. 9, 1928; ch.: Archibald Talbot, Margaret. Asst. prof. chem., Coll. of the Pacific, 1929-30; prof. of chem., Ottawa U., Kans., 1930-31; Rockefeller fellow in dentistry, U. of Rochester, 1931-33, sr. fellow in dentistry 1933-36, asst. prof. dentistry 1936-37, asst. prof. biochem. & pharmacol. 1937-40, assoc. prof. biochem. & phar., 1940-46; chf. pharmacologist, Manhattan Project, Atomic Energy Commis. Project, 1943 to date; prof. of pharmacol. & toxicol. & conslt. in dental res., 1946 to date. Physical & chem. properties of enamel, dentine, cementum & bone; fluorine & caries; molecular constitution of calcium phosphates; lipids in fasting; pharmacol. & toxicol. of uranium cmpds. of fluorine & of beryllium cmpds. "The Pharmacol. & Toxicol. of Uranium Cmpds.," edited by Carl Voegtlin & Harold C. Hodge, Natl. Nuclear Energy Series, VI—I, McGraw-Hill, N.Y., 1949. Mem.: A.C.S., A.A.A.S., S.E.B.M., Am. Ind. Hygiene Assn., Am. Soc. Phar. & Exp. Therap., Federation Am. Scientists, Kans. Acdy. Sc., Rochester Acdy. Sc., New York Acdy. Sc. Int. Assn. Dental Res., Am. Soc. Biolog. Chemists. Mem. Natl. Advisory Dental Res. Council, U.S.P.H.S. 1948 to date; Dental Advisory Council, Veteran's Adm. 1949 to date; Chem. Corps Res. Council, Dept. of Army, 1947 to date; chmn. Tech. Advisory Comm. on Water Fluorination, N.Y. State, 1944 to date; National Research Council, Comm. on Toxicology, 1949 to date. Hobbies: tennis, squash, fishing, farming.

HODGES, Frank J., chief supvr., E. I. du Pont de Nemours & Co., Deepwater, N.J.; res. Cedar Crest Manor, Penns Grove, N.J. Chem. engr.; b. Macon, Ga., Feb. 9, 1909; s. of Frank J. and Rubye (Willis) Hodges; ed. N.C. State, 1926-30, chem. engrg.; mem.: Theta Kappa Nu; m. Mary Stretch Hires, June 29, 1935; ch.: Frank J. Jr., Virginia Ruth, Mary Morris. E. I. du Pont de Nemours & Co., 1930, Belle, chem., 1931, Burnside Lab., chem., 1933 Chambers Wks., supvr., 1942, Wabash, supt., 1944, Chambers Wks., supvr. Mem. of Exec. Bd., Gloucester Salem Council, B.S.A. Hobbies: hunting, fishing, amateur flying.

HODGES, James Hallett, assoc. prof. of chem., chem. lab., U. of Mich., Ann Arbor, Mich.; res. 520 Onondaga St., Ann Arbor. Prof. of chem.; b. Mansfield, Mass., Aug. 13, 1892; s. of James O. and Alice (Hallett) Hodges; ed. A.B., Harvard, 1914, Ph.D. 1917; m. Viola F. Dickey, Aug. 23, 1923; ch.: Priscilla (Hodges) Johnson, Margaret. C.W.S., U.S.A., 1917-19; U. of Mich., Instr. 1919-26, asst. prof. 1926-48, assoc. prof. 1948 to date. Res. in atomic weight determination, compressibility of solids & liquids, & kinetics. Mem.: A.C.S., A.A.A.S. (fellow), Phi Beta Kappa.

HODGINS, Theodore S., vice president in chg. of Pacific Northwest Div., Reichhold Chems. Inc., 5900 W. Marginal Way, Seattle, Wash.; res. 13601 Third Ave. N.W., Seattle. Chem. engr.; b. Owosso, Mich., July 23, 1913; s. of Frank S. and Grace B. (Van Hoten) Hodgins; ed. U. of Mich., B.S., Ch.E.; m. Elizabeth Louise Bertoli, Sept. 5, 1936; ch.: Elizabeth Louise, Anne Catherine, Theodore S. Jr., James Richard, Mary Margaret. Res. chem., E. I. du Pont de Nemours & Co., Wilmington, Del. & Flint, Mich., 1935-36; Reichhold Chems. Inc., res. chem. 1936-37, asst. dir. of res. 1938-39, assoc. dir. of res. 1939-42; tech. representative Pacific Northwest Div., 1942-43; dist. mgr., 1943-46; gen. mgr., 1946-50; vice pres. in chg. of Pacific Northwest Div., 1950 to date; v.p., Reichhold Chems., Inc. Extensive res. in fld. of plastics, particularly resinous formulas & processes, holding both U.S. & Brit. pats., extensive contr. to scientific jls. Mem.: A.I.Ch.E. (1934-35-36), A.C.S. (1936-50; chmn. Puget Sound Sec. 1946-47; councilor Puget Sound Sec. 1947-48), T.A.P.P.I. (charter mem.), A.A.A.S. (1940-50), Forest Prods. Res. Soc. Clubs: Aero (Ore.), College (Seattle). Hobbies: fishing, tennis, art, music, literature, architecture, model railroading.

HODGSON, Edward R., chmn. of bd., Hodgson's, Inc., Oconee St., Athens, Ga.; res. Jefferson Rd., Athens. Exec.; b. Athens, Ga., Aug. 20, 1871; s. of Edward R. and Mary V. Strahan; ed. U. of Ga., Bachelor of Laws; mem.: Kappa Alpha; m. Mary McCullough, June 1, 1905; ch.: Marjorie, John, Edward, Paul. Pres., Y.M.C.A., Sr. Warden, Episcopal Church, Chmn., Selective Service Bd., W.W. I; in charge of Y.M.C.A. Officers Inn, London and Liverpool, W.W. I. Club: Athens, Georgia, Country Club. Hobby: golf. Officer: Athens Terminal Co., pres.

HOEHN, Willard M(ax), assoc. prof. chem., Schl. of Phar., U. of Kansas City; res. assoc. Midwest Res. Inst.; res. 3120 Coleman Rd., Kansas City 2, Mo. Chem.; b. Apr. 27, 1909; s. of William J. and Linda O. Hoehn; ed. Blackburn Coll., A.B.S., 1930; U. of Ill., B.S., 1932; Iowa State Coll., Ph.D., 1936; mem.: Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma, AX Chapt.; m. Jeanette E. Ross, July 4, 1936; ch.: Margaret Linda, Marian Caroline, Elizabeth Jean. 1932-33, Parke-Davis & Co. scholarship, Iowa State Coll.; 1933-35, Rockefeller Fluid Res. fellowship, same coll.; 1935-36, grad. schl. fellowship, same coll.; 1936-39, instr. U. of Minn.; res. assoc. Mayo Clinic; 1939-42, sr. chem., Geo. A. Breon & Co., Kansas City, Mo., 1942-44, asst. lab. dir. same co.; 1944-48, lab. dir. same co.; 1948 to date, assoc. prof. of phar. chem., U. of Kansas City; res. assoc., Midwest Res. Inst. in furans, bile acids, cortical hormones, analgesics, antispasmodics and tablet disintegration. Mem.: A.C.S., Swiss Chem. Soc., A.A.A.S., N.Y. Acdy. Sc., Assoc. for Study of Internal Secretions, A.I.C., Jackson County Med. Soc., Natl. Geo. Soc., A.Ph.A. Hobbies: cinematography, golf, sketching.

HOEL, Archie Bernhard, special tech. representative, Sun Oil Co., 1608 Walnut St., Phila. 3, Pa.; res. 1045 Morgan Ave., Drexel Hill, Pa. Chem.-dev. and uses of pet. derivatives; b. Menomonie, Wis., Jan. 30, 1892; s. of Andrew and Helena Hoel; ed. U. of Wisconsin, 1911-12, A.B., U. of Montana, 1912-16; Ph.D., Cornell U., 1921; mem.: Sigma Chi, Alpha Chi Sigma; m. Helen Frances Travis, in 1922; ch.: Betty Ann and

Jeanne Patricia (twins). Heckscher res. asst., Cornell U., 1921-22; res. chem., Atlantic Refining Co., Phila., Pa., spec. tech. representation, Sun Oil Co., Phila., Pa. Res. in storage battery, hydronitrogens, and pet. refining flds.; dev. and commercial uses of pet. derivatives in the processing of leather, rubber, textiles, & plastics. Mem.: Sigma Xi. Hobbies: golf, hunting, fishing, and music.

HOFER, Lawrence John Edward, chf., phys. chem. sect., res.-dev. div., Off. of Synthetic Liq. Fuels, Bur. of Mines, Bruceton, Pa.; res. 440 Dailey Rd., Brantwood, Pittsburgh 27, Pa.
Phys. chem.; b. Salt Lake City, Utah, June 26, 1915; s. of William M. and Friederike W. (Loder) Hofer; ed. U. of Utah, B.. (chem.) high honors 1937; M.A. 1939; U. of Rochester, Ph.D. 1941; mem.: Phi Kappa Phi, Phi Beta Kappa, Sigma Xi; m. Marguerite Ione Tears, Dec. 25, 1941; ch.: Richard Lawrence. 1941-43 res. assoc. Carnegie Inst. of Tech.; 1943 to date phys. chem., Off. of Synthetic Liquid Fuels, Bur. of Mines; res. in carbides of iron, cobalt and nickel, mechanism of Fisher Tropsh synth., fluorescence of cyanine dyes. Mem.: A.C.S., Am. Crystallographic Assoc. Pittsburgh Conference for X-ray and Electron Diffraction. Club: Pittsburgh Chemists'.

HOFF, George Preston, mgr., acetate div., E. I. du Pont de Nemours & Co., Room 3438 Nemours Bldg., Wilmington, Delaware; res. 902 Overbrook Rd., Wilmington.
Exec.; b. Shelby, O., May 1, 1899; s. of Herman Cornelius and Nellie Wilson Hoff; ed. grade schl., Cardington & Shelby, O., 1905-12, H.S., Shelby & Cardington, O., 1913-16 graduated, B.A., 1921, M.S., 1922, Ph.D. 1925, Ohio State U., University scholarship, Ohio State U., 1924-25; mem.: Alpha Chi Sigma, Sigma Xi, Phi Lambda Upsilon; m. Eleanor Brown Hammond, Apr. 3, 1926; ch.: Robert P. Hoff. Commercial Chemical Co., Memphis, 1925-26; res. chem., du Pont Rayon Co., Buffalo, 1926-28; mgr. chem. res., Viscose Process Dept., 1928-36; nylon res., E. I. du Pont de Nemours & Co., Buffalo, 1936-38; dir., 1938-46; dir., acetate res., 1946-47; asst. mgr. tech. div., 1947-49; mgr. 1949-50; mgr. acetate div., 1950 to date. Member synthetic fibers team, Technical Industrial Intelligence Comm. Co-author of "German Synthetic Fiber Developments," report by Synthetic Fibers Team of T.I.I.C. Mem.: A.C.S. (New York), A.C.S., (Delaware), Student Council, Ohio State U., Textile Research Inst., Chairman, Fabrics & Fibers Comm., Natl. Research Council Advisory Bd., on Quartermaster Research & Dev., Member Alumni Advisory Bd., Ohio State U. Club: du Pont Country. Hobbies: travel, sports, bridge.

HOFFMAN, Anna Louise, tech. librarian, Schenley Labs. Inc., Lawrenceburg, Ind.; res. 1608 Madison Ave., Covington, Ky.
Chem.; b. Covington, Ky., Sept. 26, 1901; d. of William and Louise (Berli) Hoffman; ed. U. of Cincinnati, A.B., M.A.; grad. wk., Ohio State U. & U. of Rochester, Rochester, N.Y. Asst. prof. of chem., Queens Coll., Charlotte, N.C.; asst. prof. of chem., Tusculum Coll., Greeneville, Tenn.; asst. prof. of chem., Cincinnati Coll. of Pharmacy, Cincinati, Ohio. Some new alkyl derivatives of hydroxyurethane & hydroxylamine. Mem.: A.C.S., Iota Sigma Pi (Natl. Secy. 1948-51), A.A.A.S., Alpha Epsilon Delta, Sigma Delta Epsilon, Ohio Acdy. of Sc., A.A.U.W. Hobbies: music, crafts.

HOFFMAN, Roger Allen, res. mgr., Cherokee Plant, Merck & Co. Inc., Danville, Pa.; res. (temp.) Box 93, Elkton, Va.
Org. chem.; b. La Crosse, Wis., Sept. 6, 1915; s. of Joseph C. and Ida A. Hoffman; ed. U. of Wis. Extension, Milwaukee, Wis., sophomore honors 1936-38; U. of Wis., Madison, Wis., 1938-39, (cum laude); B.S., U. of Mich., Ann Arbor, Mich., M.S., Ph.D. 1942; m. Marguerite Sylvester, Jan. 29, 1939; ch.: Diane Jean, Peter Joseph. Sr. chem., Merck & Co. 1942-50 (Rahway and Stonewall Plants); res. mgr., Merck & Co., 1950 to date, Cherokee Plant. Mem.: A.C.S., Sigma Xi, Phi Lambda Upsilon.

HOFFMAN, Rudolph, plant mgr., Skenandoa Rayon Corp., 1201 Broad St., Utica 2, N.Y.; res. 1729 Sherman Dr., Utica 2, N.Y.
Chem.; b. Zweibruecken, Germany, Jan. 26, 1901; s. of Heinrich and Anna Hoffman; ed. gr. schl., high schl. (Realschule), Fresenius Inst. (Germany); m. Helen Danner, Sept. 2, 1932; ch.: Rudolph Danner. Asst. chem. Rutgers Wks. (Germany); 1922-25, chem. I.G. Farben (Germany); 1926-37 mgr. lab. Skenandoa Rayon Corp., 1937-45 chf. chem., 1945 to date plant mgr. same co.; res. and prod. of viscose rayon. Mem.: A.C.S., A.S.T.M., A.A.A.S., Church Councilman (Luth.). Clubs: Torch, Fort Schuyler, Yahnundasis Golf, all of Utica.

HOFFPAUIR, Carroll Lea, acting in chg., anal. sec., Southern Regional Res. Lab., U.S. Dept. of Agr., 2100 Robert E. Lee Blvd., New Orleans 19, La.; res. 230 Ridgewood Dr., New Orleans 20, La.
Anal. chem.; b. Jackson, La., Jan. 22, 1914; s. of Albert Walter and Leisa (Smith) Hoffpauir; ed. B.S., 1933, Southwestern La. Inst., Lafayette, La.; M.S., 1934, U. of Mich., Ann Arbor, Mich.; Tulane U., New Orleans, La., part time 1942-44; mem.: Alpha Chi, Blue Key, Pi Kappa Delta, Alpha Sigma Kappa; m. Anna Volking, June 1, 1935; ch.: Carol Ann, Albert Lucien, John Wade. 1934-35, demonstration teacher, Lafayette H.S., Lafayette, La.; 1935-39, hd. of chem. dept., Copiah Lincoln Jr. Coll., Wesson, Miss.; 1939-41, seafood inspector, U.S. Food & Drug Adm., New Orleans, La.; 1941 to date, chem., Southern Regional Res. Lab., B.A.I.C., U.S.D.A., New Orleans, La. Meths. of anal. of oilseeds; determination of starch in plants; specialized meths. for cellulose derivatives; dev. & characterization of ion-exchange fabrics by chem. modification of cellulose. Num. pubs. in tech. journals. Mem.: A.C.S., A.O.C.S., A.A.A.S., Assn. of Official Agr. Chemists (assoc. referee, for starch in plants).

HOFMANN, Prof. Klaus H(einrich), res. prof. of chem., dept. of chem., U. of Pitts.; res. 313 Lavina Ave., Pitts. 16, Pa.
Res. prof.; b. Karlsruhe, Germany, Feb. 21, 1911, Swiss citizen; s. of Fritz and Marianne Hofmann; ed. Federal Inst. of Tech., Zurich, Switzerland, Ph.D. org. chem. 1936; m. Paula Blum, July 1936; ch.: Susan Elizabeth. Fellow of Rockefeller Foundation, 1938-40; res. asst. in biochem., Cornell Medical Co., N.Y., 1940-42; scientific guest, Ciba Phar. Prods. Inc., Summit, N.J., 1942-44; asst. res. prof. in org. biochem., U. of Pitts., 1944-45, assoc. res. prof. 1945-47, res. prof. of chem., 1947 to date. Numerous publ. on subjects such as degradation & syn. of natural prods., chem. of biotin & its antagonists, syn. of peptides, procedures for syn. of oxybiotin & biotin antagonists, studies on the constituents of micro-organisms. Mem.: A.A.A.S., A.C.S., Swiss Chem. Soc., Soc. of Biolog. Chemists', N.Y. Acdy. of Sc., Sigma Xi, Phi Lambda Upsilon. Hobby: music.

HOGAN, James J., chf. engr., Mathieson Chemical Corp., Mathieson Bldg., Baltimore, Md.; res. Tuscany Apartments, Baltimore, Md.
Chem. engr.; b. Marlboro, Mass., Mar. 13, 1908; s. of James J. and Maude K. Hogan; ed. M.I.T., S.B. chem. engrg., Prac., 1929, S.M. Chem. engrg., 1931; mem.: Phi Kappa; m. Agnes C. Hickey, Sept. 1, 1938; ch.: Mariel Jane. M.I.T., asst., 1929-32; National Aniline, engineering, 1933;

Standard Oil (Ind.) engineering, 1933-35; The Lummus Co., N.Y., engineer, 1935-37; The Lummus Co., London, England, engr. and sales, 1937-39; Arthur G. McKee, engr. & estr., 1939-42; Rohm & Haas, engr., 1942-44; Arthur G. McKee, 1944-49, engr. & estr.; Mathieson, 1949 to present. Study of heat transfer, dev. of multi-coil oil cracking. Clubs: Engineers (Baltimore), Country Club of Maryland. Hobby: golf.

HOGGE, Arthur Clifton, Jr., dir. of res., Shell Oil Co., Box 2527, Houston, Tex.; res. 4514 Park Court, Bellaire, Tex.
Oil, process res.; b. Houston, Tex., Oct. 1, 1914; s. of A. C. Sr. and Olga Pauline Hogge; ed. 1932-36, Rice Inst., B.S. in Ch.Engrg.; m. Marie Louise Reynolds, 1938; ch.: Arthur Clifton III, Jeffrey Reynolds, Kathleen Marie. 1936-38, Norco Refinery, jr. technologist; 1939-40, Houston Refinery, technologist; 1941, Houston Refinery, asst. hd. cracking dept.; 1942-44, hd. office, N.Y.C., sr. technologist (special assignment C.R.A. & Rec. 41); 1945, Wood River Refinery, hd. of expt. lab.; 1946, Houston Refinery, chf. res. chem.; 1947 to date, Houston Refinery, dir. of res., Shell Oil Co. Res., dev. & expt. wk. in fluid catalytic cracking; res. in high mol. wt. mass spectrometry. Mem.: A.C.S., A.A.A.S. Hobbies: photography, music, bench wood work.

HOGNESS, Thorfin Rusten, prof. of chem. and dir. of Inst. of Radiobiology and Biophysics, The U. of Chic., Chic., 37, Ill.; res. 507 Dorchester Ave., Chic., 37.
Chem. prof.; b. Minneapolis, Minn., Dec. 9, 1894; s. of Peter Gunerius and Amanda Rusten Hogness; ed. B.S., U. of Minn., 1918, Ch.E., 1919, Ph.D., U. of Calif., 1921; m. Phoebe Swenson, July 31, 1920; ch.: John Rusten, David Swenson. Instr. in chem., U. of Calif., 1921-25, asst. prof., 1925-28, assoc. prof., 1928-30; assoc. prof. of chem., U. of Chicago, 1930-37, prof. since 1937, dir., Inst. of Radiobiology & Biophysics since 1948; Sc. Liaison Officer, Am. Embassy, London, 1942-43; dir., Md. Res. Lab., Office of Strategic Services, 1943; dir., chem. div., Plutonium Project, U. of Chic., 1943-45; conslt., War Dept. and Office of Scientific Res. and Dev. with E.T.O.U.S.A., 1945. Res. in ionization of gases by electron impact, photochem., chem. kinetics; spectroscopy and physical chem. applied to biological systems, respiratory enzymes. Qualitative Anal. and Chem. Equilibrium, with Warren C. Johnson, 1937; Ionic Equilibrium, with Warren C. Johnson, 1939. Mem.: Alpha Chi Sigma, Phi Lambda Upsilon, A.C.S., Am. Biochem. Soc., A.A.A.S., A.A.U.P., Emergency Comm. of Atomic Scientists. Club: Quadrangle.

HOHENADEL, Harry P., gen. supt., chem. operations, Cities Service Oil Co., Bartlesville, Okla.; res. 1315 Cherokee, Bartlesville.
Chem. engr.; b. Columbia, Pa., Nov. 10, 1897; s. of Martin B. and Anna (Armold) Hohenadel; ed. Pa. State Coll., B.Sc. ind. chem.; LaSalle Extension U., law; m. Natalie Barter, July 14, 1921; ch.: Ann. Jr. engr., Empire Gas & Fuel Co., Eldorado, Kans., 1919-21; oil prod. chem., oil div., Cities Service Oil Co., Kans. & Okla., 1921-29, supervision, lab. & dev., chem. from natural gas 1929-41, gen. supt., chem. operations, 1941 to date. Dev. wk., corrosion prevention processes & chem. inhibitors, oil fld. equipt., various papers on petro-chem., their dev. & economics. Mem.: A.C.S., A.I.Ch.E. Hobbies: fishing, gardening.

HOKE, Calm Morrison, owner-chem., chemist, Jewelers Tech. Advice Co., 123 William St. N.Y. 7, N.Y.; res. 1070 Anderson Ave., Palisade, N.J.
Chem. writer on tech. subjects; b. Chicago, Ill., Aug. 25, 1887; d. of Samuel Woodford and Utopia Wright Hoke; ed. A.B., Hunter Coll., 1908; Wittenberg Coll., 1909; U. of Chicago, 1910-11; A.M., Columbia U. 1913, N.Y.U. 1923; m. Thomas Robert McDearman, Aug. 25, 1927. Lab. asst., Harriman Res. Lab., N.Y., 1911-12; chem., Jewelers Tech. Advice Co., New York, 1913-17; asst. chem., Columbia U., 1917-19; chem. Jewelers' Tech. Advice Co., 1919 to date; owner, 1937 to date; v.p. and chem., Hoke Inc., New York, 1926-34. Res. in devising methods of refining precious metal wastes; methods of identifying and appraising precious metals and their alloys, designing controls for compressed gases; writing about the foregoing in terms suitable for lay reader; designing torches for melting and soldering platinum. Author "Refining Precious Metal Wastes," 1940; "Testing Precious Metals—Identifying, Buying, Selling," 3rd ed., 1946. Mem.: A.I.C. (fellow) (councilor 1923-27), A.C.S., A.A.A.S., Am. Inst. Min. & Met. Engrs. Clubs: Woman's University (New York), Woman's Club of Palisade, N.J., Lucy Stone League. Hobbies: attempts to foster international and interracial understanding.

HOLCOMB, Walter F., mgr., Res. & Prods. Dev. Labs., Parke, Davis & Co., Detroit 32, Mich.; res. 4842 Bedford, Detroit 24.
Res. exec.; b. Whetmore, Kans., May 13, 1912; s. of George W. and Ollie S. Holcomb; ed. U. of Nebr., B.S. 1934, M.S. 1936; m. D. June Uhrenholdt, June 3, 1933. Parke, Davis & Co., 1936-45 res. chem., 1945 to date, mgr. res. & prod. dev. labs. Antimalarials, vitamin K, arsenicals, misc. chemotherapeutic res., synthetic org. chem. Mem.: A.C.S., A.A.A.S., Phi Lambda Upsilon, Sigma Xi. Club: Yacht. Hobbies: photography, travel, sports, music.

HOLLABAUGH, Cleveland Buchanan, chem. conslt., patent atty., 163 Brompton Rd., Garden City, L.I., N.Y.
Chem. conslt., patent atty.; b. Leslie, Ark., Jan. 11, 1908; s. of Dr. Cleveland B. and Maude Fowler Hollabaugh; ed. B.S., U. Ark. 1927; M.S., Ph.D. 1931 Pa. St. Coll.; mem.: (honorary) Lambda Chi Alpha, Sigma Xi, Phi Kappa Phi, Phi Lambda Upsilon, Sigma Pi Sigma, Alpha Chi Sigma, Scabbard and Blade; 1925-26 principal high schl., Judsonia, Ark.; 1927-29 asst. chem., Pa. St. Coll.; 1929-31 Hercules Powder Co., res. fellow, Pa. St. Coll.; 1931-34 res. chem., Hercules Powder Co.; 1934-39 patent atty., legal dept.; 1938 reg. prac. as patent atty. bef. U.S. and Canadian Patent Offs.; 1939-45, mgr., patent dept., dir. patents, Hercules Powder Co.; 1946-47, patent atty., chem. conslt., Dentists' Supply Co. of N.Y.; 1947 to date patent & chem. conslt. (independ. bus.). Res. on emulsified lacq. covered by 7 U.S. patents. Mem.: A.I.C. (fellow), A.C.S., T.A.P.P.I., A.S.T.M., N.Y. Pat. Law Assn. Club: Chemists' (N.Y.C.). Hobbies: gardening, photography.

HOLLADAY, Alvis Milton, asst. prof. of chem., Peabody Coll.; res. 2409 Belmont Blvd., Nashville 4, Tenn.
Teaching, coll. prof.; b. Huntingdon, Tenn., Jan. 19, 1915; s. of Carlie B. and Josie Crider Holladay; ed. High School, Huntingdon, valedictorian, 1934; Memphis State Coll., 1935-37, Manning scholar; B.A. Bethel Coll. (McKenzie, Tenn.) 1939, magna cum laude, M.A., Peabody, 1940, Teachers Coll., Columbia U., summer 1941, Ph.D. Peabody, some work at Vanderbilt, 1946; mem.: Phi Delta Kappa; m. Anne King Newman, Dec. 26, 1940; ch.: Anne Newman, Jr. Taught H.S. science Gadsden, Ala., 1940-42; instr. in Army Air Corps Unit at Peabody, 1943-44; instr. in Duncan Coll. Preparatory School, part-time 1943-45; instr. in chem. lab. Peabody, 1945, became asst. prof. chem., Peabody. Instr. in aeronautics and meteorology part-time in Vanderbilt U. Schl. of Engineering 1943 for two quarters. Res. Thesis for M.A., "Some Techniques in Simplifying the Study of

Atoms"; Ph.D. dissertation, "A Program of Vocational Chemical Education in Tennessee"; designed and constructed Holladay's ionometer, an instrument to determine electrical conductivity of solutions and as a titrimeter that is now being considered for manuf. Several arts. in educat. and sc. mags. Publ. locally: "Practice and Basic Principles in Inorganic Qualitative Analysis," "Twentieth Century Experiments in High School Chemistry." Mem.: A.C.S. (secy.-treas. Nashville Section 1947 —), A.A.A.S., Natl. Sc. Teachers Assoc., Acdy. of Sc. (Tennessee). Club: Chemoteers (local chemistry club). Hobbies: amateur (short-wave) radio, fishing, photography, stamp collecting.

HOLLAND, Christian Vandegrift, mfg. coordinator, Sterling Drug Inc., 1450 Broadway, N.Y. 18, N.Y.; res. 29 The Crescent, Short Hills, N.J.

Chem. engr.; b. Eastville, Va., Dec. 10, 1897; s. of Edward and Eva (Vandegrift) Holland; ed. 1921, U. of Va., Ch.E.; 1924 Johns Hopkins U., Ph.D. physical chem.; 1927 M.I.T., S.M. chem. engrg. practice; mem.: Alpha Tau Omega; m. Anna G. Willis, July 9, 1927; ch.: Barbara Anne, Christian Vandegrift Jr. Res. chem. engr., M.I.T., 1925; res. & dev. chem. engr., Arthur D. Little Inc., Cambridge, Mass., 1925-28; chem. engr., Va.-Carolina Corp., Richmond, Va., 1928-32; asst. dir. res. & dev. lab., Freeport Sulphur Co., N.Y., 1932-35; from design chem. engr. to asst. dir. of res. & dev. in chg. of engrg. design to tech. asst. to v.p. & projects mgr., Merck & Co. Inc., Rahway, N.J., 1935-47; mfg. coordinator, Sterling Drug Inc., N.Y., 1947 to date. Military Serv. veteran W.W. I, Students' Army Training Corps, 1918; civilian with U.S. Strategic Bombing Survey estimating damage by strategic bombing to syn. oil, rubber & chem. plants in Germany, 1945. Dr.'s dissertation, "The Vapor Pressure of Aqueous Solutions of Hydrochloric Acid at 25 deg.C."; expert on natural gas & anti-knock gasolines, lubricating oils; syn. org. chems.; phar. & drug mfg. Co-author of U.S. pat. "Process & Apparatus for Prod. of Sorbose." Mem.: Tau Beta Pi, Gamma Alpha, A.C.S., A.I.Ch.E., Mason (Royal Arch). Clubs: Short Hills, Farmington Country. Hobbies: golf, photography, baseball.

HOLLAND, Edward Bertram, prof. of chem., emeritus, U. of Mass.; res. 74 North Prospect St., Amherst, Mass.

Prof. of chem. (retired); b. Amherst, Mass., Jan. 13, 1872; s. of Henry and Hannah M. (Clark) Holland; ed. B.S., Mass. Agr. Coll., 1892; M.S., 1898, Ph.D., 1915; B.S., Boston U., 1892; mem.: Kappa Sigma, Phi Kappa Phi, Sigma Xi; m. Lilian M. Smith (dec.), Sept. 10, 1902. Mass. Agr. Expt. Sta., asst. chem., 1892-93, asst. chem., Feeding Dept., 1893-99, first chem., 1899-1908, assoc. chem., Res. Div., 1908-11, Dept. Plant and Animal Chem., in chg. div., 1911-20, res. prof., 1920 to retirement, Jan. 13, 1942. Res. in agr. chem., oils and fats, insecticides, fungicides, tobacco, rarer elements in plants, etc. Mem.: A.C.S., Masonic Fraternity, K.T. (Consistory, Shrine). Trustee, Amherst Savings Bank. Club: Amherst.

HOLLAND, Eugene, pres. Masonite Corp., 111 W. Washington St., Chicago 2, Ill.; res. 181 Hawthorne Ave., Glencoe, Ill.

Mfr. of hardboard; b. Friend, Nebr., Oct. 29, 1891; s. of Laurence and Mary Frances (Crowley) Holland; ed. U. of Nebr., cl. of 1913; mem.: Delta Upsilon; m. Louise Bedwell, Oct. 21, 1916; ch.: Laurence Bedwell, Eugene Jr., Sara Louise (Holland) Alberts. 1916 retail lumberman; 1917-28 founder, pres., dir. Holland Lumber Co., Omaha and Lincoln, Nebr., Sioux City, Iowa; 1928-36 pres. and dir. Universal Gypsum & Lime Co., Chicago, Ill.; 1936-39 business conslt. with Sanderson & Porter, N.Y.C.; 1940-46 exec. v.p., dir., pres. Florence Stove Co., Gardner, Mass. and Marshall Stove Co., Lewisburg, Tenn.; pres. and dir. Amer. Rock Wool Co., Chicago, Ill.; 1946 to date pres. and dir., Masonite Corp., Chicago, Ill. V.p. and dir. Masonite Co. of Canada, Ltd.; pres. and dir. Holland Lumber Co.; pres. and dir. Marsh Wall Prods. Inc.; dir. Gulf, Mobile & Ohio R.R. Mem. bd. of trustees, Village of Glencoe, Ill. Clubs: The Chicago; Skokie Country; The Executives' (Chicago); Newcomen Soc., Chicago Chapt. Hobby: golf.

HOLLAND, Madeline O., editor, "Am. Professional Pharmacist" & tech. editor, "Med. Times," "El Farmaceutico" & "Pharmacy Intl.," 680 Northern Blvd., Great Neck, L.I., N.Y.; res. Lindsay Lane, Meadowbrook, Pa.

Jlst., phar.; b. Bangor, Pa., Aug. 3, 1916; d. of Raymond H. and Bertha M .Holland; ed. Phila. Coll. Phar. & Sc., B.Sc., 1937; M.Sc., 1938; D.Sc., 1940; mem.: Lambda Kappa Sigma, Kappa Epsilon; m. Dr. John N. McDonnell, Aug. 9, 1941. Librarian, faculty advis., instr. phar., Phila. Coll. Phar. & Sc., 1941-46; various edit. capacities, "Am. Prof. Phar." & "Med. Times," since 1936; with "El Farm." & "Phar. Intl." (McGraw-Hill), since 1941. Mem.: A.A.A.S. (fellow), A.I.S. (fellow), S.A.B., A.Ph.A. Clubs: Soroptimist, Bus. & Prof. Women's, Women's Ad, Women's City. Hobbies: traveling, Dutch shoes, needlepoint.

HOLLAND, William Ernest, prod. mgr., tape div., Behr-Manning Corp., Troy, N.Y.; res. 29 Pinewoods Ave., Troy, N.Y.

Supvr., tech. & mfg.; b. Bloomington, Ind., Dec. 18, 1910 s. of George Frank and Margaret (Todd) Holland; ed. Indiana U., 1932, A.B. Chem.; Brown U., M.S. Org. Chem.; U. of Ill., 1937, Ph.D., Org. Chem.; mem.: Phi Beta Kappa, Phi Lambda Upsilon, Sigma Chi, Sigma Xi; m. Doris Coneen; ch.: Linda Ann, Susan D., William Todd. Mellon Inst. of Ind. Res., 1938-39; Northam Warren Corp., 1939-40; Central Soya Co., 1940-41; Industrial Tape Corp., 1941-47; Sun Chemical Corp., 1947-49; Behr-Manning Corp., 1949 to date. Mem.: A.C.S.

HOLLANDER, Charles S., retired, Rohm & Haas Co., Phila. 37; res. 4025 Blakiston St., Philadelphia 36, Pa.

Res. chem.; b. Baltimore, Md., Sept. 1, 1877; ed. U. of Munich, Ph.D., 1902; m. Elsa Windstosser, June 30, 1903; ch.: Edith Screaton, Dr. Leonore Koehler, Joseph Lee, M.D., Carl Frederick. With Schaefer Alkaloid Works, 1903-04; Mallinckrodt Chem. Wks., 1904-09; Eastern Chem. Wks., 1909-14; Rohm & Haas Co. 1914 to date. Mem.: A.C.S., A.I.Ch.E., A.A.A.S.

HOLLANDER, Harry B., asst. dir. res., A. Hollander and Son, Inc., 143 E. Kinney St., Newark, N.J.; res. Red Hill Rd., Middletown, N.J.

Chem.; b. Newark, N.J.; s. of Ben W. and Ruth B. Hollander; ed. B.S., M.I.T., 1938; mem.: Phi Gamma Delta; m. Ruth C. Ballentine Sept. 1941; ch.: Laurie Lee, Joanne. Stock clerk, William Filene Sons. Boston, specialty shop, 1938-39; editorial asst., Natl. Fire Protection Assn., Boston, 1939-40; asst. dir. res. 1948 to present, A. Hollander and Son, Inc., Newark, 1940 to present. Mem.: A.C.S., Amer. Assoc. of Textile Chemists and Colorists, Am. Leather Chem. Assn., A.I.C. Hobbies: painting, skiing, furniture building, teacher of folk dancing.

HOLLER, Albert Cochran, dir. chem. div., Twin City Testing & Engrg. Lab., 2440 Franklin Ave., St. Paul 4, Minn.; res. 3514 Taylor St. N.E., Minneapolis, Minn.

Anal. chem.; b. Erie, Pa., Mar. 17, 1921; s. of Albert Ray and Sara E. Holler; ed. U. of Minn., B.Chem., June 1947; mem.: Alpha Chi Sigma,

Sigma Xi; m. Edna H. Ahlgrim, June 29, 1946; ch.: Dennis James. 1941-44, U.S. Metal Prods. Co., Erie, Pa., chf. chem.; 1947-49, U. of Minn., res. fellow in chem.; 1949 to date, Twin City Testing & Engrg. Lab., dir. chem. div. Numerous publ. in tech. journals. Co-author: "Introduction to Ind. Chem." with W.T. Frier (McGraw-Hill Book Co.), 1945. Mem.: A.C.S., A.I.C., A.S.T.M., Sigma Xi, Minn. Ind. Chemist's Forum, Am. Foundrymen's Soc., Scientific Research Soc. of Am. Hobbies: tech. writing, hiking.

HOLLEY, Kirk Theron, chem., Ga. Exp. Sta., Experiment, Ga.; res. Experiment.
Chem.; b. Bexar, Ala., Oct. 4, 1897; s. of J. B. and Flora (Lawhon) Holley; ed. Ala. Poly., B.S. 1915; U. of Mo., B.S. 1917; m. Marguerite Cousins, June 16, 1931; ch.: Margaret. 1917-18 lab. State chem. & Dept. Chem. Exp. Sta., College Station, Texas; lab. State chem. Ga., Atlanta, 1918-27; assoc. chem. Ga. Exp. Sta., 1927-29; chem. 1929 to date; contrib. num. arts. and bulletins to lab. publs.

HOLLINGER, E. Robert, tech. dir., Los Angeles Lab., 3170 E. Pico Blvd., Los Angeles 23, Calif.; res. 7602 S. Hobart Blvd., Los Angeles 47.
Chem.; b. York, Pa., Oct. 29, 1911; s. of Albert W. and Mary F. Hollinger; ed. Drexel Inst. and Albright Coll., B.S. in chem.; mem.: Pi Tau Beta; m. Mabel Alice Hadley, Nov. 25, 1937; ch.: Lucinda Gail, Spencer Robert. July 1935, Berkley Products Co., res. chem.; Feb. 1936, John Lucas & Co., Res. & Dev. N/C coatings; June 1947, Sherwin-Williams Co. of Calif. Research & Dev. N/C Coatings; May 1948, Sherwin-Williams Co. of Calif. Tech. Dir. L.A. Lab. Member: A.S.T.M., S.A.M.P.E., P & V Production Club, Reg. Chem. Engr. (Calif.). Hobby: electronics.

HOLLINGSHEAD, Thomas Elijah, tech. dir., Independent Biscuit Mfrs. Co., 7002 N. Clark St., Chicago, Ill.; res. 16000 Central Ave., Wilmette.
Chem. and biscuit and cracker tech.; b. Colorado Springs, Colo.; s. of Thomas Henry and Mary Abigail (Jones) Hollingshead; ed. U. of Ill., B.S. 1922; m. Jessie Pauline Scholz, Aug. 22, 1922; ch.: Paul Thomas, Marjory Anne. 1922-29, chem., Zion Bakery, Zion, Ill.; 1929-36, chem. Griggs Cooper & Co., St. Paul, Minn.; 1936-37, chem. Gelatin Prods. Co., Detroit, Mich.; 1937 to date tech. dir. Independent Biscuit Mfrs. Co., Chicago.

HOLLINGSWORTH, Marion, emeritus prof., dept. chem., Ohio St. U.; res. 402 Walhalla Rd., Columbus 2, Ohio.
Tech.; b. near Jamestown, Greene Co., Ohio, Oct. 7, 1877; s. of Joseph Pierce and Martha Bales Hollingsworth; elem. ed. in rural schls., Greene Co., coll. prep., normal schl. training at Antioch, Valparaiso, Ohio Northern, Wilmington Coll.; B.S., Wilmington Coll. 1906; A.B., O.S.U. 1908; pupil in publ. schls. Osnabruck by spec. perm., attended U. Berlin 1912; A.M., O.S.U., 1917; Ph.D., 1919; m. Grace Elizabeth Huff, Dec. 25, 1913; ch.: Marion, Jr., Margaret Huff. Tchr. in rural schls., Greene Co. 1895-01, draughtsman, bldg. inspect., Sherwin-Williams Paint Co., 1907; prof. physics, chem., Wilmington Coll., 1908-14; asst. chem., Ohio St. U. 1914-18; instr., 1918-19; asst. prof., 1919-29; curator 1929-32; asst. prof. 1932-48; emeritus, 1948 to date; off. instr., St. Mary's of the Springs Coll. 1931-37; tchr. Franklin U. about 1916 et seq. (night schl.). Res. in study of constant boiling mixture of hydrochloric acid, water 1919; protection of iron wire use for standardization, 1927; flow diag. for lab. wk., 1927 (co-author); Buret Clamp and Holder, 1929; spec. anal. The Rosins Prods. Co. 1936; Jeffrey Co. 1938; Timken Roller Bearing Co. 1946, 47, 48; designed, supvr., construction of Bailey Hall (Sc.) at Wilmington Coll.; designed, sought in counsel for other chem. labs.; collaborated with Prof. W. Paddock in introduction of use of chems. in control of pear blight, 1933. Mem.: Sigma Xi, Phi Lambda Upsilon, Gamma Alpha, A.C.S., A.A.A.S., Ohio Acdy. Sc., A.A.U.P. Club: Faculty (active emeritus).

HOLLIS, Arthur Leach, tech. mgr. Plant No. 3, B.F. Goodrich Co., Akron, Ohio; res. 2103 Braewick Circle, Akron.
Chem. engr.; b. Hartford City, Ind., Apr. 4, 1909; s. of William and Aldah Hollis; ed. Purdue U., B.S. in Ch.E. (cum summa laude) 1930; Akron U., M.S. in chem., 1940; m. Irene Labig, Aug. 25, 1931; ch.: Karen Ellen. 1930-31, res. and dev. dept., Procter and Gamble Co., Ivorydale, O.; with B.F. Goodrich Co., 1932 to date in following positions: 1932-39, chem. engr. in res. and dev. dept.; 1940-42, gen. foreman, Hycar Synth. Rubber Plant; 1942-43, tech. asst. to Goodrich Proj. Mgr., Govt. Synth. Rubber Program; 1943-46, tech. mgr. GR-S Plant, Port Neches, Texas; 1946 to date, tech. mgr. B.F. Goodrich Chem. Co. Plant No. 3. Pioneered in pilot plant mfr. of synth. rubber under Dr. W.L. Semon; aided in tech. co-ordin. of the Govt. Synth. Rubber Program. Mem.: Tau Beta Pi, Phi Lambda Upsilon, A.C.S., A.I.Ch.E. Hobbies: hiking, chess, languages.

HOLLOWAY, Clark, Jr., proc. res. engr., Gulf Res. & Dev. Co., Pittsburgh, Pa.; res. 427 Tenth St., Oakmont, Pa.
Chem. engr.; b. Kansas City, Mo., Mar. 4, 1916; s. of Clark and Rose (Huber) Holloway; ed. Purdue U., B.S.; U. of Ill., M.S.; mem.: Alpha Kappa Lambda; m. Dorothy Bain, Mar. 20, 1942; ch.: Carolyn, Ann Elliott. 1937-38, asst. chem. engr., U. of Ill.; 1938-39, engr. The Richardson Co.; 1939 to date, proc. res. engr., Gulf Res. & Dev. Co.; also served simultaneously 1948-49 lect. in chem. engrg., U. of Pittsburgh. V.p., dir. Bain & Company, Inc. Holds sev. pats.; contrib. to sc. jls. Mem.: A.I.Ch.E., A.C.S., Am. Gas Assoc., Phi Lambda Upsilon.

HOLLOWAY, John L., pres. & dir., Crane Co., Chicago 5, Ill.; res. 4151 Lee St., Skokie, Ill.
Exec.; b. Selkirk, Manitoba, Canada, July 22, 1898; s. of Frederick E. and Lucy C. (Lusted) Holloway; ed. engrg., U. of Manitoba; Chartered Accountant, Manitoba; m. Mildred Allen, Aug. 11, 1926; ch.: Janis. W.W. I, 1st C.M.R., C.E.F., 1915-18; accountant, F.C.S. Turner & Co., Winnipeg, Canada, 1918-20; accountant, Peat, Marwick, Mitchell & Co., Winnipeg & Chicago, 1920-35; came to U.S., 1924; naturalized 1935; Crane Co., C.P.A.-analyst, 1935-37; secy., 1937-41; asst. to pres., 1940-41; v.p., 1941-46; dir. 1944 to date; pres., 1946 to date. Chmn. of bd. & dir., Crane Ltd. (Canada), Crane-O'Fallon Co. (Denver), Crane Co. of Minn., Trenton Potteries Co., Crane Steelware Ltd., Alliance Ware, Ltd.; pres. & dir., Crane Co. of Nev., Crane Enamelware, Inc.; dir., Port Hope Sanitary Mfg. Co. Ltd., Canadian Potteries Ltd., Warden King Ltd., Crane Export Corp. Mem.: Chicago Assn. of Comm. & Indus. (dir.), Ill. Mfrs. Assn. (dir.); Ill. Inst. of Tech. (trustee), Inst. of Gas Tech. (trustee). Clubs: Chicago, Glenview.

HOLM, Herbert K., pres., London Chem. Co. Inc., 607 S. Dearborn St., Chicago 5, Ill.
Chem. engr.; ed. Leland Stanford U., M.I.T.

HOLMAN, Emmette Rudolph, chf. chem., Turco Prods., Inc., 6135 S. Central Ave., Los Angeles, Calif.; res. 633 Castano Ave., Pasadena 8, Calif.
Chem.; b. Ruston, La., Dec. 27, 1908; s. of Rudolph and Anna Filip Holman; ed. B.S. 1931 Calif.

Inst. Tech.; m. Mildred Splichal, Sept. 24, 1938; ch.: Robert Emmett, William Rudolph. Oct. 4, 1934 to date Turco Prods., Inc., chem., sr. chem., chf. chem. Res. in detergency, corrosion, electrochem., colloid chem. Mem.: A.A.T.C.C., A.C.S., A.S.T.M., E.S., Am. Electroplaters Soc. Hobbies: swimming, hiking, photography, music, internal combustion engines.

HOLMES, Alvin William, dir. of engr. and res., Indiana Steel & Wire Co., Muncie, Ind.; res. 324 Riley Rd., Muncie.
Chem. and metallurg. engr.; b. Logansport, Ind., June 6, 1901; s. of James O. and Margaret (Lowery) Holmes; ed. Purdue U., B.S. of Ch.E. 1923; m. Mary H. Schaen, June 3, 1923; ch.: Betty Jeanne Holmes Martin, Donald Alvin. 1923-24, asst. instr. in chem. and metallurg., Purdue U.; 1924-28 chf. chem. and metallurg.; 1928-35, gen. foreman; 1935 to date, chf. engr. and dir. of engrg. and res., Indiana Steel and Wire Co. Mem.: A.S.M., A.I.M.E., A.C.S., Iron and Steel Inst. (British). Clubs: Kiwanis, Torch. Hobbies: studying covered bridges, history and construction.

HOLMES, David Willis, dev. supt., Neoprene Plant, E.I. du Pont de Nemours & Co., Louisville, Ky.; res. 2113 Edgehill Rd., Louisville, Ky.
Chem.; b. Fremont, O., Nov. 24, 1914; s. of Willis B. and Ethel D. Holmes; ed. A.B., Amherst Coll., 1937, M.S., U. of Mich., 1938, Ph.D., 1940; mem.: Beta Theta Pi; m. Barbara Zechiel, 1940; ch.: David A., Beverly A., Geoffrey W. Rackham Fellowship, U. of Mich., 1940-41; res. chem., E. I. du Pont de Nemours & Co., 1941 to date, also plant supvr. Res. in neoprene dev. Mem.: Phi Beta Kappa, Phi Lambda Upsilon, Phi Kappa Phi.

HOLMES, Edward Otis, Jr., prof. chem., Boston U., Boston, Mass.; res. Malden, Mass.
Teaching, res.; b. July 16, 1892; s. of Edward O. and Amelia G. Holmes; ed., Harvard, 1914, A.B., 1916, A.M.; Johns Hopkins, 1920, Ph.D.; m. Edith L. Whittier, Sept. 21, 1918; ch.: Edith W., Sylvia. 1917-18, E. I. du Pont de Nemours & Co.; 1920 to date, Boston U. Res. publs. in physical chem. Mem.: A.C.S., N.E. Assn. Chem. Teachers, A.A.U.P. Hobby: golf, music.

HOLMES, Harry Nicholls, prof., emeritus of chem., Oberlin Coll., Oberlin, Ohio; res. 329 Reamer Pl.
Chem. prof.; b. July 10, 1879, Lawrence Co., Pa.; s. of John Pattison and Eliza Nicholls Holmes; ed. Westminster Coll., B.S. 1899; M.S. 1907; LL.D. 1941; Johns Hopkins U., Ph.D. 1907; m. Mary Shiveley, July 15, 1909; ch.: Charles S., Richard R. Prof. chem., hd. dept., Earlham Coll. 1907-14; prof. chem., hd. dept., Oberlin Coll., 1914-45. Contrib. extens. to sc. and tech. jls.; lectured widely in Am. and Europe. Author num. text books for public, "Gen. Chem." 1921; fifth ed. 1949; "Out of the Test Tube," 1935; 4th ed. 1943; "Strategic Materials & Natl. Strength," 1942. Mem.: A.C.S. (pres. 1942), A.A.A.S. (fellow), A.I.C. (fellow) (Natl. res. council 1923-29), Sigma Xi, Alpha Chi Sigma, Phi Lambda Upsilon; Oberlin Alumni, Disting. Serv. M. Hobbies: painting, gardening, golf.

HOLMES, Joseph A., asst. v.p., National Aluminate Corp., 6216 W. 66th Pl., Chicago 38, Ill.; res. Apartment 22-D, 5000 East End Ave., Chicago.
Chem. engr.; b. Falls City, Neb., Mar. 31, 1900; s. of Joseph A. and Mary Hewitt Holmes; ed. B.S. in Ch.E., U. of Kansas, 1922; mem.: Sigma Tau and local social; m. Dorothy G. Rhone, Sept. 28, 1946; ch.: Barbara Ellen. 1922, chem., Larabee Mills, St. Joseph, Mo.; 1922-24, chem., Rock Island Railroad, Topeka, Kansas; 1924-28, dir. of service, Chicago Chemical Co., Chicago, Ill.; 1928 to present, asst. v.p., Natl. Aluminate Corp., Chicago, Ill. Res. in field of water treatment. Contributed extensively to sc. and tech. journals. Mem.: A.S.M.E., T.A.P.P.I., A.W.W.A., A.C.S., A.S.T.M. Club: Ridge Country. Hobbies: golf, fishing.

HOLMES, Theodore R., marketing mgr., Burroughs Wellcome & Co. (U.S.A.) Inc., Tuckahoe, N.Y.; res. 49 Chittenden Ave., Crestwood, N.Y.
Exec.; b. Waterbury, Conn., Nov. 3, 1907; s. of Reuben E. and Cora (Black) Holmes; ed. U. of Conn., Coll. of Pharmacy, Ph.G. 1927, Ph.C. 1930; Columbia U.; N.Y.U.; mem.: Kappa Psi; m. Margaret Farquhar White, Nov. 15, 1930; ch.: Richard T., Susan M.; Reg. Pharmacist, Conn., cert. 1926, license 1929; lab. asst., Conn. Coll. Pharmacy, botany 1927; instr. pharmacognosy & physiol., U. Conn. Coll. Pharmacy, 1928-31; Burroughs Wellcome & Co, medical representative, 1931-43, asst. sales mgr., 1944-46, marketing prods. exec., 1946-50, marketing mgr., 1950 to date. Marketing & sales promotion of phar. chems. & prods. Sales brochures numerous, 1944-50. Mem.: Conn. Phar. Assn. (1927), A.Phar.A. (1927), A.C.S. (1948).

HOLMES, Willis B., v.p., W.V-B. Ames Co., 137 N. Adams St., Fremont, O.; res. 1337 Buckland Ave., Fremont.
Manufacturer; b. Cambridge, Mass., Sept. 1, 1873; s. of Joseph H. and Helen E. Reardon Holmes; ed. Cambridge, Mass., High School, Harvard U., A.B. 1896, A.M., 1897, Johns Hopkins U. Ph.D., 1899, chem.; mem.: Sigma Xi, Phi Lambda Upsilon, Alpha Xi Sigma; m. Ethel D. Holmes, Sept. 1, 1906; ch.: Joseph H., David W. Instr. chem., U. of Chic., 1900-07; U. of Ill., 1907-10; W.V-B. Ames Co., manuf. of dental cements & filling matls., 1910 to present, pres. 1935 to 1940. Res. wk. in dental field. Contrib. many arts. to dental field. Trustee Birchard Library.

HOLST, Helge, asst. secy., Arthur D. Little, Inc., 30 Memorial Dr., Cambridge, Mass.; res. 44 Payson Terr., Belmont, Mass.
Atty. with tech. training; b. St. Thomas, V.I., U.S.A., Nov. 26, 1909, s. of Axel and Etla (Mallgrav) Holst; ed. Antigua Grammar Schl., Antigua, B.W.I.; M.I.T., B.S. in biol. and pub. health, 1931; Harvard Law Schl., LL.B., 1934; awarded membership in Delta Omega Soc.; m. Virginia Louise Poor, Aug. 28, 1935; ch.: Sheila A., Catherine C.B., Nancy L. 1934-35, Natl. Industrial Recovery Admin., asst. to Regional Dir.; 1935-44, Lever Bros. Co., gen. and tech. asst. to secy.; 1944-45, Off. of Fld. Service (Overseas Branch, N.D.R.C. and Radiation Lab. M.I.T.), admin. asst.; 1945 to date, Arthur D. Little, Inc., successively asst. to pres., asst. treas., asst. secy. Responsible for number of wartime projects in Central Pacific, and Radiation Lab., M.I.T. During war, dir. of First Aid, one-quarter of Belmont, Mass.; mem. of Corporation, Belmont Day Schl., Belmont, Mass.; chmn. of Athletic Comm., Belmont Day Schl. Clubs: Harvard (Boston), White Pond Associates (swimming), B.S. of A. (spec. instructor). Hobbies: hiking, bicycling, swimming, riding, music (violin and voice), gardening.

HOLST, William A., tech. service mgr., Natl. Aniline, 40 Rector St., N.Y. 6, N.Y.; res. 40-20 202nd St., Bayside, N.Y.
Chem.; b. N.Y.C., Oct. 15, 1897; s. of William A. and Margaret M. Holst; ed. Columbia Coll., B.S. with high honors 1918; mem.: Phi Beta Kappa; m. Adele Johmann, June 3, 1926; ch.: Edith A., William F. 1918, chem., Air Nitrates Corp.; Natl. Aniline, 1919, chem., 1928, chem.

chg. gen. lab., 1943 to date, tech. service mgr. Mem.: A.A.T.C.C. Hobbies: photography, electronics.

HOLT, Benjamin Merrill, sr. process engr, Ralph M. Parsons Co., 617 So. Olive St., Los Angeles 14, Calif.; res. 2100 Grandview, Manhattan Beach, Calif.
Chem. engr.; b. Caldwell, Idaho, Mar. 4, 1914; s. of Benjamin Merrill and Ella F. Holt; ed. B.A., Stanford U., 1935, chem.; M.S., M.I.T., 1937, chem. engineering; mem.: Sigma Chi; m. Virginia Keim; ch.: Rebecca H., Sarah S. Jr. res. engr., Shell Development Co., 1937-40; process supvr., Union Oil Co., 1940-46; sr. process engr., Ralph M. Parsons Co., 1946 to date. Mem.: A.I.Ch.E. Club: University (Los Angeles). Hobby: skiing.

HOLT, Frederick William, Jr., tech. dir., Brown-Bridge Mills, Troy, O.; res. 112 Penn Rd., Troy.
Chem. engr.; b. New Bedford, Mass., Apr. 25, 1909; s. of Frederick W. Sr., and Elizabeth Holt; ed. M.I.T., 1930, S.B., chem. eng. practice, graduate wk. Harvard, M.I.T.; m. Joyce L. Hunt, Feb. 3, 1945; ch.: April. Kimberly Clark Paper Co., 1930-31, training & lab. chem.; Gummed Products Co., Troy, O., chf. chem. 1932-35; Brown-Bridge Mills, Troy, O., tech. dir., 1935 to present; Capt., C.W.S., A.U.S., 1942-46. Dev. & pats. in starch adhesives & resin coatings. Mem.: A.C.S., T.A.P.P.I. Councilman-at-large, City of Troy, O. Clubs: Chemists' (New York City), Engineers (Dayton, O.), Troy Country. Hobby: photography.

HOLT, Wendell L., chf. chem., Barlow-Maney Labs. Inc., Cedar Rapids, Iowa; res. 334 21st St. N.E., Cedar Rapids.
Chem.; b. Hartford, Kans., Feb. 19, 1915; s. of Reuben (dec.) and Lillian Holt (dec.); ed. B.S., Bethany Coll., Lindsborg, Kans.; M.S., Utah State Agr. Coll.; grad. study, U. of Ill.; m. Marjorie Vann, June 13, 1942; ch.: Judith Carlene, Cathy Jean. 1938-40, teaching assistantship chem., Utah State Agr. Coll.; 1940-41, teaching assistantship biochem., U. of Ill.; 1941, Geo. A. Breon & Co., Kansas City, Mo., phar. res.; 1941-49, Cole Chem. Co., St. Louis, Mo., res., dir. of chem. labs.; 1949 to date, Barlow-Maney Lab. Inc., Cedar Rapids, Ia. chf. chem. Several publ. in tech. jls. Mem.: A.C.S., A.A.A.S., Theta Chi Delta. Hobbies: photography, fishing, hunting.

HOLTON, Arthur B(ultman), tech. dir. paint, varnish & lacquer, The Sherwin-Williams Co., 101 Prospect, Cleveland, Ohio; res. 29219 Lake Rd., Bay Village, Ohio.
Chem.; b. Olmsted Falls, Ohio, July 17, 1906; s. of Edward C. and Lydia B. Holton; ed. U. of Ill., B.S. chem. 1927 (cum laude); m. Helen Yalch, Feb. 18, 1930; ch.: Edward S., L. Ruth, Willard D., H. David. 1931-32 instr., U. of Pittsburgh; 1933 to date chem., Sherwin-Williams. Mem.: Phi Lambda Upsilon; Sigma Xi; Federation Paint Varnish & Lacquer Prod. Clubs.

HOLTON, Homer Hopkins, chf. chem., Exchange Lemon Prods. Co., Box 36, Corona, Calif.; res. 223 E. Kendall St., Corona.
Chem.; b. Arlington, Calif., Aug. 3, 1902; s. of William T. and Pearl H. Holton; ed. Riverside Coll., 1921-22; Pomona Coll., B.A. 1924; mem.: Sigma Phi Alpha; m. Charlotte Hall, June 23, 1926; ch.: Raymond W., David S.; Hollywood Chem. Co., 1925-26, chem.; Exchange Lemon Prods. Co., 1927 to date, chem. Mem.: A.C.S., I.F.T. Clubs: Rotary, Masonic Lodge. Hobbies: photography, railroads.

HOLTZINGER, Albert Harrison, dir. of chem. labs., Pa. State Coll., 106 Pond Lab., State College, Pa.; res. 704 McKee St., State College.
Assoc. prof. of chem.; b. Wrightsville, York Co., Pa.; s. of Albert Joseph and Cordelia C. (Slep) Holtzinger; ed. Pa. State Coll., B.S. 1927, Ph.D. 1939; mem.: Alpha Chi Sigma; m. Almira Robbins Van Brunt Smith, Nov. 4, 1922; ch.: Albert Harrison III (dec), Joseph Carson, James Samuel, Edward Ralph. Anal., Warner Labs., Cresson, Pa., 1921-26; Pa. State Coll. dept. of chem., grad. asst. 1927-31, instr. 1936-46, asst. prof. 1940-45, assoc. prof. chem. 1946 to date, dir. of chem. labs. 1950 to date. Thesis: "Preliminary Study of Coal Tar Acids above the Cresol Range." Co-author: "Study Questions in Inorg. Chem. & Qualitative Anal." with H. H. Appledorn, L. R. Parks, 1949. Mem.: A.C.S., Pa. Chem. Soc., Pa. Acdy. Sc., Phi Lambda Upsilon, A.A.U.P., A.A.A.S., Alpha Chi Sigma. Club: State College Lions. Hobbies: photography, sound systems.

HOLTZMAN, Harris, chf. chem., Ansbacher-Siegle Corp., Rosebank, Staten Island 5, N.Y.; res. 201 Hamilton Ave., Staten Island 1.
Chem.; b. London, England, Apr. 8, 1902; s. of Charles and Esther Holtzman; ed. B.S., in chem., Cooper Union, N.Y., Polytechnic Inst. of Brooklyn, Brooklyn College, graduate work; m. Frances Weis, July 16, 1927; ch.: Suressa, Julian. Chemist asst., Fleischman Labs., American Diamalt Co., 1922-25; chem., Rockwood & Co., 1925-26; chem., Williamsburg Chemical Co., 1926-27; chf. chem., Ansbacher Siegle Corp., 1927 to present. Res. in alkali-resistance of iron blues (ind. & engrg. chem., Sept., 1945); coloring matter for cosmetics (U.S. pat. application 1947); chlorinated copper Phthalocyanine (U.S. pat. application 1949). Mem.: A.C.S., Soc. of Cosmetic Chemists, N.Y. Printing Ink Production Club. Hobbies: music, woodcraft.

HOMEYER, August Henry, assoc. res. dir., Mallinckrodt Chemical Wks., St. Louis 7, Mo.; res. 116 S. Jefferson Rd., Webster Groves 19, Mo.
Chem.; b. Chicago, Ill., Apr. 21, 1908; s. of Henry and Johanna (Klipp) Homeyer; ed. B.S., chem. engrg. honors, Washington U., 1930, M.S. Chem., Pa. State Coll. 1931, Ph.D. Org. Chem., Pa. State Coll., 1933, Mallinckrodt Fellow; mem.: Alpha Chi Sigma; m. Ruth M. Hemminghaus, Oct. 13, 1934; ch.: Bruce August, Charles Frederick. Chem., Mallinckrodt Chemical Wks., 1933-48; assoc. res. dir., 1949 to date. Mem.: A.C.S., St. Louis Section (chmn. 1950), A.A.A.S., Sigma Xi, Phi Lambda Upsilon, Phi Kappa Phi.

HONISH, John Koerber, exec. rep., Bakelite Div., Union Carbide & Carbon Corp., 30 E. 42nd St., N.Y. 17, N.Y.; res. 25 Undercliff Rd., Millburn, N.J.
Plastics engr.; b. Newark, N.J., Jan. 19, 1905; s. of John J. and Mary K. Honish; ed. Polytech. Inst. of Bklyn., B.Sc.; grad. study, N.Y.U., Polytech. Inst. of Bklyn.; Law Schl., Mercer Beasely, N.J.; mem.: Alpha Chi Rho; m. Bertha Flachbarth, Apr. 11, 1931; ch.: John Burton, Robert Louis, Richard Allan. 1923, Heller & Merz, Div. Am. Cyanamid, lab. asst.; 1928, T.A. Edison Res. Lab., res. chem.; 1929 to date, Bakelite Corp., chem., dev. engr., dept. hd., special exec., rep. Res., dev. mfg. & sales, phenolic, urea, polystyrene, cellulosics, polyethylene, vinyl resins & cmpds. Mem.: A.I.C. (fellow), Soc. of Plastics Ind., Soc. of Plastics Engrs. Hobbies: music, pianist.

HOOD, George Raymond, instr. in chem., State Teachers Coll., E. Stroudsburg, Pa.; res. 302 E. Stroudsburg.
Teacher; b. Dingmans Ferry, Pa., June 7, 1900; s. of John V. S. and Rosa K. (Cortright) Hood; ed. Lafayette, B.S. 1923, M.S. 1924; Wis. Ph.D. 1930; mem.: Phi Beta Kappa, Alpha Chi Sigma; m. Martha G. Coryell, July 25, 1947; ch.: Donald

R. Alaska Agr. Coll. & Schl. of Mines, 1924-28, prof. chem.; Miami U. (Ohio) 1930-43, assoc. prof. chem.; State Teachers Coll., 1946 to date, instr. in chem. Res. & publ. papers in rheol., electrochem. Mem.: A.C.S., Phi Beta Kappa, Alpha Chi Sigma, Sigma Xi. Hobby: fishing.

HOOD, Harrison Porter, res. chem., Corning Glass Wks., Corning, N.Y.; res. 83 E. Fourth St., Corning.
Res. chem.; b. Manhattan, Kans., Jan. 6, 1896; s. of Ozni P. and Gertrude B. Hood; ed. Cornell U., 1914-18 B. Chem.; mem.: Alpha Chi Sigma; m. Marie L. Thompson, June 6, 1920; ch.: Phyllis B., Joyce T., Harrison P. 2nd Lt. C.W.S. 1918; res. chem., Brown Co., Berlin, N.H. 1919; asst. chf. chem., Island Oil Refining Co., Jones Pt., N.Y., 1919-20; res. chem., Corning Glass Wks., Corning, N.Y., 1920 to date. Dev. of new glass compositions. Mem.: A.C.S., Am. Ceramic Soc. (fellow), Am. Electrochem. Soc., Tau Beta Pi, Sigma Xi. Club: Corning Rotary (past pres.). Hobbies: photography, gardening.

HOOGSTOEL, Leon E., tech. dir. Behr-Manning Corp., Troy, N.Y.; res. 23 Westover Rd., Troy, N.Y.
Tech. dir.; b. Roubaix, France, May 26, 1901; s. of Pierre and Mary Hoogstoel; ed. U. of Pa., 1926, Ch.E.; m. Jeane I. Tanghe, May, 1927; ch.: Robert E., Jane Marion. 1918-21, Smith Rudy Co., Phila., Pa., analyst; 1926-30, Baeder Adamson Co., Phila., chf. chem.; 1930-45, Behr-Manning Corp., Troy, N.Y., res. and devel. engr.; 1945-49, res. dir.; 1949 to date, tech. dir. and dir. of co. Mem.: A.C.S., A.S.T.M., T.A.P.P.I., Natl. Farm Chemurgic Council, Natl. Soc. of Prof. Engrs. Active in youth organization, community wk. Clubs: Troy, Troy Country.

HOOKER, Albert H., Western sales mgr., Hooker Electrochem. Co., Tacoma, Wash.; res. 601 N. C. St., Tacoma 3, Wash.
Chem. engr., sales exec.; b. Chicago, Ill., Apr. 6, 1895; s. of A. H. and Ambolina J. Hooker; ed. Hill Schl. 1914; Cornell 1918; B.A. 1920; mem.: Delta Phi; m. Ellen Jones, July 28, 1928; ch.: Mary. 1907-17, summer employment Hooker Co.; 1920-50, diversified, Hooker Co., Niagara Falls, to 1927; 1927-50, Tacoma; U.S.A. 1917-19, A.E.F., 1942-44 E.T.O. Res. in ref. pulp; contrib. to sc. and tech. jls. Dir. Seattle Trust Co. Mem.: A.I.Ch.E., A.P.I., A.C.S., T.A.P.P.I.; director, Coll. of Puget Sound, Tacoma Community Chest, Res. Off. Assn., Natl. Sales Exec. Clubs: Tacoma, Univer. Union, Arlington, Rainier, Tacoma Athletic, Tacoma Country, Jonathan, Am. Legion. Hobby: pure-bred Hereford cattle.

HOOKER, Horace Willard, Jr., purchasing agent, Hooker Electrochem. Co., Buffalo Ave., Niagara Falls, N.Y.; res. 35 Plain Street, Lewiston, N.Y.
Purchasing agent; b. Niagara Falls, N.Y., Mar. 5, 1907; s. of Horace Willard and Ruth Ward Hooker; ed. Cornell U., A.B., 1929; mem.: Alpha Delta Phi; m. Mary Lewis, Sept. 10, 1932; ch.: Jean Huntington, Horace Warrington, Emily Lewis. New York Tele. Co., 1929-34, gen. sales dept.; held following positions with the Hooker Electrochemical Co.: 1934-39, res. & dev. dept.; 1940-41, asst. to sales mgr. (adv. mgr.); 1941-47, asst. purchasing agent; 1947 to date, purchasing agent. Clubs: Chemists' X-members' Association Squadron A, Niagara Falls Country.

HOOKER, Roger Wolcott, v.p. chg. of sales, dir., Hooker Electrochem. Co., Niagara Falls, N.Y.; res. Barton Hill, Lewiston, N.Y.
Exec.; b. Blue Is., Ill., Mar. 31, 1897; s. of Albert Huntington and Ambolena (Jones) Hooker; ed. Hill Schl., Pottstown, Pa., 1916; Cornell U., Ithaca, N.Y., A.B. 1921; mem.: Alpha Delta Phi; m. Grace Celeste Garden, July 13, 1935; ch.: Roger Wolcott, Jr., Henry Garden. Hooker Electrochem. Co.: 1922-27, small package div.; 1929, asst. to sales mgr.; 1930, asst. sales mgr.; 1935, sales mgr., 1941, v.p., sales mgr.; 1949, v.p. chg. of sales; 1937, dir. Mem. bd. of governors of Syn. Org. Chem. Mfrs. Assn., N.Y.C.; pres. of Chlorine Inst., N.Y.C.; dir. of U.S. Alkali Export Assn. Inc., N.Y.C.; v.p., Compressed Gas Assn., N.Y.C.; pres., Niagara Falls Chamber of Com.; pres., Niagara Falls Boys' Club, Inc. Mem.: bd. of trustees of Niagara Falls Memorial Hosp.; v.p., Niagara Frontier Council, Boy Scouts of Am. Mem. Bd. Dir. Niagara Falls. Chap., Am. Red Cross. Clubs: Niagara Falls Country, Niagara Club (Niagara Falls), University (N.Y.C.), Chemists' (N.Y.), Cornell (N.Y.).

HOOPER, N(oal) J(ames), v.p., Sharples Chems. Inc., 123 S. Broad St., Phila. 9, Pa.; res. 353 Wellington Terr., Jenkintown, Pa.
Exec.; b. Escanaba, Mich., June 24, 1894; s. of James and Marjorie Hooper; ed. U. of Wis., B.S. in Eng., 1917; mem.: Delta Upsilon; m. Mary Harlow Hudson, Aug. 10, 1918; ch.: Jean Hooper Ellor. Cotton Oil Refin. Corp., asst. gen. supt., 1919-23; Sharples Spec. Co., div. mgr., 1923-27; Sharples Chems. Inc., 1927 to date. 1st Lt. C.W.S., 1917-19. Mem.: Bd. of Trustees, Temple U., Phila. and Eastern Penn. Psychiatric Inst., Phila. Clubs: Masons, F.&A.M., R.A.M., Scottish Rite, Pine Valley Country, Old York Road Country, Union League (Phila.).

HOPKINS, Abner Crump, Jr., asst. mgr., bulk sales div., American Maize Products Co., 100 E. 42nd St., New York 17, N.Y.; res. 194 Harvard St., Westbury, L.I., N.Y.
Salesman-chem.; b. Buena Vista, Va., Oct. 24, 1909; s. of A. C. and Ethel (Booker) Hopkins; ed. Hampden Sydney Coll., A.B., magna cum laude, 1930; M.I.T., M.S., 1933; m. Rose Margaret White, July 12, 1944; ch.: Margaret Anne, Diana Crump. General Chemical Co., 1933-43. Held following positions with Commercial Solvents Corp., various prodn., res. and tech. sales jobs. to tech. supvr., 1943-47; tech. sales, American Maize Products Co., 1947 to date. Mem.: A.C.S., A.I.C. (fellow), Chem. Inst. of Canada, A.A.T.C.C.

HOPKINS, B. Smith, prof. inorg. chem., emeritus, 207 Chem. Annex, U. Ill.; res. 402 W. Fla. Ave., Urbana, Ill.
Author: b. Owosso, Mich., Sept. 1, 1873; s. of Loren H. and Clara Norgate Hopkins; ed. Albion Coll., A.B. 1896; A.M. 1897; Sc.D. 1926; Johns Hopkins U., Ph.D., 1906 Carroll Coll., LL.D. 1928; mem.: Phi Beta Kappa, Sigma Xi, Alpha Tau Omega, Alpha Chi Sigma, Phi Lambda Upsilon; m. Maude Childs, 1901; m. (2nd) May L. Whitsitt, 1942; ch.: Harvey C., B Smith, Jr. Prof. chem., Neb. Wesleyan U. 1906-09; Carroll Coll. 1909-12; dept. chem., U. Ill., 1912 to 1943, hd. div. inorg. chem.; emeritus since 1943. Main res. on less familiar elements; author: "Gen. Chem. for Colleges," "Essentials of Chem." "Chem. of the Less Familiar Elements"; joint-author: "Lab. Exercises in Chem.," "Chem. & You." Mem.: A.C.S., A.E.S., A.I.C., Ill. St. Acdy. Sc., Philosophical Soc.; pres., Bd. Ed., Urbana, Ill., 1932-44. Clubs: Exchange (Urbana), Chaos (Chicago).

HOPKINS, Giles Elberne, tech. dir., The Wool Bureau, 16 W. 46th St., N.Y. 19, N.Y.; res. 180 Central Park S., N.Y. 19, N.Y.
Chem. engr.; b. Somerville, Mass., Apr. 14, 1903; s. of Giles Herbert and Cordelia (Higgins) Hopkins; ed. M.I.T., B.S. 1926. Chem., Assoc. Factory Mutual Ins. Labs., 1926-28; consltg. chem. engr., 1928-30; tech. dir., Bigelow Sanford Carpet Co., 1930-39; chem. engr., United Shoe Machy.

Co., 1939-40; tech. dir., U.S. Asbestos div., Raybestos-Manhattan, Inc., 1940-43; res. dir., Textile Res. Inst., 1943-46; mgr., textile div., R. T. Vanderbilt Co., 1946-49; tech. dir., Wool Bur., 1949 to date. Chapter on carpet mfr., Am. Wool Handbook, 1st. edit. Research administration in the textile industry, wool fiber structure. Mem.: A.S.T.M., A.C.S., A.I.Ch.E., T.R.I., Soc. Dyers & Colorists (Brit.), Tex. Inst. (Brit.), A.A.T.C.C. Clubs: University (Wash., D.C.), N.Y. Athletic. Hobby: photography.

HOPKINS, Marion Byrd, chem. advisor, Esso Standard Oil Co., 15 W. 51st St., N.Y.C.; res. 747 Salem Ave., Elizabeth, N.J.
Chem.; b. West River, Md., June 24, 1889; s. of John Henry and Mary (Hyde) Hopkins; ed. Johns Hopkins U., A.B., Ph.D.; m. Laurel Bond, Nov. 2, 1920; ch.: Virginia Bond, Marion Byrd, Jr., Victor Cherbonnier. Asst., Hopkins, 1914-15; Carnegie asst., 1915; chf., Bur. Chem., Health Dept., Baltimore City, 1915-20; res. chem., Std. Oil (N.J.), 1921-24; dir. plant lab., 1924-26; asst. supt. Eagle Wks., 1926-28; mgr. Chem. Prods. Plant, 1928-37; mfg. dir. Stanco Inc., 1931-38; dir. and v.p., Std. Alcohol Co., 1932-38; pres. Std. Alcohol Co., 1938-43; dir. Attapulgus Clay Co., 1938-43; Filtrol Corp., 1943 to date; Jasco Inc., 1938-49; Std. Catalytic Co., 1938 to date. Clubs: Elizabeth Town and Country; University (N.Y.); St. Mary's River Yacht. Hobby: farming.

HOPKINSON, Russell, administrative v.p., Mathieson Hydrocarbon Chemical Corp., 10 Light St., Baltimore 3, Md.; res. Chattolanee Hill, Garrison, Md.
Exec.; b. East Orange, N.J., Dec. 13, 1899; s. of Ernest and Bessie (Barnes) Hopkinson; ed. Princeton U. A.B., 1921, M.I.T., B.S., 1922; mem.: Delta Psi; m. Mary Lewis, Dec. 2, 1922; ch.: Mrs. Peter Dunham, Mrs. John Harder, Barbara, Peter. 1922-26, United States Rubber Co., Dev. Dept.; 1926-29, J. L. Handy & Co., rubber brokers; 1929-42, Ostro Research Labs. (now Hopkinson Labs.) pres.; 1942-47, United States Rubber Co., Dir. of Commercial Dev.; 1947-49, consulting engr., New York City; 1949 to date, administrative v.p., Mathieson Hydrocarbon Chemical Corp., Orangeburg Mfg. Co., New York, dir., Dufast, Inc., N.Y.C., dir., Sutphen Products Corp., N.Y.C., dir. Rubber Director's Office, W.W. II; hd. of T.I.I.C. rubber mission to Germany, Feb. 1945. Mem.: A.C.S. Trustee, Lenox Hill Hospital, N.Y.C. Clubs: University, Racquet & Tennis (New York City), Maryland Club, Green Spring Valley Hunt Club, Baltimore, Maidstone Club, East Hampton, N.Y. Hobbies: golf, tennis.

HORMATS, Saul, chf. engr., Protective Div., Tech. Command, Army Chem. Center, Md.; res. 2510 Elsinor Ave., Baltimore 16, Md.
Chem. engr.; b. Sept. 27, 1909; s. of Abraham and Frieda Hormats; ed. Schl. of Engrg., Johns Hopkins U., B.S. in chem. 1931. Chem., res. div., C.W.S. 1934; chf., physical branch, chem. div., Chem. Corps, 1945; asst. sc. advisor, OC-Chem. Corps 1949; chf. engr., Protective Div. 1950 to date; Major Chem. Corps, U.S.A.R. Mem.: A.C.S., A.A.A.S.

HORN, Abram Edward, pres., A.C. Horn Co., Div. Sun Chem., v.p., Sun Chemical, Sun Bldg., 10th St. and 44th Rd., Long Island City, N.Y.; res. Winkle Point, Eatons Neck, Northport, Long Island, N.Y.
Exec.; b. N.Y.C., Nov. 1, 1885; s. of Jacob and Hannah Horn; ed. C.C.N.Y., 1905, B.S.; post grad. for Masters at N.Y.U.; mem.: Phi Epsilon Pi. With present co. since 1908; prior to that time tchr. of physics; v.p., Sun Chemical, pres. A. C. Horn Div.; pres., A.C. Horn Co. of Texas; exec. v.p., A.C. Horn Inc.; exec. v.p., A.C. Horn Contracting Div.; v.p., Eatons Neck Corporation. Mem.: A.S.T.M., A.C.S., Natl. Paint Varnish & Lacquer Assoc. (exec. comm.; chmn. sc. sec.); American Concrete Inst.; British Oil & Chem. Assoc. On City Coll. Alumni Bd. Clubs: Chemists', Harmonie, & Metropolis. Hobbies: raising Ericaceous plants.

HORN, Raymond E., pres. emeritus, Abbott Labs., North Chicago, Ill.; res. 5555 Sheridan Road, Chicago.
Management conslt.; b. Baltimore, Md., Nov. 12, 1886; s. of Howard Lee and Jeanette Cadden (Hause) Horn; ed. National U. (Law), Washington, D.C., LL.B., 1911, LL.M., 1912; m. Erma Winifred Clear, July 22, 1924; ch.: Raymond E., Jr. U.S. Dept. Justice, bur. invest., stenog.; secy. to Hon. Geo. W. Wickersham, atty. genl. U.S. prior to war, asst. chf. bur. invest. prior to and dur. 1st half of war, 1913-17; Employers Assoc., Pittsburgh, mgr., dept. invest. 1917-18; Federal Serv. Bus., mgr. dir. after war; Milit. Intell. off. in chg., Pittsburgh, 1918; Naval Intelligence off. chg., Pittsburgh, 1918; later to end of W.W.I, supvg. inspec. and mng. Naval Intelligence, Washington, D.C.; Abbott Labs., dir., gen. sales mgr.; pres. and gen. mgr., 1947-50. Mem.: Exec. Comm., American Drug Mfrs. Assn., 1947-50. Clubs: Chicago Athletic Assn., Tavern.

HORNE, William Dodge, conslt. chem., Beech Creek, Pa.; res. same.
Conslt. chem.; b. Williamsburg, Bklyn., N.Y., Jan. 25, 1865; s. of William Clark and Harriet Jane Dodge Horne; ed. Columbia Schl. Mines, Ph.B., 1886; Columbia U., Ph.D. 1894; m. Caroline May Quigley, Feb. 10, 1891; ch.: Wm. D., Jr., Mary Shaw, James Quigley. Chem., Fulton Sugar Ref., Bklyn, N.Y., 1886; chem. Belcher Sugar Ref., St. Louis, Mo. 1887; chem. Stand. Sugar Ref., Boston, Mass. 1888; chem. Delaware Sugar House, Phila., Pa., 1889; chem., Natl. Sugar Ref. Co., Yonkers, 1893-1925; chem. Hershey Co., Cuba, 1925-30; chem. U.S. Sugar Co., Clewiston, Fla. 1938-39; chem. Yonkers Bd. Health & Dept. Public Wks., many years; conslt. chem. to Cuban-Am. Sugar Co., many years; conslt., anal. chem., New Brunswick, N.J., 1889-1893. Res. in anal. meths., mfg. proced., ref. meths.; prod. "Horne's Dry Lead" for def. sugar solutions for anal., several patents, "Super Def." in mfg. of sugar. Contrib. extens. to sc. and tech. jls.; author: "Friendly Verses," 1948; Chapt. 7, The Chem. at Wk. 1935. Mem.: A.C.S., British Assn. Ind. Chem., Associacion de Chemistes, Ass. de Tecuicos Azucareros de Cuba., M. from French Ass. de Chem.; dir. Fajardo Sugar Co., Puerto Rico; volunteer lecturer on sugar at Columbia, C.C.N.Y., on faculty at Rutgers, 1891. Clubs: formerly Chem. (N.Y.); Country Club (Havana); Univ. (Winter Park, Fla); Alumni Assn. Columbia; Old Guard (Princeton). Hobbies: country life, photography, poetry, correspondence.

HORNER, Keith Reginald James, v.p., and gen. mgr., Ciba Company Ltd., Ciba Bldg., Montreal, Canada; res. 640 Grosvenor Ave., Westmount, Province of Quebec.
Exec.; b. Buxton, England, Oct. 9, 1909; s. of James and Bertha Slater Horner; ed. Denstone Coll., Staffordshire, England, Manchester Coll. of Technology, Manchester School of Commerce, Manchester School of Art; m. Jean Winnifred Elliott, Feb. 24, 1940; ch.: James Andrew, Elizabeth Lea, Peter Keith, Susan Elliot; studied in var. German and other European textile mills, 1928-29; newspaper publisher and journalist, 1930-35; sales mgr., L.B. Holliday & Co., Ltd., Huddersfield, England, 1935-39; managing dir., L.B. Holliday & Co., of Canada, Ltd., Montreal; 1939-45; v.p., Ciba Company, Ltd., Montreal, 1945-47; v.p. and gen. mgr., Ciba Company, Ltd., Montreal, 1947 to date; dir.

Ciba Company, Ltd., 1948 to date. Mem.: Soc. of Chem. Industry (London, England), Canadian Institute of Chemistry. Governor, St. Helen's School, Dunham, Quebec, dir., St. George's Society, Montreal, Royal Empire Society, Montreal (fellow). Clubs: The Engineers (Montreal), Kanawaki Golf (Montreal). Hobbies: oil painting, music.

HORNER, Laurence Irving, asst. to supt. tech. control dept., Celanese Corp. Am., Cumberland, Md.; res. Box. 13A, R.F.D. 1, Cumberland.
Chem.; b. St. Paul, Minn., Sept. 11, 1917; s. of Franz J. and Vivian LaValley Horner; ed. B.S. 1938, Coll. St. Thomas (St. Paul, Minn.); U. Detr., M.S. 1940; Fellowship Teaching, 1938-40; addl. grad. wk. U. Minn. 1941; mem.: Chi Mu Phi (sc. frat.); m. Helen Young, June 4, 1942; ch.: Nancy Corrinne, Jane Ellen, Ann Kathleen. 1940-42 Springfield Jr. Coll., Springfield, Ill., chem. instr.; 1942-43 Oak Ordn. Plant, Illiopolis, Ill., chf. chem.; 1943-46 Manhattan Proj., Decatur, Ill., chf. chem.; 1946-50 Celanese Corp. Am., Rome, Ga., chf. chem.; 1950 to date tech. contr. staff, Cumberland, Md. Res. in qual. contr. wk. chem. mfg. field, cellulose, cellulose acetate, viscose acetate yarn, explosives, dev. anal. chem. meth., appl. indust. statistics. Mem.: A.C.S., A.S. Qual. Contr.; pres., mem. bd. dirs. (former) Rome Celanese Federal Credit Union, Junior Chamber of Com. Hobbies: hunting, wood working.

HORNEY, Amos Grant, asst. chf. of programs, administrative scientist, U.S. Govt.; res. Merrifield, Va.
Chem. and chem. engr.; b. Hamilton Co., Indiana, Mar. 18, 1907; s. of Cove and Lillie E. Horney; ed. Earlham Coll., Richmond, Ind., A.B. chem. major; Ohio State U., Columbus, O.; M.Sc., org. chem., M.A., Educ., Ph.D., org. chem., 1930, 1932, 1933, 1937, respectively; m. Roxana Rader, June 5, 1937. Chf. chem. in chg. of res., dev., and control, Ohio Chem. and Mfg. Co., 1937-44; res. assoc., Res. Found., Ohio State U., 1944-46; hd. of Chem. Dept. and Dean of Liberal Arts, Assoc. Colleges of Upper N.Y., 1946-48; admin. sc., U.S. Govt., 1948 to date; res. on prep. and control of sponge from natural and synthetic rubbers, latex and mill compounding; in fld. of new synth. organics, primarily for anesthetics; dev. new proc. for prod. and purification of a liquifiable gas; dev. design and meth. of mfr. of a regulating device for small flows of oxygen suitable for high altitude aviation; prods. controlled include U.S.P. oxygen, U.S.P. nitrous oxide, U.S.P. cyclopropane, U.S.P. ethylene and indust. hydrogen; holds many U.S. pats. and has applied for sev. more; contrib. arts. to sc. jls.; co-author of initial 3 or 4 editions of "Cooperative Tests for Gen. Chem." pub. by Cooperative Test Service of N.Y. Prof. chem. engr. of Ohio. Mem.: Natl. Soc. of Prof. Engrs.; A.I. Ch.E.; Natl. Chemurgic Council; A.C.S.; E.S.; Sigma Xi; listed in Amer. Men of Sc.; mem. of Friends Church (birthright), Unitarian Ch., chmn. of bd., past mem. of Cleveland Jr. Chamber of Commerce. In Cleveland Sect. of A.C.S. has held following offices: 1940-41, business mgr., local regional pub. Isotopics; 1942-44, historian; 1943, councilor; 1944 elected secy.-treas.; 1944 apptd. treas., Natl. Convention in Cleveland; in Cleveland Sect. of E.S.: 1942-43, secy.-treas.; 1934-44, v.chmn. Clubs: Cosmos (Wash., D.C.), Torch (Wash., D.C.).

HORNIG, Donald Frederick, dir., Metcalf Res. Lab.; assoc. prof., Brown U., Providence 12, R.I.; res. 299 Doyle Ave., Providence, R.I.
Chem. res. & teaching; b. Milwaukee, Wis., Mar. 17, 1920; s. of C. Arthur and Emma (Knuth) Hornig; ed. Harvard U., S.B. 1940, Ph.D. 1943; m. Lilli Schwenk, July 17, 1943; ch.: Joanna Gail. Res. assoc., Woods Hole Oceanographic Institution, Woods Hole, Mass., 1943-44; group leader, Los Alamos Lab., Los Alamos, New Mexico, 1944-46; asst. prof. dept. of chem., Brown U., 1946-49, assoc. prof., dir. of chem. res. 1949 to date. Ph.D. thesis, "An Investigation of the Shock Wave Produced by an Explosion in Air." Numerous publ. in tech. journals. Mem.: A.C.S. (alternate councillor, R.I. Sec.), A.A.A.S., A.Phys.S., Sigma Xi. Club: University (Providence, R.I.). Hobby: photography.

HORNUNG, Philip John, prof. of chem. and biol., hd. of biology dept., Xavier U., New Orleans 18, La.; res. 8 Chatham Dr., New Orleans 22.
U. instr.; b. Baraboo, Wis., May 24, 1908; s. of Otto John Hornung and Frances (Leibel) Hornung; ed. Loras Coll., A.B., 1930, Catholic U. of America, M.S., 1933, Ph.D. 1934; Yale 1935; m. Maria Ellen O'Connor, Aug. 17, 1936; ch.: Maria, John, Philip, Michael, Martin. Instr. in chem., Mt. St. Joseph Coll., West Hartford, 1935-36; instr. in biochem. and biol., 1936-37, The Catholic U. of Amer., Instr. in biol. and chem. 1937, Xavier U., prof. of biol. and chem. 1938, hd. of dept. of biol. 1939 to present. Res. in physiology of Penicillium Zuchali B. Mem.: A.C.S., Plant Seminar. Trustee, St. Raphael Catholic Church, New Orleans. Club: Boy Scouts of Amerca, counsellor. Hobbies: bird study, flower gardening, woodworking.

HORSCH, William Grenville, res. chem., res. & dev. dept., Socony-Vacuum Oil Co., Paulsboro, N.J.; res. 224 Briar Hill Lane, Woodbury, N.J.
Chem.; b. Massachusetts, Apr. 28, 1890; s. of Wm. M. and Antoinette J. Horsch; ed. M.I.T., S.B. 1913; U. of Calif., M.S. 1916; Ph.D. 1917; mem.: Alpha Chi Sigma; m. Helen Gertrude Philbrick, Dec. 29, 1917; ch.: Helen P., Margaret. 1913-15 lab. asst. M.I.T.; 1918-19, gas defense res., Bur. of Mines and 1st Lt., C.W.S., U.S.A.; 1919-22, res. assoc. in appl. chem., M.I.T.; 1922-24, acting mgr. Guggenheim Bros. Labs., N.Y.; 1924-27, chf. chem., Vulcan Detinning Co., Pittsburgh; 1927 to date, res. and dev. dept., Socony-Vacuum Oil Co., Inc.; res. in determ. potentials of zinc and cadmium electrodes; process for electrolytic prod. of permanganates; simulated service testing of transformer oils. Mem.: A.C.S., A.A.A.S., A.I.E.E., Sigma Xi, Phi Lambda Upsilon. Club: Denim & Calico Square Dance Club. Hobby: printing.

HORSEY, Robert E., sales mgr., Sindar Corp., 330 W. 42nd St., New York 18, N.Y.; res. La Roche Ave., Harrington Park, N.J.
Chem.; b. Chicago, Ill., Sept. 21, 1906; s. of Walter H. and Pauline L. Horsey; ed. Case Inst. of Tech., Cleveland, Ohio, B.S. chem. engrg.; m. Marion Tyrrell, 1929; ch.: Donald T., Joan E.I. du Pont Co., 1928-30, chem.; Westinghouse Lamp Co., 1930-32, chem.; R. H. Macy & Co., 1932-41, chf. chem., Drug Mfg. Div.; Ex-Lax Co., 1941-43, asst. plant mgr.; Sindar Corp., 1943 to date, sales mgr. Mem.: Alpha Chi Sigma, A.C.S., A.I.C., A.A.T.C.C., C.C.DA., Amer. Phytopathologists, N.Y. Acdy. of Scs., Amer. Chem. Salesmen's Assoc., S.C.I., A.O.C. Club: Rockland Country. Hobbies: golf, art.

HORSFALL, James Gordon, dir. of the Conn. Agr. Expt. Station, hd. of dept. of plant pathol. & botany, P.O. Box 1106, New Haven 4, Conn.; res. 49 Woodstock Rd., Hamden, Conn.
Adm. & plant pathol.; b. Mountain Grove, Mo., Jan. 9, 1905; s. of Frank and Margaret (Vaulx) Horsfall; ed. B.S. U. of Ark., 1925 with hon.; Ph.D. Cornell U., 1929; m. Sue Belle Overton, June 30, 1927; ch.: Margaret, Anne. Asst. in entomol., U. of Ark., 1923-25; asst. in plant pathol., Cornell U., 1925-28; instr. in plant pathol., Cornell U., 1928-29; res. assoc., asst. prof. of plant

pathol., N.Y. State Agr. Expt. Station, Geneva, 1929-36; res. chf., prof. of plant pathol., 1936-39, chf., dept. of plant pathol. & botany, 1939 to date, dir., 1948 to date, Conn. Agr. Expt. Station. Res. on fungicides. Author: "Fungicides and their Action" 1945. Mem.: Conn. Acdy. Arts & Scs., Am. Phytopath. Soc., Assoc. Econ. Ent., Bot. Soc. Am., A.A.A.S., Phi Kappa Phi, Sigma Xi. Clubs: Graduates, Rotary (New Haven). Hobbies: woodworking, gardening.

HORST, William Peter, dir. of application res., Mathieson Chemical Corp., Res. Dept., Niagara Falls, N.Y.; res. 39 Garlow Rd., Lewiston, N.Y.
Chem. engr.; b. Amsterdam, Holland, Apr. 28, 1900, father and mother deceased; ed. Eidgenossische Technische Hochschule Zurich, Switzerland, Diplom Ingenieur Chemiker; m. T. Louise Sylvester, June 18, 1926; ch. Betty Louise, Robert M., Lucille Ann. 1928-30, U.S. Rubber Co., res. chem.; 1930-34, own business; 1934-36, Industrial Rayon Corp., res. engr.; 1936-45, U.S. Rubber Co., hd. of org. res.; 1945-50, Virginia Carolina Chem. Corp., mgr. of res. and dev., gen. mgr. of fiber div.; 1950 to present, Mathieson Chemical Corporation. About 60 pats. in flds. of rubber chems., pesticides, miscellaneous ind. chems.; publications on fungicides, protein fibers. Mem.: A.C.S., Am. Phytopathological Soc., Soc. of Economic Entomologists. Club: Chemists' (New York City).

HORVITZ, Leo, lab. dir., Horvitz Res. Labs., 3217 Milam St., Houston, Tex.; res. 3738 Sunset Blvd., Houston.
Chem., pet. geochem.; b. Central Falls, R.I., Aug. 12, 1909; s. of Samuel and Pearl Horvitz; ed. Brown U., Sc.B. in chem., cum laude, Sc.M. in chem.; U. of Chicago, Ph.D. in chem.; m. Sarah DeLuty, June 2, 1936; ch.: E. Philip, Sigmund A., Ira S. Res. chem., Femker Co., 1936-37; chf. res. chem. & geochem., Subterrex, 1937-41; consltg. pet. geochem., 1941 to date; group leader, Natl. Defense Res. Comm., U. of Chicago, 1942-43; Horvitz Res. Labs., 1943 to date. Dev. of chem. meths. of exploration for pet. Mem.: A.C.S., Soc. of Exploration Geophysicists, Am. Assn. of Pet. Geologists, A.G.U., A.A.A.S., A.I.C. (fellow), Texas Acdy. of Sc. (fellow), Sigma Xi. Clubs: Houston Engrs., Houston Morphy Chess.

HOSKINS, Walter Hugh, res. dir., Chilcott Labs., Div. of Maltine Co., Morris Plains, N.J.; res. Schoolhouse Lane, Morristown, N.J.
Chem.; b. Indianapolis, Ind., Jan. 4, 1913; s. of Walter Douglas and Lillian (Greist) Hoskins; ed. A.B., Earlham Coll., 1934; Ph.D., U. of Chicago, 1939; m. Barbara Barrett, Sept. 11, 1936; ch.: Steven, John, Thomas. 1939-40, Cornell Medical Coll., Rockefeller Foundation Res. fellow in medicine; 1940-43, res. chem., Maltine Co.; 1943-44, asst. to res. dir., Johnson & Johnson; 1944-47, medical dir., Maltine Co.; 1947 to date, res. dir., Chilcott Labs., div. of Maltine Co. Mem.: A.C.S., A.A.A.S., Assn. for Study of Internal Secretions, N.Y. Academy of Sc., Sigma Xi, Gamma Alpha. Club: Morristown Rotary.

HOSLER, William W., v.p. in chg. of prodn. and labs., Strong Cobb & Co., Inc., 2654 Lisbon Rd., Cleveland 4, Ohio; res. 3129 Chadbourne Rd., Cleveland 20, Ohio.
Phar. and org. chem.; b. Findlay, Ohio, Oct. 28, 1900; s. of Peter and Bird Hosler; ed. Western Reserve U., Ph.G. 1922 (phar.) 1926; M.S. (chem.) 1942; mem.: Rho Chi (hon. phar.), Phi Gamma Delta, Phi Delta Chi; m. Ruth E. Zwemer, Nov. 27, 1924; ch.: Peter, William W. Jr. 1922-25, with Miller Drug Stores (retail); 1926-29, instr. phar., Western Reserve U.; 1929-41, v.p. and dir. and prod. mgr. of Miller Wholesale Drug Co. and Miller Labs.; also dir. of Schettler Drug Co. of Detroit; 1941 to date, v.p. in chg. of prodn. and labs., Strong Cobb & Co., Inc. Mem.: A.Phar. A. (past pres., local branch); A.C.S., fellow A.A.A.S.; S.C.I. Club: Rotary. Hobbies: bowling, stamp collecting.

HOSMER, Desmond Bruce, asst. plant mgr., Monsanto Chem. Co., Monsanto, Ill.; res. 17 Hilldale, Belleville, Ill.
Chem. engr.; b. Otter Lake, Mich., Oct. 13, 1912; s. of Robert Bruce and Flossie Mae Hosmer; ed. U. of Mich., B.S. in chem. engrg., Jan. 1937; mem.: Alpha Chi Sigma; m. Marvel Harsch Feb. 16, 1937; ch.: Sandra Jeanne, John Bruce. Held following positions with Monsanto Chem. Co.: 1937-38, anal. chem., 1938-39, dev. chem., 1940-41, asst. chf. chem., 1941-43, chf. anal. chem., 1943-45, dev. supvr., 1945-47, prodn. supvr., 1947-50, operating supt., 1950 to present, asst. plant mgr. Mem.: A.C.S., A.I.Ch.E. Club: Kiwanis. Hobbies: bowling, golf, gardening.

HOTCHKISS, Henry T(homas), prof. engr., Asiatic Petroleum Corp., New York, N.Y.; res. 35 Coolidge St., Larchmont, N.Y.
Chem. engr.; b. Bklyn., N.Y., Apr. 15, 1900; s. of Henry T. and Alice (Muns) Hotchkiss; ed. Polytech. Inst. of Bklyn., Ch.E., 1923; N.Y.U., Sc.M., 1925; mem.: Lambda Chi Alpha; m. Lilian VanWinkle Ball, 1928; ch.: Phyllis B., Alice V. 1923, chem., Marx & Rawolle; 1924, Basche Fellow in Res., N.Y.U.; 1925, tchg. fellow, N.Y.U., 1926, asst. in chem., Wash. Sq. Coll.; 1927 res. engr,. Tex. Gulf Sulphur Co.; 1932 res. assoc., Feedwaters Inc.; 1934 instr., Pratt. Inst.; 1935, supvg. chem., Village of Larchmont; 1942, matls. purch., Asiatic Petroleum Corp.; pats. re sulphur recovery; pubs. re synthetic drugs, water purification; abstractor U.S.P.H. Eng. Abstracts. Mem.: A.C.S., Natl. Soc. Prof. Engrs. Trustee, Larchmont Ave. Church. Club: Larchmont Yacht.

HOUGEN, Olaf Andreas, prof. of chem. engrg., Chem. Engrg. Bldg., U. of Wisconsin, Madison, Wis.; res. 2247 Rowley Ave., Madison 5, Wis.
Prof. of chem. engrg.; b. Manitowoc, Wis., Oct. 4, 1893; s. of Johan Olai and Anna Elena (Stockstad) Hougen; ed. U. of Wash. (Seattle), B.S. in Ch.E., 1915; U. of Wis., Ch.E. 1918; Ph.D. 1925; mem.: Alpha Chi Sigma, Delta Pi Epsilon; m. Olga M. Berg, Mar. 9, 1919; ch.: Esther N. (Mrs. F. G. Taylor). Instr. in chem. engrg., U. of Wis., 1917-18, asst. prof., 1920-26, assoc. prof., 1926-36, prof. chem. engrg. since 1937; prof. Armour Inst. Tech., Chicago, 1937; prof., summer 1950, U.C.L.A.; chem., Am. Smelting & Refin. Co., Tacoma, Wash., 1916; U.S. Bur. Chem., Argo, Ill., 1917; U.S. Chem. Plant No. 4, Saltville, Va., 1918-19; chem. Carborundum Co., Niagara Falls, N.Y., 1918-20; lab. dir., U.S. Testing Co., Hoboken, N.J., 1934-35; cons. chem. engr. since 1925. Conslt., Natl. Def. Res. Council and W.P.B.., 1941-44. Recip. of William H. Walker Award for contrib. to chem. engrg. literature, 1944. Second Annual Institute Address A.I.Ch.E. (1950). Contrib. num. tech. arts. to sc. jls. Lectured extens. and prep. many papers for tech. grps. and colleges. Author: ((with K. M. Watson), John Wiley, pub.: "Industrial Chem. Calculations," 1931, 1936; "Chem. Proc. Principles I, Material and Energy Balances," 1943; "Chem. Proc. Princ. II, Thermodynamics," 1946; "Chem. Proc. Princ. III, Kinetics and Catalysis," 1947; "Chem. Proc. Princ. Charts," 1947; "Chem. Proc. Princ.-Combined Parts," 1948; also prep. bulletins for Wis. Engrg. Exper. Station and for the Fed. Govt. Mem.: A.I.Ch.E., A.C.S., Am. Soc. Engrg. Educ., A.A.U.P., Phi Beta Kappa, Phi Kappa Phi, Tau Beta Pi, Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma, Ygdrasil Literary Soc., Lutheran.

HOUGHLAND, Glen S., process & dev. engr., M. W. Kellogg Co., 225 Broadway, New York 7, N.Y.; res. 8 Devon Rd., Larchmont, N.Y.
Chem. engr.; b. Hudson, S.Dak.; s. of A. C. Hougland and Clara Jane Hougland; ed. B.S., U. of Wis., 1917; mem.: Alpha Chi Sigma; m. Ruth S. Sales engr., distillation equipment W. E. Lummus Co., 1917-20; engr. dev., in connection with mfg. motion picture base & plastic films, E. I. du Pont de Nemours, Parlin, N.J., & Arlington, N.J., 1920-28; test and designer of refinery equip. Continental Oil Company, Denver, Colo., 1928-29; design dev., operation, testing and processing oil, refining equipment specializing in fractionation, 1929 to date. Mem.: A.I.Ch.E. Hobbies: sailing, photography, fishing.

HOUGHTON, Frank N(ickerson), secy., asst. treas., Arthur D. Little, Inc., Cambridge, Mass.; res. Elmwood, Mass.
Chem. engr.; b. Boston, Mass., Mar. 4, 1901; s. of Frank E. and Mabel E. (Nickerson) Houghton; ed. M.I.T. B.S. 1922; m. Miriam H. Stearns, June 21, 1930; ch.: Nancy A. M.I.T., instr. in econ., 1922-23; Gen. Elec. Co., West Lynn., frmn., 1923-25; Arthur D. Little, Inc. 1926 to date: clerk of corp. 1935 to date, secy., 1943 to date, asst. treas., 1949 to date. Pease, Anthony Equipt. Co. (dir.). Mem.: A.C.S. E. Bridgewater (Mass.) Savings Bank., trustee, mem. of auditing comm. Club: Satucket Lodge, A.F.&A.M. Hobbies: carpentry, music.

HOUGHTON, Proctor W., pres., treas., Philip A. Houghton, Inc., 30 Huntington Ave., Boston 16, Mass.; res. 2142 Commonwealth Ave., Auburndale 66, Mass.
Chem., sales engr., mfrs. agent; b. Worcester, Mass., Nov. 24, 1916; s. of Philip and Evelyn Houghton; ed. Wesleyan U., B.A.; mem.: Alpha Chi Rho; m. Eloise K. Kautz, July 14, 1945; ch.: Glenn A., Bruce E. 1938-41, salesman & technician, Philip A. Houghton, Inc.; 1942, War Dept., Rochester Ordnance District, chem., testing chem. shipped on govt. contracts; 1943-46, Wilputte Coke Oven Div. of Solvay Process Co., chem. engr., chem., starting up new chem. plants, army ornance & D.P.C. plants. Clubs: Chemical Club of New England, New England Paint, Varn. & Lacq. Assn., Dorchester Yacht. Hobby: boating.

HOUSEHOLDER, Garrison, v.p., The Plastic Coating Corp., Holyoke, Mass.; res. 6 Silverwood Ter., So. Hadley, Mass.
Chem.; b. Austin, Tex., Sept. 6, 1908; s. of Fred W. and Myrtle B. Householder; ed. U. of Vermont, B.S. in chem., 1928; mem.: Lambda Iota; m. Laura Pengelly, Nov. 30, 1929; ch.: Thomas P., Susan, Laura. 1928-34, chem. in paper mfg. operation, Eastman Kodak Co.; 1934 to date, chem. Plastic Coating Corp., v.p. in 1947. Mem.: Engrg. Soc. of Western Mass. (past pres., 1946), A.C.S., T.A.P.P.I. Clubs: Lions, Appalachian Mountain.

HOUSEHOLDER, Leland Edgar, asst. chf. metallurgist, Reynolds Metals Co., 3rd and Grace Sts., Richmond, Va.; res. 5112 Cavedo Lane, Richmond, Va.
Metallurgist; b. Apollo, Pa., Sept. 19, 1911; s. of A. J. and Lena M. Householder; ed. B.S. from Thiel Coll., 1933 (magna cum laude), Carnegie Inst. Tech., 1936-41; mem.: Delta Sigma Phi; m. Dorothy McQuaide, July 19, 1941. Chems. helper, Am. Sheet & Tin Plate Co., Pa., 1935; apprentice & metallurgist, Alum. Co. of Amer., 1935-41; metallurgist, Reynolds Metals Co., Ky., 1941-43; res. metallurgist, Reynolds Metals, 1943-46; chf. plant metallurgist, Michigan, 1946-47, Ill., 1947-48; asst. chf. metallurgist, Richmond, Va., branch, 1948 to present. Res. in metallurgy of aluminum alloys, heat treatment of alum. zinc-magnesium-copper alloys to eliminate stress-corrosion cracking. Mem.: A.S.M., A.I.M.E., Brit. Inst. of Metals. Hobbies: wood and metal working.

HOUSTON, Harry H. II, chem. engr., Armour Res. Foundation (Ill. Tech.), Chicago, Ill.; res. 320 Highview Ave., Elmhurst, Ill.
Chem. engr.; b. Mobile, Ala., Feb. 18, 1910; s. of Harry H. and Victoria (Baumhauer) Houston; ed. U. of Ala., B.S. 1931; N.Y.U., M.Ch.E., 1942; m. Madeleine Brooks, 1933; ch.: Harry H. III, Deane Brooks. 1938-42 at Pratt Inst., Bklyn., N.Y., Dept. of Chem. Engrg. and Dept. of Chem.; transf. to U. of Fla., Gainesville, Fla., College of Engrg. (1942-44), assoc. prof. Chem. Engrg. Dept.; temp. employment at U. of Tenn., Knoxville, Tenn. Dept. of Chem., lecturer in gen. chem.; 1944-46, Linde Air Prods. Co., Res. Lab., Tonawanda, N.Y., res. engr. engaged in chem. and engrg. res.; Brooks Equipment and Mfg. Co., Knoxville, Tenn., 1946-48, v.p., Manufactured Prods. Div., duties includ. heavy machinery dev. for matls. handling in industry; gen. sales promotion; invention of new equipment; 1948 to date, chem. engr. Armour Research Foundation, Chicago, Ill., ceramics, minerals, inorg. tech. Wk. in high temp. flames, materials and metals, building prods., inorg. tech. Mem.: A.I.Ch.E. Hobby: photography.

HOVEY, Almon Guion, res. chem., Archer-Daniels-Midland Company, Minneapolis, Minn.
Res. and Dev. Synthetic Resins and coatings; b. Bridgeport, Conn., Sept. 1, 1901; s. of Marshall Whitney and Susan T. Haviland Hovey; ed. B.S. Dartmouth 1923, M.S., Union, 1928; mem.: Alpha Chi Sigma; m. Bessie Margaret Harris, Aug. 13, 1921; ch.: Mildred Haviland Hovey Hurbut, Roger Whitney Hovey. Res. chem., Archer-Daniels-Midland Co., 1950—; in chg. tech. service of chem. div., General Mills, Inc., Minneapolis, Minn., 1944-49; dir. of res., Reichhold Chemicals, Inc., Detroit, Mich., 1933-44; res. chem., General Electric Co., Schenectady, N.Y., 1924-33; anal. chem., Remington Arms Co., Bridgeport, Conn., 1923-24. Pioneer in fundamentals of polyester reactions and alkyd resins, co-namer of the term "alkyd." Arts. and pats. on synthetic resins listed in 1936 and 1946 Decennial Indices of chemical abstracts. Mem.: A.C.S., A.I.C., Am. Oil Chems. Soc., Am. Assoc. of Textile Chemists and Colorists, Soc. of Chem. Industry (London), Federation of Paint, Varnish Production Clubs, Chicago Rubber Group, Chicago Chemical Arts Forum, Soc. of Plastics Engineers. Hobbies: swimming, hiking.

HOVEY, Waldo C., v.p., Harshaw Chem. Co., 1945 E. 97th St., Cleveland, Ohio; res. 2880 Fairfax Rd., Cleveland Heights, Ohio.
Chem. engr.; b. Mar. 4, 1894, North Hatley, Que.; s. of Philip A. and Jane F. Hovey; ed. McGill, B.Sc.; mem.: Kappa Alpha; m. Helen Le Baron, 1917. Chem., Canadian Elect. Prods.; supt., Shawinigan Chem.; gen. mgr., Niacet Chem. Corp.; mgr. operations Wyeth Inc.; v.p. Harshaw Chem. Co. Clubs: Country (Cleveland), Chem. (N.Y.). Hobby: golf.

HOWALD, Arthur Mark, conslt., Howald Res. Lab., Roachton Rd., Perrysburg, Ohio; res. R.F.D. 2, Perrysburg, Ohio.
Chem. res. & consltg.; b. Sullivan, Mo., Oct. 12, 1898; s. of Jeremiah M. and Emma Howald; ed. B.S., M.S. chem. engrg., Mo. Schl. of Mines, U. of Mo., 1919-20; Ph.D., U. of Pitts., 1922; mem.: Alpha Chi Sigma; m Katherine Whitesell Anderson, Aug. 1926; ch.: Jeremiah M., Reed Anderson, Katherine W., Edna Elizabeth. 1922-32, indus. fellow, Mellon Inst. of Ind. Res.; 1932-43, res. dir., Plaskon Co. Inc., Toledo, Ohio; 1943-48, tech. dir., Plaskon Div., Libbey Owens Ford Glass Co., Toledo, Ohio; 1948 to date, independent res.

chem. & process conslt. Mem.: A.C.S., A.I.Ch.E., Phi Lambda Upsilon. Hobbies: fly fishing, fly rod design.

HOWARD, Everett W., process dev. engr., The M. W. Kellogg Co., 225 Broadway, New York City; res. 68 Ridge Rd., Glen Rock, N.J.
Engr.; b. Chicago, Ill.; s. of Edward and Harriet Howard; ed. U. of Ill., B.S., 1932, M.S., U. of Mich., 1933, Ch.E., U. of Ill., 1946; m. Lucille Riser; ch: Lawrence K, David E. Shell Oil Co., Inc., 1933-36; M. W. Kellogg Co., 1936 to date; instr. Polytechnic Inst. of Bklyn., 1938-40. Mem.: A.I.Ch.E., Natl. Soc. Professional Engrs.

HOWARD, Frank Lee, acting chf., engine fuels sec., Natl. Bur. of Stand., Wash. 25, D.C.; res. 9702 Lawndale Dr., Silver Spring, Md.
Chem.; b. Pueblo, Colo., Mar. 28, 1913; s. of Henry L. and Rosemary (Hilleary) Howard; ed. U. of Md., B.S. 1934, Ph.D. 1938; mem.: Alpha Chi Sigma, Sigma Xi; m. Eileen Kelly, Feb. 4, 1941; ch.: Mary E., John L., Anne M., James H., Joseph W. Chem., Natl. Bur. of Stand. 1938-48, acting chf., engine fuels sec., 1949 to date. Res. on syn., purification & properties of highly branched hydrocarbons. Mem.: A.C.S., A.S.T.M. Recipient Dept. of Com. award for meritorious service, 1948.

HOWARD, Joseph Whitney, prof. of chem., Montana State U., Missoula, Mont.; res. 503 So. 6 E.
Prof.; b. Dixon, Ill., June 18, 1889; s. of John F. and Martha E. Regan Howard; ed. A.B. Shurtleff Coll., 1912, A.M. U. of Ill., 1913, Ph.D., U. of Ill., 1915; mem.: Gamma Alpha; m. Guyda Lang, Sept. 4, 1918; ch.: Robert R., Leone (Oster). Instr., Montana State U., 1915-19; asst. prof., 1919-24; assoc. prof., 1924-27; prof., 1927 to date. Not. work: papers in J. A. Chem. Soc., Jr. Chem. Ed., Jr. Am. Phar. Assoc., Nature magazines, Rocks and Minerals. Mem.: A.C.S., Sigma Xi, Phi Lambda Upsilon. Chmn., Council First Baptist Ch., Missoula. Club: Authors. Hobby: gem stones.

HOWARD, Leo, plant supt., Felton Chemical Co. Inc., 599 Johnson Ave., Brooklyn 6, N.Y.; res. R.F.D. Box 115, Wantagh, N.Y.
Chem.; b. Brooklyn, N.Y., Mar. 16, 1909; s. of Heyman and Rena Howard; ed. B.S., Rutgers U., 1930; mem.: Phi Beta Kappa, Phi Lambda Upsilon; m. Claire Lee Fischer, Jan. 9, 1932; ch.: Jed Lee, Roy William, Lynn Rose. Felton Chemical Co. Inc., continuing connection from 1930 to present in positions of increas. responsib. Hobbies: scouting as asst. dist. commis. in Boy Scouts of Amer.; gardening.

HOWARD, Louis Bradley, hd. dept. food tech., U. Ill., 212 Mumford Hall, Urbana, Ill.; res. 701 W. Dela. Ave.
Prof.; b. McLean Co., Ill., Feb. 5, 1905; s. of Louis W. and Carrie F. Howard; ed. 1923-27 Purdue U., B.S. 1927; 1927-30 U. Chicago, M.S. 1928; Ph.D. 1930; mem.: Phi Gamma Delta; m. Mae Norberg, 1927; ch.: Louis N., Mary Helen. Fixed Nitrogen Res. Lab., U.S.D.A., Wash., D.C., 1930-35, res.; Bur. of Ent. & Plant Quarantine, U.S.D.A., Whittier, Calif., 1935-39, chem. chg. of chem. invest.; Northern Reg. Res. Lab., Peoria, Ill., 1939-40, tech. asst. to dir.; Western Reg. Res. Lab., Albany, Calif., 1940-45 hd., commodity byprods. div.; Bur. Agr. & Ind. Chem., Wash., D.C. 1945-46, asst. chf. bur.; Bur. Agr. & Ind. Chem., Wash., D.C. 1946-48, chf. bur; prof., hd. dept. Food Tech., U. Ill. Oct. 1, 1948 to date., prof. Contrib. extens. to sc. and tech. jls. Mem.: Sigma Xi, Phi Kappa Phi, I.F.T., Refrigeration Res. Found. (bd. governs.), A.C.S., A.O.C.S., A.A.A.S., Assoc. Food & Container Institute (bd. of dir.). Club: Cosmos. Hobbies: photography, piano.

HOWARD, S(amuel) Francis, prof. emeritus of chem., Norwich U., Northfield, Vt.; res. 58 South Main St., Northfield, Vt.
Retired tchr. of chem.; b. Wilbraham, Mass., June 14, 1872; s. of Rev. Martin Stoddard and Mary Adeline (Carlton) Howard; ed. Wilbraham Acdy., 1891; U. of Mass., B.S. 1894, M.S., magna cum laude, 1901; Johns Hopkins U., Ph.D. 1912; mem.: Phi Kappa Phi (U. of Mass.); Phi Beta Kappa (Amherst); Sc.D., Norwich U. (hon.) 1950; Phi Sigma Kappa (U. of Mass.); m. Louise Trott (dec. 1939), June 21, 1905; ch.: Martin Stoddard. 1894-96, tchr. in elem. schls.; 1896-98, at Johns Hopkins; 1899-1912, asst. prof. chem. at Mass. Agr. Coll.; 1912-13, assoc. prof. chem. at Amherst Coll.; 1913-46, prof. and hd. of Dept. of Chem., Norwich U.; 1947, prof. emer. Notable wk.: tchg. young men for a half-century. Fellow, A.A.A.S., A.I.C.; mem. emeritus, A.C.S.; hon. mem. N.E.A.C.T.; charter mem. Amer Electrochem. Soc.; mem. Amer. Sc. T. Assn. Club: Conversational (Northfield, Vt.).

HOWE, Eugene Everett, section hd., res. and develop. div., Merck & Co. Inc., Rahway, N.J.; res. R.D. 1, Bound Brook, N.J.
Res. chem.; b. Keats, Kans., June 6, 1912; s. of George W. and Joe E. Howe; ed. Kansas State Coll., B.S. 1936, M.S. 1937; U. of Ill., Ph.D. 1940; m. Lois M. Peterson, 1938; ch.: Jean Elizabeth, Daniel Peter. Res. and Develop. Div., Merck & Co. Inc., res. chem., 1940-47; section hd., 1948 to date.

HOWE, Ja(me)s Lewis, prof., retired; res. 30 Univ. Pl., Lexington, Va.
U. prof., chem., emeritus; b. Newburyport, Mass., Aug. 4, 1859; s. of Francis Augustine and Mary Frances (Lewis) Howe; ed. Amherst Coll., A.B., 1880; M.D. Hosp. Coll. Med.; M.A., Ph.D. U. Göttingen; also stud. U. Berlin, M.I.T., W. & L. Univ., 1946; mem.: Delta Kappa Epsilon; m. Henrietta Leavenworth Marvine, Dec. 27, 1883; ch.: Guendolen, Frances Ray (dec.), James Lewis, Jr. 1882-83, Brooks Military Acdy., Cleveland, Ohio; 1883-87, prof. chem., Central U. Ky; 1886-94, sc. & lecturer, Polytech. Socy, Ky., Louisville; prof. chem. & dean, Hosp. Coll. of Med., Louisville Coll. of Dentistry, Louisville, Ky.; 1894 — prof. chem., Wash. & Lee U., Lexington, Va. Dean Schl. Appl. Sc., Wash. & Lee U. 1921-32. Res. on metls. of platinum group, espec. on Ruthenium. Author: "Bibliog. of Metls. of Platinum Group," 1748-1895, 1897; 1748-1917, 1919; 1918-30, 1948; 1931-40, 1949. "Inorg. Chem. Accord. to Periodic Law, 1898; same rev. as "Inorg. Chem. for Schls. and Colls.," 3rd ed. 1921; "Brief Hist. of Missions, 1931." Dir., chmn. bd., Peoples Natl. Bank, Lexington, Va. Mem.: A.C.S., Chem. Soc. (London), S.C.I., A.A.A.S. (v.p. chem. sect., 1900), Va. Acdy. Sc. (pres., 1924), Spec. Com. on Platinum metls., Natl. Res. Council, 1917, Herty Medalist. Trustee Un. Soc. Christ. Endeavor. Club: Kiwanis (past Lt. Gov.). Hobby: philately.

HOWE, Paul E(dward), consltg. biochem. (nutrition), Animal Husbandry Div., B.A.I., U.S. Dept. of Agr., Beltsville, Md.; res. 3601 Connecticut Ave., N.W., Washington 8, D.C.
Biochem.; b. Chicago, Ill., July 29, 1885; s. of Edward G. and Mary Elizabeth (Barnard) Howe; ed. U. of Ill., B.S. 1906; M.A. 1907; Ph.D. 1910; mem.: Phi Lambda Upsilon, Gamma Alpha; m. Harriet Rinaker, 1913; ch.: Clarissa (Beerbower); Elizabeth (Hyde). 1907-10 asst. physiol. chem., U. Ill.; instr., 1910-12; asst. prof. bio-chem. Columbia, 1912-17; assoc. dept. animal path., Rockefeller Inst., 1917, 1919-24; biochem. and sr. biochem. in chg. nutrition invests., animal husb. div., Bur. of Animal Industry, U.S. Dept. Agr. 1924-36, chf. animal nutrition div., and asst. chf. bur.,

1936-48; Nutrition Specialist, 1948 to date; Nutrition adviser, bur. prisons, U.S. Dept Justice, 1929-36; chf. and dir. food and nutri. div., Surgeon Genl's. Office, Sanit. C., U.S.A., 1940-44; nutri. conslt. pub. health, Staff Hdqtrs. Allied Exped. Forces, 1944-45; pub. health & welfare, Supreme Commander Allied Powers, 1946-47; chf. Nutrition Mission for the office of the Surgeon General, 1949-50. Asst. ed. " Chem. Abstracts." Chmn. cmt. animal nutrition, Natl. Res. Council, 1927-41, mem. food & nutri. bd., cmts. med. nutri. and nutri. in industry; mem. sc. cmt., Nutrition Foundation, 1941-47. Capt., sect. food & nutrition, Sanit. C., 1917-19; res. in corrosion of brasses and bronzes; nitrogen metabolism; proteins, their function and determ.; nutritive requirements of animals, mass and institutional feeding. Mem.: A.A.A.S., Physiol. Soc., Soc. Biol. Chem., (councilor 1932-34); A.C.S., Harvey Soc., Inst. Nutrition (councilor 1937-39); Soc. Exp. Biol. & Med.; Animal Production; Poultry Sc.; Wash. Acdy. Sc.; Wash. Acdy. Med.; Legion of Honor (officer), France. Club: Cosmos.

HOWELL, Joseph Adams, pres., Virginia-Carolina Chemical Corp., 401 East Main St., Richmond, Va.; res. 47 Pocahontas Ave., Richmond.
Exec.; b. Troy, Alabama, June 24, 1901; s. of Frank Shain and Georgia (Adams) Howell; ed. pub. schls. of Ozark, Ala., Geo. Washington U. and U. of Ala.; mem.: Kappa Sigma; m. Elizabeth Heakes, Dec. 15, 1923; ch.: Joseph Adams, Jr. 1922 to date with Virginia-Carolina Chemical Corp.; dir. The Bank of Virginia. Clubs: The Rotunda (Richmond, Va.), Commonwealth (Richmond), Country Club of Va. (Richmond).

HOWELL, Lloyd B., prof. of chem., Wabash Coll., Crawfordsville, Ind.; res. 9½ Mills Place, Crawfordsville.
Chem.; b. Miami County, Ohio, Aug. 29, 1887; s. of Gilbert L. and Louise (Harthan) Howell; ed. Wabash Coll., A.B. 1909; U. of Ill., M.S. 1918; Ph.D. 1919; mem.: Lambda Chi Alpha; m. Ione Todd, June 30, 1909; ch.: Mrs. Jane McKay, Gilbert T., Mrs. Irene Fickes, Mrs. Kathryn Harden. 1909-12 instr. scs., high schls. (No. Ind. and Ohio); 1912-13 instr. chem. Wabash Coll.; 1913-18 grad. student, U. of Ill.; 1918-19 fellowship, chem., U. of Ill.; 1919-24 instr. chem. The Rice Inst.; 1924-49 prof. (chmn). chem.; 1949 to date Rose prof. of chem., Wabash Coll. Gas defense problems, W.W. I (U. of Ill.) 1917-18; O.S.R.D., problem, W.W. II 1941-42. Contrib. arts. to sc. jls. Mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, A.C.S., Indiana Acdy. Sc. Officer at var. times in Bd. of Educ.; Masonic Temple Assoc.; Presbyterian Ch. (elder); etc. Clubs: Crawfordsville Country; Wabash-De Pauw Sigma Xi Club. Hobbies: fishing, gardening, baseball (fan).

HOWLAND, Louis H., mgr. of synth. rubber res. and dev., Naugatuck Chem. Div., U.S. Rubber Co., Naugatuck, Conn.; res. 88 Litchfield Rd., Watertown, Conn.
Chem.; b. Georgetown, Ind., Jan. 13, 1902; s. of Roy W. and Lucinda (Thomas) Howland; ed. U. of Louisville, Ky., B.S. and M.S. in chem., 1924, 1926; U. of Iowa, Ph.D. in chem., 1928; mem.: Alpha Chi Sigma, Gamma Alpha; m. Frances Josephine McMinn, Feb. 2, 1929; ch.: Louis Philip, Robert McMinn, Eleanor Frances. From 1928 to date held following positions with U.S. Rubber Co.: 1928-36, res. chem. at Gen. Labs., Passaic, N.J.; 1936-38, sect. hd. on org. res. same labs.; 1938-41, mgr. rubber chems. res. and tech. serv., Naugatuck Chem. Div., Naugatuck, Conn.; 1941-43, mgr. rubber chems. and synth. rubber, res. and tech. serv. on rubber chems., same div.; 1943-46, mgr. of org. chem. and colloid res., same div.; 1946 to date, mgr. of synth. rubber res. and dev., same div. Author num. arts. pub. in sc. jls. Holds many U.S. pats. as well as foreign pats. in rubber and other flds. Mem.: A.C.S.

HOWTON, David Ronald, chf. tracer synth. sect., U. Calif., Atomic Energy Proj., Box 4164, W. Los Angeles 24, Calif.; res. 2804¼ Grand Canal, Venice, Calif.
Org. chem.; b. Tacoma, Wash., July 8, 1920; s. of Norman E. and Esther D. Howton; ed. B.S. 1942, Ph.D. 1946, Calif. Inst. Tech.; mem.: Tau Beta Pi, Sigma Chi; m. Margaret Ellen Stein, July 24, 1942. Teach. fellow, C.I.T., 1942-43; res. asst., C.M.R. proj. C.I.T., 1943-46; res. fellow, CI.T. 1946-48; chf., tracer synth. sect., A.E.P., U.C.L.A., 1948 to date. Res. on thiazole derivatives, synth. antimalarial drugs, cyclobutane derivatives, fatty acids (unsaturated). Hobbies: sports, philately.

HOYT, Creig Simmons., dept. of chem. and dean of the college, Grove City Coll., Grove City, Pa.; res. 631 S. Center St., Grove City, Pa.
Prof. of chem.; b. Auburn, N.Y., Feb. 27, 1894; s. of Frank E. and Florence (Simmons) Hoyt; ed. Grove City Coll., B.S. 1913; Cornell U,. A.M. 1917; U. of Pittsburgh, Ph.D. 1933; mem.: Sigma Xi, Phi Lambda Upsilon; m. Matilda Thompson, July 22, 1915; ch.: Dr. Creig S., Margaret Hoyt Buchanan. 1913-16 instr. in chem., Grove City Coll.; 1917-20 asst. prof. in chem., same coll.; 1920-50 prof. of chem., 1925 to date hd., dept. of chem., 1950, dean of the college; res. in water treatment. Mem.: A.C.S., A.I.C.

HOYT, Samuel L., tech. advisor, Battelle Memorial Inst., Columbus, Ohio; res. 32 Blenheim Rd., Columbus.
Metallurgist; b. Minneapolis, Minn., May 29, 1888; s. of A. O. and Lucretia H. Hoyt; ed. U. of Minn., E. M., 1909; Columbia U. 1909-11, Ph.D. 1914; grad. wk., Charlottenburg Tech. Schl., Germany; mem.: Delta Tau Delta, Sigma Rho; m. Edyth Armstrong, Nov. 1, 1946; ch.: Samuel L. Jr., Vardeman H., R. Stuart, Keith W. 1913-19, asst. & assoc. prof. of metallography, U. of Minn.; conslt. to N. Rsh. C. & U.S. Bur. of Mines, 1918-19; res. metallurgist, Gen. Elec. Co., 1919-30; res. metallurgist, 1931-34, dir. of metallurg. res. 1934-39, A. O. Smith Corp.; tech. advisor, Battelle Inst., 1939 to date; conslt., A. O. Smith Corp., 1939-41; scientific conslt., Alsos Mission of G-2, U.S.A., 1945. Metallurgy of steel, tungsten, & nonferrous alloys; dev. the cemented carbide carboloy; practical application of notched bar testing; single crystal studies; welding metallurgy; metallurgy of casing steel, low alloy steel oil & chem. vessels; stainless steel; Smith Alloy No. 10; armor plate; weldable aircraft steel; ship plate; military res. Author: "Principles of Metallography" McGraw-Hill, 1920; "Metals & Common Alloys," McGraw-Hill, 1921; "Metals & Alloys Data Book," Reinhold, 1943 (being revised as "Metal Data"). Mem.: A.I.M.E., A.S.M., A.W.S., A.O.A., A.A.A.S., Inst. Met.-British; held offices, comm. memberships, annual lectureships in above soc. & N.R.C.; Sigma Xi; Outstanding Achievement Medal, U. of Minn., 1950. Club: Faculty (Ohio State U.). Hobbies: travel, gardening, colored moving pictures, Goethe.

HUBBARD, Donald, chem., Natl. Bur. of Stds., Glass Sect., Wash., D.C.; res. 3822 McKinley St., N.W., Washington, D.C.
Res. chem.; b. Terra Ceia, Fla., Oct. 4, 1900; s. of Edwin Samuel and Mary Anne (McCoy) Hubbard; ed. U. of Fla., B.S. Ch.E., 1923; M.S., 1924; American U., Ph.D., 1932; mem.: Phi Kappa Phi, Sigma Tau, Gamma Sigma Epsilon (all hon.). 1925-33, res. photographic emulsions, 1933 to date, Natl. Bur. of Stds. res., dev. and prodn., optical glass; 27 res. pubs. on photographic emul-

sions and glass chem., particularly glass electrode. Mem.: A.C.S., Optical Soc. of Amer., A.A.A.S.; Medal, Société Francaise de Photographie (citation) Recherses sur les Émulsions Photographiques. Club: American Alpine. Hobby: experimental wk. on mental ther., Distr. of Columbia Pub. Health Clinic.

HUBBARD, Robert Merrill, prof. of chem. engrg., engrg. dept., U. of Va., Charlottesville, Va.; res. Colonnade Club, U. of Va., Charlottesville.
Chem. engr.; b. Indianapolis, Ind., Nov. 3, 1909; s. of Harry Niles and Flora (Merrill) Hubbard; ed. U. of Mich., B.S.E. 1931, M.S.E. 1932, Ph.D. 1940; mem.: Sigma Xi, Phi Lambda Upsilon, Phi Kappa Phi. Teaching asst., U. of Mich., 1932-34; asst. chem. engrg. dev. dept., Solvay Process Co., Hopewell, Va., 1936-41; chem. engr. res. dept., Koppers Co., Pitts., Pa., 1941-46; assoc. prof. chem. engrg., U. of Va., 1946-47, prof. chem. engrg. 1947 to date. Dev. theory of rolling-ball viscometer, res. in heat transfer to boiling liquids, extraction, & flooding in wetted wall columns. Mem.: A.C.S., A.I.Ch.E., Am. Soc. for Engrg. Ed., Va. Acdy. of Sc., Central Va. Chem. Engrs. Club. Club: Colonnade. Hobby: photography.

HUBBARD, Roger Sanford, prof. pharmacology and applied physiology, U. Buffalo, School of Medicine, Buffalo.; res. 546 Delaware Ave., Buffalo.
Teacher, hospital conslt.; b. Cambridge, Mass., Sept. 21, 1888; s. of Sanford B. and Emma B. (Alley) Hubbard; ed. Harvard (cum laude), 1911; Harvard, 1913, A.M.; Wash. U. (St. Louis), Ph.D., 1921; mem.: Phi Beta Kappa, Sigma Xi, Nu Sigma Nu; m. Margaret Allen (deceased), Dec. 26, 1917; ch.: Barbara De F. Wilson, Mrs. Donald E. Wlison, Frederic S. Hubbard. 1911-12, fellow in biochem., asst. chem., Harvard; 1912-14, Med. Schl., instr. biological chem., Wash. U. (St. Louis) 1914-17; Instr. War Demonstration Hospital No 1, 1918; biological chem.; Clifton Springs Sanitarium, 1919-29; biologic. chem., Buffalo Genl. Hospital, asst. prof. U. of Buffalo Med. Schl., 1929-36; prof. pharmacol., applied physiol., 1936 to date. Res. in Dakins solut., acetone cmpds. in blood and urine; fat metabolism, urinary acidity, urinary ammonia, metabolism in obesity, "sugars" in spinal fluid, methods for lactose, sulphates, proteins and potassium in blood (j) excretion of sulphonamide drugs by kidneys and liver. Mem.: A.S.Biol.C., Am. Physiol. Soc., (fellow) A.A.A.S., A.M.A. (assoc. fellow), S.E.B.M., Soc. Am. Gastro-Enterological, U. Club of Buffalo. Consulting biochemist for following: Buffalo Genl. Hosp., Buffalo Children's Hosp., Edw. J. Myer Memorial Hosp., Millard Fillmore Hosp., Vet. Admin. Hosp., Buffalo.

HUBBELL, Dean Sterling, sr. fellow, Mellon Inst. of Indus. Res., Pittsburgh, Pa.; res. Saxonburg Blvd., R.D. 2, Pittsburgh 15.
Res. chem. engr.; b. Chagrin Falls, Ohio, Mar. 9, 1904; s. of Leon S. and Susan (Dean) Hubbell; ed. Ohio Wesleyan U., 1922-24; Ohio State U., 1925-28, B.Ch.E. 1928; M.S. 1928; Ch.E. 1938; mem.: Sigma Phi Epsilon, Sigma Xi, Tau Beta Pi, Phi Lambda Upsilon, Pi Mu Epsilon; m. Alice Catherine Thompson, Aug. 26, 1933; ch.: Susan Dean, Nancy Jane. With Mellon Inst. from July, 1928 to date; for Atlas Portland Cement Co. from 1928 to 1930; for H. H. Robertson Co. from 1930 to date. Notable work in determ. depth of hydration of portland cement clinker and of pure minerals of which it is comprised; dev. Robertson Hubbellite, a cupriferous cement, Robertson Antifouling Pigment, Robertson Fungicide. Mem.: A.C.S., A.I.Ch.E., Am. Concrete Inst., A.S.T.M., A.A.A.S., Natl. Fire Protection Assoc. Schl. dir., Indiana Twp. schls. Clubs: Faculty, U. of Pittsburgh. Hobbies: farming, animal husbandry.

HUBBELL, John Platt, partner, Singmaster & Breyer, 420 Lexington Ave., N.Y. 17, N.Y.; res. 69 First St., Garden City, L.I., N.Y.
Conslt. chem. engr.; b. Garden City, N.Y., Jan. 22, 1893; s. of George L. and Eliza (Platt) Hubbell; ed. Williams Coll., A.B. 1913; Columbia U., Ch.E. 1916; mem.: Phi Beta Kappa, Sigma Xi, Tau Beta Pi, Illig M., Delta Kappa Epsilon; m. Dorothy Peters, Aug. 22, 1917; ch.: Dorothy P., John P., Ralph P., Roger W., Richard G. Gen. Chem. Co., 1916-18, lab. chem. plant operator, asst. frmn.; 2nd Lt., U.S.A., C.W.S., gas defense div.; N.J. Zinc Co., 1919-28, res. engr., asst. chf. of res.; entered firm of Singmaster & Breyer, 1928 to date. Mem.: A.I.C., Am. Inst. of Cons. Engrs., A.I.Ch.E., A.C.S., Assn. Consltg. Chem. & Chem. Engrs. Trustee, Commis. of Public Wks., Police Commis. & Mayor, 1934-47, Village Garden City, L.I. Clubs: Williams (N.Y.), Cherry Valley (Garden City), Chemists' (N.Y.). Hobbies: golf, bridge, sailing.

HUBBUCH, Theodore Joseph Norbert, ind. anal., Tenn. Valley Authority, Knoxville, Tenn.; res. 302 Mayflower Rd., Knoxville 15, Tenn.
Chem. engr.; b. Louisville, Ky., Aug. 12, 1902; s. of Joseph F. and Mary Antoinette (Zoeller) Hubbuch; ed. U. of Louisville, B.S. 1923, on scholarship grant; Harvard U., B.S. Ind. Chem. 1925, M.S. 1926; M.I.T., post grad. wk. in chem. engrg. 1926-28; m Mary Evans Harrison, May 5, 1942; ch.: Ann Evans, Martha Elloie. Rewrite man for Louisville, Ky., Herald-Post newspaper; res. asst., chem. engrg. dept., M.I.T.; chem. engr., Reynolds Metal Co., Louisville, Ky.; sr. chem. engr., Girdler Corp., Louisville, Ky; tech. advisor to sales, Am. Potash & Chem. Corp., N.Y.; consltg. engr., Ken-Rad (radio tube) Corp., Owensboro, Ky.; chem. engr., Tenn. Valley Authority, Wilson Dam, Ala. & Knoxville, Tenn. Dev. of processes in connection with radio tube mfr. & prod. of new phosphate fertilizers. Contr. to tech. jls.; many signed newspaper articles. Mem.: A.C.S. (former chmn. & secy. of Louisville, Ky., sec.), A.I.Ch.E. (assoc. mem., former chmn. Wilson Dam, Ala., sec.). Clubs: Harvard (Ky.), M.I.T. (Ky.), Tech. Soc. (Knoxville, Tenn.). Hobbies: tennis, chess.

HUBER, Francis Christian, Barrett Div., Allied Chem. & Dye Corp., Margaret & Bermuda Sts., Phila. 37, Pa.; res 635 Elm Terrace, Riverton, N.J.
Chem.; b. Minersvillage, Pa., Apr. 19, 1900; s. of Harry Christian and Jean Krause Huber; ed. Lehigh U., Ch.E. 1922; Johns Hopkins U., Ph.D. 1925; m. Elizabeth Grabill, Sept. 25, 1925; ch.: Alice Jean, Francis C., Jr. 1925-26 assoc. prof. chem. & physics, Coll. Charleston, Charleston, S.C.; 1926-36 assoc. prof. chem. Southwestern, Memphis, Tenn.; 1936-37 chf. chem., Alumina Silicates Corp.; 1937-42 chf. chem., Axton-Fisher Tobacco Co., Louisville, Ky.; 1942 to date chem., Barrett Div., Phila. 27, Pa. Mem.: A.C.S., A.I. Ch.E. Hobby: stamps.

HUBER, Richard Light, prod. promotion, Hercules Powder Co., 865 Union Commerce Bldg., Cleveland, Ohio; res. 1277 Belvoir Blvd., South Euclid 21, Ohio.
Chem. sales; b. Harrisburg, Pa., July 24, 1914; s. of Frederick and Nancy (Light) Huber; ed. Lebanon Valley Coll., Annville, Pa., B.S.; grad. wk. Pa. State Coll.; major math. education, minor, chem. biol.; m. Nancy Trout, Dec. 29, 1938; ch.: Martha, Richard. With Linde Air Prods. Co. for 2 yrs., mfr. oxygen on acetylene; schl. tchr. Harrisburg, Pa., 3 yrs.; U.S. Treas. Dept. Disbursements Div, 9 mos.; Pa. State Highway Dept., construction inspec.; Hercules Powder Co., purch. dept., cellulose prods. dept., district representative, Detroit; district rep. Cleveland, prod. promotion. Mem.: Soc. of Plastics Engrs.; Paint, Varnish and

Lacquer Assoc. Clubs: Pine Ridge Country; Perseverence Lodge, Free and Accepted Masons, Harrisburg, Pa.; Ancient Accepted Scottish Rite, Valley of Cleveland. Prof. mem. Soc. of Plastics Engrs.

HUDDLESTON, Charles Elsworth, dir. of res., Gorham Mfg. Co., 333 Adelaide Ave., Providence, R.I.; res. 204 Spencer Ave., E. Greenwich, R.I.
Mech. engr.; b. Buffalo, N.Y., Mar. 23, 1906; s. of Thomas Harry and Marie (Elsworth) Huddleston; ed. Cornell U., mech. engr. 1929; mem.: Phi Kappa Sigma; m. May Cosbey 1937; ch.: May C., Thomas J., Charles E. III. Al. Co. of Am., 1929-34, time study supvr.; Niagara Mach. & Tool Wks., 1934-37, asst. plant mgr.; Upson Co., 1937-39, sales engr.; Carborundum Co., 1939-44, meths. engr.; Blaw Knox Co., 1944-46, chf. engr.; Gorham Mfg. Co., 1946 to date, dir. of res. Mem.: A.S.M.E., Providence Engrg. Soc. Hobbies: golf, sailboat racing.

HUDE, Walter S., v.p. chg. mfg., Southern Chem. Cotton Co., Chattanooga 10, Tenn.; res. Lookout Mt., Tenn.
Chem. engr.; b. Bklyn., N.Y., May 27, 1896; s. of Sven V. and Aagot K. Hude; ed. Polytech Inst. Bklyn., B.S. Chem. 1919; m. Clara V. Troxell, 1922; ch.: Hilda, Phyllis. Western Elec. Co., chem., 1920; Edison Storage & Battery Co., chem., 1921; Stamsocott Co., Hopewell, Va., chem., 1921-23; Gen. Elec. Co., Pittsfield, Mass., chem., 1923-27; Southern Chem. Cotton Co., 1927 to date. Mem.: A.C.S., A.I.Ch.E., A.O.C.S. Clubs: Fairyland Golf, Lookout Mt. Fairyland.

HUDRLIK, Otto Louis, serv. mgr., The Flox Co. Inc., 1132 N. W. Glisan St., Portland, Ore.; res. 1706 N.E. 102nd Ave., Portland 20, Oregon.
Serv. mgr.; b. Mar. 4, 1911, on farm near Owatonna, Minn.; ed. grammar schl., McKinley, Owatonna, Minn.; h.s., Owatonna; B.Chem., U. of Minn., 1935; m. Claudia B.; ch.: Michael O., Paul F., Richard H. Machinist, Owatonna Tool Co., 1928-30; Minn. Natl. Guard, 1928-34; joined The Flox Co. Aug. 6, 1934; to Portland, Oregon, July 1, 1937.

HUDSON, Francis M., mgr., Armour Fertilizer Wks., P.O. Box 312, E. St. Louis, Ill.; res. 4357 W. Pine St., St. Louis, Missouri.
Sales; b. Centerville, Iowa, Apr. 27, 1909; s. of Alex and Olive Hudson; ed. North East, State Tchr. Coll., Kirksville; Chicago U.; m. Lucille Yeachum, May 31, 1931; ch.: Jacquelyn. 1929-37, salesman, Armour Fertilizer Wks., Chicago Hts., Ill.; 1937 to date, mgr. Armour Fertilizer Wks., E. St. Louis, Ill. Active in St. Louis Schl. of Watchmaking & Woodcraft Inst., St. Louis, Mo. Hobby: woodworking.

HUFF, Jesse W., dir. of biochem. res., Sharp & Dohme, Inc., Glenolden, Pa.; res. 111 E. Stewart Ave., Lansdowne, Pa.
Biochem.; b. Westmoreland County, Pa.; s. of Robert F. and Ethel P. Huff; ed. B.S. in chem., U. of Pittsburgh, 1940; Ph.D. in Biochem., U. of Pittsburgh, 1945; m. Catherine M. Bedsworth, Oct. 6, 1944; ch.: Karen, Yvonne. Asst. in biochem., Duke U. Med. Schl., 1940-42; Nutrition Foundation Fellow, Duke U. Med. Schl., 1942-46; O.S.R.D. Project, Duke U. Med. Schl., 1944-46; instr. in biochem., Duke U., Med. Schl., 1945-46; res. biochem., Sharp & Dohme, Inc, 1946-49; asst. dir. biochem. res. Sharp & Dohme, 1949-50 (Feb.) dir. Biochem. Res., Sharp & Dohme, 1950 to present. Studies on the metabolism of nicotinic acid and J pyridoxine. Mem.: Sigma Xi, Acdy. of Sc. (N.Y.), Am. Soc. Biolog. Chemists, Phi Lambda Upsilon, A.A.A.S. Hobbies: photography, woodworking.

HUFF, Wilbert James, chmn. and prof., dir. Engrg. Expt. Station, Dept. Chem. Engrg., U. of Maryland, College Pk., Md.; res. 15 Hilltop Rd., Silver Spring, Md.
Chem. engr.; b. Butler, Pa., Oct. 4, 1890; s. of Leonidas Martin and Mary Ann (Weidhas) Huff; ed. A.B., Ohio Northern U., 1911; hon. D.Sc. 1927; A.B., Yale Coll., 1914; Philosophical Oration, the highest gen. honors then given by Yale Coll., on grad., with spec. hon. in chem.; Larned Fellow in Yale Grad. Schl., 1914-15; Henry Bradford Loomis Fellow in chem., 1915-16; a Macy Fellow, 1916-17; Ph.D. in chem., 1917; mem.: Alpha Chi Sigma; Sigma Xi; Tau Beta Pi; m. Rachel Vergon Smith, May 11, 1918. Res. chem., Barrett Co., N.Y., 1917-18; Lt. commanding Princeton Res. Detachment, C.W.S., U.S.A., 1918-19; chem. in chg. Explosives Chem. Lab., U.S. Bur Mines, Pittsburgh, Pa., 1919-20; res. chem., in chg. Res. Div., Koppers Co. Labs., 1920-24; fellow Mellon Inst. of, Indus. Res., 1921-24; prof. in chg. Dept. of Gas Engrg., Johns Hopkins Univ., 1924-37; indust. conslt., 1924-35; chf. chem. in chg. of Explosives Div., U.S. Bur. Mines, 1935-37; conslt. explosives chem. directing tech. and res. wk., Explosives Div., U.S. Bur. Mines, 1937-46; conslt. chem. engr., Fuels and Explosives Branch, U.S. Bur. Mines, 1946-50; chmn. and prof., Dept. Chem. Engrg., U. of Maryland, 1937 to date; chmn. Div. of Physical Scs., 1938 to date; dir., Engrg. Exper. Sta., 1940 to date; mem. of Grad. Council, 1941 to date; mem. Gen. Admin. Bd., 1938 to date, all at U. of Maryland and running concurrently; conslt., Indust. Res. and Dev. Div., U.S. Dept. of Commerce, 1946-47; conslt., Army Chem. Corps, Army Chem. Center, 1949 to date; Lt. commanding Princeton Res. Detchmt. C.W.S., U.S.A., 1918-19; W.W. II, chmn., Joint Army-Navy-Bur. Mines Bd. on Storage of Smokeless Powder, 1944-47; dir. of war res. on explosives for the U.S. Bur. Mines, 1941-46; mem. of Major Disaster Panel of Safety & Security Div., Army Ord. 1942-45; conslt., same div., Army Ord., 1942-45. Author of numer. tech. arts., reports, pub. in var. sc. jls. also author or co-author of "Corrosion Under Oil Films, with Spec. Ref. to the Cause and Prevention of the After-Corrosion of Firearms," Tech. Paper, Dept. of Interior, Bur. of Mines, 1922; "Corrosion in the Gas Industry," Chapt. 12, "Recent Progress in Sc. in Relation to the Gas Industry," Amer. Gas Assoc., 1926; "Gaseous Fuels," Section of Chem. Engrs'. Handbook (John H. Perry, ed.-in-chf., 1934, 2nd ed. 1941. 3rd ed. 1950; "Phenomena in the Ignition of Firedamp by Explosives. 1. Particles from the Detonation." Bur. of Mines Tech. Paper, 1940; "The Mfr. of High-BTU Gas from Solid Fuels," Statement before Fed. Power Commis., 1946; "Sources of Gas Ignition: A Discussion Paper," Amer. Gas Assoc., 1947; "Four Year vs. Five Year Engrg. Curricula," S.E. Sect. S.E.E., pub. in abridged form by U. of Fla., as one of papers presented at inaug. of pres. of U. of Fla., Mar., 1948 pub. in full Jour. Soc. Engr. Educ. 39, 555-8 (1949), holds num. U.S. and froeign pats. in his fld.; res. on rate of hydrolysis of hypophosphoric acid; res. on catalytic air oxidation of benzene to maleic acid; res. on cause of after-corrosion of firearms, origin of carbon disulfide in gas making, etc.; contrib. on chem. and engrg. problems on explosives and on gas mfr., distrib. and utilization. Fellow, A.A.A.S. Mem.: A.A.U.P. (pres. Md. Chapt., 1945-46, 1946-47); AC.S. (chmn. Gas & Fuel Div. and mem. of Council, 1935); A.I.Ch.E. (chmn. of Md. Sect. 1935-36); Am. Gas Assoc. (chmn. Chem. Comm. 1931; chmn. many subcomms. tech. sec. to date); Sigma Xi, Tau Beta Pi; coop. mem. sev. subcomms. of Comm. D-3 of A.S.T.M.

HUFFERD, Ralph W., chf. assessment br., Camp Detrick, Frederick, Md.; res. 203 Rockwell Terrace.

Chem., org., pet.; b. Neosho Co., Kans.; s. of Jacob H. and Belle Woodward Hufferd; ed. A.B., Wash. U. (St. Louis), 1915; M.A., U. of Ill. 1917, Ph.D. 1920; post doctorate courses, Graz U., Graz, Austria, 1932; U. Chicago, Cornell U.; m. Margery Simpson, July 21, 1927. Asst. prof. chem., DePauw U., 1920-22; assoc. prof. 1922-25; prof. chem., 1925-33; dir. spec. res. & dev., Kendall Refining Co., Bradford, Pa. 1936-41; chf., res. & dev. br., tech. div., off. of chf., C.W.S. 1941-42; chf., chem. res. div. Edgewood Arsenal, Md. 1942-43; chf., pyrotech. div. 1943-45; commanding officer, Tech. Comm., Edgewood Arsenal, 1945; spec. res., Kendall Ref. Co., Bradford, Pa., 1946-50; chf. assessment br., M. Div. Biol. Warfare Dept., Camp Detrick, Frederick, Md., 1950 to date. Res. in steric hindrance, pet. hydrocarbons, spec. prods., dev. of incendiary munitions. Mem.: A.C.S., Sc. Res. Soc. Am., Ind. Acdy. Sc. (fellow), Sigma Xi, Phi Lambda Upsilon, Legion of Merit. Hobby: fishing.

HUGHES, Everett Clark, chf., chem. and phys. res. div., Std. Oil Co. (Ohio), 2127 Cornell Rd., Cleveland 6, Ohio; res. 2883 Huntington Rd., Shaker Heights.
Chf., chem. and phys. res.; b. Nov. 22, 1904; ed. Carleton Coll., A.B. 1927; Cornell U., Ph.D., 1930; m. Ruth Scherer, 1931; ch.: Mary Alice, Kathleen, Robert, Bruce, Randolph S. 1928, tchg. asst., 1929, Heckscher Fellowship, Cornell U. Chem. Dept.; 1930, chem., Std. Oil Co. (Ohio) Chem. Res. Div.; 1944, chf. same co. Holds 78 pats. Mem.: A.P.I. Advisory Comm. on Fundamental Res. on Composition and Properties of Petroleum; Advisory Bd., Gordon Res. Conferences A.A.A.S.; C.R.C., C.F.R. Aviation Fuels Div.; A.C.S.; Advisory Bd. of Western Res. U. Frontiers in Chem.; Sigma Xi; dir. of Cleveland Sect., A.C.S.

HUGHES, Gordon, prof. of phys., Physics Dept. Alabama Polytech. Inst., Auburn, Ala.; res. Briarbrook on Woodfield, Auburn, Ala.
Tchr.; b. Bucyrus, Ohio, June 18, 1905; s. of Harry D. and Florence (Welch) Hughes; ed. Oberlin College, Oberlin, Ohio, B.A. 1928; U. of Ill., M.A. 1929; Ph.D. 1931; m. Agnes Dyson, Aug. 26, 1933; ch.: Kathryn Ann, Delos. 1931-33 Illinium Fellow, U. of Ill.; 1933-38 instr. in phys., 1938-41 asst. prof. in phys., Ala. Polytech. Inst.; 1941-43 res. physicist, Naval Ord. Lab., Wash., D.C.; 1943 to date prof. of phys. Ala. Polytech. Inst.; res. and studies in the rare earths. Mem.: Sigma Xi, Phi Lambda Upsilon, Sigma Pi Sigma, Phi Kappa Phi; Optical Soc. of Amer.; A.Phys.S. Club: Faculty, Ala. Polytech. Inst. Hobbies: gardening, architecture. Officer: mem. bd. of dirs. Auburn Res. Foundation.

HUGHES, Harold Kenneth, physicist, asst. supvr., special anal. sec., Socony-Vacuum Labs., Bklyn. 22, N.Y.; res. 9020 Wall St., Hudson Heights, N.J.
Physicist; b. N.Y.C., Dec. 31, 1911; s. of John Watt and Rachel Elizabeth (Mulgrew) Hughes; ed. Columbia Coll., 1930-34, A.B. honors in physics, Phi Beta Kappa; Columbia U., M.A., 1943, Ph.D. 1948; mem.: Sigma Xi, Epsilon Chi; m. Mildred M. Wells, July 22, 1936; ch.: Phyllis Lorraine, Marilyn Patricia. 1929-30, Bell Telephone Labs., student asst.; 1935-36, Columbia U., asst. in physics, 1936-40 instr. in physics; 1940-45, U. of Newark, asst. prof. of physics; 1944-45, Columbia Radiation Lab., war res.; 1945 to date, Socony-Vacuum Labs., asst. supvr., special anal. sec. Res. in molecular spectroscopy; numerous publ. in flds. of chem. anal. by x-ray & emission spectroscopy; standardization; electronics; standardization of spectroscopic nomenclature. Mem.: Soc. for Applied Spectroscopy (pres.), Am. Physical Soc., A.C.S., Am. Assn. of Physics Teachers, Inst. of Radio Engrs., Opt.S.A., Am. Crystallographic Assn., Am. Soc. for Quality Control. Club: Interstate Hiking. Hobbies: hiking, tennis, sailing, square dancing, camping, music.

HUGHES, Horatio, prof. of chem. and phys., Coll. of Charleston; res. 15 Logan St., Charleston, S.C.
Prof. of chem. and phys.; b. Charleston, S.C., Oct. 20, 1885; s. of H. C. and Julia S. Hughes; ed. Coll. of Charleston, BS., 1905, M.A., 1906; Johns Hopkins U., Ph.D., 1913; mem.: Kappa Alpha; m. Josephine Lane, 1914; ch.: Horatio, Jr., Mrs. E. R Swan, Mrs. T. B. Farrow. 1913-15, asst. prof. chem., Ga. Schl. of Tech.; 1915-16 instr. chem., U. of Ga.; 1916-19 prof. chem. Presbyterian Coll. of S.C.; 1919-23 prof. chem., Fla. State Coll for Women; 1923 to date prof chem., Coll. of Charleston. Mem.: A.A.A.S. (fellow); S.C. Acdy. of Sc. (fellow). Hobby: meterology.

HUGHES, Hugh D., sales mgr., Industrial Chemicals, Carbide and Carbon Chemicals Division, Union Carbide & Carbon Corp., N.Y.C.: res. 119 Stonehouse Road, Bloomfield, N.J. (Mail: Glen Ridge, N.J.).
Chem., b. Ephrata, N.Y., Dec. 1, 1898; s. of David and Harriet Deal Hughes; ed. B.A., M.A., Wesleyan U., 1920 and 1921, grad. high honors, mem.: Phi Beta Kappa, Beta Theta Pi; m. Hazel Miles, August 10, 1929; ch.: Elizabeth, David, Edward. Chem., du Pont Fibre-silk Co., Buffalo, N.Y. 1921-23; salesman, Linde Air Products Co., New York, N.Y., 1924-28; salesman and later sales mgr., Industrial Chemicals, Carbide and Carbon Chemicals Div. of Union Carbide and Carbon Corporation, 1928 to present. Club: Chemists' (New York).

HUGHES, Thomas Gerald, pres., Oronite Chem. Co., 38 Sansome St., San Francisco, Calif.; res. 361 LaSalle Ave., Piedmont, Calif.
Exec.; b. Oakland, Calif., Aug. 8, 1908; s. of Thomas R. and Jessie D. Hughes; m. Marie F. Balsley, 1945. Dir. Calif. Res. Corp.

HUISKING, Chas. L., pres., Chas. L. Huisking & Co., Inc., 155 Varick St., N.Y. 13, N.Y.; res. Huntington, L.I., N.Y.
Exec.; b. Bklyn., N.Y., Feb. 2, 1885; s. of Paul H. and Bertha Huisking; ed. local schs.; m. Catherine Frances Perridge, Aug. 29, 1911; ch.: 5 sons, 3 daughters—one son, Lt. Frank R. Huisking, air pilot, lost in W.W. II. Started as office boy Jan., 1898, Thomas M. Curtius, drug broker; started own bus. Jan. 1, 1910 as drug broker, which dev. eventually into firm of Chas. L. Huisking & Co., Inc., with divs. Peder Devold Oil Co., Inc., Santonine Co. of Am. Inc.; also formed Conti Prods. Corp. for mfr. of Castile prods., this co. merged in 1950 with J.B. Williams Co., Glastonbury, Conn. Chmn. for many yrs. of Drug Market Comm. of N.W.D.A.; active for many yrs. in drug trade assns. Decorated by King of Norway, May 28, 1935, with Order of Knighthood of St. Olav, First Class, for activities in connection with stabilization of cod liver oil ind. J.B. Williams Co. (dir.); Maltine Co. (dir); Merchants & Mfrs. Ins. Co. (dir.); Lafayette Natl. Bank (dir.). Former pres. & dir. of Huntington Hosp.; dir. of St. Clare's Hosp., N.Y. Clubs: Drug & Chem., Wool, Huntington Crescent.

HUISKING, Joseph A., v.p., Fritzcshe Bros., Inc., 76 Ninth Ave., New York 11, N.Y.; res. 150 Greenway Terr., Forest Hills, Long Island. N.Y.
Exec.; b. Bklyn., N.Y., July 12, 1897; s. of Paul H. and Bertha (Quaback) Huisking; ed. Holy Name Schl., Bklyn.; St. Augustine's Acad., 1910-12; m. Bertha (Peggy) Acker, Aug. 15, 1917; ch.: Dorothy (Mrs. V.L. Rebak). Left schl. in 1912

to join Chas. L. Huisking in brokerage business; became v.p. when business incorporated, and secy. in 1936; joined Fritzsche Bros., Inc., July 1, 1939 as asst. to pres.; elected v.p. in 1941 and v.p. and treas. of Fritzsche Bros. of Canada, Ltd., 1944. Mem. bd. of govs. Drug & Chem. Club, 1931-39; pres. in 1937; mem. bd. of dirs. N.Y. Bd. of Trade, 1937-41; chmn. of Drug, Chem. and Allied Trade Sect. of the N.Y. Bd. of Trade, 1937; chmn. Hall of Pharmacy for Drug Indus. participation in N.Y. World's Fair, 1937;-40. Clubs: Drug & Chemical; N.Y. Athletic; Garden City Country; Seigniory (Canada). Hobbies: golf, baseball, fishing.

HULL, Lewis Woodruff, mgr., chem. process equipt. div., F.J. Stokes Machine Co., Tabor Rd. E. of Adams Ave., Phila. 20, Pa.; res. Southhampton, Pa.
Chem. engr.; b. Scranton, Pa., Oct. 16, 1916; s. of Robert A. and Clara W. Hull; ed. Phillips Exeter Acad.; M.I.T., B.S. 1938; m. Margaret Carson, June 7, 1947; ch.: Arthur Stanley. 1938 to date, F.J. Stokes Machine Co., engrg. & sales. Equipt. dev. in fld. of vacuum processing. Mem.: Alpha Chi Sigma, A.C.S. Hobby: motorless flight.

HULL, Raymond R., pres., I.P. Thomas & Son Co., 721 Market St., Camden, N.J.; res. 103 Thomas Ave., Riverton, N.J.
Chem. engr.; b. Keokuk, Ia., May 18, 1903; s. of Wm. J. and Sarah (Russell) Hull; ed. B.S., chem. engrg., Iowa State Coll., 1924; m. Josephine P. Coale, Aug. 23, 1930; ch.: Mary F., Elinor S. Held following positions with du Pont Co.: 1925-28, chf. chem., acid supvr., 1928-30, chem. supvr., 1930-34, powder supt., 1934-37, dye intermediates, supt., 1937-39; positions held with I.P. Thomas & Son Co.: Prod. mgr., 1939-43, v.p., 1943-48; pres., 1948 to date. Res. chf. nitrogen unit, W.P. B., Wash., D.C., 1943-45. Stagson Res. Corp., pres. & dir.; Fertilizer Industries, Inc., dir. Mem.: A.I.Ch.E., Franklin Inst., Phi Lambda Upsilon. Mem. Bd. of Mgrs., local hospital. Clubs: Union League, Riverton Country. Hobbies: golf, swimming, fishing.

HULL, Washington, dir. of chem. res. and dev., R'way Consulting Engrs., 107 4th Ave., New York 3, N.Y.; res. Lagoon Blvd., Massapequa, L.I., N.Y.
Chem. engr.; b. Brooklyn, N.Y., Jan. 15, 1893; s. of Washington, Sr., and Julia Pauline (Steencken) Hull; ed. Va. M. Inst., 1908-10, Columbia U., Schl. Mines (Engrg., and chem.) 1910-11, B.S. in chem. engrg., Swarthmore Coll., 1914; mem.: Phi Gamma Delta (Columbia U.); m. Emily G. Stevenson, June 9, 1928; ch.: Richard Franklin. Serum chem., E.R. Squibb & Sons, New Brunswick, N.J., 1914-15; org. res. chem., Experimental Sta., Wilmington, Del., E.I. du Pont de Nemours & Co., 1915-19; supt. Transatlantic Chem. Co., Linden, N.J., 1919-22; assoc. chem., C.W.S., U.S. Govt., Edgewood Arsenal, Md., 1922- 6 months; chf. chem., Vernon Synthetic Chem. Corp., Long Island City, N.Y., 1923-26; chem. dir., Paintex Products Corp., 30 Irving Pl., New York, 1926-28; v.p., Brite Mfg. Co., 30 Irving Pl., and Bronx, N.Y., 1928-31; res. chem., G. & A. Labs. Savannah, Ga., 1932-36; res. group ldr., Amer Cyanamid Co., Stamford Res. Labs., Stamford, Conn., 1936-44; R'way Consulting Engrs., Inc., pres., 1944 to present. Res. and dev. on manuf. of synthetic toluol W.W. I., res. dev. on manuf. of Perbunan Rubber W.W. II; 7 U.S. patents. Mem.: A.C.S., A.Inst. of Chemists (fellow). Club: Phi Gamma Delta. Hobbies: boating and golf.

HULME, Richard E., owner, Richard E. Hulme Associates, 75 Jefferson St., Bradford, Pa.
Chem. engr.; b. Bradford, Pa., Dec. 9, 1903; s. of William H. and Jane Allen Hulme; ed. Alfred U., Carnegie Inst. Tech., B.S.C.E., 1929, St. Bonaventure U., M.S., 1939; mem.: Kappa Delta (Alfred); m. June Neill in 1940. Kendall Refining Co., 1933-41, asst. ch. engr.; Blow Knox Co., 1941-44, design engr.; Diamond Alkali Co., 1944-50, Sr. Chem. engr. dev.; Richard E. Hulme Asso., 1950 to present, owner. Member of engrs. team that designed co-polymer rubber plants; perfected process for making periclase from dolomite; designed process & equipment for evaporating caustic to anhydrous cond.; computed thermodynamic property table for chlorine; designed process for recovering chlorine from air. Contrib. arts. to tech. Mem.: A.I.C.E., A.C.S., Am. Asso. Engrs., A.A.A.S., Reg. prof. engr., Ohio and Pa.

HULSE, Robert Edwin, dir. of res., Natl. Distillers Res. Div., Natl. Distillers Prods. Co., 1275 Section Rd., Cincinnati 37, O.; res. 5784 Euclid Rd., Cincinnati 36, Ohio.
Chem.; b. Trenton, N.J., June 5, 1905; s. of Edwin Albert and Nellie Amelia Hulse; ed. Rutgers U., B.S. (cum laude), 1927; M.Sc., 1928; Ph.D., Cornell U., 1930; mem.: Ivy Club; m. Helen Louise Kenny, Sept. 19, 1933; ch.: R. Douglas. With du Pont, Electrochem. Dept., dev. chem., 1930-36; sodium area supt., 1936-39; plant supt., 1940-41; plant mgr., 1942-44; spec. tech. and engr. assignment, 1945-June, 1949; with Natl. Distillers Prods. Co., dir. of Res., June, 1949, to date; holds numerous pats. in electrochem. fld., esp. sodium. Mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, A.C.S., E.S. Past officer, Indust. Electrolytic Soc., E.S. Clubs: Kenwood Country (Cincinnati), Niagara Club (Niagara Falls, N.Y.). Hobbies: golf, bowling, gardening.

HULTQUIST, Martin Everett, asst. dir. of phar. res., Amer. Cyanamid Co., Calco Chem. Div., Bound Brook, N.J.; res. Morning Glory Rd., Bound Brook.
Res. chem.; b. Laird, Colo., Oct. 31, 1910; s. of Jonas and Emma (Johansson) Hultquist; ed. U. of Colorado, B.S. Phar. 1931; M.S. chem. 1933; Ph.D. chem. 1935; mem.: Phi Delta Chi, Acacia; m. Lucile Ireland, Sept. 4, 1934; ch.: Harry David, Per Martin. With Amer. Cyanamid Co., Calco Chem. Div. as res. chem. 1935-44; chf. chem., pharmaceutical res., 1944-46; asst. dir. of phar. res. 1946 to date; res. in sulfanilamide derivatives, folic acid and derivatives, and org. medicinal prods. Mem.: A.A.A.S.; Fellow of A.I.C.; Fellow of N.Y. Acad. of Scs.; A.C.S. Club: Masonic. Hobby: glass blowing.

HUMPHREY, Laurence Edmund, asst. supt., Bakelite Div., Union Carbide and Carbon Corp., Bound Brook, N.J.; res. 441 Everson Pl., Westfield, N.J.
Chem. engr.; b. Grand Island, Neb., Nov. 12, 1912; s. of Claude Thayer and Elizabeth McGill Humphrey; ed. B.S. Chem. engr., U. of Neb., 1935; mem.: Pi Kappa Alpha; m. Margaret Eva Kerl, Apr. 1938; ch.: Lynn Elizabeth, Janet Rae. Held following positions with the Bakelite Div., Union Carbide and Carbon Corp.: Res. chem., 1935-37; dev. engr., 1937-39; dept. hd. 1939 to 1942; dept. hd. 1945-50; asst. supt. 1950 to date; major U.S. Army, Hq. A.S.F., 1942 to 1945. Res. in dev. of polystyrene resins and molding mtls. Trustee 1st Congregational Church of Westfield, N.J. Hobby: golf.

HUMPHREY, Leo Chandler, prof. of chem., Whitman Coll., Walla Walla, Washington; res. 603 University, Walla Walla, Washington.
Teaching; b. Charlemont, Mass., Sept. 28, 1895; s. of Charles A. and Minerva Vincent Humphrey; ed. Montana State Coll. B.S. 1919, U. of Minnesota, 1921-24, Whitman Coll., M.S. 1933; mem.: Sigma Alpha Epsilon, Alpha Chi Sigma, Phi Lambda Epsilon, Gamma Alpha; m. Louise Forbes,

Dec. 21, 1921; ch.: Dorothy Ann Scott. Instr., Chem., Montana State Coll., 1919-21; asst. in chem., U. of Minn., 1921-24; instr. of chem., Whitman Coll., 1924-25, asst. and assoc. prof. chem., 1925-45, prof., chem., 1945 to date; dean of men, 1936 to 1945. Res. on diphenyl derivatives. Mem.: A.C.S., A.A.U.P. Hobbies: fishing, athletics.

HUMPHREYS, Carl Dick, asst. dir. of res., General Cable Corp., Bayonne, N.J.; res. 234 Walnut St., Westfield, N.J.
Chem.; b. Pasadena, Calif., June 20, 1912; s. of William C. and Ethel (Dick) Humphreys; ed. U. of Southern Calif., B.S. in Ch.E., 1933; mem.: Phi Kappa Tau; m. Elisabeth Jones, Oct. 17, 1936; ch.: John, Juliet, Jane, Virginia. 1933-37 lab. chem., Pacific Goodrich Rubber Co., Los Angeles; 1937-39 tech. serv. chem., B.F. Goodrich Co., Akron, O.; 1939-45 compounding chem. Miller Div., B.F. Goodrich Co.; 1945-46 factory mgr., Ryden Mfg. Co., Plymouth Meeting, Pa.; 1947 to date asst. dir. res. General Cable Corp., Bayonne, N.J. Mem.: A.C.S., A.S.T.M. Hobby: music.

HUNT, Harvey Lee, partner, Norfolk Testing Labs., 288 Bank St., Norfolk 10, Va.; res. 1411 N. Shore Rd., Norfolk.
Anal. & consltg. chem.; b. Clifton Forge, Va.; s. of Howard S. and Dora L. (Wood) Hunt; ed. grad. (valedictorian) Miller Schl., Miller Schl., Va. 1912; post-grad. student 1912-13; m. May Leone Hudson, Aug. 17, 1925; ch.: Barbara May. 1913-17, chem., Electro-Metallurgical Co., Niagara Falls, N.Y.; 1917-19, chem., U.S.N., U.S.S. Prometheus; 1919 to date, partner, Norfolk Testing Labs. Chem. Mfg. Corp. (treas.). Spec. wk. performed aboard U.S.S. Prometheus, European waters 1918. Mem.: A.C.S., A.S.T.M., Am. Ind. Hygiene Assn., A.A.A.S., Va. Acad. of Sc., Hampton Rds. Chemists (past chmn., now Hampton Rds. Sec. A.C.S.), Marine Gas Chem. Assn. (past chmn.), Cert. Chem. Am. Bur. Shipping. Clubs: Norfolk Lions (past pres.), Corinthian Lodge 266, A.F. & A.M., Norfolk No. 1, Royal Arch Chapter, Grice Commandery 16 K.T., Khedive Temple A.A.O.N. M.S., Commissioned Officers Golf of Norfolk, Assoc. Exec. Hobbies: golf, tinkering around home.

HUNT, Herschel, prof., Purdue U., Lafayette, Ind.; res. R.R. 2, Lafayette.
Prof. of phys. chem.; b. Apr. 22, 1906; s. of Monroe and Sarah Hunt; ed. Oakland City Coll., A.B. 1926; Indiana U., M.A. 1927; Ph.D. 1929; mem.: Acacia; m. Isabelle Crostreet, Aug. 26, 1929; ch.: H. Maurice, Meredith, Ted C. 1929-30, instr. M.I.T.; 1930-32, instr., 1932-36, asst. prof., 1936-38, assoc. prof., 1938 to date, prof., Purdue U. Author: "Physical Chemistry," 1945.

HUNT, Lucian F., hd. of phys. sc. dept., Northern Mich. Coll. of Education, res. 368 W. Park St., Marquette, Mich.
Prof. of chem.; b. Montezuma, Iowa, May 4, 1898; s. of Charles Clyde and Catharine Maria (Knapp) Hunt; ed. Drake U., 1916-17; Coe Coll., 1917-20 B.S., Ohio State U., 1920-25 M.A. 1922, Ph.D. 1931; m. Myrtle M. Maibauer, 1927; ch.: Catharine Dorothea, Meta Ann. Instr. Coe Coll., summers, 1923 and 1924, and Sept., 1924 to June, 1925; Northern Mich. Coll. of Education 1927-42; prof. of chem. same coll., 1942-48; hd. of phys. sc. dept. same coll., 1948 to date. Mem.: Sigma Xi, A.C.S., Central Assoc. of Sc. and Math. Tchrs. Clubs: Masonic, Chapt. R.A.M., Council R. & S.M., Commandery K.T.; Eastern Star, York Cross of Honor, Consistory. Hobbies: gardening, woodworking.

HUNT, Roy A(rthur), pres., Aluminum Co. of America, Pittsburgh 19, Pa.; res. Pittsburgh.
Exec.; b. Nashua, N.H., Aug. 1881; ed. Yale, A.B., 1903; m. Rachel McMasters Miller, June 11, 1913; ch.: 4 sons. Aluminum Co. of Amer., mill and cost clerk, New Kensington plant, 1903-06; asst. supt. and supt., 1906-14; v.p. in chg. fabricating plants to 1928, pres. 1928 to date. Mem.: Eng. Soc. West. Pa. Clubs: Pittsburgh, Duquesne, Pittsburgh Golf, Allegheny Country, Rolling Rock (Pittsburgh), Yale, Cloud (N.Y.C.).

HUNTER, A(rchibald) Stuart, tech. dir., res. & dev. branch, Military Planning Div., O.Q.M.G., Army; res. 609 Lore Ave., Wilmington, Del.
Tech. Dir., R. & D. Br.-O.Q.M.G.-Army; b. Beachmont (Suffolk County), Mass., Aug. 28, 1897; s. of James Archibald and Ann Gertrude (Relyea) Hunter; ed. B.S., Norwich U., Northfield, Vt., 1916-20; Ph.D. Johns Hopkins U., Baltimore, Md., 1921-24; m. Dorothy Belle Slayton, Aug. 1, 1925; ch.: Dorothy Ann, Nancy Laura, Barbara Jane. Res. chem., H.A. Metz Co., Brooklyn, N.Y., 1920-21; res. chem., Mellon Inst. of Indus. Res., Pittsburgh, Pa., 1924-27; res. chem., E.I. du Pont de Nemours & Co., Inc., Buffalo, N.Y., 1927-41; field dev. technologist, E.I. du Pont de Nemours, Wilmington, Delaware, 1941-46; tech. dir., Dept. of the Army, O.Q.M.G. Mil. Plng. Div., Res. and Dev. Branch, 1946 to date; Res. in subsistence products and packaging; environmental protection; chemicals; plastics; textiles; footwear; mechanical products; fuels and lubricants handling equipment. Mem.: A.C.S. Soc. of Rheology, Am. Inst. of Physics, Chem. Engr. Club (Washington) Chemists' Club (N.Y.), Naval Ordnance Dev. Award, Army Certificate of Merit, Sigma Xi. Hobbies: gardening, dog raising, coin collecting, hunting and fishing.

HUNTER, Basil J., chf. engr., Michigan Chem. Corp., North & Bankson Sts., St. Louis, Mich.; res. 134 Wilson Dr., St. Louis, Mich.
Engr.; b. Defiance, Ia., Apr. 26, 1914; s. of David Wm. and Velma L. Hunter; ed. Iowa State Coll., 1938, B.S. in Civil Engrg., State U. of Iowa, 1940, M.S. in mech. engrg; mem.: Alpha Tau Omega; m. Arlene E. Schafroth, Dec. 29, 1937; ch.: Elizabeth Ann, David Wm. 1938-39, W. H. Bilby Co., Des Moines, Ia., construction supt.; 1940-44, E.I. du Pont de Nemours & Co., Inc., construction contact man to Feb., 1943, then fld. engr. in chrg. construction, Seaford, Del. and Martinsville, Va., nylon plants; 1944-46, U.S. Navy, Ship Supt. & Planning Officer, Norfolk Naval Shipyard; Sept., 1946 to present, chf. engr. Mich. Chem. Corp. Mem.: A.S.M.E. Hobbies: golf, bowling.

HUNTER, George William, hd. of chem. dept., prof. of chem., Maryland State Coll., Princess Anne, Md.; res. same.
Chem., coll. prof.; b. Jenkintown, Pa., Sept. 29, 1911; s. of Joseph W. and Esther (Holland) Hunter; ed. Lincoln U., A.B. (cum laude), 1931; Columbia U., A.M. 1933; Penn. State Coll., Ph.D. 1946; mem.: Alpha Phi Alpha; m. Anna DeCosta, July 12, 1932; ch.: Georgiana, George, Jr. 1930-31, instr. of chem., Lincoln U., Pa.; 1934-35, assoc. prof. of chem. Prairie View State Coll.; 1933-34, asst. prof. of chem., Texas Coll.; 1935-36, prof. of chem., Texas Coll.; 1939-42, assoc. physiol., City College of N.Y.; 1942-44, asst. prof. of chem., Hampton Inst.; 1944-48, hd. of chem. dept. same inst.; 1948, hd., and prof. of chem. dept., Maryland State Coll. Contrib. to: Jl. Amer. Oil Chem. Soc., Jl. Chem. Education; work on fatty acid esters, synth. and phys. constants. Mem.: Sigma Xi, Gamma Sigma Delta, Phi Lambda Upsilon, Beta Kappa Chi, A.A.U.P., Natl. Tech. Assoc., A.C.S., Amer. Statistical Assoc., Natl. Inst. of Sc., Maryland Educ. Assoc., A.A.A.S., Md. Acad. of Sc. Natl. v.p. Beta Kappa Chi 1948 to date; Gen. Educ. Bd. Fellow 1945-46. Clubs: Masons, Elks. Hobbies: tennis, old coins.

HUNTER, J. E., dir. of res., Allied Mills, Inc., Box 459, Libertyville, Ill.; res. 1411 Maple, Evanston, Ill.
Chem.; b. Patterson, Mo., Nov. 16, 1901; s. of John C. and Dora E. Hunter; ed. U. of Mo., B.S. 1924; M.A. 1925; Ph.D. 1928; mem.: Alpha Chi Sigma, Alpha Gamma Rho; m. Elizabeth L. Duncan, Oct. 19, 1928; ch.: John Ed. 1929-37 prof. of Agric. and Biolog. Chem., Penn. State Coll.; 1937 to date, dir. of res., Allied Mills, Inc. Mem.: Alpha Zeta, Gamma Sigma Delta, A.C.S., Amer. Feed Mfrs. Nutritions Council and Soybean Res. Council. Club: Creve Coeur. Hobbies: golf, hunting, fishing.

HUNTER, James Heyworth, v.p. in chg. of mfg. and engr., Columbia Records, Inc., 1473 Barnum Ave., Bridgeport, Conn.; res. Redding Ridge, Conn.
Chem. engr.; b. Phila., Pa., Nov. 13, 1903; s. of James David Morris and Mrs. Emma G. Bolster; ed. grammar schl., Phila.; West Phila. H.S., U. of Penn., U. of Penn. Grad. Schl. of Chem. Engrg.; (degree of chem. engr. U. of Penn., 1933); awarded scholarship in U. of Penn. Grad. Schl. of Chem. Engrg.; mem.: Theta Chi, Alpha Chi Sigma; m. Helen Young Atkins, July 13, 1946; ch.: Margaret Howard, James Heyworth. With Victor Talking Machine Co. (now RCA Mfg. Co., Camden, N.J.) chf. engr. of record mfg. div.; 1937 in chg. of mfg. phonograph records; now with Columbia Records Inc., Bridgeport, Conn., v.p. in chg. of mfg. and engr.; notable work in flds. of plastics and electro-chem.; holds numerous pats. on plastics and electro-chem. processes. Dir. M. and W. Corp., Newark, N.J. Mem.: Chemists' Club, A.C.S., Western Conn. Sect., Electrochem. Soc. Inc. Clubs: Algonquin (Bridgeport, Conn.). Hobbies: baseball, travelling, cards.

HUNTER, Louis Nathaniel, v.p. res., Natl. Radiator Co., 221 Central Ave., Johnstown, Pa.; res. 113 Palliser St., Johnstown.
Engr.; b. Brampton, Ontario, Canada, Aug. 27, 1903; s. of John Henry and Elizabeth Jane Hunter; ed. U. of Toronto, 1921-25, B.A.Sc.; m. Eileen Mary Magennis, Aug., 1940; ch.: Mary Patricia. 1925-30, res. engr., Bryant Heater Co., Cleveland, Ohio; 1930-41, res. engr., asst. mgr. of res., mgr. of res., Natl. Radiator Co., Johnstown, Pa., 1941 to date v.p. res. & dir. Mem.: A.S.M.E., A.C.S., Am. Soc. of Heating & Ventilating Engrs. Clubs: Sunnehanna Country, Bachelors.

HUNTER, Matthew A., dean of faculty (emeritus) & conslt., dept. metallurg. engrg., Rensselaer Poly. Inst., Troy, N.Y.; res. 8 Whitman Court, Troy.
Metallurg. engr. & educator; b. Auckland, N.Z., Nov. 9, 1878; s. of Scott and Anne Caroline (Moore) Hunter; ed. B.Sc., M.Sc., M.A., U. of N. Zealand, 1900-02; D.Sc., U. of London (Eng.), 1904; postgrad. wk., Göttingen & Karlsruhe (Ger.), Paris (Fr.); D.Eng., R.P.I., 1949; mem.: Theta Xi, Renss. Soc. Engrs., Tau Beta Pi, Sigma Xi, Phi Lambda Upsilon; m. Mary A. Pond, Dec., 1907, Greenfield, Mass.; ch.: Matthew Scott, Marjorie (Hunter) Humphrey. 1905-08, res. engr., res. lab., Gen. Elec. Co., Schenectady, N.Y.; 1908-15, asst. prof., electrochem., electrometall., R.P.I., Troy; 1915-33, prof.; 1933-37, hd., dept. of elec. engrg.; 1935-45, hd., dept. metallurg. engrg.; 1945-49, dean of faculty; 1949 to date, dean emeritus & conslt., dept. metallurg. engrg.; 1919 to date, dir. res., Driver Harris Co., Harrison, N.J.; 1923 to date, conslt. engr., W. & L. E. Gurley, Troy; conslt., at various times, to Leeds Northrup, Titanium Alloy Mfg., Kennecott Copper. Titanium metal & pigments; physical properties of alloys; high temp. alloys; electrometallurg. of titanium. Contrib. to "Metals Handbook" & "Story of Stainless Steels"; papers in tech. jls. Mem.: A.C.S., Am. Electrochem. Soc., A.I.M.E. (ed. comm.), A.S.M. (chmn., ed. comm.), A.A.A.S. Clubs: Troy, Troy Country. Hobbies: amateur photography, amateur gardening.

HUNTER, Ralph M(aurice), mgr. electrochem. div., The Dow Chem. Co., Midland, Mich.; res. 1001 St. Andrews Dr., Midland, Mich.
Chem. engr.; b. Phila., Pa., Aug. 18, 1896; s. of William J. and Laura V. Hunter; ed. West Phila. H.S., Phila. Pa., 1910-14; Case Inst. of Tech., Cleveland, O., 1914-18; B.S. chem. engrg. 1918; chem. engr. 1931, Dr. of Engrg. 1950; mem.: Kappa Sigma Natl. Frat., Sigma Xi (hon. Eng.); m. Harriet A. Towsley, July 3, 1923; ch.: Hilton W., Jean H. 1918 to date with The Dow Chem. Co., Midland, Mich., in chg. of prod. and dev. alkali chlorine cell, magnesium, graphite electrode, Midland Ammonia Co.; res. process and apparatus improvements in electrolytic prod. magnesium, chlorine, caustic soda, liquefaction of chlorine, ammonia, bromate. Mem.: bd. of dirs. The Dow Chem. of Canada, Ltd.; mgr. Midland Ammonia Co. Author: "Electrochem. of Dow Magnesium Proc." 1944; "Survey of German Magnesium Indus. Near Bitterfeld and Electrolytic Chlorine Indus. in Leipzig-Munich Area" 1945; "Fifty Years of Electrochemical History" 1948; "German Chlorine—A Report on Prod. Meths." 1945. Mem.: A.C.S., E.S. (sr. v.p.); Natl. Assoc. of Corrosion Engrs.; A.I.ChE. On bd. of control (secy.) Michigan Masonic Home; bd. of trustees, Bay City Consistory Cathedral; chmn. Midland Municipal Recreation Commis. Clubs: Masonic Orders: (33rd deg., past master, commander-in-chf. Bay City Consistory, Scottish Rite); Kiwanis (past pres., past lt. gov.); Torch Lake Yacht and Country. Hobbies: fishing, sailing, gardening.

HUNTINGTON, Richard Lee, prof. of chem. engrg., U. of Okla., Norman, Okla.; res. 515 E. Shawnee, Norman.
Chem. engrg.; b. Blackwell, Okla., Mar. 24, 1896; s. of Richard Collier and Cordelia Ann Hutington; ed. B.A. chem., U. of Okla., 1917; M.S. chem. engrg., U. of Mich., 1932, Ph.D. chem. engrg. 1934; mem.: Sigma Chi, Mason; m. Ruth Williams, Apr. 30, 1921; ch.: Helen Louise, Richard Lee Jr. 1917-19, U.S.A., C.W.S., AEF France; 1919-20, Texas Co., W. Tulsa Refinery, Tulsa, Okla.; 1920, one semester grad. wk. in chem., U. of Ill.; 1920-30, Skelly Oil Co., Tulsa, Okla., operation & construction of Natural Gasoline Plant; 1930-31, grad. student in chem. engrg., M.I.T.; 1931-33, grad. student in chem. engrg., U. of Mich.; 1933-37, assoc. prof. of chem. engrg., U. of Okla., 1937 to date prof. of chem. engrg. Some 50 papers on various unit operations such as fluid flow, heat transfer, absorption, & fractionation as related principally to prod. & processing of oil, gas & natural gasoline. Author: "Natural Gas & Natural Gasoline," McGraw-Hill Book Co. Inc., 1950. Mem.: A.I.Ch.E., A.C.S., A.I.M.M.E, Alpha Chi Sigma, Tau Beta Pi. Club: Faculty, U. of Okla. Hobbies: gardening, golf.

HUNTLEY, Robert Fitch, v.p. and gen. mgr., Cowles Chem. Co., 7016 Euclid Ave., Cleveland 3, Ohio; res. 14122 So. Park Blvd., Shaker Heights 20, Ohio.
Chem. engr.; b. Syracuse, N.Y., June 6, 1905; s. of William and Ethel (Berry) Huntley; ed. N.Y. State Coll. of Forestry, Syracuse U., B.S. 1927; mem.: Psi Upsilon; m. Mary Lyman, Sept. 10, 1926; ch.: Elizabeth, Deborah, Mary Ellen. 1927-29 chem., 1929-42 tech. dir. Oswego Falls Corp.; 1942 to date v.p. and gen. mgr. Cowles Chem. Co.; res. on paperboard and paper food containers; prod. dev., sodium silicates. V.p. and dir. Cowles Engineering Co.; dir. Cowles Co. Mem.: A.C.S.,

T.A.P.P.I., Soap Assoc, Laundry and Cleaners Allied Trades Assoc. Club: Cleveland Skating. Hobbies: ice skating, swimming, boating.

HUNTRESS, Ernest Hamlin, prof. of org. chem., M.I.T., Cambridge, Mass.; res. 5 Meadowview Rd., Melrose, Mass.
Chem. tchr. and conslt., educator, adminis.; b. Laconia, N.H., May 9, 1898; s. of Hamlin and Amy Louisa (Rollins) Huntress; ed. M.I.T., S.B. 1920; Ph.D. 1927; m. Zilpha Caroline Woodworth, Dec. 24, 1923; ch.: Robert Jewett, Carol Marian. 1922-29 asst. org. chem.; 1929-35 asst. prof. chem.; 1935-41 assoc. prof. org. chem.; 1941 to date prof. org. chem.; in chg. undergrad. org. div. 1935-41; chmn. deptl. grad. comm. since 1940; dep. dean M.I.T. grad. schl. from Apr., 1950. Notable work: delegate Royal Soc. Sc. Information Conference, London, 1948; rep. Am. Documentation Inst. at restricted conf. Internat. Fed. of Documentation, The Hague, 1948. Tech. Advisor, U.S.A. C.W.S. Dev. Lab., M.I.T. 1942-45. Author: "Brief Introd. to Use of Beilstein's Handbook," 1st edit. 1930, 2nd edit. 1938; "Problems in Org. Chem." 1st edit. 1938; "Identification Pure Org. Compds." (Tables of Data on Order I) 1941; "The Preparation, Properties, Chem. Behavior, and Identification of Org. Chlorine Compds." 1948. Mem.: A.C.S. (chmn. Northeastern Sect. 1938-39); A.C.S. Org. Div. Comm. on Nomenclature 1946-49; assoc. edit. A.C.S. Chem. Monograph Series, 1947 to date; elected fellow, Am. Acdy. Arts. Sc., 1936 (librarian and mem. publ. bd. 1948 to date).

HUNTZICKER, Harry Noble, dir. of res. and dev., U.S. Gypsum Co., 300 W. Adams St., Chicago, Ill.; res. 9414 Drake Ave., Evanston, Ill.
Chem.; b. Omaha, Nebr., June 29, 1906; s. of Albion C. and Anna Belle Huntzicker; ed. Macalester Coll., St. Paul, Minn., B.S. 1927; U. of Wis., M.S. 1930; Ph.D. 1932; mem.: Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma; m. Mildred H. Carlson, Aug. 14, 1934; ch.: Jon N., James F. With U.S. Gypsum Co. from 1935 to date in following positions: 1935 grp. ldr., lime res.; 1938 res. supvr. lime and plaster prods.; 1941 prod. mgr.; 1942 prod. mgr., lime plants; 1943 to date dir. of res. and dev. Notable work: pats. and publications on lime and plaster prods. and processes. Mem.: A.C.S., A.S.T.M., Am. Soc. for Engrg. Education.

HURD, Charles D(eWitt), Morrison, prof. of chem., Northwestern U., Evanston, Ill.; res. 2649 Lawndale Ave., Evanston, Ill.
Chem.; b. Utica, N.Y., May 7, 1897; s. of Charles J. and Susan A. (Perlet) Hurd; ed. Syracuse U., B.S. 1918; U. of Minn., 1919-20; Princeton U., Ph.D. 1921; hon. Sc.D. Syracuse U. 1943; mem.: Theta Alpha, Alpha Chi Sigma, Gamma Alpha, Pi Mu Epsilon, Phi Lambda Upsilon, Sigma Xi; m. Mary O. Nelson, Aug. 29, 1921; ch.: Richard N. 1921-24 instr. in chem. U. of Ill.; 1924-28 asst. prof. of chem., Northwestern U.; 1928-33 assoc. prof.; since 1933 prof. of chem.; since 1949 Morrison prof. of chem. all Northwestern U.; res. in sev. branches of org. chem.; editorial bd. of J. Org. Chem. Author: "The Pyrolysis of Carbon Compounds," 1929; "Open Chain Nitrogen Compounds," in "Organic Chemistry—An Advanced Treatise," 1938. Mem.: A.C.S., A.A.A.S., A.A.U.P. Clubs: Chicago Chemists'; University (Evanston); Chaos (Chicago); Ephraim (Wis.) Yacht.

HURD, Ira S., textile sales mgr. Warwick Chem. Co., Div. of Sun Chemical, West Warwick, R.I.; res. 10 Knollwood Ave., E. Greenwich, R.I.
Textile chem.; b. Haverhill, Mass., July 21, 1908; s. of Frederic E. and Florence M. Hurd; ed. Lowell Textile Inst., B.T.C., 1929; Columbia U., grad. wk.; mem.: Omicron Pi; m. Louise Lawrence, June 1, 1935; ch.: Frederic Lawrence, Gail, David Allen. 1929-31, dyestuff chem. and demonstrator, Gen. Dyestuff Corp.; 1931-34, plant chem., Glenlyon Print Wks. Phillipsdale, R.I.; 1934-42, tech. and demonstrator, Rohm & Haas Co., Phila., Pa.; 1942-45, chem. supt., Dan River Mills, Danville, Va. Mill No. 5; 1945-47, dir. of textile applications, 1947 to date textile sales mgr., Warwick Chem. Co., Div. of Sun Chem. Co., W. Warwick, R.I.; res. the use of urea formaldehyde resins on textiles at 1st vol. processor in U.S.A. (Glenlyon) Pats. on impreg. of cellulose fibers; imparting luster to cotton fibers; proc. for glazing. Mem.: A.A.T.C.C. Club: Warwick Country (Warwick, R.I.). Hobbies: swimming, golf, gardening, Boy Scouts.

HURLEY, William Bedford Francis, staff engr., Detroit Edison Co., 2000 Second Ave., Detroit 26, Mich.; res. 321 Rivard Blvd., Grosse Pointe, 30, Mich.
Public utilities (electricity, steam, water, gas); b. Wabash, Ontario, Canada, Dec. 11, 1887; s. of Thomas Francis and Katherine Helena (Bedford) Hurley; ed. U. of Mich., B. of Ch.E., 1911; mem.: Phi Lambda Upsilon, Tau Beta Pi; m. Marie Theresa Lefèvre, Aug. 29, 1918; ch.: Wm. L., Marie Louise, Robert P., Suzanne Elizabeth. 1911-12, chem., met. engr., Frost Gear & Forge Co., Jackson, Mich.; 1912-17, mgr. bar steel dept. & supt. rolling mills, Midvale Steel Co., Phila., Pa.; 1917-19, Major, U.S.A. (Ordnance), U.S.; 1919-31, prod. mgr. & later operating mgr. of Truck & Bus Div., Dodge Bros. Div., Chrysler Corp., Detroit; 1932 to date, staff engr., Detroit Edison Co., Detroit, Mich. Met. mem. U.S. Mission to England, France, Italy & Spain in 1917 to buy planes for U.S.A. & Navy; Major in chg. of Gun Plant, Watertown Arsenal, 1918-19; asst. dist. chf., Detroit Ordnance District, 1940-43. Publ. var. arts. Award: Cert. of Merit from Army & Navy. Mem.: S.A.E., Engrg. Soc. of Detroit, A.O.A. Past pres., Grosse Pointe Rotary Club; dir. & past v.p., Down River Chamber of Com.; Detroit Bd. of Com. Clubs: University (Detroit), University of Mich. (Detroit), University of Mich. (Grosse Pointe). Hobbies: walking, swimming, boating, travelling.

HUSA, William John, prof. of pharmacy, hd. of dept., U. of Fla., Gainesville, Fla.; res. 1016 S.W. 5th Ave., Gainesville.
Pharmacy prof.; b. Iowa City, Ia., Feb. 5, 1896; s. of Albert and Eleonora (Schonfelder) Husa; ed. Ph.G., U. of Iowa, 1913, Ph.C., B.A., 1920; M.A. Columbia U. 1921; Ph.D. U. of Iowa 1923; m. Lydia Mae Vittengl (dec.), July 26, 1923; ch.: William John, Lois Ann (dec.). Registered pharmacist, West Branch, Ia., 1913-14; asst. in chem., U. of Iowa, 1914-17; res. chem., E. I. du Pont de Nemours & Co., Wilmington, Del., 1917-19; res. asst. in food chem., Columbia U., 1920-21; grad. asst. in chem., U. of Iowa, 1921-23; prof. pharmacy, hd. of dept., U. of Fla., 1923 to date. Res. on enzyme action, stabilization of phar., principles of drug extraction. Author: "Pharmaceutical Dispensing" 1935, 3rd edit. 1947; co-author: "Fighting Disease with Drugs" 1931, "Aconite" 1938. Mem.: A.Phar.A., Sigma Xi, Rho Chi. Award: Ebert Medalist 1941.

HUSTON, Henry A., agr. chem., Kew Hall, 83-09 Talbot Pl., Kew Gardens 15, N.Y.
Chem.; b. Damariscotta, Me., Apr. 20, 1858; ed. Bowdoin Coll., A.B. 1879, A.M. 1882; Purdue, A.C. 1882, D.Sc. (hon.) 1931; mem.: Zeta Psi; m. Alice Bell Brownson, Nov. 22, 1899. Organ pumper, 2nd Cong. Ch., Newcastle, Me., 1868-73; Bowdoin, asst. chem. and phys., 1879-80; Lafayette, Ind., H.S., sc. tchr. and prin. 1880-84; Indiana Weather Ser., dir. 1884-96; Purdue, prof. phys., 1884-88; Ind., asst. state chem., 1884-

87, state chem., 1887-1903, prof. agr. chem., 1887-1903; Ind. Agr. Expt. Sta., chem., 1888-1903, dir. 1902-03; German Kali Wks., St. Louis, mgr. 1903-05; Chicago, 1905-09; Balto., 1909-12; N.Y., 1912-24, dir., secy.-asst. and treas., 1909-24; 1909-22 successfully defended the Potash Industry (German) from attacks by congressmen, cabinet employees, spec. interests and promoters; made survey Fert. Ind. of Italy 1927; genealogy since 1931. Sig. Serv., U.S.A.; U.S. Dept. Agr. 1891 to date; Reports Ind. Weather Ser., Ind. State Chem.; publs. Ger. Kali Wks.; num. newspaper arts. Reclamation of unproduc. soils; proved sugar beets profitable crop in Ind.; influence of fert. on shipping qual. and flavor perish. fruits; influence of fert. ingred. on ylds. of farm crops; devising and improving meths. of anal. agr. prod. and soils; influ. time, temp., pH, and quant. on sol. phosphates. Mem.: A.C.S. (life mem.); A.A.A.S., Am. Soc. Agron.; Mason, K.T., Scot. 32 deg., Shriner. Clubs: Lincoln (Lafayette, Ind., pres. 1895), Chemists' (N.Y.), Kew Gardens, Zeta Psi, Phi Chi, Genial Lights. Hobby: fishing.

HUSTON, Howard Riggins, asst. to pres., Am. Cyanamid Co., 30 Rockefeller Pl., N.Y. 20, N.Y.; res. 55 E. 65th St., N.Y.C.
Bus. exec.; b. Sweet Springs, Mo., July 29, 1892; s. of Theodore F. and Elizabeth B. (Riggins) Huston; ed. A.B. U. of North Dakota 1917, A.M. 1928; mem.: Phi Delta Theta, Delta Sigma Rho; m. Dorothy M. Gordon (dec.), July 3, 1920; ch.: Virginia Harmony Laning, Felicity Sue Hill. Chf. of internal service (bus. mgr.) League of Nations, Geneva, Switzerland, 1919-30; asst. to pres., Am. Cyanamid Co., N.Y.C. 1930 to date; served with 4th Div. as Infantry Officer and A.D.C. to Gen. E. E. Booth 1917-18; secy., Gen. Staff, Am. Army in France 1919. Natl. Farm Chemurgic Council (v.p., dir.). Club: University.

HUSTON, Ralph Chase, dean, Schl. of Graduate Studies, Mich. State Coll., 112 Morrill Hall, East Lansing, Mich.; res. 122 Durand St., East Lansing.
Prof. of Org. chem.; b. Fairfield, Ia., Mar. 10, 1885; s. of John C. and Etta Chase Huston; ed. B.S., Parsons Coll., 1906, M.S., U. of Ia., 1908, Ph.D., 1914, Sc.D., Parsons Coll., 1941; mem.: Sigma Chi, Alpha Chi Sigma; m. Mabel Moyer, Nov. 30, 1912; ch.: Margaret Huston Williams. Instr. and asst. prof., Washington State Coll., 1909-11; asst. prof., Mich. State Coll., 1911-15; assoc. prof., 1915-25; prof. of org. chem., 1925 to date; dean of Applied Sc., 1930-44; dean, School of Graduate Studies 1944 to present. Contrib. many arts. on aromatic alcohols and aromatic cmpds. in the presence of aluminum chloride, tertiaryaliphatic alcohols and aromatic cmpds., in the presence of aluminum chloride, halogenated benzyl phenols, fragmentation of tertiary alcohols in presence of aluminum chloride, epoxides and aliphatic Grignard reagents. Co-author: "A Revised Laboratory Manual of Synthetic Plastics and Resinous Materials," Ralph L. Guile and Ralph C. Huston, 1944; "Correlation of Physical Properties of Alkanes and Alkenes" 1947. Mem.: A.C.S., A.I.C., A.A.A.S., Phi Kappa Phi, Sigma Xi, Sigma Pi Sigma, Phi Sigma. Mem. Council of Representatives of Argonne Natl. Laboratory. Clubs: Rotary, Michigan State College, Walnut Hills Country.

HUTCHINS, Brahna Chalefman (Mrs. L. W.), pres., Sheldon, Morse, Hutchins & Easton, Inc. & Safety Res. Inst., 420 Lexington Ave., N.Y. 17, N.Y.; res. 310 E. 44th St., N.Y. 17.
Public relations & publicity; b. N.Y.C., Mar. 19, 1906; d. of Boris and Rebecca Chalefman; ed. U. of Denver, 1922-23; U. of Colo., 1923-26, B.A. cum laude; special courses, C.C.N.Y. 1927-28 & Columbia U. 1930-31; m. Leroy William Hutchins (dec.), 1937. Am. Inst. of City of N.Y., asst. to dir., 1927-29; Swann Chem. Corp., asst. to pub. relat. dir., 1929-31; Decorators' Club, Inc., exec. secy. & publicity dir., 1931-37; Natl. Consumer-Retailer Council, asst. exec. secy. in chg. publicity, 1937-39; Sheldon, Morse, Hutchins & Easton, Inc. & Safety Res. Inst., editorial dir. 1940, v.p. 1945, pres. 1946 to date. Mem.: Public Relations Soc. of Am. (mem. of N.Y. Chapter, Bd. of Dir.), Indus. Publicity Assn. (pres.), Am. Indus. Hygiene Assn. (mem. Metropolitan Sec.), Fire Gas Res. Comm. of Natl. Fire Protection Assn. Club: Publicity (N.Y.). Avocation: music (has sung professionally in recital & over radio).

HUTCHINS, Ralph Pearson, mgr., solvent extraction div., French Oil Mill Machinery Co., Piqua, Ohio; res. 715 N. Downing St., Piqua.
Chem. engr.; b. Portland, Ind., Feb. 25, 1909; s. of Dalton M. and Elta (Pearson) Hutchins; ed. Purdue U., B.S. with distinction, 1931; mem.: Beta Theta Pi, Phi Lambda Psi, Tau Beta Pi, Kappa Phi Sigma, Blue Key, Catalyst, P.O.M.M.; m. Minabelle Abbott, Apr. 17, 1935; ch.: Susan Abbott, Patrick Lee. 1931-34, soap & by-prod. dev. engr., 1935-39 oil milling dev. sec. hd., 1940-45 solvent extraction dev. sec. hd., Procter & Gamble Co.; 1946 to date, French Oil Mill Machinery Co., solvent extraction div. mgr. Inventor process & equip. for solvent extraction; author of arts. & speeches on oil milling practice. Mem.: A.I.Ch.E., A.O.C.S., Tau Beta Pi, Chem. Soc., Ohio Soc. for Prof. Engrs. Clubs: Rotary, Piqua Country, Piqua Racket. Hobbies: all sports, speculation.

HUTCHINSON, James Alfred, prodn. mgr., Acme Quality Paint, Inc., 8250 St. Aubin Ave., Detroit 11, Mich.; res. 14500 Strathmoor (27).
Exec.; b. Durand, Mich., Oct. 28, 1907; s. of Everette Hutchinson and Estelle Hamblet Hutchinson; ed. Mich. State Coll., B.S., 1929, M.S., 1931; mem.: Alpha Chi Sigma, Sigma Nu, Scabbard & Blade; m. Marina P. Johnson, Jan. 16, 1932; ch.: James A. Hutchinson, II. Acme Quality Paint, Inc., to date.

HUTCHISON, A(lbert) Witt, prof. of chem., The Penn. State Coll., State College, Pa.; res. 600 W. Fairmount Ave., State College, Pa.
Tchr.; b. Carlisle, Pa., Mar. 19, 1905; s. of William Albert and Mary (Loomis) Hutchison; ed. Dickinson Coll., B.S. 1925; Penn. State Coll., M.S. 1928; Ph.D. 1931; mem.: Phi Kappa Sigma, Alpha Chi Sigma; m. Claire M. Homan, Feb. 6, 1930; ch.: Mary Anne, William Witt, Nancy Claire. 1931-33, instr., 1933-39, asst. prof., 1939-49, assoc. prof., 1949 to date, prof. and admin. asst., The Penn. State Coll.; res. flds.: electrolytes, oxidation-reduction potentials, colloids. Mem.: A.C.S., A.A.A.S., A.A.U.P., Sigma Xi, Phi Kappa Phi, Phi Lambda Upsilon, Sigma Pi Sigma. Club: University.

HUTCHISON, James S., Jr., plant engr., Exchange Lemon Prods. Co., Box 36, Corona, Calif.; res. 526 W. 11th St.
Mech. & chem. engr.; b. Little Rock, Ark., Mar. 27, 1904; s. of J. S. Hutchison, Sr.; ed. La. St. U., B.S. in sugar engrg. 1927; mem.: Tau Kappa Nu, Alpha Chi Sigma; m. Grace Griffing, Aug. 3, 1931; ch.: Grace Eloise, Jamie May. 1928, bench chem., Central Agabama, Cuba; 1929-41, asst. supt. fabrication, Loisa Sugar Co., Canovanas, Puerto Rico; 1941-45, chf. mech. engr., La. Ordn. plant, Silas Mason Co., Shreveport, La.; 1945 to date, plant engr., Exchange Lemon Prods. Co. Corona Rotary Club (dir.). Hobby: photography.

HYATT, Judson, A. V., Detroit sales branch mgr., Ozalid Div, General Aniline and Film Corp., 3815 W. Fort St., Detroit 16, Mich.; res. 18448 Asbury Park, Detroit 19.
Exec.; b. New York, N.Y., June 22, 1912; s. of

A. Judson and Ethel V. Hyatt; ed. A.B., Columbia U., 1934; mem.: Theta Xi; m. Edna Vogt, Sept. 1, 1945; ch.: Andrew J., Carl V. Daniel Starch & Staff, adv. and public opinion; Calco Div., American Cyanamid Co., dir. pub. relations; U.S. Navy, photographic res. and dev.; Ozalid Div., General Aniline and Film Corp., market res., sales, sales mgr. (Detroit branch). Dev. spec. photog. equip. U.S. Navy W.W. II. Clubs: Rotary, Columbia U. Hobbies: photography, model making.

HYDE, Elizabeth Charlotte, prof. of chem., Wells College, Aurora, N.Y.; res. Aurora, N.Y.
Chem. prof.; b. Trout River, New York; d. of Charles William and Annie (Cameron) Hyde; ed. B.A., Mt. Holyoke Coll., 1909; M.A., 1922, U. of Ill., Ph.D., 1925, U. of Ill. Teacher, chem., Wells College, 1924 to present; visit. prof. in biochem., U. of Buffalo Med. Schl., 1947. Res. relating to creatine metabolism. Contrib. arts. in Jl. of Biological Chem. Mem.: A.C.S., Sigma Xi, Iota Sigma Pi, A.A.A.S., Acdy. of Sc. (N.Y.), Alpha Delta Epsilon.

HYDE, Randolph W., treas., Carnegie-Ill. Steel Corp., 434 Fifth Ave., Pittsburgh, 30, Pa.; res. 712 Valley View Rd., Pittsburgh 16.
Exec.; b. Pittsburgh, Pa., July 22, 1906; s. of Roy S. and Ella (Reeves) Hyde; ed. U. of Pittsburgh (grad.) B.S. business admin., 1936; mem.: Alpha Kappa Psi; m. Elizabeth Robertson Boyd, Oct. 18, 1940 (dec.); ch.: Robert R. Boyd (stepson); Heather R. Hyde. Entire bus. career with Carnegie-Ill. Steel, starting in 1922 and occupying successive positions from off. boy to treas. Dir.: Credit Assoc. of Western Pa.; trustee: Credit Res. Found. Clubs: Duquesne (Pittsburgh); Union League and The Chicago Club (Chicago, Ill.).

HYMA, Andrew Martin, lab. dir., DePree Co., 130 Central Ave., Holland, Mich.; res. 349 Pine Ave., Holland.
Pharmacist, chemist, bacteriologist; b. Grand Rapids, Mich., June 1, 1888; s. of Henry and Fanny Hyma; ed. A.B., Hope Coll., Holland, Mich.; M.S., Ph.D., Mich. State Coll., E. Lansing, Mich.; m. Elizabeth De Vries, Dec. 2, 1915; ch.: John H. U.S. Navy Medical Dept., 4 yrs.; DePree Co., 38 yrs. Res. microbiolog. assay, vitamin B complex; res. & phars. on antiseptics & disinfectants as quaternary cmpds. Mem.: A.Phar.A., Soc. of Bacteriology, A.C.S., A.P.H.A. Hobbies: collection of Indian lore, history, artifacts.

HYMAN, Herbert H., sr. chem., Argonne Natl. Lab., P.O. Box 5207, Chicago 80, Ill.; res. 5323 Dorchester Ave., Chicago 15, Ill.
Chem.; b. New York City, Sept. 27, 1919; s. of Nathan and Estelle Hyman; ed. B.S., Coll. of the City of N.Y., 1938, M.S., Polytechnic Inst. of Brooklyn, 1941, U. of Chic., 1946 to date; mem.: Phi Lambda Upsilon; m. Ruth Dixler, Dec. 28, 1943; ch.: Mark N. Argonne Natl. Lab. (originally Metallurgical Lab. of Manhattan Project) 1944 to date; Chem. War. Service, Huntsville Arsenal, 1942-44; electroplating chem., H. Nelkin, Inc., 1941-42; teaching asst., Poly. Inst. of Brooklyn, 1940-41. Res. on magneto-optics and plutonium project of Manhattan and dev. of separation process for heavy elements. Mem.: A.C.S., Acdy. of Sc. (N.Y.), A.A.A.S., Atomic Scientists of Chicago.

HYMAN, Julius, pres., Julius Hyman & Co., Rocky Mountain Arsenal, Denver, Colo.; res. 1201 E. 7th Ave., Denver.
Chem.; b. Traverse City, Mich., Apr. 2, 1901; s. of Herman and Anna (Regenstein) Hyman; ed. B.S., U. of Chic., 1922, Ph.D., U. of Leipzig, 1924; m. Harriet (Sims) Hyman, June 17, 1944; ch.: Michael Hyman. International Filter Co., 1925, res. chem.; var. cos., 1926-27, var. positions; Pure Oil Co., 1928-30, res. chem.; Velsicol Corp., 1931-46, co-founder, v.p., gen. mgr.; Julius Hyman & Co., 1947 to present, pres., chmn. of Bd. of Dirs. Num. pats. in flds. of pet. catalysts, resins, insecticides, etc.

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ICKE, Roland N(athaniel), dir. of res. Pasadena Research Labs., Inc., 2107 E. Villa, Pasadena 8, Calif.; res. 11687 Goshen Ave., Los Angeles 49, Calif.
Res. chem., conslt., physician; b. Burns, Kansas, Nov. 10, 1915; s. of L.R. and Eunice (Power) Icke; ed. U.C.L.A., A.B., 1939, M.A., 1942, Ph.D., 1944; Univ. of Southern Calif., M.D.. 1951; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi, Alpha Kappa Kappa; m. Muriel Margery Blount, Mar. 10, 1939; ch.: Margery Marie. Res. chem., with Gordon A. Alles, Ph.D., Pasadena, 1939-46; dir. of res., Pasadena Res. Labs. Inc., 1946 to date; interne, Los Angeles County General Hospital, 1950-51. Res. in cmpds. with Marihuana activity antimalarials, sympathomimetics, anticonvulsants, bactericides. Author: "Compounds with Marihuana Activity," M.A. thesis, U.C.L.A., 1942, "Antimalarial Chemotherapeutic Agents," Ph.D. thesis, U.C.L.A., 1944. Mem.: A.C.S., Am. Sc. Affiliation. Hobbies: orchids, camellias.

IDDLES, Harold Augustus, prof. chem., U. of New Hampshire, Durham, N.H.; res. Durham.
Prof. chem.; b. South Haven, Mich., May 20, 1896; s. of Thompson A. and Alice Iddles; ed. Mich. State Coll., B.S., 1918; U. Iowa, M.S., 1921; Columbia U., Ph.D., 1925. Mich. State Coll. instr., 1918-20; U. Iowa, asst., 1920-22; Columbia, asst. in chem., 1922-24; instr., 1924-29; U. of N.H., prof., 1929 to date; Harvard U., visiting prof., summers, 1947, 1948. Chmn., Northeastern Section, A.C.S., 1943-44, 1944-45; Columbia, Cutting Travelling Fellow, 1927-28. Mem.: A.C.S.

IDSON, Bernard, res. chem., Reed & Carnrick, 155 Van Wagenan Ave., Jersey City 6, N.J.; res. 465 Jersey Ave., Jersey City, N.J.
Chem.; b. N.Y.C., Mar. 23, 1919; s. of Benjamin and Lena Idson; ed. Bklyn. Coll., A.B. 1939; Polytech. Inst. of Bklyn., M.Sc., 1943; m. Rita Allen, Aug. 31, 1947. Reed & Carnrick, 1939 to date. Res. in phar. anal., determination of org. functional groups, steroid hormone anal., syn. of various org. chems. & drugs, pilot plant development on synthetic drugs. Mem.: Sigma Xi, Phi Lambda Upsilon. Hobbies: golf, chess.

IGARAVIDEZ, Leonardo, asst. chem., Agric. Exper. Station, Rio Piedras, P.R., P.O. Box 11, Rio Piedras, P.R.; res. 58 Taft Ave., Santurce, P.R.
Chem.; b. Coamo, P.R., Mar. 26, 1903; s. of Dr. Leonardo and Enriqueta G. de Igaravidez; ed. U. of Puerto Rico, Rio Piedras, 1927-31, B.S. in chem.; mem.: Phi Sigma Alpha. Asst. chem., Dept. of Chem., Agric. Exper. Station, Rio Piedras, P.R., 1932 to date; collaborated in different res. projects with Mr. Rafael Arroyo, espec. in molasses fermentations; actually working on wines from tropical fruits. Mem.: bd. of dirs. College of Chemists of P.R., 1948-50, secy.-treas. of the Puerto Rico Sect., A.C.S., mem. of local Assoc. of Sugar Cane Techs. Trustee, K. of C. Council No. 1543 of San Juan, P.R.; Faithful Navigator, Fourth Degree Assembly No. 1543, Santurce. Hobby: chess.

IGELSRUD, Iver, librarian & conslt., Battelle Memorial Inst., 505 King Ave., Columbus 1, Ohio; res. 1363 Mulford Rd., Columbus.
Chem. engr.; b. May 23, 1897; s. of John and Helga Igelsrud; ed. B.S. chem., cum laude 1930, Ph.D. chem. 1935, U. of Wash., Seattle; mem.:

Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, A.C.S.; m. Hulda Laura Stahl, July 31, 1931; ch.: Iver Gerald. 1930, Wash. State Dept. of Fisheries Investigations; 1930-35, teaching fellow, U. of Wash., res. in physical & inorg. chem.; 1935-43, res. engr., 1943-50, asst. supvr. chem. res., 1950 to date, librarian & conslt., Battelle Memorial Inst. Res. in oceanographic, physical, metallurgical & indus. chem., numerous publs. Author: Sec. on Formation of Oceanic Salt Deposits in Bull. 85, N.R.C., 1934. Mem.: A.C.S. Clubs: Scandinavian (Columbus), Air Force Assn. Hobbies: archeology, history of aeronautics.

IHRIG, Harry Karl, v.p. and dir. of labs., Globe Steel Tubes Co., 3839 W. Burnham, Milwaukee 46, Wis.; res. 2611 E. Beverly Rd., Milwaukee 11.
Chem. and metallurg. engr.; b. Appleton, Wis., Apr. 16, 1898; s. of George W. and Mary W. Ihrig; ed. Carleton Coll., 1915-16; U. of N.D., 1917-19, B.S.; 1919-20 M.S.; U. of Calif., 1920-23, Ph.D.; mem.: Sigma Chi, Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi, Delta Sigma Rho; m. Luella La Moure, 1924; ch.: Judson L., Harry K., Jr. 1923-25, supt. Diatom Prods. Co.; 1925-28, res. engr. Assoc. Oil Co.; 1928-33, v.p. Ralph E. Davis, Conslt. Engrs.; 1933-34, conslt. engr. European Gas & Elec. Co.; 1934 to date, conslt. engr. and dir. of labs., Globe Steel Tubes Co.; 1947 to date v.p. same co. Holds 19 pats. and has pub. 14 tech. papers; notable work in Ihrigizing proc. of silicon impregnation of metals. Pres. Interscience Res. Found. Author: "Outline of Metallurgy of Iron and Steel," 4th edit. 1948; chapt. on "Silicon Impregnation," Amer. Soc. for Metals Handbook, 1939 and 1948 edits. Mem.: A.I.Ch.E., A.I.M.E., A.C.S., A.E.S., A.S.M., A.W.S., A.P.I., N.S.P.E. Robert W. Hunt M., A.I.M.E. 1947; citation for eminent prof. serv. in chem. and metallurg. and engrg. by U. of Wis. Coll. of Engrg. March, 1949. Mem.: Interscience Res. Found. Clubs: Milwaukee University; Beach Club. Hobbies: sailing, medical res.

IMES, Paul V., chf. chem., Carey Salt Co.; res. 512 E. 14, Hutchinson, Kan.
Chf. chem., tech. dir.; b. Rigeway, Mo., Jan. 8, 1906; s. of Walter J. and Elsie L. (Flint) Imes; ed. Mo. Wesleyan Coll., 1923-27, A.B.; U. of Kan. 1933 M.A.; m. Frances J. Miller, Aug. 7, 1928; ch.: Vernon W., Walter Eugene. 1927-39, instr. chem. & physics, Beloit Kan. H.S.; 1939-42, instr. chem., Hutchinson Kan. H.S.; 1942-43, instr. chem., Hutchinson Kan. Jr. Coll.; 1943 to date, chf. chem., Carey Salt Co. Pat., Stabilized Iodized Salt & Process of Making Same; dev. of several salt prods. Mem.: A.C.S., A.A.C.C., I.F.T., Kan. Acad. of Sc. Clubs: Kiwanis, Scottish Rite Mason. Hobbies: golf, football official.

INGERSOLL, Arthur William, prof. org. chem., chmn., div. natural sc., Vanderbilt U., Nashville 4, Tenn.; res. 2121 Garland Ave., Nashville 5.
Prof. org. chem.; b. near Burr, Nebr., Nov. 8, 1894; s. of Arthur Merritt and Amelia Wahrer Ingersoll; ed. B.S., 1917 U. Nebr.; M.S. 1918; Ph.D. 1922 U. Ill.; mem.: Farm House, Alpha Chi Sigma, Alpha Zeta, Gamma Alpha; m. Valentine Minford, June 10, 1922; ch.: Arthur W., Jr. Instr. chem., U. of Nebr., Dec., 1918-Sept., 1919; asst. chem., U. Ill., 1919-22; asst. prof., assoc. prof., prof. org. chem., Vanderbilt U., 1922 to date; summer instr. in chem., U. Ill., 1928, 1929, 1932; Chem. Warfare Serv., U.S.A., 1917-18 (p.f.c.). Author abt. 25 res. papers; actively engaged in teach., res., admn. wk.; co-author, co-editor "Org. Reactions," Vol. II, 1944. Mem.: A.C.S., Sigma Xi, Phi Beta Kappa, Phi Lambda Upsilon.

INGERSON, (Fred) Earl, chf., branch geochem. & petrology, U.S. Geological Survey, Wash. 25, D.C.; res. 405 E. Leland St., Chevy Chase 15, Md.
Geologist, geochem.; b. Barstow, Texas; s. of F.P. and Mamie Carson Ingerson; ed. A.B. Simmons U., Abilene, Texas, 1928; M.S. 1931; Sc.D. 1942; Ph.D., Yale U. 1934; mem.: Sigma Xi; m. Martha Anna Duncan, June 5, 1930; ch.: Mary Zoe, Fred Earl, Jr. Physical chem., Geophysical Lab., Carnegie Inst. of Wash. 1935-43; petrologist, 1943-47; chf., br. geochem., petrol., U.S. Geological Survey, 1947 to date. Res. in hydroth. synth. of minerals, esp. quartz. Phase equi. studies in hydrous silicate systems; Co-author: "Lab. Tech. of Petro. Anal.," Pt. 2, Mem. 6, Geol. Soc. Am. 1939; author: "Pneumatolytic, hydrothermal alteration & synth. of silicates," suppl. to Vol. 30, Econ. Geol. 1937"; mem.: Geol. Soc. Am.; A.C.S., Min. Soc. Am.; Geol. Soc. Wash.; Am. Geoph. Union; Min. Soc. France; Min. Soc. London; Min. Soc. Germany; Geol. Soc. Mex.; Am. Geol. Inst., Sec. 1949, v.pres. 1950; pres., Bd. Trustees, Children's Museum of Wash., 1947-50. Hobbies: choral singing, tennis, stamp collecting.

INTEMANN, Hermann Kolle, asst. gen. sales mgr., Bakelite Div., Union Carbide & Carbon Corp., 30 E. 42nd St., New York 12, N.Y.; res. 3 Eureka Terrace, Stamford, Conn.
Exec.; b. Brooklyn, N.Y., May 31, 1908; s. of Hermann and Clara Intemann; ed. Stevens Inst. of Tech.; mem.: Sigma Nu, Pi Delta Epsilon; m. Fannie Thrunhardt, Jan. 20, 1950; ch.: Bruce, Christian, Helen. Res. Halowax Div., Bakelite Corp., 1930-33; sales, Halowax Div., Bakelite Corp., 1933-39; sales mgr., Halowax Div., Union Carbide & Carbon Corp., 1940-44; asst. gen. mgr., Thermoplastics Dept., Bakelite Corp., 1944-49; asst. gen. sales mgr., Thermoplastic Dept., Bakelite Div., Union Carbide & Carbon Corp., 1950 to date. Mem.: A.S.M.E., A.S.N.E., S.A.E., S.P.I. Trustee, Stevens Inst. of Tech., Stevens Research Foundation (v. chmn.). Club: Chemists'. Hobbies: boating, fishing, handicraft.

IRELAND, Frank, tech. dir. and proc. engr. for Graphic Arts, Brown & Bigelow, St. Paul, Minn.; res. 4133 Chowen Ave. So., Minneapolis 10.
Chem.; b. Bardwell, Ky., Jan. 3, 1908; s. of J.T. (dec.) and Ada Ireland; ed. Union Coll., Jackson, Tenn., B.S. 1929; Iowa State Coll., Ph.D. 1936; m. Alberta Spray, July 18, 1935; ch.: Donald Terry, Ada Kay, Thomas Albert. 1926-29, phys. lab. asst. Union Coll.; 1929-30, asst. supt. Moscow, Tenn. H.S.; 1930-36, grad. asst., instr. of chem., Iowa State Coll.; 1936-43, chf. chem., McLaughlin, Gormley, King Co., Minneapolis; 1943 to date tech. dir., Brown & Bigelow, St. Paul, Minn.; res. in graphic arts, lithography, specialty inks, metal fininshing, electroplating on non-conductors, insecticides. Mem: A.C.S., A.S.T.M., A.E.S., Twin City Chemists Forum, Tech. Assoc. of Lithographic Indus., mem. of res. comm. of Litho. Tech. Found. Club: A.F. and A.M. Hobbies: hunting, fishing.

IRISH, Oliver John, asst. chf., pathology div., chf. biochem. Veterans Admin., Washington 25, D.C.; res. 711 Van Buren St., N.W. Washington, D.C.
Biochem. and asst. chf. path. div.; b. Corwith, Hancock County, Iowa; s. of George B. and Sarah E. (Chapman) Irish; ed. State U. of Iowa, A.B., 1916; Princeton U., Grad. Schl., 1916-17; Geo. Wash. U., M.S. in chem., 1924; Ph.D., 1939; mem.: Nu Sigma Nu; m. Carolyn C. Ring, Aug. 18, 1917; ch.: Carolyn M., John B. 1911-12, tchr. Hancock Co., Iowa; 1914-16, asst. in biol.

State U. of Iowa; 1916-17, asst. in biol. Princeton U.; U.S.A. 1917-19; 1919-22, prodn. and res. depts. Gen. Elec. Co., Schenectady, N.Y.; 1921-22, instr., Union Coll., Schenectady, N.Y. in biol. and res.; 1922-46, assoc. prof. biochem. (rank of instr. while in prep. for Ph.D.), Geo. Wash. U. Med. Schl., Wash., D.C.; 1942-46, military leave; 1942-46, Sanit. Corps, U.S.A., highest rank attained, Lt. Col.; principal assignment W.W.II was lab. coord. in an overseas Hosp. Center; subseq. served as chf. lab. technics. in Lab Div., Surgeon Genls. Off.; since 1946 with Dept. of Med. and Surg., Central Off., Veterans Adm. Investig. in intermed. metabolism; clinical lab. meths.; planning for clinical lab. space, equip. and personnel in V.A. Hosps.; conslt. in educ. and res. programs for lab. personnel. Mem.: Sigma Xi, Alpha Chi Sigma, Biolog. Chemists (A.C.S.); V.A. rep. U.S.P.H.S. resh. grants-in-aid comm.; Army Commendation Ribbon (SGO).

IRVIN, Joseph Logan, asst. prof. of physiol. chem., Johns Hopkins Schl. of Medicine, Baltimore 5, Md.; res. 612 Marwood Rd., Towson 4, Md.
Teacher, res. worker; b. Jacksonville, Fla., Nov. 24, 1913; s. of J. Logan and Eva H. Irvin; ed. U. of South Carolina, B.S. 1934; U. of Pa., Ph.D. 1938; m. Elinor Moore, Dec. 1941. Instr. in physiol. chem., res. assoc. in surgery, Wayne U., 1938-41; instr. in physiol. chem., Johns Hopkins Schl. of Med., 1941-43, asst. prof., 1943 to date. Isolation of muscle extractives; physico chem. study of antimalarial drugs; physiol. chem. of bile & bile acids. Mem.: A.C.S., A.S.Biol.C., Sigma Xi. Hobbies: gardening, hiking, swimming.

ISBELL, Arthur Furman, chf. chem., Buckman Labs. Inc., Memphis, Tenn.; res. 2151 Berkley, Memphis.
Res. chem.; b. Lubbock, Tex., Feb. 12, 1917; s. of Arthur Hill and Edna (Clark) Isbell; ed. Baylor U. of Waco, Tex., B.A. 1937; U. of Tex., Austin, Tex., M.A. 1941, Ph.D. 1943; m. Edith Lola Roberts, Apr. 2, 1942; ch.: Arthur Furman, Jr., Linda Ann. Anal. chem., First Texas Chem. Mfg. Co., Dallas, 1937-39; res. chem. with Gen. Mills Res. Lab., Minneapolis, Minn., 1943-Apr., 19-50; chf. chem., Buckman Labs. Inc. of Memphis, Tenn., Apr., 1950 to date; res. on quinolines, hydantoins, amino acids and surface-active agents; wk. on punched card filing of sc. information. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S. Clubs: Masonic and Scottish Rite Lodges. Hobbies: gardening, electronics, sports.

ISBELL, Harvey Gilbert, Jr., chf. chem., Mare Is. Naval Shipyard, Vallejo, Calif.; res. 416 Hampshire St., Vallejo.
Chem.; b. Denver, Colo., Mar. 7, 1900; s. of Harvey Gilbert and Mary Elnora (White) Isbell; ed. U. of Denver, A.B. 1925; mem.: Omicron Sigma (now Upsilon Chapter of Beta Kappa); m. Mary Lavina Sebern, Nov. 18, 1920; ch.: William George, Helen Louise (Isbell) Van Zandt, Gilberta Mary (Isbell) McCart. Matriculated U. of Denver 1917, followed by serv. in U.S.N. during W.W.II; first chem. position as bench chem., Great Western Sugar Co., Longmont, Colo., 1920-21; following grad., returned to Great Western Sugar Co. as special anal. at Ft. Collins, Colo., & then to Brush, Colo. as asst. chem.; resigned in 1929 to accept position at Mare Is. as asst. chem., became chf. chem. 1942. Principal flds. anal. chem. & application of chem. processes to Navy Yard activities, particularly with respect to ind. cleaning. Mare Is. Federal Credit Union (dir.); Central Credit Union of Calif. (dir.). Mem.: A.C.S., A.S.T.M., A.S.L.E. Hobbies: fraternal work, credit unions, hunting, fishing golf.

ISBELL, Horace S., chem., in chg. carbohydrate res., Natl. Bur. Standards, Washington, D.C.; res. 1828 G. St. N.W., Washington, D.C.
Org. chem.; b. Denver, Colo.; Nov. 13, 1898; s. of Harvey Gilbert and Mary E. (White) Isbell; ed. B.S. U. of Denver, 1920, M.S. 1923; Ph.D. U. of Maryland, 1926; mem.: Alpha Chi Sigma; m. Clara May Davidson, June 26, 1930. Asst. chem. Bur. of Animal Industry, U.S.D.A., 1923-25; chem., Natl. Bur. of Standards, 1927 to date. Author chapters on "Chemistry of the Carbohydrates and Glycosides" Annual Rev. of Biochemistry, 1940 and 1943; also num. sc. papers reporting original res. in flds. of sugars, sugar deriv. and reaction mechanisms. Mem.: A.C.S. (v. chmn. div. Sugar Chem., 1937, chmn. 1938, sec. comm. on carbohydrate nomencltaure, 1938-44; chmn. communications comm. Washington Sec. 1942, pres. Washington Sec., 1945, councilor 1946). Acdy. Scs. (Washington) (asst. editor Jl. Wash. Acdy. Scs.) 1940-42, N.Y. Acdy. Scs., selected in poll conducted by Chemical Bulletin Publication of Chicago Sect. of A.C.S., as one of ten outstanding sugar chemists in U.S., 1947, U.S. Dept. of Commerce M. of Award for Meritorious Service 1950. Clubs: Alpha Chi Sigma, Sigma Xi, Cosmos (Washington, D.C.).

ISBELL, Robert Nevill, Colonel, U.S. Air Force, HQ, Armed Forces Special Weapons Proj., P.O. Box 2610, Wash., D.C.; res. BOQ, Bolling Air Force Base, Wash. 25, D.C.
U.S. Air Force Officer (tech.); b. Nashville, Tenn., Nov. 8, 1900; s. of Robert F. (dec.) and Ruby (Nevill) Isbell; ed. 1919-23 A.B., chem. maj., Wm. Jewell Coll.; 1924-26, Ph.D. candidate, Yale U.; 1930-31, Ph.D., chem., U. of Wis.; 1941, C.W. Schl. (aviation course); 1944, Royal Air Force Anti-Gas Schl.; 1947, Advanced nuclear phys. course; 1948, staff off. orientation course; ch.: Mary Katherine, Elizabeth Burns. 1923-24, asst. chem., Freeport Sulphur Co., Freeport, Tex.; 1924-25, lab. instr., Yale U., New Haven, Conn.; 1925-26, instr. Conn. Coll. of Pharmacy; 1926-28, instr. chem., Wake Forest Coll., Wake Forest, N.C.; 1928-30, asst. prof. chem., same coll.; 1930-31, hon. fellow, U. of Wis., Madison, Wis.; 1931-41, assoc. prof. chem., Wake Forest Coll.; 1918 enlisted Air Forces, Ellington Fld., Tex.; 1926, Tex. Natl. Guard; 1933-46, Res. Off.; 1941-46, served in Air Forces in U.S. and Europe; June, 1946-Mar., 1950, sta. in Wash., D.C. except for 6 mos. period, Jan.-June, 1948, C.O., Air Radiolog. Unit. OPN. "Sandstone," Eniwetok. Marshal Islands; since Mar., 1950, chf., Weapons Effects Div., HQ. Armed Forces Spec. Weapons Proj., Wash., D.C.; commis. 2nd. Lt., Apr., 1933, thru successive offices to Col., May, 1945. Wk. in org. res., centrifugal qualitative anal.; besides num. papers contrib. sc. jls., author: "Preparation of Ethyl Acetosuccinate," in "Org. Synth.," Vol. XIV, pub. by John Wiley & Sons, Inc., N.Y.; "Lab. Manual of Org. Chem.," used at Wake Forest Coll., and "Lab. Manual of Centrifugal Qualitative Anal.," used at same coll. Mem.: A.A.A.S. (fellow); A.C.S. (1933-35, councilor, N.C. Sect.; 1937-38, v.p. same Sect.; 1938-39, pres. same Sect.; 1933 until active duty with U.S. Forces in 1941, on Exec. Comm., N.C. Sect.); A.I.C. (fellow); N.C. Acdy. of Sc.; Kappa Alpha; Alpha Chi Sigma; Gamma Alpha, Gamma Sigma Epsilon; Omicron Delta Kappa; Sigma Xi; Phi Lambda Upsilon; Mason; rec. Bronze Star M., Air M., Army Commendation Medal, Air Force Commendation Medal (Oak Leaf Cluster), EAME Medal with 3 Battle Participation Clasps; Army of Occupation (France & Germany), Croix de Guerre avec Palme; mem. also of Air Force Assoc., Ninth Air Force Veterans Grp., Bolling Air Force Base Officers' Club. Hobbies: photography, aviation, golf, swimming, football, volley ball.

ISENBURGER, Herbert R(udolf), pres., St. John X-Ray Lab., Califon, N.J.; res. Califon. Ind. radiologist; b. Frankfurt a/Main, Germany, July 22, 1900; s. of Sally R. and Olga Isenburger; ed. Frankfurt and Berlin; m. Anne Landsman 1930. 1927, assoc. with St. John X-Ray Lab., 1933 to date, pres. X-ray diffraction anal., crystallographic wk., x-ray stress anal., radioisotopes, radiographic inspection of chem. equipt. Co-author with Ancel St. John: "Ind. Radiol." John Wiley & Sons, N.Y. 1943; "Bibliography on Ind. Radiol." up-to-date & Bibliography on X-ray stress Anal." 1949 both publ. by St. John X-Ray Labs. Mem.: A.C.C.C.E., A.Crys.S., Soc. for Exp. Stress Anal., A.S.T.M., A.S.M., A.S.M.E., Am. Welding Soc., Soc. for Nondestructive Testing. Hobby: organic farming.

ISHLER, Norman H., sect. hd., food anal. sect., Gen. Foods Corp., 1125 Hudson St., Hoboken, N.J.; res. 14 Pearl St., Summit, N.J. Chem.; b. Pittsfield, Mass., Nov. 20, 1914; s. of Willis Alden and Emma (Hamilton) Ishler; ed. B.S., 1936, Penn. State Coll., M.S., 1939, same coll.; m. Charlotte Rose Gillespie, July 16, 1938; ch.: Norman H., Jr., Donald G., Jean Patricia. 1936-39, anal. and res. asst., Mineral Indust. Expt. Sta., Penn. State; 1939-42, chem., main lab. & spinning res. depts., Celanese Corp., Cumberland, Md.; 1942-46, 2nd Lt. to Capt., C.W.S., Army of U.S. as: chf. chem., C.W.S. Labs., Columbus and Zanesville, O., 1942-43, and chf. chem., C.W.S. Central Lab., Carnegie, Pa., 1943-46; 1946, disch. from serv. as Capt., C.W.S.; 1946 to date, sect. hd. food anal. sect., Gen. Foods Corp., Central Res. Labs., 1125 Hudson St., Hoboken. Wk. in determ. of dydroxyl grps. by Grignard reagent; spectrophotometric determs. of caffeine and of safrole as perfume; spot test for rat urine contamination; flame photometer determ. of iron, copper, manganese, and cobalt. Mem.: A.C.S. Hobby: photography.

ITTER, Stuart, mgr., res. serv. dept., Standard Brands, Inc., 595 Madison Ave., N.Y. 22; res. 36 Albemarle Ave., Huntington Sta., L.I. Biochem.; b. Grand Forks, B.C., Mar. 13, 1907; s. of William H. and Alta M. Itter; ed. U. Brit. Col., 1930 (Vancouver, B.C.); U. of Washington (Seattle), M.S. 1932; Johns Hopkins U. (Baltimore), Sc.D. 1934; m. Henrietta E. Madlinger, Nov. 18, 1938; ch.: Malcolm S., William. 1934-38, dir. nutri. lab., Sunshine Biscuits, N.Y.; 1934-42 asst. mgr. appl. res., 1942 to date, mgr. res. serv. dept., Standard Brands, Inc. Wk. in vitamins. Mem.: A.C.S. Hobbies: gardening, bookbinding, woodworking.

J

JACK, Delbert Eugene, owner, Del Jack Co., 214 N. Canon Dr., Beverly Hills, Calif; res. 10620 Taranto Way, Los Angeles 24, Calif. Consltg. engr., mfrs. rep.; b. Florence, Colo., Apr. 6, 1902; s. of Delbert A. and Lida N. (Keck) Jack; ed. U. of Colo., B.S. 1923, M.E. 1931; mem.: Sigma Tau, Phi Kappa Psi; m. Harriette N. Brentlinger, June 20, 1923. 1923-29, Stand. Oil of Calif., Richmond Refinery, design construction engr.; 1930-40, mfrs. rep., chem. plant equipt., San Francisco, Calif.; 1940-44, Duriron Co. Inc., Dayton, Ohio, gen. sales engr., 1944-50 v.p. in chg. of engrg. & sales; 1950 to date, owner, Del Jack Co. Duriron Co. Inc., Dayton, Ohio, dir. Number of pats. on pumps, heat exchangers & special piping. Mem.: A.I.Ch.E. (active), Am. Electrochem. Soc. Club: Los Angeles Country.

JACKLIN, Clarence, asst. dir. engrg. res., Natl. Aluminate Corp., 6216 W. 66 Pl., Chicago 38, Ill.; res. 4800 Main St., Downers Grove, Ill. Chem. engr.; b. Shelley Co., Ind:. Oct. 3, 1912; s. of Oscar and Alden Jacklin; ed. Purdue U., B.S. chem. engrg. 1934; mem.: Alpha Kappa Lambda; m. Mary E. Ashton, Aug. 14, 1935; ch.: Lloyd, John. Jan., 1935 to date, Natl. Aluminate Corp., chem. engr. Exp. studies of scale formation in steam generating equipt.

JACKMAN, Harold Wesley, chem. engr., Ill. State Geological Survey, Urbana, Ill.; res. 606 S. McKinley Ave., Champaign, Ill. Chem. engr.; b. Martinsville, Ind., Oct. 1901; s. of Charles F. and Minnie A. Jackman; ed. U. of Mich., B.S.E., 1923, M.S.E.,1924; mem.: Alpha Chi Sigma, Phi Lambda Upsilon; m. Ellen Echols in 1931. Battle Creek Gas Co., Battle Creek, Mich., chf. chem.—supt. of manuf., 1925-41; Ill. State Geological Survey, Urbana, Ill., chem. engr., 1942 to present. Res. in coal carbonization. Mem.: A.C.S., A.I.M.E., Am. Coke & Coal Chemicals Inst.

JACKSON, A. Curtis, asst. gen. supt., dir. of res., Claycraft Co., P.O. Box 866, Columbus, Ohio; res. 2487 Bryden Rd., Bexley, Ohio. Ceramic engr.; b. Burnt Hills, N.Y., Nov. 14, 1912; s. of Arthur C. and Anna M. Jackson; ed. B.S. in ceramics, 1936, cum laude, N.Y. State Coll. of Ceramics; Alfred U., Alfred, N.Y.; mem.: Klan Alpine, Keramos; m. Joan Stritmatter, Aug. 9, 1940; ch.: Lucia, Jan. Claycraft Co. since June, 1936 first as ceramic engr. in chg. of glaze dev. & control, supt. plant No. 5 mfg. structural glazed tile 1940; dir. of res. in chg. of all prod. dev. 1942; asst. gen. supt. of all 5 plants of company, 1494 to date, (mem. bd. of dir.). "Structural Glazed Prods. in Postwar Construction," paper presented before Am. Ceramic Soc. convention 1943; author of several arts. pert. to res. in fld. of structural clay prods. Mem.: Am. Ceramic Soc. (mem. since 1936, served as secy., program chmn., chmn. of structural clay prods. div., fellow, June, 1948); Inst. of Ceramic Engrs. Club: Kiwanis (Columbus). Hobbies: bowling, fishing, golf. Officer: The Claycraft Co.

JACKSON, Arnold O., asst. scientific dir., G.W. Carnrick Co., Newark, N.J.; res. 185 Highfield Lane, Nutley 10, N.J. Chem.; b. Mattituck, N.Y.; s. of Harry F. and Irene Robinson Jackson; ed. B.S., Presbyterian Coll., Clinton, S.C., 1930; M.S., U. of Ill., 1931, Ph.D., 1934; mem.: Alpha Lambda Tau, Sigma Xi, Alpha Chi Sigma, Gamma Alpha; m. Evelyn Kayser, June 10, 1932; ch.: Lauren Wells. Held following positions with G.W. Carnrick Co.: res. chem., 1933-45; asst. scientific dir., 1945 to date. Res. in synthetic and natural estrogens and sex hormones. Mem.: A.C.S., Assoc. for the study of Internal Secretions. Clubs: Canterbury (Nutley, N.J.), Tennis (Nutley), Belleville Chess (Belleville, N.J.). Hobbies: stamp collecting, books.

JACKSON, Frank Lains, asst. to tech. dir., Freeport Sulphur Co., 122 E. 42nd St., New York 17, N.Y.; res. Meadowood Lane, Brookville, L.I., N.Y. Chem. engrg.; b. Minneapolis, Minn., Nov. 17, 1917; s. of Charles F. and Ruby L. Jackson; ed. B.S. in Ch. E., Lehigh U.; mem.: Alpha Sigma Phi, Tau Beta Pi; m. Joanne Jarvis, Apr. 6, 1940; ch.: Joanne J. Tech. asst., New Jersey Zinc Co., (of Pa.), Palmerton, Pa., 1939-42; engr., Manhattan Proj. Wk., Metal Hydrides, Inc., Beverly, Mass., 1942-43; dev. & prod. spec. chems., same co., 1943-44; asst. to tech. dir., Freeport Sulphur Co., New York, 1944 to date. Mem.: A.C.S., A.I.Ch.E.

JACKSON, J. Harry, metallurgical res. supvr., Battelle Memorial Inst., 505 King Ave., Columbus 1, Ohio; res. 1720 Northwest Blvd., Columbus 12, Ohio. Supvr. of metallurg. res.; b. Troy, N.Y., Apr. 19, 1915; s. of Myron J. and Irene C. Jackson; ed. grad. from Rensselaer Polytech. Inst. 1936, Ch.E.;

thesis obtained first hon. mention for first prize for best res. thesis & first hon. mention for chem. engrg. prize; mem.: Phi Epsilon Phi; m. Marion L. Anderson, Oct. 12, 1940; ch.: Elizabeth I., Ann V., John H. 1936-38, student engr., Caterpillar Tractor Co., 1938-41, welding & metallurg. res. engr.; 1941-47, res. engr., Battelle Memorial Inst., 1947-49 asst. supvr., 1949 to date, supvr. Publ. & pats. in follow. flds.: magnesium-lithium base alloys, metallurgy of beryllium, fluid flow in molds, alloys having high electrical resistivity, alloys for heat- resistant applications, and metallurgy of molybdenum. Mem.: Sigma Xi, A.I.M.E., A. S.M., A.S.T.M., A.F.S., N.A.C.E. Hobbies: golf, bowling, motion picture photography.

JACKSON, Kirby Erroll, prof. of chem., U. of Ala., P.O. Box "H," University, Ala.; res. 105 Frederick Court Apts., Tuscaloosa, Ala.
University prof.; b. Nashville, Tenn., Oct. 15, 1895; s. of Clarence R. and Claudia (Foster) Jackson; ed. Montgomery Bell Acdy., 1912-15; Vanderbilt U., B.S. 1918, M.S. 1919; U. of Wash., Ph.D. 1931; mem.: Acacia; m. Margaret Arthur, Aug. 27, 1927. Marion Co. Inst., Jasper, Tenn., 1919-20; Daniel Baker Coll., Brownwood, Tex., 1920-23; Athens Coll., Athens, Ala., 1923-25; U. of Wash., Seattle, Wash., 1925-28; Coll. of the Pacific, Stockton, Calif., 1929-31; Civilian Conservation Corps, 1923-36; Ga. Schl. of Tech., Atlanta, Ga., 1937-39; U.S.A., 1940-45; U. of Ala., University, Ala., 1946 to date. Num. pubs. in tech. jls. Mem.: A.C.S., A.A.A.S., A.I.C., Tenn. Acdy. of Sc. Secy.-treas., Ala. District Kiwanis Internatl. Club: Kiwanis Internatl.

JACKSON, Merle Marlin, plant supt., Magnus Mtl. div., Natl. Lead Co.; res. 669 Clark Ave., Webster Groves, Mo.
Ind. chem.; b. Springdale, Kan., Jan. 6, 1908; s. of Perry T. and Ida M. Jackson; ed. Park Coll. A.B. 1931 "honors course" student; Kan. State Coll. M.S. 1933; mem.: Kappa Sigma Pi; m. Jean Lyons, May 27, 1933; ch.: Raymond, David. U.S. Weather Bur., 1931-32, airways observer; Monsanto Chem. Co., 1934-38, control & res. chem.; Cole Chem. Co., 1938-41, phar. chem.; Magnus Mtl. div., Natl. Lead Co. 1941 to date. Consltg. phar. fld., consltg. ind. hygiene. Mem.: A.C.S., Phi Lambda Upsilon. Policy comm., St. Louis Council Boy Scouts of Am. Hobby: sr. advisor, Boy Scouts of Am.

JACKSON, Stanley McAfee, dir. of labs., Sunshine Biscuits Inc., 29-10 Thomson Ave., Long Island City, N.Y.; res. Muttontown Farm, Glen Head, Long Island, N.Y.
Biochem.; b. St. Paul, Minn., Mar. 21, 1907; s. of Stanley and Louise (McAfee) Jackson; ed. B.S. (with distinction), U. of Minn., 1929; M.S., U. of Ill., 1930; Ph.D., U. of Minn., 1933; mem.: Alpha Chi Sigma, Sigma Xi, Phi Lambda Upsilon; m. Ruth E. Brunkow, Sept., 1932; ch.: Stanley McAfee, Jr., Thomas Reynold. Chem., United Mills Co. Inc., Kansas City, Kans., 1933-36; res. chem., same co., Grafton, Ohio, 1936-38; dir. Nutrition Labs., Loose-Wiles Biscuit Co., L.I. City, 1938-46; dir. of labs., Sunshine Biscuits Inc., L.I. City, 1946 to date. Cereal, baked prods., nutrition, packaging, shortenings and food sanitation. Mem.: A.C.S., A.A.Cer.C., Nutrition Foundation. On bd. of educ., Brookville School. Hobbies: farming, poultry nutrition, building construction.

JACKSON, V(estus) T(wiggs), prof. of chem., chem., dept., U. of Fla., Gainesville, Fla.; res. 515 E. Blvd., Gainesville.
Teacher; b. Sandersville, Ga., Jan. 29, 1889; s. of Vestus and Jennis (Beasley) Jackson; ed. 1912 Mercer U., A.B., B.S.; 1916, U. of Chicago M. S., 1921, Ph.D. cum laude; mem.: Delta Sigma Phi; m. Louise Stenhouse, Sept. 12, 1918; ch.: Betty C. Livingstone. Asst. in physics, Mercer U. 1910-11, asst. in chem. 1911-12; instr. in chem., Oklahoma A.&M. Coll. 1912-16; res. chem., Lindsay Light Co., Chicago, 1916-20; Catholic U. of Am. 1921-22; Western Elec. Co., Chicago, 1922-23; acting hd., dept. of chem., Heidelberg Coll., Tiffin, O. 1924; asst. prof. of chem., U. of Fla., 1924-27, assoc. prof. of chem. 1927-35, prof. of chem. 1935 to date. Sub-comm. of Am. Chem. Soc. on tests & examinations; res. on thorium & rare earths; res. on rare & precious mtls.; reaction bet. manganese dioxide & potassium hydroxide & oxygen; hydrolysis; pyrolysis; photolysis. Author: in mimeographed form. "Manual of Qualitative Anal.," "Text of Qualitative Anal.," "Manual of Physical Chem." 1928-32. Mem.: A. C.S., Gamma Sigma Epsilon, Sigma Xi. Major, C.W.S. (inactive); chmn. of Fla. sec. A.C.S. 1930; past. pres. of local Reserve Officers Assn. Club: Athenaeum (past pres., past secy., treas.). Hobby: fishing.

JACKSON, Wendell Ford, dir., Burnside Lab., E. I. du Pont de Nemours & Co., Penns Grove, N.J.; res. 3 Willing Way, Westhaven, Wilmington 79, Del.
Chem. res.; b. N.Y.C., Nov. 25, 1907; s. of Lambert L. and Grace (Ford) Jackson; ed Princeton U., A.B. maxima cum laude 1929, M.A. 1930, Ph.D. 1932; Calif. Inst. of Tech., 1932-34, Natl. Res. fellow in chem.; m. Margaret Blunt, Sept. 11, 1931; ch.: Anne, Lambert B. 1935-40, res. chem., 1941-45, ballistic engr., 1945-48, asst. dir., 1948 to date dir., Burnside Lab., du Pont Co. Mem.: A.C.S., A.A.A.S. (fellow), Princeton Engrg. Assn., Am. Ordnance Assn., Sporting Arms & Ammunition Mfg. Inst., Armed Forces Chem. Soc., Am. Radio Relay League. Clubs: du Pont Country, Penns Grove Rotary. Hobby: amateur radio.

JACOBI, Edwin George, treas., R.W. Greeff & Co., Inc., 10 Rockefeller Pl., N.Y.C.; res. Mt. Kisco, N.Y.
Exec.; b. Phila., Pa., Aug. 26, 1905; s. of Herman and Magdelene Jacobi; ed. Columbia Coll. B.A.; mem.: Sigma Chi; m. Marjorie de Greeff, Feb. 11, 1939; ch.: Jan, Peter. 1942 to date, R. W. Greeff & Co., Inc. Clubs: University, Bedford Golf & Tennis, Shenorock Shore.

JACOBS, Joseph John, consulting engr., 417 So. Hill St., Los Angeles 13, Calif.; res. 1746 Morada Pl., Altadena, Calif.
Chem. engr.; b. N.Y.C., June 13, 1916; s. of Joseph and Afiffie Jacobs; ed. Polytech. Inst. of Bklyn., B.Ch.E., 1937, M.Ch.E., 1939, D.Ch.E., 1942; mem.: Phi Lambda Upsilon, Sigma Xi; m. Violet Jabara, in 1942; ch.: Margaret, Linda. 1937-39, tchg. asst., Polytech. Inst., Bklyn.; 1939-41, res. engr., Autoxygen Inc., N.Y.C.; 1942-44, sr. chem. engr., Merck & Co., Rahway, N.J.; 1944-47, v.p., Chemurgic Corp., Richmond, Calif.; 1947 to present, conslt., Los Angeles, Calif. Res. in Azeotropic distillation, evaporation, solvent extraction, economic surveys. Mem.: Phi Lambda Upsilon, Sigma Xi, A.A.A.S., A.C.S., A.I.Ch.E., Assn., of Cons. Chems. & Engrs., Registered Prof. Engr. (Calif.).

JACOBS, Morris B., chf. org. chem., Dept. of Health, City of N.Y., Ft. E. 15th St., N.Y. 9, N.Y.; adjunct prof., Polytech. Inst. of Bklyn., 99 Livingston St., Bklyn. 2, N.Y.; res. 355 Bradford St., Bklyn. 7, N.Y.
Chem., author; b. Ekaterinoslav, Russia, Nov. 21, 1905; s. of Barnett and Rebecca Jacobs; ed. C.C.N.Y., B.S. 1926; N.Y.U., M.S. 1929, Ph.D. 1931; m. Margaret Segall, Sept. 5, 1926; ch.: Roberta Leah (Jacobs) Gellis, Berenice Anita, Roger Henry. 1926, Hanover Drug Co., N.Y.C., flavor & drug chem.; 1927, Dovan Chem. Corp.,

Newark, N.J., rubber & res. chem.; 1927, Food, Drug, Insecticide Admin., N.Y., N.Y., jr. chem. foods; 1928 to date, Dept. of Health, City of N.Y., chem. to 1942 foods, flavors, drugs, sr. chem. indus. hygiene & toxicology to 1945, chf. anal. lab. to 1947, chf. org. chem., biologicals; 1944-45, O.S.R.D.-N.D.R.C., Div. 9, Tech. Aide; 1946 to date, adjunct prof., Polytech. Inst., food & flavor tech. Am. Perfumer Essential Oil Review, flavor edit. Physical chem. of sols., water-soluble gums, food anal. & tech., anal. & toxicology of poisons, tech. of alcoholic beverages, flavor formulation, purification & anal. & prod. of toxoids, antitoxins & other biologicals; over 100 papers. Author: "The Chemical Analysis of Foods & Food Products" (D. Van Nostrand Co., N.Y.), 1st printing 1938, 2nd 1939, 3rd 1945, 4th 1947, second edit. 1951; "The Analytical Chemistry of Indus. Poisons, Hazards & Solvents" (Intersc., N.Y.), 1st printing 1941, 2nd 1944, 3rd 1946, second edit. 1949; "War Gases, Their Identification & Decontamination" (Intersc., N.Y.), 1942; "Tech. Manual for Gas Reconnaissance Officers," Dept. of Health, N.Y.C., mimeograph, 1943; "The Chem. & Tech. of Food & Food Prods.," edit. Morris B. Jacobs, 40 collaborators (Intersc. Publ.), N.Y. Vol. I, Vol. II, 1944, second edit. 3 vols. 1951; "Synthetic Food Adjuncts" (D. Van Nostrand Co., N.Y.), 1947; "Chem. & Tech. of Wines & Liquors," 2nd edit. (D. Van Nostrand Co., N.Y.), 1948. Mem.: A.C.S., Am. Indus. Hyg. Assn., A.P.H.A., I.F.T., Soc. Public Analysts (Brit.), S.C.I., Metr. L.I. Chem. Assn., A.A.A.S. (fellow), N.Y. Acdy. Sc., A.I.C., Assn. Food Drug Officials, U.S., Sigma Xi.

JACOBS, P(aul) Burke; ind. spec., asst. to dir., Northern Regional Res. Lab., U.S. Dept. Agr., Peoria, Ill.; res. 1407 Knoxville Ave., Peoria, 44, Ill.
Chem. engr.; b. York, Pa., June 12, 1889; s. of Otis L. and Mary Madge Jacobs; ed. Pa. St. Coll., B.Sc. Chem., 1910; M.Sc. 1913; Ia. St. Coll., Ames, Ia., Ch.E. (hon.) 1932; mem.: Phi Mu Alpha; m. Edith L. Moffett, Aug. 17, 1910; ch.: Mary Edith, Mrs. Lois Marguerite Behn. Chem., var. coal cos., W.Va., 1910-12; asst. supt., Black Diamond Prods. Co., Fairmont, W.Va., 1912-14; chem., United Gas Impr. Co., Phila., Pa., 1914-15; plant supt., Norwich Chem. Co., Smethport, Pa., 1915-19; plant supt., mgr., Seaboard Chem. Co., Newark, N.J., 1919-27; asst. supt. Celanese Corp., Cumberland, Md., 1928; chem. engr., Ga. Pine Turpentine Co., N.Y.C., 1929; joined Bur. Chem. & Soils, U.S. Dept. Agri. Dec. 16, 1929, held var. positions to date, inc. chf. Agri. By-prods. Lab., Ames, Ia., 1931-36; chf. power alcohol survey, Wash., D.C., 1936-37; chf. fermt. fuels tech. sect., Northern Regional Res. Lab., Peoria, Ill., 1940-42; ind. anal., N.R.R.L. 1942-46; ind. spec., asst. to dir., N.R.R.L. 1946 to date. Bur. of Chem. & Soils now known as Bur. of Agri., Ind. Chem., Agri. Res. Adm. Res. in utilization of farm prods. in industry, espec. prod., use of alcohol in motor fuels, destructive distillation of agri. wastes, prod. of indust. alcohol. Contrib. extens. to sc. and tech. jls. Mem.: A.C.S., A.I.Ch.E., Medalist—U.S. Dept. Agri., 1948. Hobbies: piano, landscape painting (oil).

JACOBS, Robert B., assoc. dir. of engrg res., Standard Oil Co. (Indiana), Chicago, Ill.; res. 2137 Cedar Rd., Homewood, Ill.
Physicist; b. June 30, 1909, Los Angeles, Calif.; s. of Fred and Jeanne Jacobs; ed. B.S., Calif. Inst. of Tech., Ph.D., Calif. Inst. of Tech.; m. Mary Elizabeth Johnson, June 30, 1939; ch.: Christofer, Frederick. Res. Fellow and Instr., Harvard U.; Lalor Res. Fellow & Instr., M.I.T.; asst. exec. secy., National Research Council; physicist, M.W. Kellogg Co.; hd. of physics dept., Distillation Products Co. Res. in chg. of vacuum engrg. and dev.; K-25 gaseous diffusion plant, Oak Ridge, Tenn. Mem.: Sigma Xi, Physical Soc.

JACOBS, Walter A(braham), mem. emeritus, Rockefeller Inst. for Med. Res.; res. 185 Victory Blvd., New Rochelle, N.Y.
Chem. (org.); b. N.Y.C., Dec. 24, 1883; s. of Charles and Elizabeth (Friedlander) Jacobs; ed. Columbia, A.B., 1904; A.M., 1905; U. of Berlin, Ph.D., 1907; m. Laura Dreyfoos, Oct. 7, 1908; ch.: Walter Charles, Elizabeth R. (Jacobs) Stiller. With Rockefeller Inst. since 1907, becoming mem. 1923 and mem. emeritus, 1949. Wk. in determ. of structures of natural products; chemotherapy. Mem.: Natl. Acdy., A.A.A.S., A.S. Bio.C., Am. Soc. Phar. and Exp. Ther., Soc. Exp. Biol. and Med., Harvey Soc., A.C.S.

JACOBSON, Carl Alfred, prof. chem. emeritus, W. Va. U., Morgantown, W. Va.
Prof. chem.; b. Grantsburg, Wis., Jan. 25, 1876; ed. Carleton, B.S., 1903, M.S., 1907; Johns Hopkins, Ph.D., 1908; mem.: Athenean; m. Mary Edna Metzger, June 21, 1906; ch.: Ernest Howard (dec.), Alfred Marcel (dec.), Carl Metzger, John David, Joseph Edward (missing in action), Samuel Odin, Robert Stanley. Universal Photo Art Co., European repr. 1901-02; Rockefeller Inst. Med. Res., fellow 1908-09; U. Nev., prof. chem.; Nev. Agr. Expt. Sta., chf. chem. 1909-18; W. Va. U., prof. chem. 1920-46; prof. emeritus, 1946 to date; editor-in-chf., "Encyc. of Chemical Reactions," pub. by Reinhold Pub. Corp., New York (3 vols. now pub. and 4th going to press before Jan. 1, 1951). Organ. and mgr. Neo Mfg. Co. for produc. potash dur. W.W. I. Author: "Chem. Formula Speller and Contest Guide." Pat. proc. treat. powdered coal, calculating mach. and separatory apparatus; over 50 chem. arts. in Am. and foreign jls. Mem.: A.C.S., Phi Beta Kappa, Phi Kappa Phi, Phi Lambda Upsilon; for sev. yrs. mem. of comm. on nomenclature, spelling and pronunciation of A.C.S. Club: Torch. Hobbies: inventions and patents.

JACOBUS, David D(inkel), engr., Brookhaven Natl. Lab., Upton, L.I., N.Y.; res. P.O. Box 97, Brookhaven, N.Y.
Engr.; b. J.C., N.J., Feb. 16, 1900; s. of David S. and Laura Dinkel Jacobus; ed. Stevens Inst. Tech., 1921, M.E.; M.I.T., 1930, Sc.D.; mem.: Tau Beta Pi; m. Margaret Penman, Feb. 24, 1926; ch.: David Penman, John Henry. Stone & Webster Engrg. Corp., 1922-26; res. assoc. physical chem., M.I.T., 1927-30; asst. prof. chem., Stevens Inst. Tech. 1931-40; dir. res., Keuffel & Esser Co., 1937-42; staff mem. Radiation Lab., M.I.T. 1942-46; conslt. engr., Am. Mach. & Foundry Co., N.Y., 1946-48; prof. chem., Stevens Inst. of Tech. 1946-48; dir. instr. & mech. dev. dept., Kellex Corp., 1948-49; engr., Brookhaven Natl. Lab., 1949 to date. Sev. U.S. pats. on photosensitive matls., precision images & meth. of prod. them; author: Chapt. (2) Ground & Ship antennas; (3) Ground Antenna Mounts in Radar Scanner Engrg., Vol. 26, Radiation Lab. Tech. Series (McGraw-Hill). Mem.: A.S.M.E., A.C.S., A.A.A.S., A.I.C.

JACOBY, Thomas Franklin, head, products res. sect., Alexander Smith and Sons Carpet Co., Yonkers, N.Y.; res. Marshall Rd., Yonkers. N.Y.
Res. chem.; b. Allentown, Pa., Sept. 19, 1916; s. of George L. and Edna Jacoby; ed. Lehigh U., B.S. in Ch.E., with honors, 1938, M.S. in chem., 1940, Ph.D. in 1942; m. Jean B. Gillette, Oct. 10, 1945; ch.: Kathleen E., Donald B. 1942-43, Natl. Oil Prods. Co., sr. res. Fellow, Lehigh U.; 1943-44, instr., Pa. Coll. for Women, Pittsburgh, Pa.; 1944-49, dir. of chem. res., Lehigh Spinning

Co., Allentown, Pa.; now head, prod. res., sect., Alexander Smith Carpet Co., Yonkers, N.Y. Res. on leather and protein chem. (nine pubs.); res. and dev. wk. on plastics and plastic coatings for yarns and fibers; dev. of new floor cover. prods. (4 pats. pending). Mem.: A.C.S. Hobbies: music, handicrafts.

JAEGER, Robert W., asst. to sales mgr., Sid Richardson Carbon Co., 335 S. Main St., Akron, Ohio; res. 483 Merriman Rd.
Sales engr.; b. Boston, Mass., Aug. 3, 1900; s. of Robert and Elizabeth Barbara Jaeger; ed. B.T. C.&D., Lowell Text. Inst. 1923; mem.: Delta Kappa Phi; m. Evelyn Reveley, Nov. 7, 1949; ch.: Katharine Barbara. 1923-26, chem., James & E.H. Wilson Inc., Pittsfield, Mass.; 1926-29, res. engr., Armour & Co., Chicago, Ill., North Bergen, N.J.; 1929-45, tech. div., lubricating sales, Stand. Oil Co. (Ind.), Chicago, Ill.; 1946-49, sales mgr., C.P. Hall Co., Akron, Ohio; 1949 to date asst. sales mgr., Sid Richardson Carbon Co. Patent, Reclaim Oil. Contrib. extens. to sc. and tech. jls. Mem.: A.C.S., A.O.A. Clubs: Akron City, Chem. (N.Y.).

JAFFE, Bernard, chmn., physical sc. dept., James Madison H.S., Brooklyn, N.Y.; res. 25 Eastern Parkway, Bklyn., N.Y.
Teacher & sc. writer; b. N.Y.C., Mar. 5, 1896; s. of Harris and Fannie Barnett Jaffe; ed. B.S., cum laude, C.C.N.Y., 1916; M.A. Columbia U., 1923; m. Celia Lesser, Sept. 2, 1926; ch.: Lionel F., Henry Z. Served overseas in the 27th Div. during 1918-19; chem. instr., N.Y.C. high schls., 1924-30; hd. of phys. science dept., N.Y.C. high schls., 1931 to present. Contrib. sc. arts. and book reviews in N.Y. Times, N.Y. Herald Trib., New Republic, Sat. Review of Lit., Inf. Please. Almanac and other publs. Author: "New World of Chemistry," 1935, revised editions, 1940, 1942, 1947, 1949, "Chemical Calculations" 1926 rev. ed. 1947, "Crucibles, the Story of Chemistry," 1930, rev. in 1942, 1948, "Outposts of Science," 1935, "Men of Science in America," 1944. Recd. Francis Bacon Award for humanizing knowledge, 1930 (Crucibles). Mem.: History of Sc. Soc., Phi Beta Kappa., A.C.S., A.A.A.S. Hobbies: golf, painting.

JAHN, Edwin Cornelius, dir. res., prof. forest chem., N.Y. St. Coll. of Forestry, Syracuse 10, N.Y.; res. 208 Hurlburt Rd., Syracuse 3, N.Y.
Res. admn., prof. forest chem.; b. Oneonta, N.Y., Sept. 6, 1902; s. of Cornelius and Nellie Yager Jahn; ed. B.S. 1925; M.S. 1926, N.Y. St. Coll. of Forestry; Ph.D. 1929, McGill U., Montreal; mem.: Alpha Chi Sigma, Sigma Xi, Xi Sigma Pi, Alpha Xi Sigma; m. Helen L. Schumann, Jan. 29, 1927; ch.: Elena Louise, Carol Gordel. Res. asst., N.Y. St. Coll. of Forestry, 1925-26; res. asst. McGill U., 1926-29; fellow, Am.-Scandinavian Foundation to Sweden, 1929-30; assoc. prof. forestry, U. Idaho, 1930-35; prof. forestry, 1935-38; prof. forest chem., N.Y. St. Coll. of Forestry 1938 to date; dir. of res., 1949 to date; (on leave 1943-44 as tech. attache to Sweden; 1945-46 sr. economic anal. Dept. of State to Sweden, Norway, Finland, Denmark). Res. in chem. of wood, lign., cellulose, chmn. plastics comm. of Tech. Assn. Pulp & Paper Ind.; contrib. to Wise, "Chem. of Wood," 1944, currently co-editor, 2nd. ed. now in ms. Mem.: A.C.S., T.A.P.P.I., Soc. Am. Foresters. Hobbies: winter & outdoor sports.

JAHREIS, Carl Albert, chem. engr., T. Shriver & Co., Harrison, N.J.; res. 75 Sunnyside Ave., Dumont, N.J.
Chem. engr.; b. Feb. 6, 1913, Newark, N.J.; s. of John and Dorothea Jahreis; ed. chem. engr., Rensselaer Polytech. Inst., 1934; M.S. N.Y.U., 1935; m. Else Hoffman, Mar. 25, 1939; ch.: John, Diane, Robert. Chem., Salle & Co., 1935-36; chem. engr., T. Shriver & Co., 1936 to present. Pats. in filtration and pumping. Club: Chemists' (N.Y.C.). Hobby: photography.

JAKOB, Max, res. prof. mech. engr., Illinois Inst. Tech., 3300 Federal St., Chicago, 15, Ill.; res. 5412 E. View Pk., Chicago.
Teach., res., conslt.; b. Ludwigshafen, Germany, July 20, 1879; s. of Heinrich and Ernestine Jakob; ed. Tech. Hoch. Muenchen (Germany), dipl. ing. (elec. engr.) 1902; dipl. ing. (appl. physics) 1903; Dr. Ing. 1904; D. Engrg. (hon., Purdue U.) 1948; m. Anna Wassertruedinger, Apr. 3, 1913; ch.: Elizabeth, Karl Michael. 1903-06, res. asst. appl. physics, Tech. Hochschule Muenchen (Germany); 1906-10, engr. in German, Swiss elec. engrg. cos.; 1910-35, mem. of Physikalisch-Technische Reichsaustalt (Germany's Bur. of Stands.); prof., 1914-35; 1936, conslt. engr., Berlin, Germany; 1937 to date, res. prof. mech. engr., Ill. Inst. Tech., dir. heat transfer lab., conslt. heat res. of Armour Res. Foundation, Chicago, Ill.; 1944 to date conslt. heat transfer, Purdue U., Lafayette, Ind. Co-editor "Chemie-Ing." 13 vols., co-author vol. I of this hand book; co-author: "Elements of Heat Transfer & Insulation," 1942; "Heat Transfer" 1949; editor Vols. I to IV "Forsch. auf d. Geb. d. Ing." 1930, 1931, 1932, 1933. Mem.: A.S.M.E., A.I.Ch.E., Am. Soc. Eng. Ed., A.C.U.P., Sigma Xi. Club: Armour Faculty.

JAMES, Arthur Edwin, prof. of chem., Temple U. Schl. of Phar., 3223 N. Broad St., Phila. 40, Pa.; res. 408 S. Walnut St., West Chester, Pa.
Prof. of chem.; b. West Chester, Pa., Jan. 21, 1897; s. of J. Edwin and Mary C. James; ed. Sec. Ed. Westtown Schl., Westtown, Pa.; B.S. Pa. State Coll. 1921; M.A. U. of Pa. 1924; Ph.D. Cornell U. 1933; mem.: Sigma Phi Alpha, Phi Lambda Upsilon, Kappa Psi, Phi Delta Kappa; m. Alma I. Davis, Sept. 5, 1922; ch.: Barbara A. Stonestrom, A. Dalton. Lincoln U., Pa., instr. in chem., 1921-22, asst. prof. chem., 1922-24, prof. of chem. 1924-37; prof. of chem., Temple U. Schl. of Phar. 1937 to date. Publ. number of articles dealing with spectrophotometric assay of pharmaceuticals in Jl. of Am. Pharmaceutical Assn.; several arts. in Am. Journal of Pharmaceutical Ed.; edited "West Chester Sesqui-Centennial 1799-1949." Author: "The Potters & Potteries of Chester Co., Pa." 1945; "Chester Co. Clocks & Their Makers" 1945; publ. under auspices of Chester Co. Historical Soc., West Chester, Pa. Mem.: A.C.S., A.Phar.A., Franklin Inst., Am. Assn. of U. Prof., Pa. Acad. of Sc. Pres. of West Chester Y.M.C.A., 1943 to date,, dir. since 1938; v.p. Chester Co. Hist. Soc., 1948 to date, dir. since 1938; chmn. exec. comm. Westtown Schl., 1948 to date, mem. of bd. since 1935; mem. Richard Humphrey's Foundation 1949 to date. Hobby: Local history pertaining to Chester Co., Pa.

JAMES, Frank Ward, act. chf., res. group, Ordnance Rocket Center, Redstone Arsenal, Huntsville, Ala.; res. 104 Kent Rd., Huntsville.
Chem. engr.; b. Birmingham, Ala., Aug. 27, 1911; s. of Thomas Frank and Lula (Ward) James; ed. Columbia U. M.A. 1933; Howard Coll., Birmingham, Ala., B.S. with hon. 1932; U. of Buffalo 1934; m. Laura Sommer, 1936; ch.: Frank W. Jr., Elizabeth L. 1933-40, Natl. Aniline Div., Allied Chem. & Dye Corp., sr. engr., res. engrg. group; 1940-41, Army Chem. Center, chem. engr., war plans div.; 1941-49, Huntsville Arsenal, chf. chem. engr.; 1949 to date, Redstone Arsenal, act. chf. res. section, Ordnance Rocket Center. U. S. Pat. 2,368,990, Feb. 6, 1945, Liquid Proportioning Apparatus; planning & supervising res. programs. Mem.: A.I.Ch.E., A.C.S., A.A.A.S. Award: War Dept. Commendation for Meritorious Civilian Service. Hobbies: sports, music.

JAMES, Raymond W., sr. chem. engr., Arthur D. Little, Inc., 30 Memorial Dr., Cambridge, Mass.; res. 66 Blake Rd., Lexington, Mass.
Chem. engr.; b. Randolph, Me., Apr. 4, 1909; s. of John R. and Lida E. (Story) James; ed. Northeastern U., B.Ch.E. (hon.) 1932; m. Lilla M. Calderwood, June 19, 1937; ch.: Robert H., Carolyn M., Richard W. Bemis Assoc., Inc. 1932-37, chf. chem.; Arthur D. Little, Inc., 1937 to date, chem. engr. res. in polymers, plastics, adhesives. Mem.: A.C.S., A.I.Ch.E.; A.A.A.S., Photog. Soc. Am., Tau Beta Pi. Clubs: Lexington Golf, Sutton. Hobbies: photography, woodworking, television, philately.

JAMES, Thomas M. Jr., paper mill serv. mgr., The Flox Co., 1132 Glisan St., Portland, Ore.; res. 10505 N.E. Beech St., Portland 20, Ore.
Paper mill serv. mgr.; b. Nov. 18, 1914, Sioux Falls, S.D.; ed. Lyndale Grammar Schl., Jefferson Jr. H. and West H.S., Minneapolis; U. of Minn., 1933; m. Dorothy R.; ch.: Lee R., Thomas M. III, Susan J. Asst. chem., Great Western Tea Labs., 1933-36; joined The Flox Co. June 22, 1936 at Minneapolis; to Duluth June, 1947; to Portland, Jan., 1950.

JAMESON, Albert R(obert), v.p., Velsicol Corp. 330 E. Grand Ave., Chicago, Ill.; res. 334 Wesley Ave., Evanston, Ill.
Dir. sales; b. Ft. Jennings, Ohio, Mar. 9, 1897; s. of John Frederick and Ella Rebecca Jameson; ed. Defiance Coll., A.B., 1918; grad. wk., chem. engr., Purdue U. 1919-20; m. Emily Todd, Jan. 24, 1932. 1 yr. Newport Chem. Wks., Carrollville, Wis., chem.; 1 yr. Goodyear Tire & Rubber Co., Akron, Ohio, chem.; 1 yr. instr. chem., Purdue U.; 3 yrs. John Campbell & Co., N.Y., chem. sales; 9 yrs. Pure Oil Co., Chicago, Ill., chem., sales; 15 yrs. Velsicol Corp., dir. chem. sales. Res. in tech. serv., sales dev. of pet. resins & derivatives. Mem.: A.C.S., Assn. Prof. Engrs. Clubs: Chem. (N.Y.), Lake Shore (Chicago), Evanston Golf. Hobbies: golf, farming.

JAMIESON, George Samuel, retired chem., 3914 McKinley St., N.W., Wash. 15, D.C.
Retired chem.; b. Bridgeport, Conn., June 7, 1879; s. of George Alexander and Edith Burns Jamieson; ed. Yale U., 1901; Ph.B.; 1904, Ph.D.; mem.: Sigma Xi; m. Charlotte Holden, June 24, 1908; ch.: Charlotte Brewster. 1904-09, instr. anal. chem., Yale U.; 1909-17, asst. prof. anal. chem.; 1917, res. chem., Bur. Chem., U.S. Dept. Agr.; 1919-43, chg. oil, fat & wax lab., Bur. Chem., U.S. Dept. Agr.; 1943-47, prod. & market. admn., fats, oils, div. U.S. Dept. Agr. Pub. 130 arts. on fats, oils, anal. meths., inorg., org. subjs. Author: "Volumetric Iodate Methods," 1926; "Vegetable Fats & Oils," 1932, 2nd ed. 1943. Mem.: Sigma Xi, A.O.C. (hon. mem.), A.C.S., A.A.A.S. (fellow). Hobbies: gardening, horticulture, fishing, painting, watercolors, oils.

JANON, Samuel G., gen. mgr., Smith Chem. & Color Co. Inc., 55 John St., Bklyn. 1, N.Y.; res. 318 Beach 28th St., Far Rockaway, N.Y.
Exec.; b. Bklyn., N.Y., Nov. 12, 1907; s. of Jack and Ida Janon; ed. Boys H.S., Bklyn.; Wash. U., St. Louis, Mo.; Pratt Inst., Bklyn.; m. Grace Bobroff, Oct. 10, 1930; ch.: Lola, Edward, Judith, Anne. Colony Vintages, Inc., 1925-27, office mgr.; Smith Chem. & Color Co. Inc., 1927 to date, gen. mgr. Solcort Realty Corp. (treas.); Map Realty Corp. (pres.); Colony Vintages, Inc. (secy.). Clubs: Knights of Pythias, Rockaway Chamber of Com., Frank Ave. Civic Assn., Boy Scouts of Am. Hobbies: fishing, gardening, scouting.

JASPER, Joseph John, prof. of chem., Wayne U., Detroit, Mich.; res. 1440 W. Bethune Ave., Detroit 6.
Physical chem.; b. Grand Rapids, Mich., July 28, 1895; s. of Peter and Lillian (Smith) Jasper; ed. B.S., Mich. State Coll., 1924; M.S., 1928; Ph.D., U. of Chicago, 1930; mem.: Pi Kappa Phi, Sigma Pi Sigma, Alpha Chi Sigma; m. Grace Laughlin, Sept. 12, 1921. Army, 1918-20; photo-engraver, 1919-20; college, Mich. State, 1920-24; instr. Mich. State Coll., 1924-28; student, U. of Chicago, asst. in physical chem., 1928-30; instr., Wayne U., 1931-37; asst. prof., 1937-42; assoc. prof., 1942-46; prof., 1946 to date. 15 papers on surface chemistry and heterogeneous equilibrium. Author: "Lab. Methods of Physical Chemistry" (Houghton Mifflin Co.), 1938. Mem.: A.C.S., Engrg. Soc. of Detroit, Sigma Xi, Amer. Assoc. for Advancement of Science. Hobby: miniature photography.

JEGLUM, C(laire) H., chem. dept. mgr., Phila. Quartz Co., Public Ledger Bldg., Phila. 6, Pa.; res. Swarthmore, Pa.
Chem. engr.; b. Iowa, Nov. 2, 1901; s. of Carl L. and Ida M. Jeglum; ed. U. of Ariz.; B.S. in Chem. E. Iowa State Coll. 1925; m. Miriam Perkins, Feb. 16, 1935; ch.: Carl P. Am. Doucil Co., chem. res., 1925-28; Phila. Quartz Co., tech. serv., 1928-43, asst. to chem. dir., 1943-49, chem. dept. mgr. 1949 to date. Edit. of Silicate P's & Q's 1941; num. pub. in trade papers on soluble silicates. Mem.: A.C.S.

JELINEK, Viola C., chem., res., Merck & Co., Rahway, N.J.; res. 14 English Village, Cranford, N.J.
Chem.; b. Dec. 1, 1903, Crete, Nebr.; d. of Stephen and Frances D. Jelinek; ed. B.Sc. 1925, U. of Nebr.; M.Sc., 1927, same U.; grad. study, 1932-35, Yale U. Norfolk, Nebraska Jr. Coll., 1928-32, tchg. chem.; grad. schl., Yale, 1932-35; asst. instr., chem. dept., U. of Nebr., 1935-37; jr. chem., 1938-42, U.S. Dept. of Agric., Wash., D.C.; 1942 to date, chem., biochem. res., Merck & Co. Author of num. papers on dev. of chem. meths. for the determ. of antibiotics. Mem.: Phi Beta Kappa, Sigma Xi, Sigma Delta Epsilon, Iota Sigma Pi, A.C.S., A.A.A.S. Hobbies: photography, glassblowing, perfumes, woodworking.

JELLING, Murray, pres., tech. dir., Cidex Corp., 85 Franklin St., Jersey City 7, N.J.; res. 822 Ocean Ave., Bklyn. 26, N.Y.
Chem.; b. Bklyn., N.Y., Jan. 7, 1918; s. of Simon and Mary (Elson) Jelling; ed. Bklyn. Coll., Bklyn, N.Y. B.S. 1933-37; Polytech. Inst. of Bklyn, N.Y., M.S. in Chem. 1938-41, Ph.D. 1941-45; m. Florence Silverman, Dec. 25, 1942. 1938-41, Autoxygen, Inc., N.Y.C., res. chem.; 1941-43, Nopco Chem. Co., Harrison, N.J., res. & dev. chem., ind. div.; 1943-45, Polytech. Inst. of Bklyn., Bklyn., N.Y., res. assoc., chem. dept., Q.M.C. project on plastic films & coatings; 1946-48, Nostrip div., Maguire Ind., Inc., N.Y.C., dir. of chem. res.; 1948 to date, Cidex Corp., Jersey City, N.J., pres., tech. dir. Several pubs. in chem. jls., J. Am. Chem. Soc., J. Org. Chem.; author of sec. of final report for Q.M.C.-32 project on thin films & coated fabrics under Natl. Res. Council Comm. on Q.M.C. problems. Mem.: A.C.S., Sigma Xi, Phi Lambda Upsilon. Hobbies: tennis, photography.

JENKINS, Ford McHenry, dir. of res. & tech. wk., O-Cel-O, Inc., 1200 Niagara St., Buffalo 13, N.Y.; res. 419 Zimmerman Blvd., Kenmore 23, N.Y.
Chem.; b. Elkton, Ky., Feb. 3, 1912; s. of Robert F. and Nettie Jenkins; ed. Elkton H.S. (valedictorian); Vanderbilt U., Nashville, B.A. (chem. & phys.) cum laude; 3 yrs. post-grad. at U. of Buffalo, Buffalo, N.Y.; spec. course at M.I.T. (on doctorate—war interrupted); m. Louella Clark, Jan. 17, 1938; ch.: Karen, John Richard,

Linda. E. I. du Pont de Nemours & Co.: laboratorian, Tenn., 1929-32; tech. asst., Tenn., 1932-37; res. chem., Buffalo, 1938-41; spec. asst. to dir. of res., Buffalo, 1941-45; group leader res., Buffalo, 1945-48; tech. dir., dir. of res., O-Cel-O, Buffalo, 1948 to date. Res. confidential within du Pont organiz. Mem.: A.C.S. Trustee N. Buffalo Church of Christ, v.p. of Kenmore P.T.A., Repub. Committeeman 29th district. Hobbies: statistical analytical researches—private; church work.

JENKINS, Frances Briggs, acting hd. of Branch Libraries, U. of Calif., Berkeley 4, Calif.; res. 954 San Benito Rd., Berkeley 7.
Librarian; b. San Diego, Calif., Oct. 15, 1905; d. of Edwin C. and Theresa (Giehl) Briggs; ed. B.S. 1926, Ph.D. 1937, U. of Ill.; M.S., 1928, Tulane U.; B.L.S., 1947, U. of Calif. 1926-28, tech. asst., dept. of biochem., Coll. of Medicine, Tulane U., New Orleans; 1928-29, asst. biochem., Agric. Expt. Station, U. of Tenn., Knoxville; 1929-41, instr., dept. of biolog. chem., Coll. of Medicine, U. of Ill., Chicago; 1936, immunologist, Haskell Lab., E. I. du Pont Co., Wilmington, Del. (during 6 mo. leave of absence from U. of Ill.); 1942-44, supvr., Correction Sec., Communications Office, U.S. Naval Base, San Diego, Calif.; 1944-46, Lt., U.S.N.R. Operations. Office, 11th Naval District; 1947-49, hd. Sc. Reference Serv., U. of Calif. Library, Berkeley; 1949 to date, acting hd. of Branch Libraries, U. of Calif. Library, Berkeley. Mem.: A.C.S., A.A.A.S., Calif. Acad. of Sc., A.L.A., Special Libraries Assn., Medical Library Assn., Calif. Library Assn., Sigma Xi.

JENKINS, Glenn Llewellyn, dean, prof. of phar. chem., Purdue U. Schl. of Pharmacy; res. 615 University St., West Lafayette, Ind.
Phar. chem.; b. Sparta, Wis., Mar. 25, 1898; s. of Thomas and Laura (Rathbun) Jenkins; ed. U. of Wis., B.S. 1922, M.S. 1923, Ph.D. 1926; Hollister Fellow 1922-23; mem.: Theta Chi, Kappa Psi, Rho Chi, Gamma Alpha, Phi Lambda Upsilon, Sigma Xi; m. Serena E. Forberg, June 29, 1926; ch.: Serena Elizabeth, Thomas Nelson, Glenn Llewellyn, Jr., Carol Ruth. Grad. asst., instr., U. of Wis., 1923-27; prof., hd., phar. chem., U. of Md. 1927-36; prof., hd., phar. chem., U. of Minn. 1936-41; dean, prof., phar. chem., Purdue U. Schl. of Pharmacy 1941 to date. Res. on org. medicinal prods. & meths. of drug anal.; mem., U.S.P. Revision Comm. 1940, chmn., subcomm. on reagents; mem., Natl. Formulary Revision Comm. 1930-46, chmn. subcomm. on chem. Author: "Quantitative Phar. Chem." 3rd edit. McGraw Hill Book Co., N.Y. 1949; "The Chem. of Org. Medicinal Prods." 3rd edit., John Wiley & Sons, Inc., N.Y. 1949. Mem.: A.Phar.A. (counsellor 1938, pres. 1949-50); A.C.S. (chmn. Purdue sec. 1947); A.A.A.S. (chmn. subsec. on pharmacy since 1938). Ebert M. for Res., A.Phar.A., 1936. Ind. State Bd. of Health, 1944; chmn., Ind. Interprofessional Health Council, 1941. Clubs: Lafayette Rotary (pres. 1946), Purdue U. (pres. 1947), Elks. Hobbies: fishing, golf.

JENNESS, Leslie George, asst. to the pres. in chg. of res., Kennecott Copper Corp., New York; res. 135 East 54th St., New York, N.Y.
Chem. engr.; b. Danbury, N.H., Aug. 12, 1898; s. of George B. and Vina B. Jenness; ed. B.S., New Hampshire U., 1920, M.S. U. of Maine, 1924, Ph.D., Columbia U. 1930. All degrees in chem. engrg.; mem.: Lambda Chi Alpha, Sigma Xi, Alpha Chi Sigma, Epsilon Chi, Phi Lambda Upsilon; m. Betty Hooks, June 29, 1926. General Electric Co., 1920-21; instr. in chem. engrg., U. of Maine 1922-24; Pratt Inst., 1924-32; tech. dir., Intermetal Corp., 1932-41; div. hd., Linde Air Products Co., 1941-47; dir. of res., The Humko Co., 1947-50; asst. to the pres. in chg. of res., Kennecott Copper Corp., 1950 to date. Work as civilian, Manhattan Project (now Atomic Energy Comm.), metal recovery, chlorination, hydrogenation, catalysis, fungicides, silicon chemicals, oils, fats and fatty acids.

JENNINGS, Harley Young, dir. res., Dan River Mills, Inc., Danville, Va.; res. 128 Park Ave., Schoolfield, Va.
Chem.; b. Clio, Mich., Mar. 25, 1892; s. of Byron S. and Clara E. Jennings; ed. Adrian Coll., Adrian, Mich., B.S., cum laude; U. of Mich., Ann Arbor, Mich., M.S. & Ph.D.; mem.: Alpha Tau Omicron, Phi Lambda Upsilon, Gamma Alpha, Sigma Xi; m. Ruby L. Green, June 28, 1916; ch.: Howard J., Harley Y. Jr. Instr. U. Mich.; chem., Shatterproof Glass Co., Detroit, Mich.; dir. of res., Copeman Labs. Co., Flint, Mich.; assoc. dir., res., Dan River Mills; dir. res., Dan River, Mills. Ten pats. chem. & mechan. fields. Mem.: A.A.T.C.C., A.C.S., A.A.A.S.; Fellow, Textile Institute (English). Club: Rotarian. Hobbies: gardening, boys' club activities.

JENSEN, Clifford Oliver, prof. of phytochem., Dept. of Agri. and Biol. Chem., The Pa. State Coll., State College, Pa.; res. 204 E. Adams Ave., State College, Pa.
Teaching and res.; b. Rushford, Minn., Feb. 10, 1903; s. of Carl C. and Annette M. (Gaarder) Jensen; ed. B.A., St. Olaf Coll., 1924; M.S., The Pa. State Coll.. 1930; Ph.D., Pa. State Coll., 1933; mem.: Alpha Zeta; m. Gunborg S. Erickson in 1935; ch.: Carl S., Erick A., David P. Instr. in agr. chem., The Pa. State Coll., 1932-36; res. chem., P. Lorillard Co., 1936-41; asst. mgr., Middletown Branch, P. Lorillard Co., 1941-45; prof. of phytochem., The Pa. State Coll., 1945- to date. Res. in chem. of tobacco, tobacco smoke, fermentation of cigar leaf tobacco, biochem. uses of triphenyltetrazolium chloride. Mem.: A.C.S., A.A.A.S., Sigma Xi, Phi Lambda Upsilon, Gamma Sigma Delta. Hobby: music.

JENSEN, Fred A., partner, Jensen & McClelland, 510 N. Dearborn St., Chicago, Ill.; res. 2538 Kenilworth Ave., Wilmette, Ill.
Mfrs. rep.; b. Chicago, Nov. 23, 1892; s. of John S. and Minnie Jensen; ed. Armour Tech. Night Schl.; m. Daisy L. Lundin (dec.), Sept. 15, 1923. 1911-19, Marden Orth & Hastings Co., sales mgr. oil dept., oriental oils, fish oils, sulphonated oils; 1919-20 Rogers Brown & Co., oil dept.; 1920-46 Fred A. Jensen, mfrs. agent, raw matls. for paint, varn., lacq., soap, wallpaper, floor tile, printing ink, paper, & artificial leather mfrs.; 1947 to date, Jensen & McClelland (successor Fred A. Jensen). Representing: Stand. Ultramarine Co., Monsanto Chem. Co., St. Joseph Lead Co., Woburn Chem. Corp., J. Lee Smith & Co., G. S. Ziegler Co., S. Winterbourne Co., MacLac Co. Clubs: Chicago Paint Varn. & Lacq., Lake Shore, Westmoreland Country. Hobbies: golf, fishing.

JENSEN, Frederick Wilhelm, hd. of dept., chem. dept., Texas A. & M. Coll., College Station, Tex.; res. 204 Suffolk, Oakwood, College Station.
Prof. of chem.; b. Blair, Nebr., Aug. 25, 1894; s. of H. C. (dec.) and Elizabeth Jensen (dec.); ed. U. of Nebr., B.S. in chem. 1920, M.S. in chem., 1923, Ph.D. in chem. 1925; m. Ida Molkentine, Aug. 5, 1923; ch.: Tyleen D., Bernyce (Jensen) Byars. Student asst. in chem., U. of Nebr., 1915-18, 1919-20, grad. asst. in chem. 1920-25; assoc. prof. of chem., 1925-30, prof. of chem. 1930-47, hd. of dept. of chem. 1947 to date, Texas A. & M. Coll. Res. in appl. of electronics to chem., high frequency analyses, microwave, fluorescence & consulting in pollutions involving crude oil & salt. Mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Phi Kappa Pi, Sigma Xi, A.C.S., A.A.U.P. Club: Bryan Rotary. Hobbies: gardening, flowers.

JENSEN, John Henry, chmn. Div. of Sc. and Math., Northern State Tchrs. Coll., Aberdeen, S.D.; res. 802 Eighth Ave. S.E., Aberdeen, S.D.
Instr. in chem.; b. Pullman, Ill., July 1, 1883; s. of Hans and Johanna T. Jensen; ed. A.B., 1911, M.S., 1916, U. of Mich.; summer session Tchrs. Coll., Columbia (grad. wk.), and Minn. U.; m. Ruth Hanaford, July 1, 1914; ch.: John H. Jr., Richard H., Lucille (Mrs. Robert DeLap), Ruth Clara (Mrs. Thos. Loverude), Elizabeth (Mrs. Merlyn Herrick). Hd., Dept. of Sc., Aurora Coll., Aurora, Ill., 1912-16; hd., Dept. of Phys., Central High Schl., Lansing, Mich., 1916-18; prof. of phys. and chem., Northern State Tchrs. Coll., 1918-22; chmn. Div. of Sc. and Math., 1922 to date. Anal. wk. for the state and city (in S.D.); now working with city in drunken driving cases with cert. from Northwestern Traffic Inst. as qualified to do this type of wk; high schl. sc. survey of S.D. Contrib. arts. to sc. jls. Mem.: A.C.S., A.A.A.S. (fellow), State Dir. Natl. Sc. Tchrs. Assoc., S.D. Acdy. of Sc., Natl. Assoc. for Res. in Sc. Tchg., Beadle Club. Chmn. of Comm. on Minimum Equip. for Tchg. of Chem. in H.S., Div. of Chem. Educ., A.C.S.; chmn. of Comm. for revision of Course of Study in Sc. for H.S. of S.Dak.; Course of Study Bulletin No. 17 State Dept. of Educ.; Coll. rep. for S.D. Senate of Chem. Educ., A.C.S. Hobbies: fishing, stamps, problems of sc. tchg.

JESTER, John M. Jr., secy. and plant mgr., Amalgamated Chem. Corp., Ontario and Rorer Sts., Phila., Pa.; res. Guinea Lane, Warrington, Pa.
Chem.; b. Washington, D.C., Dec. 26, 1913; s. of John M. and Eleanor H. Jester; ed. B.S., Lehigh U., 1936, in engrg. chem.; mem.: Phi Delta Theta; m. Caroline Elizabeth Otis, Dec. 26, 1936; ch.: Judy Aimee. Chem., W.H. & F. Jordan, Jr., Mfg. Co., 1936-39; chem. and plant mgr., Amalgamated Chem. Corp. 1939 to date. Res. in dev. of textile specialties. Mem.: Amer. Assn. of Textile Chemists & Colorists, Chemical Club (Phila.), Oil Trades Assn. Club: Manufacturers Golf and Country. Hobbies: golf, gardening.

JETTE, Eric R(andolph), div. leader, chem. & metallurgy div., Los Alamos Scientific Lab., Los Alamos, N.M.; res. 1967 Peach St., Los Alamos.
Chem., metallurgist; b. Lancaster, Pa., Sept. 30, 1897; s. of J. Arvid and Matilda (Larson) Jette; ed. Franklin & Marshall Coll., B.S. 1918; Columbia U., M.A. 1920, Ph.D. 1923; mem.: Phi Kappa Sigma; m. (1) Mary Parrish Little, 1925 (died 1933); (2) Eleanor B. Brown, 1937; ch.: Wm. O. Instr. in chem., Columbia U., 1924-26; asst. prof. chem., Washington Sq. Coll., N.Y.U., 1926-28, assoc. prof. chem. 1928-29; assoc. prof. metallurgy, Schl. of Mines, Columbia U., 1929-40, prof. metallurgy 1940-46; group leader, Manhattan Engrg. District, Los Alamos, N.M., 1944-45; div. leader, Los Alamos Scientific Lab., 1945 to date; assoc. tech. dir., C.W.S. Labs., Columbia U., 1942-43. X-ray diffraction of metals & alloys; rates of chem. reactions; thermodynamics of metallurg. reactions. Translation with V. K. LaMer, "Fundamentals of Physical Chem." by A. Eucken, 1925, McGraw-Hill; "Oxidation Reduction Reactions," 1927, Century. Mem.: Sigma Xi, Tau Beta Pi, Phi Lambda Upsilon, Epsilon Xi, A.I.M.M.E., A.C.S., A.S.M. Priestley Lecturer, Pa. State Coll., 1933; Howe M., A.S.M., 1937; fellow, Am. Scandinavian Foundation, Sweden 1922-23, Denmark 1923-24.

JEWETT, Theodore Carter, v.p., Spencer Kellogg & Sons, Inc., 98 Delaware Ave., Buffalo, N.Y.; res. 38 Hodge Ave., Buffalo.
Exec.; b. Buffalo, N.Y., Jan. 25, 1893; s. of Dr. Carlton Rogers and Jessie (Holland) Jewett; ed. Hotchkiss Schl., Lakeville, Conn.; M.I.T., B.S., 1916; m. Alexandra Kent Costikyan, June 8, 1918; ch.: Nelson Holland, Dr. Theodore C. Jr., Mary Kent (Jewett) Prentice. Erie Co. Savings Bank (trustee). Trustee, Buffalo Gen. Hosp.; adv. comm., Children's Hosp. of Buffalo; dir., Albright Art Gallery. Club: Buffalo Country.

JOFFE, Jacob S(amuel), prof. of pedol. & res. specialist in soils, N.J. Agric. Expt. Station, Rutgers U., New Brunswick, N.J.; res. 6 Comstock St., New Brunswick.
Teach. pedol. & res. in soils; b. Russia, Jan. 7, 1887; s. of Israel and Tona Joffe; ed. Rutgers U., B.S. 1918, M.S. 1921, Ph.D. 1922; m. Esther Gitle Maimon, Aug. 5, 1940 (second marriage). Asst. prof. 1924, assoc. 1928, prof. 1937, res. in soil chem. 1922 to date, Rutgers except for 6 mo. stay with N.Y. Agric. Expt. Station, Geneva, N.Y., Jan. 1-June 1, 1923. The fixation mechanism of potassium in soils; tracing movement of ions in soil profile & effects of that on soil productivity. Author: "Pedology," 1st ed. 1936, 2nd. ed. 1949; "The ABC of Soils" 1949. Mem.: Agronomy Soc. of Am., Soil Sc. Soc. of Am., A.A.A.S. (fellow), Internatl. Soc. Soil Sc. Mem. Bd. of Trustees, Yiddish Scientific Inst.; Natl. Comm. for Labor Israel, mem. of Exec. Council. Club: Workmen's Circle. Hobbies: walking, swimming, traveling.

JOFFE, Joseph, prof. of chem. engrg., Newark Coll. of Engrg., Newark, N.J.; res. 71 W. 12 St., N.Y. 11, N.Y.
Prof., chem. engrg.; b. Moscow, Russia, Oct. 14, 1909; s. of Lew and Sophie Joffe; ed. Columbia U., N.Y.C., A.B. 1929, B.S. in chem. engrg. 1930, M.A. in physics 1931, Ph.D. in chem. 1933; Pulitzer Scholarship, 1926-30; University Fellow, 1931-32; mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon; m. Bertha Pashkovsky, June 20, 1931; ch.: Robert, Paul. Newark Coll. of Engrg.; 1932 to date, instr., 1932-37, asst. prof., 1937-39, assoc. prof., 1939-40, prof. 1940 to date; acting chmn., dept. of Ind. Chem. Engrg., Jan. 1946-Sept. 1948. Publ. arts. in J.A.C.S., Ind. Eng. Chem., Chem. Engrg. Progress, Chem. Engrg. Mem.: A.C.S., A.I.C. (fellow), A.I.Ch.E. (assoc. mem.), Am. Soc. for Engrg. Ed., Am. Assoc. of U. Prof., Licensed Prof. Engr. (N.J.).

JOFFE, Morris H., v.p. sales, The Emulsol Corp., 59 E. Madison St., Chicago 3, Ill.; res. 3232 Victoria St., Chicago 45.
Chem. engr.; b. Odessa, Russia, June 26, 1900; s. of Gershon E. and Naomi R. Joffe; ed. U. of Ill., B.S. in chem. engrg. June 1922 high hon.; mem.: Phi Lambda Upsilon, Sigma Xi; m. (1st) Bernice Abraham, Sept. 13, 1926 (deceased); ch.: Robert Nelson, Ruth; m. (2nd) Beatrice Hirsch, Jan. 2, 1942. Chem., instr., Siebel Inst. of Tech., 1922-23; instr., Am. Inst. of Baking, 1923-26; mgr., Baker's Service Dept., Colonial Salt Co., 1926-30; chem. engr., Emulsol Corp., 1930 to date. Author: "Bread Baking" 1927; Editor "Mayonnaise & Salad Dressing Prods." 1942 edit. Mem.: A.C.S., A.I.Ch.E., I.F.T., A.I.C., A.A.C.C., A.A.A.S., Am. Soc. of Bakery Engrs. Clubs: Covenant (Ill.), Bakers (Chicago). Hobby: photography.

JOFFRE, Stephen P., org. res. chem., Shulton, Inc., Route 6, Clifton, N.J.; res. 172 Center Ave., Little Falls, N.J.
Chem., conslt. drug field; b. N.Y.C., Mar. 12, 1913; ed. N.Y.U., W.S.C., B.A. 1938; seven yrs. grad. study evenings, Bklyn. Polytech. Inst.; mem.: Phi Lambda Upsilon. Jan., 1949 to date, org. res., dev. chem., Shulton, Inc.; 1944-49, chf. chem., Drug Prods. Co., Inc.; 1940-44, contr. to chf. chem., Loeser Lab. div. of Wm. S. Merrell Co., Cincinnati, Ohio. Res. in dev. aseptic parent.

mfg., patents in fine org. mfg. field re: perfume & flavors. Mem.: A.A.A.S., A.C.S., A.I.C. (fellow), Phi Lambda Upsilon, assoc. Res. & Dev. Corp., Chicago, Ill. Hobbies: organ music, owns & plays a Hammond organ.

JOHNS, Iral Brown, Jr., asst. res. dir., Monsanto Chem. Co., Central Res., Dayton, Ohio; res. 411 E. Bruce Ave., Dayton.
Chem.; b. Rossville, Ill., Oct. 24, 1901; s. of I. B. Sr. and Josephine J. Johns; ed. Knox Coll. B.S. 1924; Iowa State Coll. Ph.D. 1930; m. Helen E. Farrankop, 1945; ch.: Eleanor M., Edward W., Robert W. Instr. in chem., 1927-31, asst. prof. 1931-37, assoc. prof. 1937-42, asst. dir., atomic res. project 1942-44; section hd., Los Alamos Sc. Lab. 1944-45; asst. res. dir., Monsanto Chem. Co., 1945 to date. Microchem., org. cmpds. of mercury, chem. theory, catalytic hydrogenation, syn. rubber, radiochem. Author: "Lab. Manual of Microchem." 1941. Mem.: A.C.S., A.A.A.S., Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma.

JOHNSON, Dr. A(ndrew) L(eigh), dir. of res., Universal Rundle Corp., P.O. Box 960, New Castle, Pa.; res. R.D. 3, Wilmington Rd., New Castle.
Adm. of ceramic res.; b. N.Y.C., Apr. 24, 1912; s. of John and Olga Johnson; ed. A.B., Bethany, W. Va., 1934; M.Sc., Rutgers U., 1936; Sc.D., M.I.T., 1943; mem.: Phi Kappa Tau, Alpha Psi Omega; m. Virginia Catherine Clark, 1937; ch.: Andrea. Ceramic chem., United Clay Mines Corp., 1936-38; instr., ceramics div., M.I.T., 1938-43; asst. prof. 1943-46; assoc. prof., ceramics dept., Iowa State Coll., 1946-48; dir. of res., Universal Rundle Corp., 1948 to date. Clay conslt., Natl. Lead Co., 1942-43; clay conslt., Georgia Kaolin Co., 1942-43; non-metallic minerals conslt., Radiation Lab., M.I.T., 1944; group leader, Manhattan Project, 1944-45; non-metallic minerals conslt., Ames Lab., Atomic Energy Commis., 1946-48; clay conslt., Buffalo Pottery, 1947-48; clay conslt., Universal Sanitary Mfg. Co., 1947-48. Mem.: Am. Ceramic Soc. (fellow), A.C.S., Mineralogical Soc. of London, Sigma Xi, Keramos. Hobby: sports.

JOHNSON, Carl E., asst. dir. chg. of org. res., Natl. Aluminate Corp., 6216 W. 66 Pl., Chicago 38, Ill.; res. 619 Norfolk Ave., Westchester, Ill.
Chem.; b. Chicago, Ill., Feb. 17, 1914; s. of Carl and Hilma (Erickson) Johnson; ed. U. of Chicago, S.B. 1938, S.M. 1949; m. Ruth Bespole, Mar. 22, 1941; ch.: Daniel Carl, Alice Ruth. 1938-45, Western Shade Cloth Co., chem.; 1945 to date, Natl. Aluminate Corp., res. chem. to asst. dir. chg. of org. res. "Dilute Water Films Adsorbed on Anatase" masters thesis, U. of Chicago; Co-author: "Polyamide Antifoams II—Studies of Monomolecular Films" J. of Phys. & Colloid Chem. 53 1417-26, 1949. Mem.: A.C.S., A.A.A.S., Chicago Water, Ind. Wastes & Sewage Group. Club: Toastmasters Internatl. Hobbies: golf, gardening.

JOHNSON, Cecil Early, asst. dir. res., Chicopee Mfg. Corp., Chicopee Falls, Mass.; res. 85 Longhill St., Springfield, Mass.
Chem. engr.; b. Columbus, Ga., July 17, 1910; s. of Early Hurt and Lottie Moon Johnson; ed. Ga. Inst. of Tech., B.S.Ch.E. 1932; Columbia U., M.S.Ch.E. 1933, Ph.D. Ch.E. 1936; mem.: Chi Psi; m. Mary Denneen, Apr. 29, 1938. 1934-38, Internat. Cigar Mch. Co., N.Y.C., chem. engr.; 1938-42, Reddir, Inc., Div. Ridder Bros., N.Y.C., tech. dir., pkg. materials; 1942-43, The Dicalite Co., N.Y.C., tech. serv. engr.; 1943-48, SunChem. Corp., N.Y.C., asst. dir. res., asst. dir. dev., coordinator res., dev. & prod.; 1947-48, Unexcelled Chem. Corp., N.Y.C., asst. gen. mgr. & tech. dir., paint mfg. divs. 1947-48; 1948-49 Vorac Co., Rutherford, N.J., plant engr.; 1949 to date, Chicopee Mfg. Corp., Chicopee Falls, Mass., asst. dir. res. Mem.: A.C.S., A.I.Ch.E. (assoc.), Eng. Soc. Western Mass.; Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi. Hobbies: swimming, fishing.

JOHNSON, Charles Morris, chf. chem., retired, Crucible Steel Co. of America, Park Plant, Pittsburgh, Pa.; res. 731 Orchard Ave., Avalon, Pittsburgh 2.
Chem.; b. Alliance, O., Aug. 15, 1869; s. of George W. and Eva (Hutchins) Johnson; ed. 1883-89, Western U. of Pa. (now U. of Pittsburgh) Ph.B. & Ph.M.; m. Mary Alma Yost, Aug. 15, 1898; ch.: George Warren, Alma Evalina, Mrs. Celia Wetherald Sherwood, Mrs. Pauline Klotzbaugh, Morris Carroll. Asst. chem., Park, Brother & Co., Pittsburgh, mfrs. crucible steels, 1889; chf. chem., Park steel mill & plumbago crucible factory, 1900; Crucible Steel Co. of Am. formed, with Park, Brother & Co. a part, 1900; chf. chem., 1900-49; est. 1907 dept. for mfr. of lab. ceramics, which is still operating; dir. res., 1918; retired, June, 1949. Num. publs. & pats. & extens. res. & devel. in field of special, alloy & stainless steels; developer of "High Nickel-Silicon-Chromium Heat & Corrosion Resisting Steels Known as Rezistals"; developer & sponsor, as a purely welfare measure, of "C. Morris Johnson's Cure for Poison Ivy Rash & Blisters" (1940 to date). Elected to Sigma Xi for "contribs. to chem. of steel anal., control & mfr.," 1935; Distinguished Service Award, A.S.M., "for early perfection of anal. methods for chem. control of alloys in steel," 1948. Author: "Rapid Methods for the Chemical Analysis of Special Steels, Steel Making Alloys, and Graphite," John Wiley & Sons (N.Y.) & Chapman & Hall (London), 1st edition, 1909 (4 editions to 1930); "Rezistals," Chapt. 16-A, "The Book of Stainless Steels," E.E. Thum, editor, 1933 (2nd edition, 1935); "Crucible Steels, Silicon Steels, High Nickel Steels," articles for "Colliers New Encyclopedia." Mem.: A.S.M., A.A.A.S. (fellow), A.C.S., Eugene Fields Soc. (hon.), Mark Twain Soc. (hon.), Am. Mus. Natural Hist. (hon.). Elected Fellow of The Amer. Geog. Soc., Sept. 14, 1950. Hobbies: outdoors, amateur gardening, trees, plants, minerals, flowers.

JOHNSON, Clyde Roland, asst. prof. of chem., Vanport Coll., N. Burgard St., Portland 3, Ore.; res. 3110 S. E. 50th Ave., Portland 6, Ore.
Teacher, chem.; b. Astoria, Ore., Mar. 5, 1901; s. of Frederick J. and Ellen (West) Johnson (both dec.); ed. B.A., Reed Coll., 1925; M.A., Rice Inst. 1929, Ph.D. 1930. Asst., Rice Inst., 1927-30; natl. res. fellow chem., Princeton, 1930-32; asst. 1932-34; asst. prof. chem., Texas, 1937-41, assoc. prof. chem. 1941-46; chf. chem., Pitts. Testing Lab., Portland Branch, 1947-50; asst. prof. chem., Vanport Coll., 1950 to date. Precise Measurements; atomic weights; photometric anal.; soils & fertilizers; author about 40 res. papers in var. jls. Author: "Soil Anal.—Photometric Determination of Available Plant Nutrients in Soil Extracts," 1948. Mem.: A.C.S., Sigma Xi, Phi Lambda Upsilon, Alpha Epsilon Delta, Ore. Acad. Sc., Marine Gas Chem. Assn. Hobbies: soils & fertilizers, fishing, golf.

JOHNSON, Dana Hurt, tech. dir., The Art Crayon Co. Inc., Bklyn. 20, N.Y.; res. 25 Claremont Ave., New York 27, N.Y.
Color chemistry, artist colors; b. Columbus, Ga., Dec. 31, 1908; s. of Early H. and Lottie (Moon) Johnson; ed. The Georgia Schl. of Tech., Atlanta, Ga., B.S. Gen. Sc., 1932; mem.: Chi Psi; m. Ann Wright, Nov. 30, 1939; ch.: Joanna Elizabeth. 1933, manual training instr., Columbus, Ga. pub.

schls.; 1933 to date, The Art Crayon Co. Inc., Bklyn., N.Y.; lab. asst., chem., chf. chem., tech. dir. Asst. in eliminating lead and arsenic pigments from children's crayons. Mem.: Paint & Varnish Exchange Club, Inc. of N.Y. (secy.). Deacon The Riverside Ch., N.Y.C. Hobby: woodworking.

JOHNSON, Earl Hanford, chf. chem., Stevens & Thompson Paper Co., Greenwich, N.Y.; res. 69 Church St., Schuylerville, N.Y.
Res. chem.; b. Omro, Wis., 1903; s. of Fred and Lucy Page Johnson; ed. Lawrence Coll., A.B. 1926; U. Ill., A.M. 1927; Ph.D. 1931; mem.: Alpha Chi Sigma; m. Gertrude Luer, 1932; ch.: Loi Anne. Res. chem. Northern Paper Mills, Green Bay, Wis., 1931-34; res. chem., du Pont Rayon Co. 1934-41; res. chem., Remington Arms Co., Bridgeport, Conn. 1941-47; chf. chem., Stevens & Thompson Paper Co. 1947 to date. Mem.: Phi Lambda Upsilon, Sigma Xi, A.C.S.

JOHNSON, Frederick Francis, dir. of chem. and phar. res., Cutter Laboratories, 4th and Parker Sts., Berkeley, Calif.; res. 280 Columbia Ave., Berkeley, Calif.
Chem.; b. Seattle, Wash., May 17, 1912; s. of Charles W. and Parthenia (Sykes) Johnson; ed. B.S., cum laude, 1934, M.S., 1935, Ph.D. 1937, U. of Washington; mem.: Phi Sigma Kappa, Phi Sigma, Sigma Xi, Rho Chi; m. Estelle Koozin, June, 1937; ch.: Victor C. Johnson, Elena Johnson. Asst. State Chem., Wash. State Dept. of Agric., 1935-38; Industrial Fellow, Mellon Inst., of Industrial Res., 1938-41; Cutter Labs., dir. chem. and pharm., res., 1941 to present. Res. in immunochemistry, plasma, blood derivatives. Mem.: A.Pharm.A., A.C.S., A.A.A.S., Acdy. of Scs. (N.Y.).

JOHNSON, Ha(ro)l(d) Gustav, asst. dir., gen. dev. dept., Monsanto Chem. Co., 1700 S. Second St., St. Louis 4, Mo.; res. 263 Elm, Glendale, Mo.
Chem.; b. Saginaw, Mich., Apr. 30, 1915; s. of Harold H. and Ruth W. Johnson; ed. Beloit Coll., B.S., 1936, magna cum laude, M.S., Beloit, 1938, U. of Wis., Ph.D., 1941; mem.: Phi Beta Kappa, Sigma Xi, Sigma Alpha Epsilon; m. Elizabeth Schreiner, June, 1940; ch.: Judith, David, John Bradley. Instr. of chem., Beloit Coll., 1935-38; asst. of chem., U. of Wis., 1938-41; res. chem., Commercial Solvents Corp., 1941-45; asst. gen. mgr., DyKem Company, 1945-46; Monsanto Chem. Co.—Project Specialist, dev. dept., org. div., 1946; coordinator, dev. dept., org. div., 1947-49; asst. dir., gen. dev. dept., 1949 to present. Mem.: A.C.S., A.A.A.S., Commercial Chem. Dev. Assoc., A.I.C. Natl. Farm Chemurgic Council. Club: Chemists'. Hobbies: photography, sports.

JOHNSON, Harry Edwin, v.p., tech. dir., Triangle Chem. Co., ft. of Elm St., Macon, Ga.; res. 981 S. Ponce de Leon Circle, Macon.
Chem. engr.; b. Croton-on-Hudson, N.Y., Feb. 8, 1898; s. of Gustave Eric and Johanna Marie Johnson; ed. public schls.; m. Christine Mack (divorced) Nov. 23, 1921, Edith Lamb Whipple, May 17, 1941; ch.: Angus, Roderick (dec. W.W. II), Gregory, Gerald, Harry Jr., Catherine, Marilyn, Christine, Christopher, Marlene. 1921-23, Rock Co. Sugar Co., Janesville, Wis., asst. chem.; 1923-24, Columbia Sugar Co., Bay City, Mich., asst. chem.; 1924-27, Dow Chem. Co., Midland, Mich., res. chem.; 1927-31, City of Flint, Mich., supt., chf. chem. sewage treat. plant; 1931-41, Lubri-Zol Corp., Cleveland, Ohio, plant supt., chf. chem.; 1941-43, Pa. Refining Co., Butler, Pa., res. chem.; 1943-47, private consltg. practice; 1947 to date, Triangle Chem. Co., v.p., tech. dir. Jarmilla Corp., Lake Worth, Fla. (secy.); House of Richard, Macon, Ga. (partnership—equal); Chem. Conslt. (private). Articles on Sewage Treat., Sewage Wks. Journal and Water Wks. & Sewage, 1931; pats. on extreme pressure lubricants, 1940-42. Mem.: A.C.S., A.O.C.S., Am. Assn. Textile Chem. & Colorists, Am. Wood Preservers Assn., Macon Chamber of Com. Clubs: Lions, Moose. Hobbies: music, photography, reading.

JOHNSON, Harry I., res. adviser, Am. Viscose Corp., Roanoke Plant, Va.; res. 429 High St., Salem, Va.
Res. chem.; b. Hagerstown, Md., Jan. 1890; s. of Richard M. and Ann R. Johnson; ed. Roanoke Coll., Salem, Va., B.A., M.A. 1912; Johns Hopkins U., Baltimore, Ph.D. 1917; mem.: Alpha Sigma Chi; m. Rosalie Marker, Apr. 11, 1913; ch.: Alda Ruth, Harry I. Jr. Instr., Roanoke Coll. 1910-12; prof. of chem., hd. dept., U. of Louisville 1917-19; prof. of chem., N. Carolina State Coll. 1919-20; hd. dept. chem., Roanoke Coll. 1920-45; res. adviser, Am. Viscose Corp., Roanoke Plant, 1945 to date. Contributed papers in anal. chem., biochem., agric. chem., & food chem.; mineral. adviser & anal. Author: "Qualitative Anal.," "Quantitative Anal." 1917 to 1945. Mem.: A.C.S., A.A.A.S., N. Y. Acad. Sc., Va. Acad. Chem. Sc. (former pres., secy.), Natl. Geog. Soc., A.R.S., Engrs. Roanoke Club, Va. Chem. Soc., Southwest Va. Chem. Soc. (former pres., secy., dir., councilor). Former dir. Boy Scouts; present adviser Girl Scouts, Roanoke Councils. Clubs: Layman's League Epis. Church, Lay Reader, Epis. Church 1920 to date. Hobbies: garden, horticulture, wildlife, floriculture.

JOHNSON, Henry Stoddard, prof. of chem., hd. of dept., U. of Conn., Coll. of Pharmacy, 150 York St., New Haven 11, Conn.; res. 53 Florence Ave., New Haven 13.
Chem. prof.; b. New Haven, Conn., Apr. 13, 1899; s. of Charles S. and Lucy Leonora (Palmer) Johnson; ed. Ph.B. 1919, M.S. 1922, Ph.D. 1933, Yale U.; mem.: Sigma Xi, Rho Chi, Kappa Psi, Rho Pi Phi (hon. mem.). 1919-20, 1921-23, instr. in chem. & physics, New Haven, Conn. H.S.; 1920-21, asst. in chem., Yale U., New Haven; 1923-25, prof. of org. chem., U. of Puerto Rico, Rio Piedras, P.R.; 1925-26, instr. in chem., hd. of dept., New Haven, Conn. H.S.; 1925 to date, prof. of chem., hd. of dept., Conn. Coll. of Pharmacy (since 1941, U. of Conn., Coll. of Pharmacy), 1927-28 assoc. dean, 1928-30 acting dean, 1930-47 dean. Mem.: A.Phar.A., New England Assn. of Chem. Teachers, Am. Assn. of Colleges of Pharmacy (v.p. 1943-44, pres. elect. 1944-46, pres. 1946-47). Club: Graduates (New Haven). Hobbies: travel. theater.

JOHNSON, Howard C(laus) E(dmund), managing editor, "Chem. Industries," McGraw-Hill Publ. Co., Inc., 330 W. 42nd St., N.Y. 18, N.Y.; res. 50 W. 9th St., N.Y. 11.
Managing editor of chem. magazine; b. Rockford, Ill., July 20, 1918; s. of Mauritz and Esther (Lindblade) Johnson; ed. B.A., with highest hon., U. of Ill., 1940; Ph.D. org. chem., U. of Wis., 1943; mem.: Alpha Chi Sigma; m. Martha Newton, Jan. 19, 1946; ch.: Priscilla. Rohm & Haas Co., Phila., res. chem., 1943-44; "Chemical Industries," asst. ed. 1944-45, assoc. ed. 1945-48, managing ed. 1948 to date. Stobbe condensation; surface-active agents (2 pats. assigned to Rohm & Haas); interpretation of sc. & technolog. dev. to non-experts in editorial pages of "Chem. Industries," "Scientific Am.," "Sc. Digest." Mem.: A.C.S., A.A.A.S., Phi Lambda Upsilon, Phi Kappa Phi, Phi Beta Kappa. Club: University Glee (N.Y.). Hobbies: singing, bridge, other non-athletic pursuits.

JOHNSON, James McIntosh, sr. chem., Natl. Cancer Inst., 1339 H. St., N.W., Washington

5, D.C.; res. 1333 Spring Rd., N.W., Washington 10.
Chem.; b. Newberry, S.C., Aug. 15, 1883; s. of William and Mary E. (Kibler) Johnson; ed. 1897-1903 Newberry (S.C.) Coll., B.S., 1902, M.A. 1903; 1904-08, Johns Hopkins U., Ph.D. 1908; res. fellowship, tchg. scholarship; m. Mabel R. Earnshaw, Mar. 15, 1912; ch.: William M., Mabel E., Phoebe R., Frances A. 1903-04 principal, Newberry Graded Schl.; 1908-09 asst. in med., Johns Hopkins Med. Schl.; 1910 conslt. chem., Nashville, Tenn.; 1910-18 asst. org. chem., U.S. Dept. Agric.; 1918 to date chem. and sr. chem., Natl. Inst. Health, U.S. Pub. Health Serv.; sulfhydryl compounds, org. arsenical, as sulfarsphenamine, etc. Author and co-author of many res. arts. in sc. jls. Mem.: A.A.A.S.

JOHNSON, Jesse Clark, res. chem. engr., chem. pulp div., Buckeye Cotton Oil Co., Memphis, Tenn.; res. 141 Plainview St., Memphis, Tenn.
Chem. engr.; b. North Carolina, July 14, 1916; s. of Jesse R. and Dottie (Fletcher) Johnson; ed. B.S., Ch.E., U. of North Carolina, 1933-37; m. Hessentine Borders, Nov. 25, 1938; ch.: Julian Wayne, Michael Ruel. Chem., Standard Mineral Co., Robbins, N.C., 1937-42; res. engr., American Enka Corp., Enka, N.C., 1942-44; chem. engr., Electro-technical Lab., U.S. Bur. of Mines, Norris, Tenn., 1944-47; res. chem. engr., Chem. Pulp Div., Buckeye Cotton Oil Co., Memphis, Tenn., 1947 to present. Mem.: A.I.Ch.E., A.C.S., Engrs. Club (Memphis, Tenn.). Hobby: advertising mgr., "Southern Chemist."

JOHNSON, John Raven, prof. of chem., dept. of chem., Cornell U., Ithaca, N.Y.; res. 200 White Park Rd., Ithaca, N.Y.
Teaching & res.; b. Chicago, Ill., Aug. 9, 1900; s. of John Wm. and Johanna (Raven) Johnson; ed. B.S. 1919, Ph.D. 1922, U. of Ill.; m. Hope Anderson, Aug. 24, 1929; ch.: Keith Raven, Leonard Williams. 1922-24, Am. Fld. Serv. fellow, Coll. of France, Paris; 1924-27, instr. in chem., U. of Ill.; 1927-30, asst. prof., 1930 to date, prof., Cornell U.; sc. liaison officer, London Mission of Office of Sc. Res. & Dev., 1942-43; mem., org. explosives sec. of Natl. Defense Res. Comm., 1940-42 & 1944-45; conslt. to E.I. du Pont de Nemours & Co. since 1937. Ketene derivatives, furan derivatives, organoboron cmpds., natural prods. Co-author: "Lab. Experiments in Org. Chem." with Roger Adams, 4th ed. 1949; associate edit., "Org. Syntheses," "Org. Reactions," "Chem. of Penicillin," 1949. Mem.: Natl. Acdy. of Sc., A.C.S., Chem. Soc. (London).

JOHNSON, Laurence Edward, serv. engr., The Flox Co., 1409 Willow St., Minneapolis, Minn.; res. 1135 Oak St., Fargo, N.D.
Serv. engr.; b. Mar. 15, 1902, Tuscola, Ill.; ed. grammar and h.s., Tuscola, Ill.; B. Chem. Engrg., U. of Ill., 1925; m. Eleanor Eileen; ch.: Beverly Eileen, Marilyn Kay. Ill. Water Serv. Co., Street, Ill., engr. and chem., 1926-28; Northern Pacific Ry., St. Paul, water inspector, 1928-44; joined The Flox Co., 1944 at Fargo, N.D.

JOHNSON, Maxwell O(scar), dir., Hawaiian Agr. Res., Calif. Packing Corp., Wahiawa, Oahu, T.H.; res. Wahiawa, Oahu, T.H.
Chem. engr.; b. Lafayette, Ind., July 28, 1892; s. of Osar D. and Blanche (Brown) Johnson; ed. Purdue, B.S. 1913; Ch.E. 1928; Geo. Wash., M.S. 1915; mem.: Tau Beta Pi, Sigma Xi; m. Emily Orme Hetfield, July 16, 1915; ch.: Mary Orme, Emily Brawner, Maxwell O., Jr. U.S. Rubber Co., asst. chem., 1913-14; U.S. Bur. Animal Ind., asst. chem., 1914-15; U.S. Expt. Sta., Honolulu, chem., 1915-19; Pearl City Fruit Co., Honolulu, chem., 1919-22; Calif. Packing Corp., dir. of Hawaiian Agr. Res., 1922 to date; reclaimed nearly all land now growing pineapples in Hawaii; from 1927-36 pioneered the fld. of practical soil fumigation and chem. control of nematodes. Author: "The Pineapple," 1935; "Correlation of Cycles in Weather, Solar Activity, Geomagnetic Values, and Planetary Configurations," 1946; "Shorter Cycles in Rainfall," 1947; "Cycles in Weather and Solar Activity," 1950. Mem.: A.A.A.S., A.C.S. Hobby: weather forecasting.

JOHNSON, Norman Albin, editor, "Am. Dyestuff Reporter," Howes Publ. Co., Inc., 44 E. 23rd St., N.Y. 10, N.Y.; res. 29 York Ave., Rye, N.Y.
Editor; b. Newington, Conn., Nov. 11, 1910; s. of J. Albin and Anna Johnson; ed. Lowell Textile Inst., B. textile chem., 1931; mem.: Omicron Pi, Tau Epsilon Sigma; m. Esther McGill, Dec. 12, 1931; ch.: Robert E., Norman C. Managing editor 1931-49, editor 1949 to date, "Am. Dyestuff Reporter," Howes Publ. Co., Inc. (v.p., dir.). Mem.: A.A.T.C.C. (res. comm., publ. comm., secy. of N.Y. sec.). Clubs: Chemists' (N.Y.), Natl. Republican (N.Y.).

JOHNSON, Robert J., chem. engr., Monsanto Chem. Co., Everett, Mass.; res. 42 Salem St., Andover, Mass.
Chem. engr.; b. St. Louis, Mo., Jan. 19, 1921; s. of Sidney A. and Elizabeth L. Johnson; ed. B.S., in chem. engrg., Washington U., highest grade aver. of engrg. class of 1942; mem.: Tau Beta Pi, Sigma Xi, Pi Mu Epsilon, Alpha Chi Sigma; m. Patricia M. Oct. 4, 1947. Asst. to supt. of Sulfuric Acid Dept. (Production) 1942; chem. engr., in engrg. dept., 1943-46; process engr., in res. dept., 1947-49; at present chem. engr. in sales dept. Work has been of a confidential nature. Experienced in engrg., prod. and res. problems connected with phthalic anhydride, alcohol from molasses or wheat, sulfuric acid, maleic anhydride, etc. Mem.: A.I.Ch.E. Clubs: Community Sailing Club. (Boston). Hobbies: hiking, tennis, swimming, sailing, photography, golf.

JOHNSON, Victor T., mgr., chem. sales div., Bristol Labs., Inc., 630 Fifth Ave., N.Y. 20, N.Y.; res. 1492 W. Terrace Circle, W. Englewood, N.J.
Sales mgr.; b. Richmond, Ind., Sept. 10, 1908; s. of Victor T. and Bertha Johnson; ed. Purdue U., Ph.C. 1931, B.S. 1932; mem.: Delta Chi, Kappa Psi; m. Mary Louise Ellis, Nov. 25, 1934; ch.: Susan, Richard. 1936-42, phar. sales, Upjohn & Co., Kalamazoo, Mich.; 1942-46, dir. of hosp. div., Burroughs Wellcome & Co., N.Y.C.; 1946-48, sales mgr., Jamieson Pharmacal. Detroit, Mich.; 1948 to date, mgr., chem. sales div., Bristol Labs., Inc., N.Y.C. Mem.: A.Phar.A., Ind. Phar. Assn., Virginia Phar. Assn. Clubs: Purdue (Chicago, Ill.), Lions (Oak Park, Ill.), Delta Chi Alumni, Kappa Psi Alumni (N.Y.C.).

JOHNSON, Warren C., chmn., prof. chem., dept. chem.; assoc. dean, div. physical sc., U. Chicago; res. 5822 Blackstone Ave., Chicago 37, Ill.
Tchr., res. chem.; b. Otter Lake, Mich., Sept. 22, 1901; s. of Grant W. and Elizabeth Osborne Johnson; ed. B.S., Kalamazoo Coll., 1922; M.A., Clark U., 1923; Ph.D., Brown U., 1925; D.Sc. (hon.), Kalamazoo Coll., 1946; m. Florence Louise Campbell, June 27, 1928; ch.: Barbara Ann, Margaret Louise, Mary Elizabeth. Res. instr., Brown U., 1925-27; instr., Chicago, 1927-28; asst. prof., 1928-32; assoc. prof., 1932-43; prof. 1943 to date; chmn. dept. chem. 1945 to date; assoc. dean, div. physical sc. 1946 to date; dir. chem. div. Clinton Labs., Oak Ridge, Tenn., 1943-46; Natl. Def. Res. Comm. 1940-43; conslt.

Atomic Energy Comm., 1946 to date; mem. bd. of govs., Argonne Natl. Lab., 1948 to date. Pub. arts. in res. in fld. of inorg. chem., liq. ammonia solutions, hydrides, rare elements. Co-author: "Qual. Anal. and Chem. Equilib.," 1937, 1940, 1946; "Elementary Principles of Qual. Anal.," 1938; "Chem. Equil. as Appl. to Qual. Anal.," 1941, 47. Mem.: A.A.A.S. (fellow), A.C.S., Ill. Acdy. Sc., Faraday Soc., Sigma Xi, Pres. Cert. of Merit, Am. Men of Sc.; trustee, Kalamazoo Coll. 1950 to date. Club: Quadrangle (Chicago). Hobbies: billiards, summer home.

JOHNSON, Wayne William, chf. sc. and spec. personnel, Deputy Chf. of Staff, Development, H.Q. U.S. Air Force, Pentagon Bldg., Washington, D.C.; res. 2637 No. Quantico St., Arlington, Va.
Tech. personnel adm.; b. Elwood, Nebr., Nov. 13, 1907; s. of J.W.E. and Malinda (Campbell) Johnson; ed. U. of Colo., A.B., 1929. M.A., 1932, post grad. study, 1932-34; U. of So. Calif., 1938; mem.: Sigma Xi, Alpha Chi Sigma; m. Elizabeth Nutt, June 14, 1935; ch.: Rodney Wayne, Judith Kathleen. 1929-34, asst. in chem. U. of Colo.; 1935-38, instr. in chem., 1938-43, 1946-48, Dean of Coll., Scottsbluff (Nebr.) Jr. Coll.; 1943-46, dir. of pers. U. of Chicago Metallurg. Lab. (Manhattan Engrg. Dist.); 1948 to date, chf. sc. pers., Dep. Chf. of Staff, Development, U.S. Air Force; contr. sev. arts. to sc. jls. Mem.: A.C.S., Natl. Educ. Assoc. Club: Kiwanis. Hobbies: sports, gardening.

JOHNSTON, Charles Wiswell, v.p., dir., Va. Smelting Co., West Norfolk, Va.; res. 2601 Bayview Blvd., Portsmouth, Va.
Mining & metallurg. engr.; b. Phila., Pa., Sept. 8, 1881; s. of Charles Thomas and Gustina (Wiswell Johnston; ed. Roxbury Latin Schl. 1901; M.I.T. 1905 S.B. in mining & metallurgy; m. Sarah L. Abbott (dec.), June 19, 1907; ch.: Marjorie (Johnston) Rawls. Mining engr., asst. supt., smelter, mgr. mines in Mexico 1905-09; asst. mgr. mine, Butte, Montana and elsewhere 1909-14; 1914 to date, Va. Smelting Co., West Norfolk, Va., since 1914 gen. mgr., now v.p. & dir. Spec. in mfr. & uses of liquid sulphur dioxide for past 35 yrs. Atlantic & Danville Railway (dir.); Portsmouth Frozen Foods, Inc., (v.p.). Mem.: A.I.M.M.E., A.C.S., Va. Acdy. Sc., Southern States Ind. Council (mem., dir. from Va.), Govt. Spending Comm., N.A.M. Hon. secy. M.I.T. Eastern Va., warden, St. John's Epis. Church, Portsmouth; past. pres. Portsmouth Y.M.C.A.; Portsmouth, Council Boy Scouts. Clubs: Hampton Roads Engr. (mem., past pres.); Hampton Roads Chemist (mem., past pres.); Portsmouth Rotary (mem., past pres.); Portsmouth Country (mem., past pres.); Executive (mem., Portsmouth, Va.).

JOHNSTON, Esther Mackintosh, acting state chem., Iowa Dept. of Agric.; res. Ankeny, Iowa.
Chem.; b. Hopkinton, Iowa, Apr. 29, 1899; d. of David C. and Minnie (McConnell) Mackintosh; ed. State U. of Iowa, B.A. with Distinction, M.S.; mem.: Chi Omega, Phi Beta Kappa, Sigma Xi (assoc.); m. David H. Johnston, Aug. 8, 1927; ch.: David, John, Robert. Prof. of chem., Queens Coll., Charlotte, N.C., 1922-23; prof. of chem., Elmira Coll., Elmira, N.Y., 1924-27; prof. of chem., Lenox Coll., Hopkinton, Iowa, 1930-42; res. chem., Des Moines Ordnance Plant, U.S. Rubber, Des Moines, Ia., 1942-45; hd. Commercial Feed & Fertilizer Lab., Iowa Dept. of Agric., Des Moines, Iowa, 1945-47; acting state chem., Iowa Dept. of Agric., 1948 to date. Mem.: A.C.S.

JOHNSTON, Harry A., mgr., oil processing & refin. div., Armstrong Paint & Varn. Wks., 1340 S. Kilbourn Ave., Chicago 23, Ill.; res. 545 S. Oakland Ave., Villa Park, Ill.
Tech. exec.; b. Chicago, Ill., July 24, 1911; s. of John J. and Marie (Mollet) Johnston; ed. U. Ill., B.A., 1934 (chem.); Marquette U., Milwaukee, Wis., M.S., 1943; mem.: Lambda Chi Alpha, Sigma Gamma Chi (chem. hon.); m. Marguerite Dye, Sept. 25, 1937; ch.: Jane Alein. Archer-Daniels-Midland Co., Minneapolis, Minn., 1936-45, plant trainee to res. chem.; at present mgr. Oil Proc. & Refin. Div., Armstrong Paint & Varnish Wks., Chicago. Mem.: A.C.S., A.I.C. (fellow), A.O.C.S., Federation of Paint, Varnish & Production Clubs. Club: Villa Park Men's Garden. Hobbies: photography, woodworking, swimming, boating, gardening.

JOHNSTON, Herrick Lee, prof. of phys. chem., dir. of the Cryogenic Lab., Ohio State U.; res. 177 Brevoort Rd., Columbus, Ohio.
Univ. prof.; b. N. Jackson, Ohio, Mar. 29, 1898; s. of Edgar F. and Adelaide S. Johnston; ed. Muskingum Coll., B.A. 1922; honors in chem.; Wooster Coll., B.S. 1922; Ohio State U., 1923-24; U. of Calif., Ph.D. 1928; D.Sc. Wooster Coll. 1943; m. Margaret Vanderbilt, 1923; ch.: William, Margaret, Robert. Instr. in chem., U. of Calif., 1928-29; asst. prof. of chem., Ohio State U., 1929-33; assoc. prof. 1933-38; prof. 1938 to date; John Simon Guggenheim Mem. Fellow, U. of Goettingen, Germany, 1933; res. engr., Gen. Elec. Res. Lab., 1937; dir., Engrg. Sc. Management War Training Program on Explosives, Ohio State U., 1941-43; dir. Manhattan Distr. Proj. at Ohio State U., 1942-46; dir. Ohio State U. Cryogenic Lab., 1942 to date; dir., Ohio State U. Jet Propulsion Lab., 1945 to date; delegate to Internatl. Conf. on Metals, Amsterdam, 1948; res. in flds. of isotopes, thermodynamics, photochem. and spectra, high and low temps., gases. Author of num. arts. particularly in Jl. of A.C.S. Mem.: A.C.S. (chmn. of the Div. of Phys. and Inorg. Chem. 1936-37; chmn. of Div. Officers Grp., 1936-37); fellow, A.Phys.S., mem. A.A.A.S. (Pacific Coast award for the discovery of oxygen isotopes, 1929); mem. Amer. Rocket Soc.; Natl. Res. Council Comms. on Denterium Res., on Thermochem. and on Phys. Constants; mem. of Commis. on low temp. physics of the Internatl. Union of Pure and Appl. Physics; mem. of Tech. Comm. of the Inst. International du Froid.

JOHNSTON, John, retired res. chem.; res. Box 115, Southwest Harbor, Maine.
Retired res. chem.; b. Perth, Scotland, Oct. 13, 1881; s. of James and Christina (Leslie) Johnston; ed. St. Andrews U. (Scotland), D.Sc. 1908; U. of Breslau; M.I.T.; hon. M.A. Yale; hon. D.Sc., N.Y.U. and Lehigh; m. Dorothy Hopkins, 1909; ch.: Helen (Johnston) Brown, John Murray, William Valentine. Carnegie Scholar, 1903-05; 1851 Exhibition Fellow 1905-07; res. assoc., M.I.T., 1907-08; Geophysical Lab., Washington, 1908-16; Am. Zinc Lead & Smelting Co., St. Louis, 1916-17; U.S. Bur. of Mines, 1917-18; Natl. Res. Council, chmn. Chem. Div., 1918-19; Yale U., chmn. Dept. Chem., 1919-27; dir. res., U.S. Steel Corp., 1927-46. Many pub. papers on physical-chem. and metallurg. subjects. Resigned from all prof. assoc. except the A.C.S. and Am. Philosophical Soc.

JOHNSTON, Leonard Earnest, mgr. of Idaho operations, Atomic Energy Commis., Box 1221, Idaho Falls, Idaho; res. 185 E. 12th St., Idaho Falls.
Engr. exec.; b. Bradley, S.D., July 4, 1911; s. of William A. and Nellie A. Johnston; ed. B.S. in E.E. with high honors, 1933, S.D. State Coll., Brookings, S.D.; mem.: Sigma Tau, Delta Pi Chi, Pi Kappa Delta; m. Helene Clair Spicker,

Jan. 5, 1936; ch.: Jacqueline Anne, William Frederick. Engr., S.D. Hwy. Commis., 1933-34; engr., U.S. Corps of Engrs. on constrn. of Ft. Peck Dam, Mont., held positions as chf. of pr. br., dist. hydrologist, chf. of flood control bur., asst. chf. of opers., div. & asst. chf. of engrg. div. 1934-42; Commnd. 1st Lt., Corps of Engrs., in chg. elec. & mech. wk., Ft. Peck Dist. mil. constrn. program, 1942; 1st Lt., Exec. Offr., Ft. Peck Dist., 1943; Capt., Asst. Constrn. Offr. & Constrn. Offr. on Electromagnetic Plant in connection with Atomic Bomb proj. of Manhattan Engr. Dist., 1944; Maj., Asst. Unit Chf. on Gaseous Diffusion Plant in connection with Atomic Bomb proj. of Manhattan Engr. Dist., 1945; area engr., Schenectady Area, Manhattan Engr. Dist. in chg. for Army of Knolls Atomic Pr. Proj., 1946; mgr., Schenectady area, U.S. Atomic Energy Commis., in chg. for Atomic Energy Commis. of Knolls Atomic Pr. Proj., 1947-49; mgr., Idaho operations, U. S. Atomic Energy Commis., in chg. of Reactor Testing Station Proj., Idaho, 1949 to date. Mem.: Natl. Soc. of Prof. Engrs., Idaho Soc. of Engrs., Reg. Prof. Engr. in Idaho & Mont., Major, C.E., ORC. Clubs: Idaho Falls Country (dir. 1950-), Elks Lodge No. 1087, Idaho Falls Golf Assn., A.E.C. Hobbies: hunting, fishing, 8 mm. movies.

JOHNSTON, William Redmond, dir. of res., Stand. Brands Inc., Fleischmann Labs., 810 Grand Concourse, N.Y. 51, N.Y.; res. 846 Palmer Rd., Bronxville 8, N.Y.
Chem.; b. Chicago, Ill., June 26, 1907; s. of Henry and Ida R. Johnston; ed. U. of Wash., 1926-30, B.S.; Johns Hopkins U., 1930-33, Ph. D.; mem.: Gamma Alpha, Sigma Xi, Phi Beta Kappa, Phi Lambda Upsilon; m. Felicie Johnston, Oct. 28, 1942; ch.: Wendy Lynne. 1933-38, res. chem., 1938-44 hd. of physical lab., 1944-48 hd. of physical div., 1948 to date dir. of res., Stand. Brands, Inc. Fleischmann Labs., phys. & org. chem., chem. of coffee, high vacuum dehydration, enzymes, extraction processes. Mem.: A.C.S., A.I.C., I.F.T., N.Y. Acad. of Sc., A.A.C.C., Soc. of Rheol., Am. Inst. of City of N.Y. Hobbies: gardening, skiing.

JOHNSTONE, Henry Fraser, prof. chem. engrg., U. of Ill., 114 E. Chemistry Bldg., Urbana, Ill.; res. 802 Delaware Ave., Urbana.
Educator, consltg. engr.; b. Georgetown, S.C., Dec. 16, 1902; s. of William Henry and Elise (Moore) Johnstone; ed. U. of the South, B.S. 1923; U. of Iowa, M.S. 1925, Ph.D. 1926; mem.: Sigma Nu, Alpha Chi Sigma; m. Mary Lee, Aug. 28, 1926; ch.: Mary Lee. Grad. asst. in chem., U. of Iowa 1923-24; res. asst. 1924-25, res. fellow 1925-26, asst. prof. chem., U. of Miss. 1926-28; spec. res. asst., Engrg. Expt. Station, U. of Ill. 1928-30, spec. res. assoc. 1930-32, spec. res. asst. prof. 1932-35, asst. prof. chem. engrg. 1935-37, assoc. prof. 1937-39, prof. chem. engrg. 1939 to date; hd. of div. chem. engrg. 1943 to date, dir., Munitions Dev. Lab. for Natl. Def. Res. Com. 1943-45, div. mem. Natl. Defense Res. Com. 1941-45; mem. Res. Council Army Chem. Corps 1947 to date; mem. Stack Gas Comm., Atomic Energy Commis. 1948 to date. Committee mem., Res. and Dev. Board Natl. Mil. Estab., 1948 to date. Dev. meths. for removing sulfur dioxide from waste gases; dev. new meths. for removing finely divided dust and aerosol particles. Mem.: A.I.Ch.E.; Walker Medalist 1943; A.C.S., chmn. div., Ind. Eng. Chem. 1947-48, asst. edit., Chem. Reviews 1946-49; edit. advisory bd., Ind. Eng. Chem. 1948 to date; Am. Soc. Engr. Ed., Armed Forces Chem. Assn. (dir. 1946 to date); Sigma Xi, Phi Beta Kappa, Phi Lambda Upsilon. First Fed. Savings & Loan Assn., Champaign, Ill. (dir. 1948 to date). Clubs: Chaos (Chicago), Cosmos (Wash.).

JOHNSTONE, Henry Webb, v.p., Merck & Co. Inc., Rahway, N.J.; res. 7 Woodland Rd., Short Hills, N.J.
Exec.; b. Mexico City, Mexico, Oct. 13, 1892; s. of Andrew and Minnie S. (Webb) Johnstone; ed. grad. Wm. Penn Charter Schl., Phila., 1912; A.B. Yale U., 1916; grad. study Columbia U., summer 1916; mem.: Zeta Psi; m. Beatrice G. Grieb, June 9, 1917; ch.: Henry Webb, Jr., Barbara Grieb. Instr., Middlesex Schl., Concord, Mass. 1916-17; employed in var. capac. with Colgate & Co., Jersey City, N.J., 1919-29; investment counselor, Brookmire Econ. Service, N.Y.C., 1929-30; associated with Merck & Co. Inc., mfg. chem., Rahway, N.J. 1930 to date, successively dir. of planning & plant mgr., v.p. 1936 to date, elected to bd. of dir. 1945. Clubs: Yale (N.Y.C.), Baltusrol Golf (Short Hills, N.J.).

JOHNSTONE, Paul LeGrand, mgr., market dev. div., syn. dept., Hercules Powder Co., Wilmington, Del.; res. 2205 Park Dr., Wilmington.
Chem.-market dev.; b. N.J., Sept. 7, 1918; s. of Robert L. and Caroline (MacLaren) Johnstone; ed. Hotchkiss Schl., Princeton U. B.S.; addl. wk. at M.I.T., cert.—ultra high frequencies; mem.: Cap & Gown Club; m. Virginia Hemingway, June 1940; ch.: Leigh, Caroline. 1940-42, res. chem., Hercules Powder Co.; 1942-45, radar & fighter dir. officer, U.S.N.; 1946 to date, market dev. div., syn. dept., Hercules Powder Co. Club: Wadawanuck Yacht. Hobby: sailing.

JOLLEY, J(ohn) Irving, prof. of chem., dept. of physical sc., U. of Idaho, Moscow, Idaho; res. 1128 Deakin Ave., Moscow.
Prof. of chem.; b. Seattle, Wash., Dec. 14, 1907; s. of John H. and Bertha (Ellerker) Jolley; ed. B.S., magna cum laude, U. of Wash., 1930, Ph. D. 1940; mem.: Phi Sigma Kappa, Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon; m. Alyce Wester, Nov. 28, 1935. Instr. of chem., Central Wash. Coll. of Ed., 1936; instr. of chem. 1937-42, asst. prof. of chem. 1942-43, U. of Idaho; U.S.N.R., 1943-46 (instr., U.S.N.A., Annapolis, 1945-46); v.p., mgr., Jolley Paint & Glass, Inc., Seattle, 1946-47; prof. of chem., U. of Idaho, 1947 to date. Recent wk. in chem. education. Author: "A First Course in Qualitative Analysis" 1942. Mem.: Phi Beta Kappa (pres. Idaho chapter 1948-49), A.C.S. (councillor, Wash.-Idaho Border Sec. 1951-52), Northwest Scientific Assn., Sigma Xi (v.p. Idaho chapter, 1947-48). Trustee, Northwest Scientific Assn., 1949-52, also mem. exec. comm. trustees 1950; chmn. Chem.-Physics-Math Sec. N.W.S.A. 1949.

JONES, Blanche Pinkerton, chem., Hizone Res. Labs., 1211 Washington Ave., Wilmette, Ill.; res. 1538 Forest Ave., Wilmette.
Chem.; b. De Soto, Iowa, Dec. 4, 1882; d. of Prof. C.M. and Flora (Wilson) Pinkerton; ed. Drake U., A.B. 1904; pres. Y.W.C.A.; mem.: Alpha Delta Pi (Okla. A. & M. Coll.); m. Hilton Ira Jones, June 16, 1908; ch.: Eugenia (Jones) Peaster, Hayden, Llewellyn, Virginia (Jones) Burrill, Harriette (Jones) Shaw, Florice (Jones) Dellard. Teacher in Iowa schls.; lecturer on Chautauqua for Herbert Hoover Food Adm. 1918; charter mem. Central Assn. of Sc. & Math. Teachers. Germicides, emulsions. Contrib. periodicals; edit. "The Drake" magazine, 1903-04. Mem.: A.A.A.S., A.I.C. (fellow).

JONES, Chase Breese, dir., biochem. res., Gillette Safety Razor Co., Boston, Mass.; res. 40 Rose Hill Way, Waltham, Mass.
Res. biochem.; b. Madison, Wis., Jan. 14, 1912; s. of Dr. D. Breese and Clara A. (Chase) Jones; ed. Ripon Coll., Ripon, Wis., B.A. (cum laude) 1932; George Washington U., Wash., D.C., M. A. 1933, Ph.D. 1938; mem.: Lambda Delta Alpha; m. Mary L. Garapic, July 13, 1940; ch.:

David George, Donald Chase. Teaching & res. fellow, Biochem., George Washington U. 1935-37; res. biochem., Schieffelin & Co., N.Y., N.Y. 1937-39; res. fellow, Immunochemistry (Commonwealth Fund Grant), West. Res. U. 1939-40; assoc. chem., protein div., West. Regional Res. Lab., U.S. Dept. Agri., 1940-45; dir. biochem. res., Gillette Safety Razor Co., 1945 to date. Arts. & pats. on chem. of keratins. Mem.: A.C.S., Sigma Xi, A.A.A.S., Amer. Assn. of Textile Chems. & Colorists. Hobbies: chess, golf, painting.

JONES, Elmer Maurice, prof. emer., chem., Adrian Coll., P.O. Box 84, Adrian, Mich.; res. 970 W. Maumee St., Adrian, Mich.
Tchr., conslt. chem.; b. Alexandria, O., Oct. 30, 1877; s. of Enoch and Harriet (Williams) Jones; ed. Ohio Northern U.; Doane Acdy.; Denison U.; U. of Chicago; U. of Mich.; B.S., Denison, 1903; M.S. 1906; (hon.) D.Sc. Adrian Coll., 1930; mem.: Phi Beta Kappa; m. Fannie Carman, 1907. Tchr. of chem., Waukegan, Ill. H.S., 1903-04; prin. DuQuoin, Ill., H.S., 1906-07; prof. chem., Adrian Coll., 1907-39; prof. emer., chem., 1939; for sev. yrs., 1923-27, chem., Parker Rust Proof Co., Detroit; assoc. with Metal Finishing Res. Corp., conslt. chem., Parker Rust Proof Co.; constantly on lookout for exceptional student to encourage him or her; res. metal finishing and types of phosphatic formations as found in nature; writen a few arts. in fld.; early exponent of Natl. Res. Foundation which later became Natl. Sc. Found. Mem.: A.C.S., A.A.A.S.; rec. citations from Denison U., and from Adrian Coll. Trustee, Adrian Coll., charter trustee, Denison U. Res. Found. (estab. the Dr. & Mrs. Elmer Maurice Jones Chair of Chem.). Estab. the E.M. Jones Chem. Scholarship for Promising Students. Clubs: Masonic, Amer. Commons Club. Hobbies: photography; elec. appl. of vacuum tubes; engraving and assoc. lines, using bichromate bases, lithography. Small private investment business, proceeds of which used to further educat. proj. in var. flds.

JONES, Ernest Victor, prof. inorg. chem., Schl. Chem., U. of Ala., Univ., Ala.
Coll. tchr.; b. Bronaugh, Mo., Jan. 7, 1882; s. of Alfred P. and Maria Irene Jones; ed. B.A. Morrisville Coll. (Mo.) 1905; pres. sr. class, scholarship M., M.A. Vanderbilt U., 1909; Ph. D., 1912; post doctoral studies Columbia U. 1921; U. Calif. 1927-28; U. Chicago 1936; m. Eunice Beth Vaughan, Aug. 9, 1908; prof. chem., Southern U., Greensboro, Ala., 1912-13; hd. depts. chem., physics, Soochow U., China, 1913-22; prof. inorg., physical chem., U. Nanking, China, 1922-27; Rockefeller Res. Fellow, U. Calif. 1927-28; hd. dept. chem., Birmingham-Southern Coll. 1928-46; res. chem., Naphtholene Prods. Co., Birmingham, Ala. 1944-46; prof. inorg. chem., U. Ala. 1947 to date. Mem.: A.A.A.S. (fellow), Ala. Acdy. Sc. (pres. 1943-44); A.C.S., (chmn. Ala. sect. 1933), So. Assn. Sc. & Ind.; Phi Beta Kappa, O.D.K. Club: Civitan Internatl. Hobbies: travel, fishing.

JONES, Franklin Delavergne, consltg. chem., 2617 St. David's Lane, Ardmore, Pa.; res. same.
Consltg. chem.; b. Wilkes-Barre, Pa., Sept. 3, 1898; s. of Evan L. and Emma (Edmunds) Jones; ed. Bucknell U., B.S. in Ch.E. 1919, Sc.D. 1946; Phila. Textile Schl. 1919-20; mem.: Phi Gamma Delta; m. Lillian G. Butz, Sept. 1, 1927; ch.: Roger F., Mary Lou. 1919-20, Natl. Aniline & Chem. Co., chem.; 1921-22, Wyoming Dye & Chem. Co., supt.; 1922-23, Pa. Salt Mfg. Co., res. chem.; 1923-25, N. J. Zinc Co., dev. chem. engr.; 1925, Barrett Co., chem. engr.; 1926-27, E. I. du Pont de Nemours & Co., chem. engr.; 1928-35, Phillips & Jacobs, chf. chem.; 1935-36, Merck & Co., tech. sales; 1937 Peacock Labs., partner; 1938-47, Am. Chem. Paint Co., mgr. horticultural dept.; 1947 to date, consltg. chem. Continental Foods, Inc., Colmar, Pa. (dir.). Pats. on chloromethylation of aromatic hydrocarbons, plant hormones, fungicides, insecticides, olefinic esters of alkyl aryl acids, weedkillers (incl. 2.4-D and 2.4.5-T); discovered new meths. of weed killing with highly active organics such as 2.4.D; conversion of steel plant waste into salable chem. Mem.: Franklin Inst., A.C.S., A.I.C. (fellow), Am. Soc. of Horticultural Sc., Am. Horticultural Council. Clubs: Merion Golf, Phila. Chem., Bucknell Alumni Assn., Phila. Advertising Golf Assn. Hobbies: fencing, golf, books (has best & most nearly complete collection G.A. Henty books in this country).

JONES, George William, superv. chem., Gaseous Explosions Sec., U.S. Bur. of Mines, 4800 Forbes St., Pittsburgh 13, Pa.; res. 2467 Plainview Ave., Pittsburgh 13.
Res. chem.; b. Dowling, Mich., Feb. 23, 1891; s. of Frederick E. and Angelina A. Warner Jones; ed. U. of Denver, B.A., 1914; mem.: Phi Lambda Upsilon; m. Ellen Elliott, Oct. 9, 1918; ch.: June, Irene, Raymond, Carol. Held follow. positions with Bur. of Mines: Jr. chem., U.S. Bur. of Mines, 1914-18, asst. chem. 1918-22, assoc. explosives chem., 1922-30, chem., 1930-41, sr. chem., 1941-49, supervising chem., Gaseous Explosives Sec. 1948 to date. Exchange investigator, safety in Mines Res. Station, Buxton, Eng., 1930; explosibility and flame temperatures of gases and vapors, safety in use of combustbiles, hazardous chems. and explosives. Pub. num. arts. and U.S. Bur. of Mines reports. Chmn. of A.C.S. comm., Hazardous Chemicals and Explosives, 1932 to date. Mem.: Internatl. Coll. of Anesthetists (Fellow); distinguisted Service Award and Gold M., U.S. Dept. of the Interior, 1949. Club: White Deer Rod and Gun. Hobbies: fishing, hunting, farming.

JONES, H. Roswell, sr. chem. engr., chem. plants div., Blaw-Knox Construction Co., Pitts. 22, Pa.; res. 215 Castlegate Rd., Pitts. 21.
Chem. engr.; b. Baltimore, Md., June 1, 1910; s. of W. Roswell and Mary B. Jones; ed. Johns Hopkins U., B.S. in chem. engrg. 1930, Ph.D. in chem. 1934; m. Geraldine L. Bruner, Aug. 3, 1935; ch.: W. Roswell, Donald R., Thomas C. Asst. res. chem., Continental Oil Co., Baltimore, 1930-31; apprentice, Atlantic Refining Co., Franklin, Pa., 1931, chem. 1934-37; res. chem., Pure Oil Co., Chicago, Ill., 1937, asst. res. chem. Toledo, Ohio, 1937-39; asst. chf. chem., Alco Prods. Div., Am. Locomotive Co., Dunkirk, N.Y., 1939; chem. engr., Pan Am. Pet. Corp., Texas City, Tex., 1940-41; project leader, Magnolia Pet. Co., Dallas, Tex., 1941-43; process engr., Continental Oil Co., Ponca City, Okla., 1943-50. Pioneering wk. in HF. alkylation pilot plant. Mem.: A.C.S., A.I.Ch.E. (active). Hobbies: Boy Scouts of Am., gardening.

JONES, Haydn, res. dir., Hizone Res. Labs., 1211 Washington Ave., Wilmette, Ill.; res. 710 Roger Avenue, Kenilworth, Illinois.
Physicist, chem.; b. Muscogee, Okla., Feb. 15, 1911; s. of Hilton Ira and Blanche (Pinkerton) Jones; ed. A.B., Lake Forest Coll., 1932; M.S., U. of Chicago, 1932, Ph.D. physics 1939; mem.: Alpha Sigma Kappa, Sigma Pi Sigma, Sigma Eta, Phi Eta Sigma, Gamma Alpha, Sigma Xi; m. Emilie Banning, June 2, 1938; ch.: Lowell Haydn, Milton Addison, Gail Pinkerton. Fellow, U. of Chicago, 1934-35, 1936-37, asst. physics 1935-36, 1937-38; res. assoc. 1938-39; res. dir., Hizone Prods. 1939-42; res. assoc., Metallurg. Labs. U. of Chicago, 1942-43; sr. physicist, Clinton Labs., Manhattan Project, Oak Ridge, Tenn., 1943-45; res. dir., Hizone Labs., 1945 to date (partner).

Magnetic permeability of iron at ultra radio frequencies; energy distribution of cosmic rays & excess of positive mesons, atomic piles, nuclear physics, emulsions, germicides, preservation of animal tissues at ordinary temps. Contr. to tech. jls. Mem.: Am. Physical Soc., A.C.S., A.I.C. (fellow), A.A.A.S., Sigma Xi, Sigma Pi Sigma. Awards: Citation for wk. at U. of Chicago on the atomic bomb for W.W.II by Office of Sc. Res. & Dev. 1945; Citation for wk on atomic bomb for wk. at Clinton Labs. by Corps of Engrs., Manhattan Dist. 1945. Club: Rotary. Hobby: tennis.

JONES, Helen Thayer, prof. chem., Wellesley, Coll., Wellesley, Mass.; res. Wellesley Coll., Wellesley. Prof. chem.; b. Salem, Mass., July 15, 1894; d. of George W. and Mary W. Jones; ed. Mt. Holyoke Coll., B.A., 1916, M.A., 1919; M.I.T., Ph. D., 1925; mem.: Phi Beta Kappa. 1919-22, instr. chem. Vassar Coll.; 1925-26, instr. chem. Wellesley Coll.; 1926-29, asst. prof. chem., Milwaukee-Downer Coll.; 1929-38, asst. prof. chem., 1938-47, assoc. prof., 1947 to date, prof. chem., Wellesley Coll. Mem. of Am. Chem. Soc.

JONES, Hilton Ira, dir. Hizone Res. Labs. (successor to Naselmo Corp.) 1211 Wash. Ave., Wilmette, Ill.; res. 1538 Forest Ave. Res. chem.; b. Mankato, Minn., May 9, 1882; s. of Addison Sprague and Alice Nancy Hilton Jones; ed. A.B. Parker Coll. 1903; Drake U., A.M., 1904; Harvard, 1906-08; U. Chicago, 1908-09; U. S.Dak., Ph.D., 1916; Dakota Wesleyan U., 1948, Sc.D.; mem.: Sigma Phi Epsilon, Phi Kappa Phi, Pi Kappa Delta, Kappa Delta Pi; m. Blanche Pinkerton, June 16, 1908; ch.: Eugenia Peaster, Haydn, Llewellyn, Virginia Burrill, Harriette Shaw, Florice Dellard. Teacher sc., E. High Schl. (Des Moines) 1904-08; U. Chicago, fellow, 1908-09; tchr. Central High Schl. (Muskogee, Okla.) 1909-12; Dakota Wesleyan, hd. chem. dept. 1912-18; Okla. A. & M. hd. chem. dept. 1918-22; Redpath Bur., Dir. Sc. Res. 1922-29; Natl. Selected Morticians, dir. res. 1929-32; Naselmo Corp., mgr. dir., 1932-36; Hizone Res. Labs. 1936 to date. Peaster Oil Co., v.p. Res. in synthesis of adrenalin with Dr. H.A. Torrey; the Meta saccharines, with Dr. J.U. Nef; "Okla. Rock Asph. & Mono-nitro-phenyl-ethers with Dr. A. N. Cook, res. on methylamine, metallic soaps, textile treatments, res. on paper prods., germicides, emulsions. Contrib. extens. to sc. and techl. jls. Editor: "Peeps At Things to Come (Rotarian Mag.), "Hizone Supplements"; mem.: A.C.S., Chem. Soc. (London); A.I.C. (fellow), A.A.A.S. (fellow), past. chmn., Chicago chpt. A.I.C.; past v.p. Mitchell, S.D., C.C.; Sc. Lecturer Redpath Bur., 1917 to date; org., pres., "Farm Betterment Assn." (later Am. Farm Bur.); org., pres. So.Dak. Acdy. Sc.; clubs: Engrs., Exec. (Chicago), Rotary, (past secy.) (past mem. of Bd.). Hobby: travel.

JONES, Howard Algernon, asst. to pres., and gen. mgr., New England Tape Co., 30 Tower St., Hudson, Mass.; res. 37 Brooks St., Maynard, Mass. Operating exec.; b. Conshohocken, Pa., July 28, 1898; s. of George W. and Ellen (Taylor) Jones; ed. Conshohocken H.S., grad. 1914; B.S. Indust. Chem. (chem. engr.) Penn. State, 1918; M.A. Phys. Chem., Princeton, 1921 (Harvard Fellow); Ph.D. Phys. Chem., Princeton, 1922, (University Fellow); mem.: Sigma Phi Epsilon, Theta Nu Epsilon; m. Almeda E. Smith, Nov. 17, 1938; ch.: Sara Ann. 1918-19 Hercules Powder Co., Kenvil, N.J., res. chem.; 1919-20 instr. in chem. Princeton U.; 1921-22 (Harvard Fellow-Univ. Fellow) Princeton U.; 1922-29 Gen. Elec. Co., Schenectady, N.Y., res. chem.; 1929-41 same co., mgr. lab. and Spec. Prods. Div.; 1941-42 same co., mgr. Electronic Tube Div.; 1942-45 A.U.S., Colonel, Signal Corps; 1946 to date New England Tape Co., Inc., Hudson, Mass., asst. to pres., gen. mgr.; res. in high explosives, contact catalysis, ballast lamps, temperature scales, evaporation of metals, and ionization of gases. Author of "The Oxidation of Carbon Monoxide and Oxygen in Contact with Copper and Copper Oxide," A.C.S., 1922; author also of numerous arts. in sc. jls. Mem.: Soc. of Plastics Indust.; reg. Prof. Engr., Massachusetts. Clubs: Hudson Industrial Exec.; Princeton Alumni (N.E. Chapt.); Penn. State Alumni (N.E. Chapt.). Hobbies: gardening, golf, reading.

JONES, John Leslie, mgr., Calif. Fine Chemicals Co., 3348 E. 14th St., Los Angeles, Calif.; res. 4830 O'Sullivan Dr., Los Angeles. Chem.-chemical engr.; b. Welestka, Okla.; s. of W.L. and Florence M. Jones; ed. B.S., U. of Calif., May, 1934, honors, M.S., U. of Calif., Berkeley, Dec. 1934; Ph.D., Leland Stanford, Jr., U. Oct. 1936; m. Ruth S. Feb. 10, 1934; ch.: J.L. Jones, Jr., W.L. Jones, III. Res. chem., Penn. Salt Mfg. Co., 1936-37; instr., U.S. Govt., Dept. of Interior, 1937-41; sr. res. chem., Plaskon Div., Libby Owens Ford Glass Co., 1941-46; sr. res. engr., Jet Propulsion Lab., 1946-49; owner-mgr., Calif. Fine Chemicals Co., present. Res. in kinetics of gas reactions, pats. and dev. in fld. of synthetic resins, pats. in fld. of pharmaceuticals, pats. in fld. of rocket propulsion. Contrib. extens. to sc. and tech. journals. Mem.: Sigma Xi. A.C.S., A.A.A.S. (Fellow), Phi Lambda Upsilon.

JONES, Laurence Carpenter, conslt., 5217 Hollywood Blvd., Hollywood 27, Calif.; res. same. Chem.; b. Roanoke, Va., Nov. 13, 1894; s. of William Ira and Mary (Gravely) Jones; ed., grad. Boys H.S., Atlanta, 1910; attended U. of N.C., 1910-11, U. of Va., 1911-15 (B.S.), Université de Montpellier (France) one semester, 1919; Columbia U., 1921-23; spec. courses Calif. Inst. of Tech. & U. of Southern Calif.; m. Margaretta Genevieve Marsh, Aug. 22, 1923. Editorial Dept., Atlanta Jl., 1915 to enlistment in Army 1917, commis. 2nd Lieut., Adj. Gen.'s Dept., served in France 2 yrs. in liaison wk. with French Army; after grad. wk. at Columbia entered pub. relations fld. lgely. devoted to raising bldg. and endowment funds for colleges and hosps., 1923-26; Research & Promotion Dept., The Sun, (N.Y.) 1926-28 (also writing some theater reviews); Promotion Dept. King Features Synd. 1928-29; Promotion Mgr., Albany, N.Y. Times-Union, 1929-30; traveled Pacific Coast 1930-31; 1931-36 engaged in fiction and drama writing; returned N.Y.C. 1936 and engaged in publicity and writing to 1938; returned to Calif. and became tchr. of French and Gen. Sc., Harvard Schl., N. Hollywood, Calif. to 1940; pub. rel. wk. and anal. chem., to 1941; apptd. 1941, U.S.A. inspector trainee, then inspector, serving to 1943; entered U.S. Food & Drug Admin., 1943, anal. Los Angeles Sta., to Oct., 1949; dur. 1948 and 1949 wrote weekly radio scripts, acted as continuity editor for weekly A.C.S. radio program of Southern Calif. Sect. over Amer. Broadcasting Co.'s Sta. KECA; present interest in bio-organic chem. as related to food and drugs; studied Pregl meths. of org. microanal.; off. meths. of Assoc. of Off. Agric. Chems.; vitamin assays; apptd. anal. U.S. Food & Drug Admin. 1943 and assisted in survey of natural fluorine content of food; worked on spray residues; resigned 1949; from 1946 to date secy. of Southern Calif. Sect. of A.C.S. French Govt. in 1919 awarded Palmes Académiques, Officier d'Académie. Mem.: A.C.S., I.F.T. Hobby: photography in color.

JONES, Llewellyn, mgr. West Coast Branch, Hizone Res. Labs., 2870 Devonport Rd., San Marino, Calif.; res. same. Mgr., chem.; b. Mitchell, S.D., Mar. 17, 1913;

s. of Hilton Ira and Blanche (Pinkerton) Jones; ed. B.S. Northwestern U., 1938; Drake U. Jan. 1931-June 1932; mem.: Sigma Alpha Epsilon; m. Margaret Duff, Mar. 19, 1932; ch.: Patricia Louise, Gregory, Gerald. Partner, Hizone Labs. 1937, mgr. west coast branch 1946 to date. Principal chem. wk. in germicides, textiles & embalming chem.; co-holder of pats. on above. Mem.: A.C.S., A.I.C. (fellow). Club: Rotary Internatl. (Wilmette Club pres. 1944-45). Hobby: travel.

JONES, R(eginald) M(ax), dir. of res., Liquid Carbonic Corp., 3100 S. Kedzie Ave., Chicago 23, Ill.; res. 1043 Clinton Ave., Oak Park, Ill. Chem.; b. Florence, S.C., Oct. 11, 1904; s. of Lewis M. and Ida I. Jones; ed. U. of Fla., B.S. 1928; Iowa State Coll., M.S. 1929, Ph.D. 1937; mem.: Alpha Gamma Rho; m. Mary L. Harrison, Jan. 5, 1932; ch.: Reginald M., Jr., Thomas Eugene. Missouri Fruit Expt. Station, entomologist, 1930-31; Liquid Carbonic Corp., entomologist 1934-36, chf. chem. 1937-46, dir. of res. 1947 to date. Mem.: I.F.T., A.C.S., Natl. Assn. Corr. Engrs. Club: Chicago Chemists'. Hobbies: photography, general workshop.

JONES, Russell Morgan, mgr., new product devel., The Barrett Div., Allied Chem. & Dye Corp., 40 Rector St., New York 6, N.Y.; res. 82 Harrison Ave., New Brunswick, N.J.
Prod. devel. exec.; b. Taylor, Pa., Jan. 1, 1896 s. of Gomer and Elizabeth (Lewis) Jones; ed. Penn. State Coll., B.S. 1918; Geo. Washington U., M.S. 1924; mem.: Omega Epsilon; m. Lorraine Cahoon, June 28, 1921; ch.: Audrey Cahoon, Dorothy Cahoon, Robert Stephen. Assoc. chem., U.S. Dept. of Agr., 1920-27; res. proj. ldr., Nitrogen Sect., The Solvay Proc. Div., Allied Chem. & Dye Corp., 1927-29; asst. to mgr., Solution Sales, The Barrett Div., Allied Chem. & Dye Corp., 1929-31; inspector, U.S. Treas. Dept., 1931-34; lab. supvr., Tenn. Valley Authority, 1934-36; asst. sales mgr., mgr., New Prod. Devel., The Barrett Div., Allied Chem. & Dye Corp., 1936 to date. Contrib. sev. arts. and pats. on fertilizer tech.; contrib. to Encyc. of Chem. Tech. Mem.: A.C.S., Chem. Market Res. Assoc., T.A.P.P.I. Club: Chemists'. Hobbies: golf, fishing, swimming.

JONES, S. Guy, prof. chem. (retired), U. Redlands, Redlands, Calif.; res. 309 Myrtle St.
Tchr. chem.; b. Licking Co., Ohio, Sept. 7, 1881; s. of Thomas P. and Minerva Jane Spangler Jones; ed. B.S., Denison U.; M.S., Ohio St. U.; grad. study, Ohio St., Western Res. Us.; mem.: Phi Gamma Delta; m. Letitia Felix, Aug. 30, 1904, d. Aug. 2, 1929; m. (2nd) Nellie O. Hoskinson, Aug. 20, 1931. Sc. instr., Piqua, Ohio high schl., 1903-04; sc. instr., Pillsbury Acdy., Owatonna, Minn., 1904-09; prof. chem., U. Redlands, 1909-49; Y.M.C.A. secy., A.E.F., 1918-19; res. in "resist. of electroplated metals to corrosion"; mem.: A.C.S., A.I.C. (fellow), A.A.A.S. (fellow), A.A.U.P., N.Y. Acdy. Sc., Phi Lambda Upsilon (hon. chem.), Alpha Epsilon Delta (hon. pre-med.); trustee, First Baptist Church, Redlands, Calif., dir. Y.M.C.A. (Redlands). Club: Kiwanis. Hobbies: chess, athletics.

JONES, Dr. Samuel O'Brien, dir. org. res., R.J. Reynolds Tobacco Co., Winston Salem, N.C.; res. 1115 Magnolia St., Winston Salem.
Chem.; b. Louisburg, N.C., Mar. 14, 1911; s. of A.M. and Eleanor Owen (Davis) Jones; ed. Davidson Coll., 1927-28; B.S. 1932, N.C. State; Ph.D. 1936, Johns Hopkins; mem.: Phi Beta Kappa, Sigma Xi; m. Gwendolyn Hyatt, Apr. 16, 1937; ch.: Shirley Ann, Robert D. Org. anal., dev. of new prods. & new processes. Mem.: A.C.S., Winston Salem Engrs. Club. Hobbies: gardening, carpentry.

JONES, Webster Newton, dean, Coll. of Engrg. and Science, Carnegie Inst. of Tech., Pittsburgh 13, Pa.; res. 562 Briar Cliff Rd., Pittsburgh 21, Pa.
Dean, Coll. of Engrg. and Science; b. Rich Hill, Mo., July 29, 1887; s. of Jenkin S. and Annie Davis (Lewis) Jones; ed. A.B., U. of Missouri, 1908; A.M., 1909; Ph.D., Harvard, 1920; hon. D.Sc., Stevens Inst. of Tech.; mem.: Alpha Tau Omega; m. Nettie Donald Haire, Aug. 31, 1918; ch.: Webster Newton, William Cary. Instr. chem., Purdue U., 1909-10; Austin tchg. fellow, Harvard, 1910-12; instr. chem., U. of Me., 1912-13; U. of Mo., 1913-14; Radcliffe Coll., 1914-15; asst. prof. chem., U. of Mont., 1915-18; res. chem., B.F. Goodrich Co., 1919-24; mgr. Gen. Chem. Labs., 1925-27, tech. supt, 1927, gen. supt. processing div., 1928-32; dean, Coll. of Engrg. and Science, Carnegie Inst. Tech. since 1932. Served as 1st Lt., U.S.A., 1918; chem. expert War Trade Bd., 1919. Mem.: Natl. Inventors Council, A.A.A.S., A.C.S., A.I.Ch.E. (pres. 1939, 1940), Am. Soc. for Engrg. Educ., Engrg. Coll. Res. Assoc. (dir. since 1946), Engrs. Soc. of Western Pa. (sr. v.p. 1943, pres. 1944), Engrs. Council for Professional Devel., Assoc. of Harvard Chemists (pres. 1930), Newcomen Soc., Pittsburgh Personnel Assoc., Theta Tau, Tau Beta Pi, Alpha Chi Sigma, Sigma Xi, Phi Kappa Phi, Alpha Tau Omega, Pi Delta Epsilon, Scabbard and Blade. Republican, Presbyterian. Clubs: Chemists' (N.Y.), Cosmos (Wash., D.C.), University (Pittsburgh).

JONES, W(illiam) Norton, Jr., prof. of chem. & hd. of dept. and chmn. of div. of sc. & math., McMurry Coll., Sayles Blvd. at 14th St., Abilene, Texas.; res. 758 Amarillo St., Abilene, Texas.
Chem. & Coll. prof.; b. Augusta, Ark., Nov. 16, 1908; s. of William Norton, Sr., and Beatrice Roddy Jones; ed. Grad. Little Rock, Ark., H.S., B.A., magna cum laude, Hendrix Coll., 1928; M.A., 1930 and Ph.D., 1932, Johns Hopkins U., summer session 1939, U. of Southern Calif.; mem.: Gamma Alpha; m. Roberta D. Jackson, June 15, 1938. Sc. instr., Hulbert, Ark., H.S., 1931-32; supt. of Citizens Schls., Osceola, Ark. 1932-33; held following positions in State Coll. of Agri. & Mech. Arts, Ft. Lewis Branch: Assoc. prof. & hd. of chem. dept., 1933-42; prof. of chem. & hd. of dept. 1942-48; acting vice dean, 1943-46; prof. of chem. & hd. of dept., McMurry College, Abilene, Texas, 1948 to date, also chmn. of div. of sc. and math. Res. in constitution of dulfur dyes, dye synthesis, influence of solvent on Fries reaction, chem. education, service on ACS comm. on natl. cooperative tests in org. chem. Author: "Inorganic Chemistry," The Blakiston Co., 1947; "Laboratory Exercises in Inorganic Chemistry," The Blakiston Co., 1947. Mem.: A.C.S., A.A.A.S., Sigma Xi, Alpha Chi, Texas Acdy. of Science. Steward, St. Paul Methodist Church, Abilene, Texas. Hobbies: photography, philately, travel, writing.

JONTE, John Herbert, prof. of chem., College of the Pacific and Stockton Coll., College of the Pacific, Stockton, Calif.; res. 324 West Park St., Stockton, Calif.
Prof. of chem.; b. Aug. 13, 1885; s. of Henry C. and Elizabeth Jonte; ed. B.S., U. of Kans., 1912; M.S., State U. of Iowa, 1928; grad. wk. at U. of Colo., U. of New Mexico; m. Bada S. Johnson, Dec. 23, 1913; ch.: John Haworth, Donald Milton. In engrg. wk., 1911-16; spec. anal., State Coll. of Wash., Nov., 1916-Sept., 1917; chem. in chg. of lab., State Bur. of Mines and Geology, U. of Idaho, Sept., 1917-Sept., 1920; prof. of chem., Coll. of Pacific, Sept., 1920 to date; prof. of chem., Stockton Coll., Sept., 1935 to date. Res. in dental amalgams; reactions in silicic acid gels. Mem.:

A.C.S., Calif. Acdy. of Sc., A.A.A.S., Natl. Educ. Assoc. Trustee, Stockton Y.M.C.A., dir, Goodwill Industries of San Joaquin Valley. Hobbies: stamps, railroads, minerals, travel.

JORDAN, Harry Edward, secy., Am. Water Wks. Assn., 500 Fifth Ave., N.Y. 18, N.Y.; res. 2 St. John Pl., Pt. Washington, L.I., N.Y.
Bus. exec.; b. Coulterville, Ill., Nov. 15, 1882; s. of Walter Scott and Susan (Woodworth) Jordan; ed. B.S., Frankin Coll., 1903, D.Sc. 1938; m. Ruth Low, Sept. 12, 1907; ch.: Celeste (Jordan) Brennan, Lois (Jordan) Schulze. Chem. engr., Indianapolis Water Co., 1903-36; Capt., later Major, Construction Div., Gen. Staff, U.S.A., 1918-19; exec. secy., Am. Water Wks. Assn., 1936 to date. Mem.: Sigma Alpha Epsilon, A.W.W.A. (honorary, pres. 1934-35, secy. since 1936, edit. Journal since 1936), New England Water Wks. Assn. (honorary), Am. Soc. Civil Engrs. (affiliate life mem.), A.P. H.A. (fellow, life mem.), A.C.S. Clubs: Town Hall (N.Y.), Chemists' (N.Y.), Republican, Unitarian. Clubs: Mason, Service-Literary (Indianapolis).

JORDAN, Henry, 1034 Oxford Way, Flintridge, Pasadena 3, Calif.
Retired chem.; b. Cologne, Germany, Sept. 22, 1876; s. of Henry and Maria Jordan; ed. U. of Bonn, 1895-98; U. of Heidelberg, 1898-99, Ph.D. 1899; m. Alma Meyer, May 28, 1901; ch.: Claus G., M.D.; Herman J. Plant chemist of Portland Cement factory at Beckum, Germany; res. and plant chemist with Bayer Co., Germany, 1900-20; Azo dyes expert for Azo Dyes with du Pont Co., 1921-41. Inventor of numerous pats. on Azo Dyes, both in Germany and U.S.A. Mem.: A.C.S., A.A.A.S.; Honorable Mention of Amer. Chem. Mfrs. Soc. for wk. in fld. of Azo Dyes, 1940. Hobbies: painting, study of foreign languages.

JORDAN, John William, sr. fellow, Mellon Inst., Pittsburgh, Pa.; res. R.D. No. 7, Ingomar Rd., Pittsburgh, Pa.
Chem.; b. Pittsburgh, Pa., Apr. 25, 1912: s. of Frank Craig and Harriet Caywood Jordan; ed. U. Pitts. 1930, Marietta Coll. A.B. 1930-34, Columbia U. Ph.D. 1934-38; mem.: Alpha Sigma Phi; m. Marian Emily Spies, June 1, 1936; ch.: Emily C., Frank W., John C., Edward H., Andrew S. 1935-38 Columbia U., asst. dept. chem.; 1938-39 Mellon Inst., fellowship asst.; 1939-41 Pittsburgh Corning Corp., chem.; 1941 to date Mellon Inst., fellow, sr. fellow, lead fellowship. Res. in dev. of "Bentones." and Bentone grease lubricants. Mem.: A.C.S., A.Cer.S., A.A.A.S., Phi Beta Kappa, Sigma Xi. Phi Lambda Upsilon. Clubs: Chem. (Pitts.), Robert Kennedy Duncan. Hobby: firearms.

JORDAN, T(homas) Earl, dir. chem. res. and mgr. spec. products production. Publicker Industries Inc., P.O. Box "F," Eddington, Pa.; res. 717 Diaston St.., Phila. 11, Pa.
Chem.; b. Tyner, N.C., July 4. 1908; s. of T.J. and Nora (Ellis) Jordan; ed. Campbell Jr. Coll., 1927-29; B.S., 1931, Atlantic U.: M.S., 1934, U. Richmond; Ph.D., 1936, Duke U.: mem.: Sigma Xi, Sigma Pi Sigma; m. Anna Cordin. Sept. 5, 1943; ch.: Shirley Anne. 1931-32, instr., Elon Coll., Elon, N.C.: 1932-34, instr., summer schl., U. Richmond, Richmond, Va.; 1936-37, prof., Furman U., Greenville, S.C.; 1937-42, prof., Evening Schl., Drexel Inst. Tech., Phila., Pa.; 1937-45, grp. ldr., The Barrett Div., A.C. & D.C., Phila., Pa.; 1945-46, res. assoc., Inst. Textile Tech., Charlottesville, Va.; 1946 to date, with Publicker Industries; present position, dir. chem. res., mgr. special products production. Pubs. in jls. of A.C.S. Mem.: A.C.S., A.I.Ch.E., Phila. Organic Chemists Club. Hobbies: photography, ceramics.

JORDY, Louis C(leveland), chmn., dept. chem., Drew U., Madison, N.J.; res. 43 Woodcliff Dr., Madison, N.J.
Prof. of chem.; b. Flemington, N.J., Nov. 20, 1888; s. of George M. and Caroline Dean Jordy; ed. Syracuse U., B.S., magna cum laude, 1910, M.S., 1911, B. Ped., 1915, Ph.D., chem., 1927; mem.: Theta Alpha; m. Florence E. Carpenter, June 19, 1913; ch.: Virginia Louise, Wayne Carpenter. Wyoming Seminary, Kingston, Pa., 1911-17; military service, W.W.I, 1917-19; Syracuse U., 1919-29; Drew U., Madison, N.J., 1929-42 and 1946 to present; military service, W.W.II, 1942-46. Mem.: A.C.S., Alpha Chi Sigma, Sigma Xi, A.A.U.P., Kappa Phi Kappa. Hobbies: photography, fishing, hiking, gardening.

JORGENSEN, Guy Cady, prof. of chem., chmn. dept. of chem., Union College, Lincoln 6, Nebr.; res. 4808 Bancroft St., Lincoln.
Chem. prof.; b. Neenah, Wis., Dec. 31, 1892; s. of A.W. and Mary (Cady) Jorgensen; ed. B.A. 1917, Pacific Union Coll., Calif.; M.S. 1930, Ph.D. 1938, U. of Nebr.; m. Christine Larsen, Sept. 8, 1919; ch.: Dorothy. 1917-18, 1919-25, sc. instr., Hutchinson Theolog. Seminary, Minn.; 1918-19, chem., Camp Lewis, U.S.A.; 1925 to date, prof. of chem., Union Coll., Nebr. Res. on ketonic acids & bismuth org. cmpds. Mem.: A.C.S., A.A.A.S., Phi Lambda Upsilon, Sigma Xi. Hobby: piano.

JOSEPH, Glenn Howe, chem. chg. Calif. Fruit Growers Exch., res. dept., P.O. Box 215, Corona, Calif.; res. 903 E. Grand Blvd.
Res. chem.; b. Tuscola, Ill., Sept. 21, 1898; s. of William H. and Leona Howe Joseph; ed. U. Ill., B.S., 1922; M.S., 1923; U. Wis., Ph.D. 1927; mem.: Sigma Alpha Epsilon, Phi Lambda Upsilon, Sigma Xi, Alpha Chi Sigma; m. Loleta Lollar, Sept. 12, 1922; ch.: Myron William. Teach. asst. inorg. chem., U. Ill., 1922-23; instr. chem., Kans. St. Coll., Manhattan, Kans. 1923-25; asst. physical chem., U. Wis., 1925-26; U. fellow chem., U. Wis., 1926-27; Calif. Fruit Growers Exch., res. dept., Ontario, Calif., July, 1927-Jan. 1, 1933; Calif. Fruit Growers Exch., res. dept., Corona, Calif. 1933 to date. Contrib. extens. to sc. and tech. jls.; patents in field of citrus prods., pectin pharm., med. uses; mem.: A.C.S., I.F.T., A.A.A.S. Clubs: Rotary, Masonic organizations. Hobbies: photography, Boy Scouts.

JOSHEL, Lloyd M(arvin), treasurer, Julius Hyman & Co., Denver 1, Colo.; res. 1050 Sherman St., Denver 3.
Chem., purch. agent; b. Geneva, Ill., Dec. 21, 1914; s. of Henry J. and Ethel K. Joshel; ed. U. of Ill., B.S. 1935; Ohio State U., Ph.D. 1938; mem.: Phi Beta Kappa, Sigma Xi; m. Suzanne Wolf, July 18, 1948. Finney-Howell Res. Fellow, Harvard U., 1938-40; res. chem., U.S. Dept. Agric. 1940-42; sr. ind. specialist, War Prod. Bd., 1942-45; gen. purch. agent, Velsicol Corp. 1945-46; dir. of purch., Julius Hyman & Co., 1946 to date.

JOSLYN, Maynard A., prof. of food tech. and biochem. in Calif. Agri. Expt. Sta., 339 Hilgard Hall, U. of Calif., Berkeley 4, Calif.; res. 1317 Spruce St., Berkeley 9.
Res. biochem., instr. food tech.; b. Russia, July 7, 1904; s. of Alexander L. and Anna K. Joslyn; ed. B.S., U.C., 1926 (chem.); M.S. 1928 (agr. tech.); Ph.D. 1935; mem.: Sigma Xi, Gamma Alpha, Phi Lambda Upsilon, Phi Sigma; m. Golda Fischer, M.D., Apr., 1947. Asst., Div. of Fruit Prds., U. Calif., 1927-35; instr. same div., 1935-37; asst. prof., same div., 1937-43; assoc. prof. 1943-49; prof., 1949 to date. Wk.: food anal. and food chem.; fruit juice and preservation freezing tech.; enzyme chem. Author: "Lab. Anal. of Wines," 1934; "Fruit and Veg. Juices," 1939;

"Meths. in Food Anal.," 1950. Mem.: A.C.S., A.I.C., A.A.A.S., I.F.T., Am. Soc. Plant Physiol., Soc. Amer. Enologists, Amer. Legion, Org. Res. Corp. Lt.Col., Q.M.C., (Res. Off.), Army of U.S.

JOST, Paul Douglas, res. chem. engr., A.C. Lawrence Leather Co., Peabody, Mass.; res. Reading, Mass.

Chem. engr.; b. Reading, Pa., May 24, 1915; s. of Paul Frederick and Florence Estelle Jost. B.S. chem. engrg., Drexel Inst. of Tech., 1937, graduate wk. U. of Heidelberg, Germany, 1937-38; mem.: Phi Kappa Beta; m. Henriette E. Walz, May, 1939; ch.: Linda M., Andrea E. Tour tech. supvr., tour engr., Scott Paper Co., 1938-42; res. chem. engr., Remington Arms Co., 1942-44; shift supvr., Manhattan Dist. Project, 1944-46; res. chem. engr., A.C. Lawrence Leather Co., 1946 to date. Mem.: A.C.S., A.I.Ch.E. Hobbies: music, electronics.

JOYCE, Dwight P., pres., The Glidden Co., 1396 Union Commerce Bldg., Cleveland, Ohio; res. 18690 Rivercliff Dr., Fairview Park, Ohio.

Exec.; b. Memphis, Mich., May 31, 1900; s. of Adrian D. and Anna Belle (Page) Joyce; ed. Univ. Schl. Cleveland, grad. 1918; U. of Mich., grad. 1921, A.B.; mem.: Beta Theta Pi; m. (second), Marion Stephens Brown, June 24, 1944; ch.: Emily (Joyce) Webb, Charles A., David D., Margo Ann. Started with Glidden Co., 1921; successively varnish maker, foreman, salesman, specialty sales mgr., v.p. in chg. of paint and varnish div., pres. Jan., 1947.

JUDA, Walter, v.p., tech. dir., Ionics, Inc., 152 Sixth St., Cambridge 42, Mass.; res. 12 Moonhill Rd., Lexington, Mass.

Chem.; b. Berlin, Germany, Feb. 16, 1916; s. of Adolf and Gertrude (Futter) Juda; ed. Werner Siemens Real Gymnasium, Berlin 1926-33; U. of Lyons, Faculty of Sc., 1933-34, Baccalaureat 1st & 2nd parts, 1933-36, Licencie-es-Sciences (B.A.), U. of Lyons, Schl. of Ind. Chem., 1933-36, Ingenieur-chemiste E.C.IL. (B. Sc.), Faculty of Sc., 1936-39 Docteur-es-Sciences Physiques (Ph.D.), Lyons, France; Harvard U., Cambridge, Mass., 1942-44, M.A.; m. Renee B. Molino, Aug. 27, 1941; ch.: Simone Naomi, Daniel Peter, David Eric. Conslt., Albi Mfg. Co., N.Y., 1940-49, fire & mildew retardants; secy., asst. dir. of res., Palestine Res. Associates, Cambridge, 1946 to date; erected pilot plant in Israel, Am. Com. Weizmann Inst. of Sc., 1947-48, ion exchange; lecturer, Harvard U., Cambridge, 1944-48; res. chem., Am. Res. & Dev. Corp., Boston, 1948, ion exchange; v.p., tech. dir., Ionics, Inc., Cambridge, 1948 to date, ion exchange; v.p., tech. dir., Nopyron Corp., Cambridge, 1949 to date, fire retardants; D.I.C. staff mem., M.I.T., Cambridge, 1948 to date; staff of Harvard Medical Schl., Cambridge, 1948 to date. Fire retardants; ion-exchange applications & dev. of syn. ion-exchange membranes. Mem.: A.C.S., A.A.A.S., A.A.T.C.C., Sigma Xi (Harvard chapter).

JUDEFIND, William Lee, mgr. of process & quality control, Davison Chem. Corp., Baltimore 3, Md.; res. 611 Wilton Rd., Towson 4, Md.

Chem. engr.; b. Baltimore Co., Md., Oct. 6, 1896; s. of William Burchinall and Mary (Todd) Judefind; ed. Western Maryland Coll., Westminster, Md. A.B. Sc. 1915; Johns Hopkins U., Baltimore, Md. Ph.D. chem. Feb., 1920; mem.: Kappa Alpha (southern), Gamma Alpha (grad. frat.); m. Ruth Elinor Schafer, July 12, 1920; ch.: Elinor Isabel, William Lee, Mary Virginia. Davison Chem. Corp., Mar. 1, 1920 to date. Mem.: A.C.S., A.I.Ch.E. (active mem.), A.A.A.S. Hobbies: bowling, fishing.

JUDSON, Wilber, v.p., Texas Gulf Sulphur Co., 75 E. 45th St., New York 17, N.Y.; res. Newgulf, Texas.

Min. engr.; b. Lansing, Mich., July 26, 1880; s. of James Bradford and Julia (Byrnes) Judson; ed. Northwestern U., Evanston, Ill., 1897-98, U. of Mich., 1898-1900; S.B., Harvard, 1901; grad. study Mich. Coll. of Mines, 1902-03; m. May E. Reynolds, Aug. 28, 1917; Examining engr., mine and mill operations in U.S., Mexico and South Amer., 1903-17; officer and dir., various mining and exploration projects for W.B. Thompson interests, N.Y.C., 1917-21; Texas Gulf Sulphur Co. since 1921, now v.p. and dir.; v.p. and dir. Sulphur Export Corp.; dir. Mesabi Co.; dir. Great Plains Dev. Co., of Canada, Ltd. Mem.: A.I.M.E. (former v.p. and dir.), Min. and Metal. Soc. of Am. (ex v.p.), Advisory Comm. on Raw Mtls. of U.S. Atomic Energy Comm., Natl. Minerals Advisory Council. Clubs: Houston (Texas), Union League, Harvard, University, Apawamis, Lawrence Beach (all New York).

JUKES, Thomas Hughes, hd. sectn. of nutrition & physiol. res., Lederle Labs. Div., Am. Cyanamid Co., Pearl River, N.Y.; res. Haverstraw Rd., Suffern, N.Y.

Biochem.; b. Hastings, England, 1906; s. of Edward and Ann Jukes; ed. U. of Toronto, B.S. 1930, Ph.D. 1933; mem.: Delta Tau Delta; m. Marguerite Esposito, 1942; ch.: Kenneth, Caroline, Dorothy. Natl. Res. Fellow Biochem., Calif., 1933-34, instr. poultry husbandry 1934-39, asst. prof. 1939-42, hd. sectn. of nutrition & physiol. res., 1942 to date. Borden Award, Poultry Sc. Assn. 1947; conslt., Med. Res. Div., C.W.S., 1943-45. Mem.: Soc. of Biolog. Chem., S.E.B.M., Inst. of Nutrition (councilor 1941-46), Poultry Sc. Assn., Soc. for Animal Prod., N.Y. Acdy. of Sc. (fellow). Clubs: Explorers, Sierra (Calif.).

JULIAN, Percy Lavon, dir. of res. and mgr. of fine chems., Soya Products Div., The Glidden Co., 5165 W. Moffat, Chi. 39, Ill.; res. 152 S. 14th Ave., Maywood, Ill.

Res. chem.; b. Montgomery, Ala., Apr. 11, 1899; s. of James S. Julian, Sr., and Elizabeth Lena Adams; ed. A.B., DePauw U., 1920, A.M., Harvard U., 1923, Ph.D., U. of Vienna, Austria, 1931; m. Dr. Anna Johnson, Dec. 24, 1935; ch.: Percy L., Jr., Faith Roselle. Instr. in chem., Fisk U., 1920-22; Austin Fellow in chem., Harvard U., 1922-23; res. Fellow in Biophysics, Harvard U., 1923-24; George and Martha Derby Scholar in chem., Harvard U., 1924-25; University Scholar, Harvard U., 1925-26; prof. of chem., West Va. State Coll., 1926-27; associate prof. of chem. and acting hd., dept. of chem., Howard U., 1927-29; general education Bd. Fellow, U. of Vienna, Austria, 1929-31; prof. and hd. of dept. of chem., Howard U., 1931-32; Res. Fellow and teacher of org. chem., DePauw U., 1932-36; dir. of res., 1936-45, dir. of res. and mgr. of fine chemicals, 1945 to date, Soya Products Div., The Glidden Co. Res. in synthesis of alkaloids, physostigmine; 1, 6- Addition to conjugated systems; 1, 7 Tautomeric shift of hydrogen; commercial dev. on large scale of Soya Protein, commercial large scale prod. of sex hormones from soya sterols; synthesis of Cortisone, Reichstein's Substance 6 and other adrenal cortical hormones. 61 pats. granted and pending. Contrib. extens. to sc. and tech. jls. Mem.: Phi Beta Kappa, De Pauw U., 1920; Sigma Xi, Northwestern U., 1945; D.Sc., DePauw U., 1947, Spingarn M. Award, June 27, 1947, D.Sc., Fisk U., Nov., 1947, D.Sc., West Va. State Coll., 1948, D.Sc., Northeastern U., 1948; distinguished Service award for 1949-50, Phi Beta Kappa Assoc., (Chicago area) Dec., 1949; "Chicagoan of the Year" Award, Chicago Sun-Times Newspaper, Jan., 1950, D.Sc., Morgan State Coll., 1950. Bd. of dirs., Mandel Clinic, Michael Reese Hosp., Chicago, Ill., bd. of trustees, Provident Hospital, Chicago; v.p., bd. of dirs., Roosevelt Coll., Chicago; mem., exec. bd., Chicago Round Table of Christians and Jews. Mem. Bd. of World Service, First Congregational Church, Oak Park, Ill. Hobbies: farmer, own 500 acre farm in Ind.; lover of outdoors and fine animals.

JULIEN, Arlie Paul, asst. chf. of res., Solvay Process Div., Allied Chem. & Dye Corp., Syracuse, N.Y.; res. 2119 S. Geddes St., Syracuse 4, N.Y.
Res. chem.; b. Delphi, Ind., Apr. 21, 1898; s. of Lafayette Julien and Fidella Smith Julien; ed. A.B., De Pauw U., 1920; Ph.D., Wis. U., 1924; mem.: Phi Gamma Delta; m. Wava Kathryn Doth, Dec. 25, 1924; ch.: Hiram Paul, Henry Douglas. Res. chem., Solvay Process Co., 1924-34; asst. chf. chem., 1934-35; asst. chf. of res., 1945 to present.

JURGENSEN, Delbert Frederick, Jr., mgr., chem. res. & dev. dept., Am. Machine & Foundry Co., 170 53rd St., Bklyn. 32, N.Y.; res. 21 Pilgrim Ave., Tuckahoe 7, N.Y.
Chem. engr.; b. St. Paul, Minn., Mar. 31, 1909; s. of Delbert F. Sr. and Katherine (Wiemerslage) Jurgensen; ed. U. of Minn., B.S. in Ch.E. 1931, M.S. in Ch.E. 1932, Ph.D. in Ch.E. 1934; mem.: Phi Lambda Upsilon, Sigma Xi; m. Alice S. Swenson, Dec., 1927; ch.: Alice Jean, Sally Ann, Paul Frederick. 1934-35 Pure Oil Co., res. chem. engr.; 1935-42 U.S. Gypsum Co., res. supvr.; 1942-45 C.W.S. Dev. Lab., chf. engrg. div., M.I.T.; 1946 to date Am. Machine & Foundry Co., mgr., chem. res. & dev. dept. Mem.: A.I.Ch.E., A.I.C., A.C.S., A.A.C.C., Am. Soc. of Oil Chem., Am. Assn. of Bakery Engrs. Club: Chemists'.

JUSTICE, Robert Sherman, chf. of pharmacy div., Lakeside Labs., Inc., 1707 E. North Ave., Milwaukee 1, Wis.; res. 5928 N. Bay Ridge Ave., Milwaukee 11.
Pharmacist, chem.; b. Whisler, Ohio, Oct. 21, 1908; s. of Roy A. and Dawn E. Justice; ed. Ohio State U., B.Sc. (pharmacy), M.Sc. (physiolog. chem.); U. of Fla. Ph.D.; mem.: Kappa Psi, Rho Chi; m. Lillie Horne, Aug. 15, 1935; ch.: Robert Allen, Sharon Virginia. 1930-31, asst. service chem., U. of Wyoming; 1930 to date, registered pharmacist (Ohio); 1933-35, grad. asst. pharmacognosy, U. of Fla.; 1935-37, asst. pharmacologist, U. of Wyoming; 1937-39, asst. prof. pharmacy, U. of Ga.; 1939-42, chf. chem., Kremers Urban Co., Milwaukee; 1942-45, dir. of res., S.E. Massengill Co. Bristol, Tenn.; 1945 to date, chf. of pharmacy div., Lakeside Labs. Inc., Milwaukee. Chem. of Monarda species; chem. & pharmacol. of poison range plants; chem. of drugs & drug plants; prodn. procedures, chem. & pharmacolog. pharmaceut. control; drug res. & dev. of new prods. Mem.: Rho Chi, Sigma Xi, Phi Sigma, A.Phar.A., A.C.S.

K

KADE, Charles F(redrick), Jr., dir., div. of med. sc., McNeil Labs., Inc., Phila. 32, Pa.; res. Germantown Manor, Greene & Hortter Sts., Phila. 19, Pa.
Biochem.; b. Sheboygan, Wis., Apr. 4, 1914; s. of Charles F. and Glenore (Blatz) Kade; ed. Carleton Coll., A.B. 1936; North Dakota Agric. Coll. M.S. 1938; U. of Ill. Ph.D. 1941; mem.: Alpha Chi Sigma; m. Marjorie Matheson, June 15, 1946; ch.: Kristina Mary. 1936-38, North Dakota Agric. Coll., teaching asst.; 1938-39, teaching asst., 1939-41, spec. res. asst., 1941-43, Rockefeller Foundation fellow, U. of Ill.; 1943-47, Frederick Stearns & Co., dir. biochem. res.; 1947-49, Sterling-Winthrop Res. Inst., res. chem.; 1949 to date, McNeil Labs. Inc., dir., div. of med. sc. Intermediary metabolism of amino acids; protein & amino acid requirements of the dog; prep. of amino acids; prep. of hydrolysates for intravenous use. Mem.: Sigma Xi, A.C.S., A.A.A.S., Swiss Chem. Soc., Chem. Soc. of London, N.Y. Acdy. of Sc., A.Phar.A., Phi Lambda Upsilon.

KADESCH, Richard Gilmore, res. dir., Emery Industries, Inc., 4300 Carew Tower, Cincinnati 2, Ohio; res. 4344 W. 8th St., Cincinnati 5.
Chem.; b. Annapolis, Md., Mar. 1, 1918; s. of William Henry and Mary (Barnum) Kadesch; ed. Iowa State Tchrs. Coll. 1934-38, B.A.; sr. scholarship athletic award, 1938; U. of Chicago 1938-41, Ph.D.; Sigma Xi, 1941; Chas. H. Viol Fellow 1940-41; mem.: Blue Key, Gamma Alpha, Kappa Mu Epsilon, Lambda Delta Lambda, Alpha Delta Alpha; m. Eloise DePue, July 11, 1943; ch.: Kathryn Ann. Columbia chem. div., Pitts. Plate Glass Co., res. chem. 1941-45; Reynolds Res. Corp., res. dir., 1945-49; Emery Industries, Inc., res. dir., 1949 to date. Res. in steric hindrance, epoxides. Mem.: A.C.S., A.A.A.S. (fellow), A.O.C.S. Clubs: Engrg. Soc. of Cincinnati, Rotary, University, Hyde Park Tennis. Hobbies: tennis, photography, stamps.

KAEGEBEHN, Charles F., mgr., pat. dept., Natl. Lead Company, 111 Broadway, New York 6, N.Y.; res. 920 Hudson Street, Hoboken, N.J.
Pat. attorney; b. Hoboken, N.J., Aug. 26, 1905; s. of Alfred A. and Emma S. (Spencer) Kaegebehn; ed. Stevens Inst. of Tech., Columbia U.; m. Anne E. Koch, Dec. 31, 1929. Development chemist on antioxidants, R.T. Vanderbilt Co., Sept., 1928 to Sept., 1930; res. chem. on synthetic resins and polymers of drying oils, Natl. Lead Co., Sept., 1930 to Mar., 1934; mgr. pat. dept., Titanium Pigment Co., Mar., 1934 to Mar., 1937; mgr. pat. dept., Natl. Lead Co., Mar., 1937 to date. Titan Co., Inc., secy. Res. patents in antioxidant fld. Mem.: N.Y. Pat. Law Assoc., Pat. Inst. of Canada, Amer. Sociological Soc. Trustee, Waldheim-Stevens Forum, Hoboken, N.J. Clubs: The Chemists' (N.Y.), Tennis (Hoboken). Hobbies: sociology, cultural anthropology, tennis.

KAHLENBERG, Herman Heald, sc. dir., owner, Kahlenberg Labs., Sarasota, Fla.; res. 175 Clematis St., Sarasota.
Exec., res. chem.; b. Madison, Wis., Feb. 19, 1901; s. of Louis A. and Lillian Belle (Heald) Kahlenberg; ed. U. of Wis. 1922, M.S. 1923, Ph. D. 1925, Alumni Hall of Fame 1927; Cand. Chem. U. of Freiburg, Germany, 1923-24; m. Alice Nash (div.), Oct., 1925-Sept., 1938; ch.: Eilhard, Piri, Greta. Asst., Hospital Rockefeller Inst. for Medical Res. 1920-21; chf. chem., v.p., Kahlenberg Labs. 1925-41, pres. 1941-44, sc. dir., owner, 1944 to date. Res. on tungsten & its alloys, boron, boron alloys & boron suboxide, surgical sutures, drug addiction, prep. & surgical uses of bichloracetic acid, dermatomycoses, scabies, oxyuriasis, non-fouling ships bottom paints, colloids, colloidal mercury bioleate, seasickness, impetigo, larvae migrans, sunscreen, carcinoma, enzyme therapy, non-toxic gold therapy for arthritis. Author of var. sc. papers; co-inventor (with James F. Kahlenberg) of ampoule & tube sealing machine. Mem.: A.C.S., N.Y. Acdy. Sc., A.A.A.S. (fellow), A.I.C. (fellow). Former pres. of schl. bd., Two Rivers, Wis. Club: Elks. Hobbies: swimming, yachting, cooking, photography.

KAHLENBERG, Orme J(ulius), dir. of res., res. lab. of National Egg Products Assn., 110 N. Franklin, Chicago, Ill.; res. 436 S. Maple Ave., Oak Park, Ill.
Chem.; b. Two Rivers, Wis., Aug. 12, 1904; s. of Richard A. and Louise (nee Voshardt) Kahlenberg; ed. U. of Wis., 1927, B.S. in agri., Rutgers

U., M.S. 1928, Cornell U., Ph.D., 1938; mem.: Alpha Kappa Lambda; m. Gertrude F. Robison, June 20, 1929; ch.: Richard Walter, Alice Louise. Asst. Dairy Dept., Rutgers U., 1927-28; asst. chem., Dry Milk Res. Labs., 1928-30; assoc. in nutrition, Inst. of Animal Nutrition, Pa., State Coll., 1930-36; asst. dairy dept., Cornell U., 1936-37; res. biochem., Borden Co., biol. and chem. labs., 1937-42; chem. in charge agri. marketing adm. labs., Production and Marketing Adm., Dairy Branch, U.S. Dept. of Agri., 1942-47; dir. of res., res. lab., National Egg Products Assn. 1947 to present. Res. in chem. and nutrition of milk derivatives; animal respiration calorimetry, chem. of eggs and egg products. Mem.: Sigma Xi, Alpha Zeta. Hobbies: wood carving, oil painting.

KAISER, Henry John, pres., Henry J. Kaiser Co. (& allied firms), Kaiser Bldg., 1294 Bway., Oakland 12, Calif.; res. Oakland.

Industrialist; b. Sprout Brook, N.Y., May 9, 1882; s. of Francis (Frank) John and Mary (Yops) Kaiser; ed. (formal) ended before eighth grade; m. Bessie Hannah Fosburgh, Apr. 8, 1907; ch.: Edgar F., Henry J., Jr. Organized Henry J. Kaiser Co., Ltd., British Columbia, Canada, 1914; Kaiser Paving Co., Wash., Idaho, Calif., 1916; Bechtel-Kaiser Rock Co., Oroville, Calif., 1928; Bechtel-Kaiser Co., Ltd., 1930; Six Companies, Inc. (chmn., exec. comm., 1931-36), 1931; Bridge Builders, Inc. (pres.), 1932; Henry J. Kaiser Co., 1933; The Kaiser Co., 1933-45; Columbia Construc. Co., 1934; Consolidated Builders, Inc., 1937; Permanente Cement Co., 1939; The Permanente Steamship Co. (now Corp.), 1940; The Permanente Metals Corp., 1940; 7 shipyards, Pacific Coast, 1940-45; Oregon Shipbuilding Corp., 1941; Richmond Shipbuilding Corp., 1941; Kaiser Co., Inc. (now Kaiser Steel Corp.), 1941; Kaiser Engrs., Inc. (now Kaiser Engrs., div. Kaiser Industries, Inc.), 1941; purchased Fleetwings, Inc. (now Kaiser Metal Prods., Inc.), 1943; purchased Standard Gypsum Co. of Calif. (now Kaiser Gypsum, div. Kaiser Industries, Inc.), 1944; purchased thru. Permanente Cement Co., Glacier Sand & Gravel Co., 1944; organized Kaiser Industries, 1944; Kaiser-Frazer Corp., 1945; with F.B. Burns, Kaiser Community Homes, 1945; Kaiser Aluminum & Chem. Corp. (formerly The Permanente Metals Corp.), 1946; Henry J. Kaiser Motors (now div. Henry J. Kaiser Co.), 1946; Kaiser Metal Prods., Inc. (formerly Kaiser Fleetwing, Inc.), 1949; Kaiser Industries, Inc. (Divs.: Engrs., Gypsum, Plant Construc.), 1949. Highway construc., cement, sand & gravel prod., flood control levees, pipeline construc., dam construc. (Hoover, Benneville, Grand Coulee), bridge construc. (piers of San Fran., Oakland Bay), shipbuilding, chemicals, munitions, automobiles, aluminum, stamping & enameling. Pres. & dir.: Henry J. Kaiser Co., Kaiser Aluminum & Chem. Corp., Kaiser Steel Corp., Permanente Cement Co., Glacier Sand & Gravel Co., Permanente Steamship Corp., The Permanente Hospitals, Northern Permanente Foundation Kaiser Fontana Hosp., Kabat-Kaiser Inst., Consol. Builders, Inc.; pres., Kaiser Aluminum & Chem. Sales, Inc.; chmn. bd., Kaiser-Frazer Corp., Kaiser Metal Prods., Kaiser Community Homes; v.p. & trustee, The Permanente Foundation. La Salle Medal, 1944; D.Sc. (hon.), Hobart Coll., 1943; LL.D. (hon.), Wash. State Coll., 1943; D.Engrg. (hon.), Montana Schl. Mines, 1944; LL.D. (hon.), U. Nevada, 1948; hon. life mem., Am. Council Natl. Fed. Com. & Indus. of France, Inc. (Pacific Coast Chapt.), 1946; Beta Gamma Sigma Membership Award, 1947. Founder, with Mrs. Kaiser, The Permanente Foundation, non-profit, charitable, 6 hosps. & prepaid health plan, 1942; organizer of Kabat-Kaiser Inst., for neuromuscular rehabil., 1946. Clubs: Celestials, Met., Rockefeller Center Luncheon, Athens Athletic, Auto. Old Timers, Claremont Country. Hobby: speedboating.

KALBACH, John C., chem. engr., 3900 Graystone Ave., New York 63, N.Y.; res. same.

Conslt. chem. engr.; b. N.Y.C., Oct. 16, 1911; s. of Andrew E. and Harriet C. Kalbach; ed. Columbia U., 1929-35; A.B., B.S., Ch.E.; mem.: Sigma Xi, Tau Beta Pi, Epsilon Chi; m. Mary A. Militch, 1940; ch.: Constance. 1935-40 E.I. du Pont de Nemours, chem.; 1940-42, Ky. Color & Chem. Co., asst. prod. mgr.; 1942-43, Trojan Powder Co., area supvr.; 1943-44 Inst. of Gas Tech., chf., Chem. Proc. Sect.; 1944-46, Hydrocarbon Res. Inc., proj. engr.; 1946 to date conslt. chem. engr.; res. in dev. in appl. of fluidization to systems with solid reactants. Mem.: A.C.S. Hobbies: mineralogy, mycology, hiking.

KALICHEVSKY, Vladimir Anatole, consltg. chem. engr., Magnolia Pet. Co., Beaumont, Texas; res. 820 20th St., Beaumont.

Pet. refining; b. Tiflis, Russia, Apr. 9, 1895; s. of Anatole and Maria Kalichevsky; ed. Calif. Inst. of Tech., 1924, B.S. chem. engrg.; Corps Pages—name inscribed on marble plate as first pupil War Coll. of Russia, 1917; m. Valentina B. Fedorenko, 1924; ch.: Kira V. Res. chem., Union Oil Co., 1924-29; Stand. Oil Co., 1929-31; sect. supvr., Socony-Vacuum Oil Co., Inc., 1931-37; gen. supvr. res., dev. dept., 1937-44; consltg. chem. engr., Magnolia Pet. Co., 1944 to date; lecturer, tactics, surveying, Pavlovskoe Mil. Coll., Russia, 1917; asst. mil. attaché, Denmark, 1917-19; offcr, Royal Rumanian Mission, Siberia, Japan, 1920; mgr. topographical dept., Chukotsk Peninsula Mining Corp., Tokyo, Japan, 1920-21. Num. publ. in tech. jls. Co-author: with B.A. Stagner, "Chem. Refining of Pet.," A.C.S. Monograph 63, Reinhold Publ. Corp., N.Y., first edit. 1933, revised edit. 1942; author: "Modern Meths. of Refining Lubricating Oils," A.C.S. Monograph 76, Reinhold Publ. Corp., N.Y. 1938 first edit., 1942 sec. edit.; "The Amazing Pet. Ind.," Reinhold Publ. Corp., N.Y. 1943, translated into Portuguese, 1945. Mem.: A.A.A.S., A.C.S., A.I.Ch.E., Pet. Inst. Awards: Medaille de Sauvetage (Fr.); sword with inscription for bravery, number of battle awards (Imperial Russia). Club: Town (Beaumont, Tex.). Hobby: woodwork.

KALLANDER, Ernest L., dept. hd., chem. res., Dennison Mfg. Co., Howard St., Framingham, Mass.; res. R.F.D. 2, Framingham.

Chem. engr.; b. Cambridge, Mass., Aug. 19, 1901; s. of John A. and Anna M. Kallander; ed. M.I.T., 1924-25, B.S. & M.S. in chem. engrg.; m. Anna M. Anderson 1928; ch.: David A., John B., Peter I., Ernest, Jr., Susan L. Chem. engr., Dennison Mfg. Co. Res. and Pats. on paper prods. Mem.: A.C.S. Clubs: Southborough Rod & Gun, National Archery Assoc., Eastern States Farmers Exchange. Hobbies: farming, archery.

KALMUS, Herbert Thomas, pres. and gen. mgr., Technicolor Motion Picture Corp., 30 Rockefeller Plaza, New York 20, N.Y.; 6311 Romaine St., Hollywood 38, Calif.; Centerville, Cape Cod, Mass.; res. Centerville, Cape Cod, Mass.; 671 Siena Way, Bel Air, West Los Angeles, Calif.

Chem. engr.; b. Chelsea, Mass., Nov. 9, 1881; s. of Benjamin G. and Ada Isabelle (Gurney) Kalmus; ed. M.I.T., 1904; m. 1st, Nettie Mabelle Dunfee, July 23, 1902, Baldwinville, Mass.; divorced Dec. 21, 1921; m. 2nd, Eleanore King, Sept. 6, 1949, Los Angeles, Calif. Principal, University Schl., San Francisco, Calif., 1904-05; Grad. Fellow, M.I.T., studying at U. of Zurich and U. of Berlin, 1905-06; Ph.D., U. of Zurich, Switzerland, 1906; instr. at M.I.T., 1907-08; res. assoc., 1908-10; pres., Kalmus Comstock & Westcott, Inc., 1912-25; prof. of physics, Queen's University, Kingston, Ontario, Can., 1910-12; prof. of electro-chem. and metallurgy, same U., 1913-15; dir. of Res. Lab. of Electro-Chem. and Metallurgy, Canadian Govt., 1913-15; v.p., The Exolon Co., Buffalo, N.Y. and Thorold, Ontario, 1914-19; pres., The Exolon Co., 1919-23; pres., Amer. Protein Corp., Boston, Mass., 1920-25; pres. and gen. mgr., Technicolor Motion Picture Corp., Hollywood and N.Y. (motion pictures in natural color), 1915 to date; Technicolor, Inc., N.Y.C., 1922 to date; chmn. of bd. of Technicolor, Ltd. (London), 1935 to date; dir., Congoleum-Nairn, Inc., 1937 to date. Contrib. to tech. jls. Mem.: A.I.Ch.E., A.Phys.S., Soc. of Motion Picture Engrs. (N.Y.), A.A.A.S., Acdy. of Motion Picture Arts and Scs. (Hollywood). Episcopalian. Clubs: Wianno (Wianno, Mass.), Algonquin (Bosston), Masquers (Hollywood), Los Angeles Country, Bel Air Country (Los Angeles), Union League (N.Y.). Hobbies: music, golf, travel.

KAMERER, James W., chf. chem., Pittsburgh Plate Glass Co., Creighton, Pa.; res. 1013 Parkview Ave., New Kensington, Pa.
Chem.; b. Greenville, Pa., Aug. 16, 1899; s. of Fred M. and Myrta Kamerer; ed. B.S. chem., Allegheny Coll., 1922; B.S. chem. engrg., U. Pitts., 1928; mem.: Phi Kappa Psi, Alpha Chi Sigma; m. Ruth Griffith, July 24, 1930. 1923-27, tchr., Homestead, Pa. High Schl.; 1928 to date, Pittsburgh Plate Glass Co., Creighton, Pa. Mem.: A.C.S., A.A.A.S., A.S.Q.C. Clubs: Univ. (Pitts.), Hill Crest Country (New Kensington), Rotary. Hobby: golf.

KAMERLING, Samuel Edward, prof. of chem., Bowdoin Coll., Brunswick, Me.; res. 43 Harpswell St., Brunswick.
Teacher of chem.; b. Paterson, N.J., Nov. 14, 1903; s. of Henry and Clara (Van Haste) Kamerling; ed. B.S., N.Y.U., 1926, M.S. 1927; Ph.D., Princeton U., 1932; mem.: Phi Kappa Tau, Phi Beta Kappa; m. Helen Frances Hawes, July 9, 1932; ch.: Mary Cornelia, Clara Helen. Res. asst., dept. of chem., Harvard U., 1930-32; res. asst., Rockefeller Inst. for Med. Res., 1932-34; asst. prof. of chem. 1934-39, assoc. prof. 1939-46, prof. 1946 to date, Bowdoin Coll. Res. dielectric polarization; structure of chlorophyll; catalytic oxidation. Mem.: A.C.S., A.A.A.S., N.Y. Acdy. of Sc. Brunswick, Me., Girl Scout Council. Hobby: gardening.

KAMERSCHEN, Robert R., v.p., Joseph Turner & Co., 435 N. Mich. Ave., Chicago 11, Ill.; res. 1326 W. 59th Pl., LaGrange, Ill.
Sales, chems. for indust.; b. Laurium, Mich., April 20, 1912; s. of Charles and Rosana Kamerschen; ed. Central Y.M.C.A. Coll., Chicago, Ill.; m. Elsie Barsante, June 16, 1934; ch.: Robert, David, Robyn. 1936-46 salesman, Joseph Turner & Co.; 1946 to date v.p. in chg. Western Sales, same co. Mem.: Chicago Drug & Chem. Assn., Chicago Perfumery, Soap & Extract Assn., A.E.S. Club: LaGrange Property Owners Assn. Hobbies: bowling, golf.

KAMLET, Jonas, dir., The Kamlet Labs., 250 E. 43 St., N.Y. 17, N.Y.; res. 170 Second Ave., N.Y. 3.
Chem.; b. N.Y., Sept. 10, 1914; s. of Harry and Sadie (Zuckerman) Kamlet; ed. B.Sc., C.C. N.Y., 1932; Ph.D., N.Y.U., 1944; m. Edna Yadven, Oct. 13, 1940. Dir. The Kamlet Labs., 1933 to date. Spec. devel. new processes & products indus. organ. & inorgan. chem.; contrib. extens. to sc. & tech. jls. Mem.: A.A.A.S., A.C.S., A.I.C. (fellow), N.Y. Acdy. Sc. Club: Chemists'. Hobbies: politics, finance.

KAMMERMEYER, Karl, prof. and hd., div. of chem. engrg., State U. of Ia., Ia. City, Ia.; res. 116 Ferson Ave.
Teacher; b. Nuremberg, Germany, June 14, 1904; s. of Eberhard and Margarete (Ruether) Kammermeyer; U. of Munich, Ger., 1923-25; B.S.E. in Ch.E., U. Mich., B.S.E. in Math., 1927-30, M. S.E. in Ch.E., 1931, D.Sc. in Ch.E., 1932; m. Cordelia G. Myers, 1930; ch.: John K. Res. assoc., dept. engrg. res., U. Mich., 1930-32; dev. engr., Standard Oil Co. (Ind.) 1933-36; chf. chem. & chem. engr., Pure Oil Co., Toledo, O., Refinery, 1936-39; asst. prof. chem. engrg., Drexel Inst. Tech., 1939-42; dir. of res., Publicker Industries, 1942-47; mgr. res. and dev., chemicals div., The Glenn L. Martin Co., 1947-49; prof. and hd. div. of chem. engrg., State U. of Ia., 1949 to date. Res. in the fields of gas diffusion, extraction and sedimentation. Mem.: A.I.Ch.E., A.C.S. (v.p., local sec., Toledo, O., 1938), A.S.E.E., Tau Beta Pi, Sigma Xi, Phi Lambda Upsilon. Clubs: Swarthmore Players, 1940-43, Triangle (S.U.I.).

KANE, Howard L., v.p., Polymer Industries, Inc., 284 Sheffield Ave., Brooklyn, N.Y.; res. 69 Somerset Dr., Great Neck, N.Y.
Chem.; b. Pittsburgh, Pa., Dec. 11, 1911; s. of Benjamin and Rose Kane; ed. U. Pittsburgh, B.S., 1932; Ph.D., 1936; mem.: Sigma Xi, Phi Lambda Upsilon, Pi Tau Phi; m. Belle Friedman, Aug. 20, 1932; ch.: Benita Helen, Harriet Rose. Chem., Natl. Starch Prods., Inc. 1936-46; v.p., Polymer Industries, Inc., 1946 to date.

KANE, Jasper H., dir. of biochem. res. & prod., Chas. Pfizer & Co. Inc., 11 Bartlett St., Brooklyn, N.Y.; res. 140 Hampton Rd., Garden City, N.Y.
Chem., microbiologist; b. Bklyn., N.Y., July 15, 1903; s. of Jasper T. and Loretta Kane; ed. Polytech. Inst. of Bklyn., B.S. chem., some grad. studies in bacteriol.; m. Isabelle Traviesas, Dec. 14, 1927; ch.: Georgina Isabelle. 1918, joined Chas. Pfizer & Co. Inc., gen. asst., 1935, hd. of fermentation dept., 1942 to date, dir. of biochem. res. & prod.; mem. bd. dir. Num. pats. on fermentation processes, antibiotics, terramycin, viomycin, penicillin, streptomycin. Mem.: Sigma Xi, S.A.B., A.C.S., A.I.C., A.A.A.S. Clubs: Chemists', Garden City C.C., Shelter Is. Y.C., Lake Placid. Hobbies: golf, yachting.

KAPLAN, Julius Frank, tech. coordinator, Edwal Labs. Inc., 732 Federal St., Chicago 5; res. 655 Bob-O-Link Rd., Highland Park, Ill.
Chem.; b. June 2, 1912; s. of Eli and Ida Kaplan; ed. U. of Ill., B.S., 1937, Ph.D., 1941; m. Geraldine Lee Swimmer, Nov. 20, 1941; ch.: Robert Lawrence, Janet Lee, Deborah. Edwal Labs. Inc., 1941 to date, res. chem. chg. of dev., asst. to pres., tech. coordinator. Free radicals in org. reactions; metalo-org. cmpds.; org. syn. Mem.: A.C.S., A.A.A.S., Sigma Xi, Phi Lambda Upsilon. Club: Chicago Chemists'. Hobbies: photography, music.

KAPP, Mary Eugenia, hd. chem. dept., Richmond Professional Inst. of Coll. of William & Mary, Richmond 20, Va.; res. 915 Park Ave., Richmond 20, Va.
Teacher; b. Mt. Airy, N.C., Apr. 15, 1909; d. of Eugene C. and Lillie (Sides) Kapp; ed. A.B., Woman's Coll. of U.N.C. 1930; A.M. Duke U., 1931; Ph.D., U. of North Carolina, 1938; mem.: Alpha Kappa Gamma, Pi Mu Epsilon. Hd. sc. dept., Blackstone Coll. 1931-34; grad. asst. in chem., U. of North Carolina 1935-37; hd. sc. dept., Averett Coll. 1938-39; instr. in chem., Newcomb Coll., Tulane U., 1939-40; hd. chem. dept., Richmond Professional Inst., Coll. William & Mary 1940-42; asst. chf. chem., E. I. du Pont de Nemours & Co. 1942-46; hd. chem. dept., Richmond Professional Inst., Coll. William & Mary 1946 to date. Doctoral res. "A Semi-Micro Scheme of Qualitative Anal. for the Anions." Mem.: A.C.

S., Va. Acdy. of Sc., Southern Assn. for Sc. & Ind. Club: Am. Assn. of U. Women. Hobbies: collecting early editions of chemistry books, cooking, hiking.

KAPP, Roland, dir. res., mgr. fine chem. div., Nopco Chem. Co., Harrison, N.J.; res. 321 Mt. Prospect Ave., Newark 4, N.J.
Chem.; b. Wilkes-Barre, Pa.; s. of Alexander and Florence DeLorme Kapp; ed. Columbia U., A. B., 1925; M.A., 1936; Ph.D., (chem.) 1942; m. Mary Fantl, July 1, 1932. Natl. Oil Prods. Co., 1926-29, chem.; Internatl. Vitamin Co., 1929-30, chem.; Amalgamated Color & Chem. Co., 1930-33, chem.; Nopco Chem. Co., res. chem., 1933-39; mgr., dir., res. fine chem. div., 1939 to date. Res. in wetting agents, dev. of use of anhydr. sulf. oils, synth. of 16-17, 17-18 octadece. acids; synth. of Beta-alanine, calc. pantath., hormones, antihistaminics. Mem.: Sigma Xi, Phi Lambda Upsilon, N.Y. Acdy. Sc., A.C.S. Hobbies: fishing, bridge.

KARABINOS, Joseph Vincent, prof., hd., dept. chem., St. Procopius Coll., Lisle, Ill.
Chem.; b. Akron, Ohio, Apr. 5, 1920; s. of Andrew and Mary Lesho Karabinos; ed. St. Procopius Coll., 1936-38; U. Ill., B.S. 1940; Ohio St. U., 1942-44; Ph.D., res. asst., Ohio St. U., Res. Found. 1942-44; mem.: Sigma Xi; m. Ann Kolbas, Sept. 7, 1942; ch.: Mary Louise, Joseph Adam, Carol Ann, Frances Jean. 1940-41, asst., biochem. dept., Cornell U. Med. Coll., N. Y.; 1941-42, chem., S.M.A. res. labs., Chagrin Falls, Ohio; 1944-46, chem., Natl. Adv. Comm. for Aeronautics, Cleveland Airport, Ohio; 1946-47, asst. prof. chem., U. San Francisco; 1947 to date hd., dept. chem., St. Procopius Coll.; Tomecko Res. Council, chmn. On leave for yr. as res. assoc., Natl. Inst. Health, Bethesda, Md. Res. in chem. of heparin, reductive desulfurization, carbohydr., chem. of natural prods.; contrib. extens. to sc. and tech. jls. Mem.: A.C.S., A.A.A.S., Sigma Xi, Ill. Acdy. Sc. Hobbies: fishing, golf, tennis.

KARLSRUHER, Charles David, mgr., adv. & public relations, Sharples Chem. Inc., 123 S. Broad St., Phila. 9, Pa.; res. 1707 Melrose Ave., Havertown, Pa.
Adv. mgr.; b. Roy, New Mexico, Mar. 3, 1909; s. of Max H. and Mildred (Adler) Karlsruher; ed. New Mexico Coll. of A.&M.A., B.S. in Ch.E., 1931 (mem. of hon. engrg. frat. Mu Phi Pi); U. of Cincinnati, grad. wk. in chem. & chem. engrg. (no deg.); m. Cynthia Freyman, Aug. 25; ch.: Averil Edwin. 1927-31, N. Mex. Coll. of A.&M.A.; 1931-33 public schl. teacher, Quay Co., N. Mex.; 1933-37 & 1938-41, asst. principal, Tucumcari Jr. H.S., Tucumcari, N. Mex.; 1937-38, U. of Cincinnati, grad. wk.; 1941-42, U.S. Alcohol Tax Unit, Treas. Dept.; 1942-46, U.S. A., C.W.S., left service as Major; 1946 to date, Sharples Chem. Inc. Mem.: A.C.S., Natl. Ind. Advertisers.

KARRH, John Hardie, mgr., fiber div., Virginia-Carolina Chem. Corp., 401 E. Main St., Richmond, Va.; res. "Paxton," Clayville, Powhatan Co., Va.
Chem. engr.; b. Oakman, Ala., July 13, 1907; s. of John Hardie and Sarah King Karrh; ed. 1928 U. Ala., B.S. chem. engr.; mem.: Phi Sigma Kappa, Gamma Sigma Epsilon; m. Elizabeth Goodrich, 1937; ch.: John Hardie Karrh, III, Christiana Goodrich. 1926-27 scholarship, Southern Manganese Corp., U. Ala.; 1927-28, scholarship, Ala. Power Co., U. of Ala.; 1928-29, chem. engr., Swann Chem. Co., Anniston, Ala.; 1929-30, chem. engr., sent to Europe to initiate operation phosphorus smelting and phosphoric acid plant in France; 1930-31, mgr. dev. dept., Swann Chem. Co.; 1931-43 mgr. sales, eastern div., Victor Chem. Wks., N.Y.C.; 1943-44, sales mgt., Westvaco Chlorine & Chem. Corp., N.Y.C.; 1944-47, sales mgt., plant mgr., Publicker Industries, Inc., Phila., Pa.; 1947-49, conslt., Newtown, Bucks Co., Pa.; 1949 to date, mgr., fiber div., Virginia-Carolina Chem. Corp. Mem.: A.C.S., A.A.C.C., I.F.T., N.Y. Acdy. Sc., Chem. Market Res. Assn., A.A. T.C.C.; mem. exec. comm., Drug & Chem. Sect., N.Y. Bd. of Trade, 2 yrs. Clubs: Chem. (N.Y.C.), Newtown Reliance Co. Hobbies: farming, breeding Great Dane dogs.

KASCH, John Edward, asst. dir. of res., Pan American Refining Corp., Texas City, Texas; res. 1113 17th Avenue North, Texas City.
Chem. engr.; b. Bloomington, Ind., Sept. 3, 1916; s. of Charles H. and Nelle D. Kasch; ed. U. of Texas, 1934-42, B.S., M.S., Ph.D. Chem. Engrg.; mem.: Sigma Xi, Phi Lambda Upsilon; m. Lady Katherine Lenoir in 1940; ch.: John Adkins Kasch, Barbara Kay Kasch. 1939-41, Res. Fellow, U. of Texas, Bur. of Ind. Chem.; 1941-42, part time instr., in chem. engineering, U. of Texas; 1942-44, chem. engr., Pan American Refining Corp., Texas City, Texas; 1944-45, economic analyst, Petroleum Adm. for War, Washington, D.C.; 1946-48, hd. Economics Section, Chem. Engineering Div., Pan Am. Refg. Corp., Texas City; 1948 to present, asst. dir. of res., Pan American Refining Corp., Texas City, Texas. Res. in solubility water and oil; distillation—vapor liquid equilibria; extractive-distillation. Contrib. ext. to sc. and tech. journals. Mem.: A.C.S., A.I.Ch.E. Hobby: golf.

KASSEL, Louis S., asst. to v.p., Universal Oil Prods. Co., 310 S. Michigan Ave., Chicago 4, Ill.; res. 401 N. Kenilworth Ave., Oak Park, Ill.
Chem.; b. Louisville, Ky., Dec. 31, 1905; s. of Meyer B. and Olive (Stevenson) Kassel; ed. U. of Chicago, 1921-27, B.S., M.S., Ph.D.; m. Sophie Lovchuk, 1942; ch.: Anne B., Thomas M. Natl. Res. Fellow 1927-30; instr., U. of Calif. 1930; chem., U.S. Bur. of Mines, 1930-36; Universal Oil Prods. 1936 to date. Reaction kinetics, statistical mechanics, catalysis in pet. refining. Author: "Kinetics of Homogeneous Gas Reactions," 1932. Mem.: A.C.S., A.A.A.S., A.I.C., A.Phys.S., Phi Beta Kappa, Sigma Xi. Hobbies: gardening, bridge, postage meters.

KASWELL, Ernest Ralph, pres., assoc. res. dir., Fabric Res. Labs. Inc., 665 Boylston St., Boston, Mass.; res. 58 Larchmont Ave., Waban 68, Mass.
Chem.; b. Boston, Mar. 21, 1917; s. of Louis and Goldie Kaswell; ed. S.B. 1939, S.M. 1941, M.I.T.; m. Yolande Romsey, Aug. 15, 1943; ch.: Jeanne Barbara. 1939-41, res. asst., student, textile div., M.I.T.; 1941-42, res. chem., Calco Chem. Div., Bound Brook, N.J.; 1942 chem., H. Schindler Co., Canton, Mass.; 1942 to date, pres., assoc. res. dir., Fabric Res. Labs. Inc. Abrasions & wear resistance of textiles; low temp. properties of textile matls.; an electrolytic meth. for stripping color from dyed wool; awarded with G. Thomson first prize in A.A.T.C.C. prize paper competition in 1947. Mem.: British Textile Inst. (fellow), A.A.T.C.C. (councilor), Sigma Xi, A. C.S., A.A.A.S., Fiber Soc., Am. Assn. of Textile Technol., Textile Res. Inst. (co. rep.).

KASZUBA, Frank J., mgr., chem. res. lab., Ansco, Div. of Gen. Aniline & Film Corp., Binghamton, N.Y.; res. 7 Matthews St., Binghamton, N.Y.
Res. chem.; b. Inwood, Long Island, N.Y., Jan. 29, 1910; s. of John and Amelia Kaszuba; ed. B.S., 1932, M.S., 1933, Ph.D., 1937, Fordham U.; silver M.—jr. yr., honorable mention—sr. yr.: won undergrad. Fellowship for sr. yr.; m. Dorothy D. McCrossen, June 29, 1935; ch.: Dorothy

Ann. Graduate teaching asst.ship, Fordham U., 1932-35; grad. teaching Fellowship, Fordham U., 1935-37; assoc. prof. chem., Canisius Coll., Buffalo, 1937-38. Held following positions with Ansco, Binghamton, N.Y.: res. chem., 1938-43; res. group ldr., 1943-46; mgr. chem. res. lab., 1946 to date. Res. in new method for isolation of crystalline Vt. B-1 from Brewer's yeast, 1937, (JACS 59 1619, 1937). "Identification of Propionic acids in the presence of acetic and butyric acids" JACS 61 2974, 1939). "Preparation of Momomeric Acrylic Acid" (new method) (JACS 67 1227, 1945). 21 pats. U.S. and foreign in photographic fld. Mem.: A.C.S. (Binghamton Sec., secy. treas. two years, chmn. 1 yr.) Binghamton Tech. Sec. of the Photographic Soc. of Amer. (v.-chmn. 1 yr); Southern Tier Tech. Soc., Acdy. of Scs. (N.Y.) Sigma Xi Club (Triple cities coll. chapter). Hobbies: woodwork, photography, golf.

KATZ, Donald LaVerne, prof. of chem. engrg., U. of Michigan, Ann Arbor, Mich.; res. 2011 Washtenaw, Ann Arbor.
Prof. of chem. engrg.; b. Aug. 1, 1907; s. of Gottlieb Katz and Lucy (Schnackenberg-Katz) Rothman; ed. Jackson H.S., Mich., 1923-26; B. S.E., U. of Mich., 1931; M.S., 1932; Ph.D., 1933; mem.: Alpha Chi Sigma; m. Lila Maxine Crull, Sept., 1932; ch.: Marvin L., Linda M. 1930-33 asst. to Prof. G.G. Brown, U. of Mich.; 1933-36 res. engr., Phillips Petroleum Co., Bartlesville, Okla.; 1936-42 asst. prof. of chem. engrg., U. of Mich.; 1942-43 assoc. prof. of chem. engrg. same U.; 1943 to date, prof. of chem. engrg., same U.; 1936 to date conslt. engr.; consultant for: Dept. of Engrg. Res., U. of Mich.; Phillips Pet. Co., Bartlesville, Okla.; Natural Gasoline Assoc. of Amer., Tulsa, Okla.; A.P.I., New York; Hydraulic Brake Co., Detroit, Mich.; Wolverine Tube Co., Detroit, Mich.; Okla. City Secondary Recovery Comm., Oklahoma City, Okla.; Cities Serv. Oil Co., Bartlesville, Okla.; Union Producing Co., Shreveport, La.; Lone Star Gas Co., Dallas, Tex.; Natural Gas Utilities Bd., Prov. of Alberta, Can.; Kellex Corp., New York; Hudson Engrg. Corp., Houston, Tex.; Dow Chem. Co., Midland, Mich.; Foster-Wheeler Corp., New York; Globe Oil & Gas Co., Chicago, Ill.; Midwest Refin. Co., Grand Rapids, Mich.; Keystone Refin. Co., Detroit, Mich.; Mich. Geolog. Survey, Lansing, Mich.; Southern Minerals Corp., Corpus Christi, Tex.; Reconstruction Finance Corp., Wash., D.C.; Western Gulf Oil Co., Los Angeles, Calif.; Consumers Power Co., Jackson, Mich.; Mich. Consolidated Gas Co., Grand Rapids, Mich.; Mine Safety Appliances Co., Pittsburgh, Pa.; Dept. of Natural Resources, Prov. of Saskatchewan, Regina, Sask.; Panhandle Prod. Co., Kansas City, Mo. Mem.: A.C.S., A.I.Ch.E. (mem. Comm. on Student Chapters, 1943 to date, secy. 1947, chmn., 1948-49, mem. Program Comm., 1945 to date); A.I.M.E., (chmn. comm. on engrg. res., 1939-40, mem. papers and program comm., 1942, chmn. 1943, mem. education comm. 1943 to 1948, chmn. 1946-47); A.P.I. (mem. comm. on prod. tech., 1938 to 1943, chmn. subcomm. on subsurface samples, 1938-42); Amer. Gas Assoc.; A.A.A.S.; Electron Microscope Soc. of Amer.; S.C.I.; Amer. Soc. for Engrg. Educ.; A.S.T.M. (mem. Subcomm. H of Comm. D-2, 1946); Amer. Soc. of Refrig. Engrs.; reg. prof. engr., State of Mich. Advisor, Student Chapt. of A.I.Ch.E., 1937-41; secy.-treas., Sci. Res. Club, 1940-41; chmn. Comm. on Prof. Ethics, 1942; mem. Religious Educ. Comm., 1943 to 1948; mem.. chmn. Grad. Comm., Dept. of Chem. Engr., 1943-46; mem. The Research Club, Bd. of Govs. of Residence Hall, 1947-49 (all University activities). Mem. of First Methodist Ch., Ann Arbor, gen. supt. of Sunday Schl., 1938-41; chmn. Men's Luncheon Club, 1942-49; mem. pastoral relations comm. 1944-50; mem. finance comm., 1943-49; lay leader, 1943-48; pres., Ann Arbor Council of Churches, 1944-46; mem. comm. on Week-day Schl. of Religion, 1946-48; mem. promotional comm. Quadrennial Sunday Schl. Convention, Internatl. Council of Religious Educ., Chicago, 1946. Hobbies: color photography, gardening.

KATZ, Jacob, pres., Universal Chem. Corp., Lonsdale, R.I.; res. 100 Preston Dr., Cranston, R.I.
Chem. engr.; b. Providence, R.I., Aug. 23, 1910; s. of Hyman and Matilda Katz; ed. 1929-33, R.I. State Coll., B.Sc. in chem. engrg., 1933-35, M. Sc. in chem.; m. Beatrice Klemer, Mar. 3, 1940; ch.: Herbert Norman, Fredda Ann. 1935-38, Warwick Chem. Co., res. chem.; 1938-41, Warwick Chem. Co., dir. of res.; 1942-43, Alrose Chem. Co., chem. engr.; 1944-46, R.I. State Coll., dir. of govt. & ind. projects; 1947 to date, Universal Chem. Corp., pres., treas., dir. of res. Contrib. to sc. jls. Several U.S. pats.; Groggins unit process in org. syn-prod. of D.D.T.; O.P.R.D.—13 papers on chlorination of ethyl alcohol, "Prod. of Chloral." Mem.: A.C.S., A.I.Ch.E., A.I.C. (fellow), A.A.T.C.C., Am. Oil Chem. Soc., reg. prof. engr. No. 808, State of R.I. Am. Technion Soc. Club: Engineers. Hobbies: tennis, golf.

KATZ, Sidney Hershberg, conslt., Army Chem. Center, Md.; res. same.
Chem.; b. Gilmore, McKean Co., Pa.; s. of Ellis and Jennie (Kleinmaier) Katz; ed. Ohio State U., B.Sc. in chem. engrg. 1909; U. of Pitts., M.S., 1924, Chem. Engr., 1925, Ph.D., 1926. 1909, Natl. Carbon Co., Cleveland, Ohio, res. on dry cells; 1910, John D. Owens & Son, Owens, Ohio, improvement of lime; 1910-14, U. of N.H., Durham, N.H., instr. in chem.; 1914-29, U.S. Bur. of Mines, Pitts., Pa., chem. in chg., Gas Mask & Ind. Gas Lab.; 1918-19, 1st Lt., C.W.S.; 1928-29, exchange res. worker, Safety in Mines Res. Bd., Sheffield, England; 1929 to date, tech. command, asst. chf., chf., Protective Div., Army Chem. Center, Md., now conslt., tech. command, Chem. Corps. Spontaneous combustion of coal; combustion; intensities of odors; gas maks & respirators; collective protectors; protective equipt. for military use; carbon monoxide; ventilation of vehicular tunnels; CO recorders; gas filtration. Abt. 100 papers, pamphlets, bulletins, publ. by various branches of govt. or tech. press. Mem.: A.C.S., A.A.A.S., A.S.T.M., Am. Ind. Hyg. Assn., Armed Forces Chem. Assn., Sigma Xi, Tau Beta Pi, Alpha Chi Sigma. On comm. D-11, Rubber, A.S.T.M.; on comm. Z-9, Ventilation, Am. Stand. Assn. Club: Officers (Army Chem. Center, Md.). Hobbies: bridge, golf, fishing, motoring.

KATZEN, Raphael, project mgr., Vulcan Copper & Supply Co., 120 Sycamore St., Cincinnati 2, Ohio; res. 6404 McHugh Pl., Cincinnati 13.
Chem. engr.; b. Baltimore, Md., July 28, 1915; s. of Isidor and Esther (Stein) Katzen; ed. Polytech. Inst. of Bklyn., B.Ch.E. cum laude 1936, M.Ch.E. 1938, D.Ch.E. 1942; m. Selma Siegel, June 19, 1938; ch.: Nancy Ann. Polytech. Inst. of Bklyn., grad. fellow, 1936-37; Northwood Res. Fellow 1940-42; Northwood Chem. Co., chem. supt., chem. engr. 1937-40; Diamond Alkali Co., tech. supvr., Northwood project, 1942-44; Vulcan Copper & Supply Co., chem. engr., project mgr., 1944 to date. Dev. continuous wood hydrolysis process, new wood pulping process, wood plastics; designer of large variety of chem. process plants; spec. in distillation, extraction, heat exchange engineering. Mem.: A.I.Ch.E., A.C.S., T.A.P.P.I., Engrg. Soc. of Cincinnati, Sigma Xi, Tau Beta Pi, Phi Lambda Upsilon. Hobbies: photography, cabinet work, model railroading.

KATZMAN, Morris, pres., Process Chems. Co., 2831 Exposition Pl., Los Angeles 16, Calif.

Res., devel. & conslt. chem. & exec.; b. N.Y.C., Dec. 28, 1904; ed. B.S., U. Chicago; M.S., U. Md., 1933; post-grad., U. Chicago & Armour Inst. Res. & devel. chem., Emulsol Corp., Chicago, 1933-45; organizer, Quincy Labs., Chicago, 1945; res. chem. & conslt. detergent indus., Los Angeles, 1946-48; pres., Process Chem. Co., 1948 to date. Surface active agents, bactericides, food emulsifiers. Approx. 100 pats., U.S. & foreign, & numerous pubs. in sc. & tech. jls. Mem.: A.I.C. (Chicago chapt., former chmn. mem. comm. & del. to Tech. Socs. Council; Los Angeles chapt., chmn.), Electrochem. Soc. (former treas., Chicago sec.), A.C.S., I.F.T.

KAUFMAN, Charles Wesley, dir. res. & dev., Gen. Foods Corp., 250 Park Ave., N.Y.C.; res. 17 Ravine Rd., Tenafly, N.J.
Chem. engr.; b. Nov. 26, 1911; s. of M. Ellsworth and Ethel (Burch) Kaufman; ed. B.S. Wash. & Lee 1933 summa cum laude, Phi Beta Kappa; m. Colleen V. Over, 1935; ch.: Janet B. 1934-37, Natl. Fruit Prod. Co., Winchester, Va., res. chem.; 1937-39, Natl. Canners Assn., San Francisco, res. chem.; 1939-45 Gen. Foods Corp., Hoboken, N.J., res. chem., 1945-48 N.Y.C. asst. res. mgr., 1948 to date, N.Y.C., dir. Num. pats. & publ. in fld. of foods & food processing. Mem.: A.C.S., I.F.T., A.A.A.S., N.Y. Acdy. of Scs. Club: Chemists' (N.Y.C.).

KAUFMAN, Gus, asst. to mgr., tech. and res. div., The Texas Co., 135 E. 42nd St., New York, 17, N.Y.; res. 310 E. 44th St., New York, N.Y.
Chem. engr.; b. Shershev, Russia, Sept. 3, 1903; s. of Alex and Ethel Kaufman; ed. B.S. in Chem. Engrg. (with distinction) 1924, The Rice Inst., Houston, Tex.; mem.: Tau Beta Pi. Chem., The Texas Co., Port Arthur, Tex., 1924-25, analyzed petroleum prods.; res. ch. engr., same co., 1925-26, chem. engr. design, distillation, fractionation; asst. dir. of fractionation, same co., 1926-27, asst. chg. of above incl. plant wk.; res. chem. Grease Plant, same co., 1928, mfg. of lubr. greases, etc.; dir. grease res., 1928-31, dir. chg. grease res.; supvr. grease res., The Texas Co., Beacon, N.Y., 1931-41, dir. chg. grease res.; staff technologist, same co., N.Y., 1941-42; conslt. to mgr., asst. to mgr., 1942 to date. Inventor and co-inventor of num. U.S. pats. princ. in fld. of lubricants. Author and co-author of many tech. arts. and papers presented before sc. grps. and pub. in sc. jls. Mem.: A.A.A.S., A.C.S. (Petroleum Div.); A.I.Ch.E.; A.S.T.M. (mem. or chmn. of var. wkg. grps. and secy. of A.S.T.M. D-2 Tech. Comm. G on Lubr. Grease); Coordinating Res. Council (mem. or ldr. of var. wkg. grps.); Natl. Lubricating Grease Inst. (mem. of tech. comm., chmn. of edit. comm.); S.A.E.; Naval Motor Dev. Comm. (by invitation); was awarded Naval Ord. Dev. Award, Dec. 10, 1945. Clubs: Southern Dutchess Country (Beacon, N.Y.); Assoc. of Rice Alumni (Houston); Elks (Beacon, N.Y.). Hobby: golf.

KAUFMANN, Dale W., chf. chem. engr. and dir. of dev., International Salt Co. Inc., 638 Marine Trust Bldg., Buffalo 3, N.Y.; res. 76 Summer St., Buffalo 9.
Chem. engr.; b. Grand Ledge, Mich., Feb. 9, 1893; s. of Frederick M. and Rose Helen (Moyer) Kaufmann. B.S., chem. engrg., U. of Mich., 1920; mem.: Sigma Xi, Alpha Chi Sigma; m. Margaret Jane Hoover, Jan. 23, 1922; ch.: Virginia Dale, William Hoover, Frederick Hoover. Asst. mill supt., Lake Shore Gold Mines, Kirkland Lake, Ont., 1920-21; asst. mill engr. Hollinger Cons. Gold Mines, Timmins, Ont., 1921-23; proj. engr., The Dorr Co., Inc., N.Y.C., 1924-27; proj. engr. and constrn. engr., Gen. Chem. Co., N.Y.C. and Marcus Hook, Pa., 1928-31; chem. engr. and dir. of devel., Internatl. Salt Co., Inc., Scranton, Pa., Detroit and Buffalo Offices since 1931. Res. and publications on salt and brines, dealing with viscosity, physical and thermal properties, purification, strength control, mathematics of brine systems, dissolution methods. Var. pats. on dissolution and strength control methods. Mem.: A.I.Ch.E., (active member), A.C.S., The Electrochem. Soc., Inc., Am. Inst. of Food Technologists, Natl. Assoc. of Corrosion Engrs., Natl. Rifle Assoc. (life member), Reg. Chem. Engr. (Mich.). Hobbies: antique firearms, pistol and revolver shooting, folk dancing, mycology.

KAY, Webster B., prof., Ohio State U., dept. of chem. engrg., Columbus, Ohio; res. 214 E. Weber Rd., Columbus 2.
Teacher; b. Hammond, Ind., Dec. 8, 1900; s. of Howard L. and Bessie (Bice) Kay; ed. 1922 B.Ch.E. Ohio State U.; 1926 Ph.D. U. of Chicago; mem.: Gamma Alpha; m. Ruth St. John 1939; ch.: Bonnie, Bruce. Res. chem., Stand. Oil Co. (Ind.), Whiting, Ind. 1926-47; prof., Ohio State U., Columbus, O., 1947 to date. Many res. papers in sc. & tech. journals on the physical & thermal properties of hydrocarbon mixtures. Mem.: A.C.S., A.I.Ch.E.

KAYE, Albert Louis, v.p., The Beckman Supply Co., 527 Michigan St., Hammond Ind.; res. 6416 Moraine Ave., Hammond.
Corp. exec.; b. New York City, Mar. 16, 1909; s. of Lee Alter and Frances (Freeman) Kaye; ed. S.B., 1931, S.M., 1932, Sc.D., 1934, M.I.T.; mem.: Sigma Xi; m. Helen Rabe Beckman, Dec. 27, 1934; ch.: Louise Marie, Richard William, Robert Louis. Res. assoc., The Mass. Inst. of Tech., 1934-36; metallurgist, The Carnegie-Ill. Steel Corp., Chic., 1936-41; mgr. Alloy Steels, Carnegie-Ill. Steel Corp., Chic., 1941-45; metallurgical engr., Carnegie-Ill. Steel Corp., Pittsburgh, 1945-46; v.p., The Beekman Supply Co., Hammond Ind., 1946 to date. Res. in devl. of alloy steels for automotive and high temperature applications. Mem.: A.S.T.M. Dir., Community Chest. Club: The Century. Hobby: photography.

KAYE, S. Leon, pres., Kaye Plastics Corp., P. O. Box 1149, New Brunswick, N.J.; res. 158 Maple Ave., Metuchen, N.J.
Chem.; b. N.Y.C., June 17, 1912; s. of Philip and Caroline Kaye; ed. U. of Mich., B.S., 1934; m. Betty Gorman, Dec. 13, 1942; ch.: Barbara Joyce, Carla Louise. Ruberoid Co., lab. asst., 1934-36; Superlithe Co., chem., 1936-38; Consolidated Molded Prods. Corp., hd. of matls. & res., 1938-43; Universal Plastics Corp., tech. dir., 1943-46; Kaye Plastics Corp., pres., 1946 to date. Res. & prod. of first transparent phenolic molding matl.; prepared and taught plastics course for Penn. State Coll. Extens. in Scranton two years, 1940-41; mag. arts. (tech.) for "Modern Plastics" and the "Plastic Encyclopedia." Author: "Plastic Text for Internatl. Correspondence Schls." 1944; "The Prod. & Properties of Plastics" 1947. Mem.: Soc. of Plastic Engrs., Soc. of the Plastics Ind. Clubs: Chemists', U. of Mich. Club.

KAYE, William A(ugust), group leader, res. dept., Pabco Prods. Inc., 1550 Powell St., Emeryville 8, Calif.; res. 438 Boynton Ave., Berkeley 8, Calif.
Chem. engr.; b. San Francisco, Sept. 2, 1912; s. of Leo W. and Bertha K. Kaye; ed. A.B., Stanford U., 1933 McL Ch.E. Yale U. 1937; mem.: Phi Lambda Upsilon, Phi Beta Kappa; m. Dorothy Kaye Kaye, Jan. 20, 1947. Res. chem., Crown Zellerbach Corp., 1934-38, conslt., San Francisco, 1938; res. chem., Economic Anal., group leader, Paraffine Cos., now Pabco Prods., 1940 to present; U.S. Army, Chem. Corps, 1942-45. Res. in building mtls. and hard surface floor coverings. Mem.: T.A.P.P.I., A.I.Ch.E., A.C.S. Hobby: photography.

KAYSER, Emil Julius, res. & dev. engr., The Schlegel Mfg. Co., 277 N. Goodman St., Rochester 7, N.Y.; res. 1299 Rochester Rd., Webster, N.Y.
Chem. engr.; b. Kirchheim-Teck, Germany, Feb. 10, 1903; s. of Emil R. and Lina (Frick) Kayser; ed Realschule, Germany; Cooper Union, N.Y. B.S. in chem. engrg. 1934; m. Maria Ziegler, May 28, 1934; ch.: Carl A., Robert E., Linda Lee., Margaret. 1925-29, electroplating, P. E. Guerin, N.Y.; 1930-31, experimental wk., Robert Bosch, L.I.C.; 1931-41, mgr., F. Bunz, Inc., N.Y.; 1941 to date, res. & dev. engr., The Schlegel Mfg. Co. Mem.: A.C.S., A.A.T.C.C. Hobbies: photography, gardening.

KEACH, DeWitt T(almage), asst. prof. chem., Sterling Chem. Lab., Yale U., New Haven, Conn.; res. 37 Woodstock Rd., Hamden 14.
Tchr.; b. Enfield, Conn., Sept. 3, 1890; s. of Hosea B. and Hattie M. (Boleyn) Keach; ed. Yale, Ph.B., 1915; Penn. State, M.S., 1917; Yale, Ph.D., 1923; mem.: Alpha Chi Sigma; m. Florence G. Bentley, Aug. 20, 1913; ch.: Paul Bentley, DeWitt Wheeler. 1914-15, asst. in instr. chem., Yale; 1915-17, instr. chem. Penn. State; 1917-20, asst. prof. chem. same coll.; 1920-24, instr. chem., 1924 to date, asst. prof. chem. Yale Coll.; res. in fld. of hypnotics; author: "The Electron in Oxidation Reduction," 1926. Mem.: A.C.S., A.A.A.S., Sigma Xi, Phi Lambda Upsilon. Hobbies: stamps, genealogical res.

KEADY, G. Joseph, pres., The Sharples Corp., 2300 Westmoreland St., Phila. 40, Pa.; res. 410 Hillbrook Rd., Bryn Mawr, Pa.
Manufacturer; b. Sept. 25, 1900; s. of Mitchell B. and Anna J. (Duffy) Keady; ed. U. of Pa., Wharton Schl., Class of 1925, B.Sc. in Econ.; mem.: Delta Kappa Epsilon; m. Eleanor Shelburne Russell, June 10, 1927; ch.: Eleanor S., Robert R., A. Linda. Dillon, Read and Co., N.Y., 1926; mgr. of branch off., 1926-30; sales mgr., 1930-32; sales mgr., The Container Corp. of America, 1932-37; sales mgr., The Sharples Corp., 1937; exec. v.p., 1938-48; pres., 1948 to present. Sharples Chems., Inc., dir., I-T-E Chemicals, Inc., dir., First Natl. Bank of Phila., dir., Sharples Oil Corp., dir. Trustee: The Haverford Schl. Clubs: Merion Cricket (Haverford, Pa.), The Racquet (Phila.), Sunday Breakfast (Phila.).

KEAGLE, LeRoy C., asst. dean, prof. of phar., chmn. of dept. of pharmacy, U. of Buffalo, Schl. of Pharmacy, Buffalo 14, N.Y.; res. 531 Stockbridge Ave., Buffalo 15.
Phar. and phar. chem.; b. Bloomington, Pa., Feb. 18, 1919; s. of Lawrence Edward Keagle and Bertha Leona Keagle; ed. Rutgers U., Coll. of Phar., B.S. in Phar., June, 1940; U. of Md., Ph.D. degree Dec., 1944, major subject, phar. chem.; minor subject, pharmacology & phys. chem.; mem.: Kappa Psi; m. Jane Alice Beckman, Aug. 1, 1942; ch.: Douglas Lee, Pamela Jane. Postdoctorate Fellow in pharmaceut. chem., Purdue U., Dec. 1, 1944 to Oct. 31, 1945; asst. prof. of chem., Rutgers U., Coll. of Phar., Nov. 1, 1945 to Jan. 31, 1949, prof. of phar. and chmn. of dept. of phar., U. of Buffalo, Feb. 1, 1949 to present time; appointed asst. dean of the Schl. of Pharmacy, July 1, 1950. Author several arts. pub. in sc. jls. Mem.: Am. Phar. Assoc., A.C.S., A.A.A.S., A.A.U.P., Sigma Xi, Rho Chi. Club: Corner Stone Lodge No. 229, F.&A.M. Hobbies: fishing, golf, swimming, bowling.

KEANE, Lee A., v.p., U.S. Industrial Chemicals, Inc., 60 E. 42 St., N.Y.C.; res. New Canaan, Conn.
Chem. engr., chem. exec.; b. Atwaters, N.Y., July 23, 1894; s. of Austin Charles and Mary B. Malley Keane; ed. Ithaca High Schl., Cornell U., B.Chem.; mem.: Alpha Chi Sigma, Sigma Xi; m. Florette Webb, Sept., 1923; ch.: Edward. Goodyear Tire & Rubber Co.; Lt. C.W.S. (W.W.I); Faultless Rubber Co.; O'Baumon Corp.; Procter & Gamble; U.S. Industrial Chemicals (1927 to date). Clubs: New Canaan Country, Tokeneke, Uptown, Cornell.

KEBLER, Lyman Frederic, physician, chem., 1322 Park Rd. N.W., Wash. 10, D.C.; res. same.
Conslt. in foods, drugs & diet therapy, medical practice; b. Lodi, Mich. Washtenaw Co., June 8, 1863; s. of George John and Sophia G. (Gumpper) Kebler; ed. Little Red Country Schl.; Saline H.S. 1879-80; Ypsilanti H.S., 1884-87; U. of Mich., 1887-92, Ph.C., 1890, B.S., 1891, M.S., 1892; special student Jefferson Med. Coll., 1897-1900; Temple Medical Coll., 1900-02; George Washington Med. Coll., 1903-06, M.D. 1906; m. Ida Elizabeth Shaw, Aug. 10, 1893; ch.: Mabel Alice Kohr, Victor Lyman, Ruth Wilhelmina Kebler. Chem. instr., Iowa State Coll., 1888-89, U. of Mich., 1891-92; instr. in toxicology, Temple U., 1901-02; chf. chem., drug firm, Phila., 1892-1902; chf. drug lab., Bur. of Chem., U.S. Dept. of Agric., 1902-07, drug div. 1907-23, special collaborative investigation, in chg. of food & drug wk., 1923-29; assoc. prof. pharmacology & materia medica, Georgetown Medical Coll., 1912-32; secy., U.S. Pharmacopoeal Convention, 1920-30; Council on Pharmacy & Chem., A.M.A. 1905-14; med. dir., Tenn. Prods. Corp., 1929-32; med., chem conslt. & med. practice 1929 to date. Chem., phar., medicinal & com. value of foods & drugs; purity of chem. reagents; meths. of assaying alkaloidal drugs; harmfulness of headache mixtures; habit forming agents, alleged drug habit treats.; medicated soft drinks; alcoholic content in medicinal agents; fraudulent cancer cures; Am. & Norwegian cod liver oils; diet therapy; weight reduction; uniformity of medicinal tablets; mail order medical schemes. Author: "Eat & Keep Fit" a book on diet therapy. Mem.: A.C.S. (vice pres., 1917), A.Phar.A. (1st vice pres., 1923-24); Assn. Official Agric. Chem., Conslt. U.S. Comm. of Pharmacopoeial Revision 1900-30; Franklin Inst. 1893-1902, pres. Chem. Soc. 1898-99; D.C. Medical Soc., A.P.H.A. (former mem.), Wash. Acdy. of Sc. Formally trustee Natl. Coll. of Pharmacy; mem. Jury of Awards Natl. Export Exposition 1898. Clubs: Lions, Masons, Eastern Star, U. of Mich. D.C., Druggists Veterans, Emeritus Club U. of Mich., Congregation Church. Hobbies: pure foods & drugs & diet therapy, overweight.

KEELER, Noel E(rnest), v.p., Marathon Corp., Rothschild, Wis.; res. 1015 Weston, Wausau, Wis.
Exec., finance; b. Port Allegany, Pa., Dec. 25, 1897; s. of Ernest Belmont and Abbie (Thompson) Keeler; ed. B.C.S., N.Y.U.; m. Dorothy Layzette Kaley, Nov. 30, 1934. H.A. Hopf and Co., management engrs., 1921-24; Armstrong Cork Co., 1924-30; Dorr Co. and Oliver United Filters, Inc., jointly, 1930-34; Am. Blower Corp., 1934-41; Sylvania Elec. Prods. Inc., 1941-48; v.p., finance & acctg., Marathon Corp., since 1948. A.E.F., U.S.A., 1917-19. Mem.: Controllers Inst. of Am. (pres. Detroit Control 1936-37; natl. dir. 1945-47; chmn. natl. exec. comm. 1946-47; chmn. budget and finance comm. 1947-48); Alpha Kappa Psi. Mem. Pres. Ch. Clubs: Wausau. Miscowaubie (Calumet, Mich.), Rotary (Wausau).

KEENAN, Edward T., dir., pres. Keenan Labs., Frostproof, Fla.; res. Frostproof.
Exec.; b. Watertown, N.Y., July 27, 1882; ed. common, Clarkson Tech., I.C.S.; m. 1st. Feb. 28, 1906, Barbary Crawford; m. 2nd. Elsie Perkins, Mar. 21, 1921; ch.: 1 son, 1 dau. Watertown Lt. & Pwr. Co., elect.; Keenan Engrg. Co., pres.; No. Ore Co., mech. supt.; Am. Cyan. Co., plant engr.; Fla. Fruit Canners, mgr., fert.

dept. Capt., 37th Engrs., A.E.F., Maj., 350th Supt. Br., U.S.A. Author: arts. on pumps, motors, metals, soils, bacteriology, soil chem. Mem.: Am. Leg., Am. Soc. Agron., Am. Soil Survey Assoc., Internat. Soc. Soil Sci., Am. Soc., Hort. Sci., A.C.S. Club: Rotary.

KEENE, Paul Anderson, chf. of res., Solvay Process Div., Allied Chem. & Dye Corp., Syracuse, N.Y.; res. 302 Robineau Rd., Syracuse. Chem.; b. Kalamazoo, Mich., July 22, 1896; s. of Claude M. and Sarah E. Keene; ed. Hiram Coll., B.S. 1916; U. of Mich., M.S. 1918; mem.: Phi Lambda Upsilon; m. Elizabeth Gallaway, July 7, 1918; ch.: Dorothy Vivian, Paul A. Jr. U.S. Army, Ordnance Corps., 1918-19, Fixed Nitrogen Lab., U.S. Dept. of Agri., 1919; Solvay Process Co., 1919 to date; res. chem., 1919-29; chf. chem. & chf. of res., 1929 to date. Res. & dev. in mfg. of alkalies, chlorine, and associated prods. Mem.: A.C.S., Tech. Club of Syracuse. Hobbies: Boy Scout work, stamp collecting, fishing, camping.

KEENOY, Rev. Francis Patrick, S.J., chem. instr., 5225 Troost Ave., Kans. City 4, Mo. Tchr.; b. St. Louis, Mo., Aug. 20, 1892; s. of M.F.J. and Ellen Cavanagh Keenoy; ed. St. Louis U., A.B. 1920; A.M. 1921. Instr. chem., Creighton U., 1920-23; instr. chem., St. Mary's Coll., St. Marys, Kans. 1928; asst. prof., Regis Coll., Denver, Colo. 1930-31; 1935-39; instr. Rockhurst Coll., H.S. dept. 1939-51; res. in de-icing fluid, air refreshers. Mem.: A.C.S., A.A.A.S.

KEEVIL, Charles Samuel, chem. engr., Arthur D. Little, Inc., Cambridge, Mass.; res. 76 Oakland Ave., Auburndale, Mass. Chem. engr.; b. Woodside, N.Y.; ed. M.I.T., S.B. 1923; S.M. 1927; Sc.D., 1930; mem.: Theta Delta Chi; m. Etta Pence, Sept. 12, 1938; ch.: Charles S. Keevil, Jr. Magnetic Pig. Co., chem. engr., 1923-26; M.I.T., instr., 1927-30; Ore. State Coll., hd. dept. chem. engrg. 1930-36; Bucknell U., hd. dept. chem. engrg., 1936-45; with N.D.R.C. 1943-45; since 1945 with Arthur D. Little, Inc. Mem.: A.I.Ch.E., A.C.S., Sigma Xi, Phi Lambda Upsilon. Club: Chemists' (N.Y.). Hobbies: dry-fly fishing, golf.

KEILEN, John Jacob, Jr., group supvr., W. Va. Pulp & Paper Co., dev. dept., Charleston, S.C.; res. 28 Seventh St., Wagener Ter., Charleston 26. Chem. engr.; b. Pitts., Pa., Oct. 24, 1915; s. of John J. and Mary Jane Keilen; ed. 1932-36, Carnegie Inst. of Tech. B.S. 14th hon. student; 1936-37, Carnegie Tech. M.S.; 1938-41, 1947-48, Bklyn. Polytech. Inst. D.Ch.E.; mem.: Tau Beta Pi, Phi Kappa Phi, Phi Lambda Upsilon, Sigma Xi; m. Eleanor Yunker, Aug. 3, 1940. W. Va. Pulp & Paper Co., dev. dept., res. engr., project leader, group supvr., 1937 to date. Process for using lignin as a reinforcing agent for rubber. Mem.: A.C.S., A.I.Ch.E., A.I.M.M.E. Hobbies: philately, carving.

KEIM, Christopher Peter, dir., stable isotope res. and prod. div., Carbide & Carbon Chems. Div., Union C. and C. Corp., Oak Ridge, Tenn.; res. 102 Orchard Lane, Oak Ridge, Tenn. Sci. res. and admin.; b. Tecumseh, Nebr., Apr. 6, 1906; s. of Jacob H. and Mary (Pohlenz) Keim; ed. Nebr. Wesleyan U., A.B. 1927; grad. study in physics, U. of Pittsburgh; U. of Nebr., M.Sc. in Physics and Elect. Engrg., 1932; Ph.D. in Chem. and Physics, 1940; Samuel Avery Fellow at U. of Nebr.; m. Lucille Parli, June 25, 1929; ch.: Virginia Ann, Robert Christopher. York College, York, Nebr., tchr. in physical sciences; U. of Nebr., mem. of chem. staff dur. study for Ph.D.; U. of Tulsa, Tulsa, Okla., in Dept. of Chem.; U. of Pittsburgh, in Dept. of Physics; Lincoln Telephone and Telegraph Co., Lincoln, Nebr., engrg.; Sylvania Elec. Prods. Corp., Salem, Mass., in fluorescent coatings; Mellon Inst. of Indust. Res., Pittsburgh, Pa., res. fellow in chem.; Tenn. Eastman Corporation, Oak Ridge, Tenn., sr. physicist in electromagnetic separation of uranium isotopes; Carbide & Carbon Chems. Corp., Oak Ridge, Tenn., physicist and div. hd., Isotope Res. and Prod. Division; heading program producing enriched stable isotopes of the metals, which successfully produced milligram to gram quantities of isotopes of over forty elements. Mem.: Sigma Xi, A.C.S., A.Phys. S., A.A.A.S., Phi Lambda Upsilon, Sigma Pi Sigma. On bd. of dirs. Community Chest, Red Cross, Chamber of Commerce; on bd. of trustees, First Methodist Ch. Clubs: Lions (past pres.); Mason; Shriner. Hobbies: boating, photography.

KEIM, Raoul D., trade relations counsellor, E. R. Squibb & Sons, 745 Fifth Ave., N.Y. 22, N.Y.; res. Apt. 17E, 737 Park Ave., N.Y. 21, N.Y. Sales exec.; b. Newark, N.J., Aug. 8, 1879; s. of Franklin and Antonia Keim; ed. public schls. & high schls. in Jersey City; Louisville, Ky.; Milwaukee, Wis.; m. Hildegarde von Baumbach, July 6, 1912; ch.: Josephine Valeska. Reg. phar. in Wis., N.Y., N.J. & Calif. & engaged in retail drug bus.; salesman, Jan. 1904-July 1912, mgr., Chicago branch office, Jan. 1912-Nov. 1917, gen. sales mgr., Nov. 1917-May 1933, v.p., sales counsellor, Apr. 1936-Nov. 1943, mem. bd. of dir., trade relations counsellor, Nov. 1943-Mar. 1946; trade relations counsellor, Mar. 1946 to date, E. R. Squibb & Sons. Clubs: Am. Soc. of Sales Execs., N.Y. Sales Mgrs., Advertising of N.Y., Sales Execs. of N.Y. Hobbies: deep sea fishing, motion picture photography, reading.

KEIPPER, Charles H., dir. of prod. control lab., Red Star Yeast & Products Co., 325 N. 27th St., Milwaukee 8, Wis.; res. 2155 N. 53 St., Milwaukee 8. Chem. & bacteriol. directional wk.; b. Van Wert, Ohio, Apr. 15, 1897; s. of John Philip and Any Francis Keipper; ed. Van Wert H.S.; Purdue, B.S., 1926, M.S., 1928; Wis., Ph.D., 1931; mem.: Sigma Xi, Phi Lambda Upsilon, Phi Sigma; m. Augusta A. Red Star directly after doctorate. Wk. on typhoid vaccines, flora of cabbage & sauerkraut. Mem.: I.F.T., Am. Bact. Soc., A.A.A.S. Club: Elks. Hobbies: golf, bowling, horseshoes, fishing.

KELL, Robert W., chem., Devoe & Raynolds Co., Inc., P.O. Box 328, Louisville, Ky.; res. 2410 Clarendon Ave. Chem., patent attorney; b. St. Louis, Mo., July 6, 1915; s. of Lester L. and Myrtle Raynolds Kell; ed. B.Ed., Southern Ill. U., 1937; M.S., U. Ill., 1938; Ph.D., 1941; LL.B., U. Louisville, 1950; mem.: Sigma Xi; m. Grace Melville Hubbard, Sept. 9, 1939; ch.: Martha Ann, Russell, Roger. Chem., Natl. Aluminate Corp., 1941-43; group leader, Devoe & Raynolds Co., Inc., 1943-48; patent dept., 1947 to date. Mem.: A.C.S., A.I.C. (fellow). Hobbies: flying, electronics.

KELLER, George Ernest, chem. dir.-mgr., Commercial Testing & Engrg. Co., 426 Morrison Bldg. (P.O. Box 808) Charleston, W.Va.; res. 998 Loudon Heights Rd., Charleston. Chem. engr.; b. Jonesboro, Ill., May 9, 1899; s. of Ernest A. and Augusta (Poole) Keller; ed. U. of Ill., final, special, preliminary honors, Bachelor of Sc. in chem. engrg.; mem.: Tau Kappa Epsilon, Phi Lambda Upsilon, Sigma Xi; m. Virginia Tressel, May 23, 1929; ch.: George Ernest II, Virginia Tressel. June to Oct. 1922, By-Products Coke Corp.; Oct. 1922 to present, Commercial Testing & Engrg. Co., Chicago & Charleston, W.Va.; mgr. Charleston Branch, 1922 to present; chem. dir.

labs., 1940 to present. Mem.: A.C.S., A.S.T.M., A.I.M.E., W. Va. Soc. Prof. Engrs., Reg. Prof. Engr., W. Va. & Ohio. Clubs: Kanawha Country, Charleston Tennis, University. Hobbies: home movies.

KELLER, J(acob) L(ouis), sales rep., Antara Prods., 435 Hudson St., N.Y. 14, N.Y.; res. 7 Berkeley Pl., Cranford, N.J.
Chem.; b. N.Y., N.Y., Sept. 19, 1912; s. of Jacob J. and Mary A. (Daly) Keller; ed. Fordham Coll. & Fordham U., A.B. 1933, M.Sc. 1935, Ph.D. 1938. Cathedral Coll., N.Y., N.Y. instr., chem. & sc. 1933-37; Atlas Powder Co., res. lab. Reynolds, Pa., chem. 1937-Dec. 1940; Gen. Aniline & Film Corp., Jan. 1941 to date: Gen. Aniline Wks. Div., Grasselli, N.J. 1941-50 (on leave absence Sept. 1946-Jan. 1948); Antara Prod. N.Y., N.Y. Apr. 1950 to date. U.S. Dept. of Commerce, Fld. Inform. Agency Tech., Frankfurt a/M. and Karlsruhe, Germany, Chems. Unit, Sept. 1946-Dec. 1947. Mem.: A.C.S. Club: Chemists' (N.Y. City).

KELLER, John C., prof. chem., chmn. of dept. of chem., Utica Coll. of Syracuse U., Utica, N.Y.; res. 2647 Oneida St., Utica.
Tchr.; b. Sidney, N.Y., May 7, 1898; s. of J.W. and Emma (Shiber) Keller; ed. Colgate U., B.S., 1921; Cornell U., Ph.D., 1926; mem.: Alpha Chi Sigma, Alpha Phi Omega; m. Florence Khol, Dec. 20, 1929. Cornell U., asst. in chem., 1921-26; Lehigh U., instr. in chem., 1926-27; Muhlenberg Coll., asst. prof. in chem., 1926-46; Utica Coll. of Syracuse U., assoc. prof. in chem., 1946-50, prof. of chem, 1950 to date. Over voltage and catalytical poison (thesis); industrial consultation. Mem.: A.C.S., A.A.A.S., Sigma Xi. Hobbies: travel, gardening.

KELLER, Joseph Walter pres., Pratt Food Co., 130 Walnut St., Phila. 6, Pa.; res. 249 N. Latchs Lane, Merion, Pa.
Mfr.; b. Feb. 27, 1886; s. of Joseph S. and Elizabeth (Hunter) Keller; ed. Swarthmore Coll., B.A.; post grad. wk. at U. of Pa., Oxford, England.; m. Anne Miller, Mar. 31, 1928; ch.: Elizabeth Anne. With Pratt Food Co., Pa. Tube Co. in various capacities since 1908 interrupted by several yrs. of mil. serv. during W.W. I and II. Pratt Food Co. of Canada, Ltd., pres.; Harleigh Cemetery Assn., pres.; Meadow Land Improvement Co., pres.; Service Grain Co., pres. Clubs: University, Down Town, Army & Navy (Wash.). Hobbies: travel, photography, gardening.

KELLEY, Louise, prof. of chem., Goucher Coll., Towson, Baltimore 4, Md.; res. 309 Eastway Ct., Baltimore 12.
Teacher, editor, author; b. Franklin, N.H., Oct. 10, 1894; d. of Elmer Daniel and Etta Emma (Ingalls) Kelley; ed. B.A., 1916, Mt. Holyoke Coll., M.A. 1918; Ph.D., 1920, Cornell U.; some wk. at Johns Hopkins U. 1922-23 & 1924-25; U. of Graz, Graz, Austria, summer 1929; elected to Phi Beta Kappa, 1915, Sigma Xi, 1919. 1916-17 grad, fellow in chem., Mt. Holyoke Coll.; 1917-18, instr. in chem., Wheaton Coll., Norton, Mass.; 1918-20, grad. student, Cornell U., 1918-19 Sage Fellowship, 1919-20 Mary E. Woolley Fellowship & du Pont Fellowship; 1920-23, asst. prof. of chem., 1923-30, assoc. prof. of chem., 1930-42, prof. of chem., Goucher Coll.; June 1942-Mar. 1947, tech. aide, Divs. 8-11, Natl. Defense Res. Comm., Office of Sc. Res. & Dev., Wash., D.C.; 1946 to date, prof. of chem., chmn. of dept. of chem., Goucher Coll., 1947-49 acting dean; 1931 to date, asst. editor, Chem. Reviews; 1937 to date, asst. editor, Journal of Physical & Colloid Chem. 1929-30, mem. state & natl. comms. A.C.S. Prize Essay Contests; 1941, Marie Curie Lecturer, Pa. State Coll.; 1941, 1942, 1943 mem., 1946, 1947 chmn. A.C.S. Comm. on Garvan M. Award; 1927 to date, abstractor for "Chem. Abs." Co-author: "Org. Chem." with G. Albert Hill, Blakiston Co., 1932 & 1943. Mem.: A.C.S., A.A.U.P., A.I.C. (fellow), A.A.A.S. (fellow). 1941, elected to Iota Sigma Pi. Award: Nov. 1948, President's Cert. of Merit for contr. to war effort W.W. II. Mem. of bd. of governors, Coll. Club of Baltimore, 1948-51; mem. of advisory council, Schl. of Nursing Ed., Franklin Sq. Hosp., Baltimore, 1948 to date. Clubs: Johns Hopkins, Coll. Club of Baltimore, Mt. Holyoke Club of Md., Soroptimist Club of Baltimore, A.A. U.W., Cornell Women's Club of Baltimore. Hobby: collecting antique glass.

KELLEY, Maurice Joseph, dir., Ind. Dev. Lab., Nopco Chemical Co., Harrison, N.J.; res. 180 Ashland Ave., Bloomfield, N.J.
Lab. dir.; b. Danielson, Conn., Aug. 6, 1916; s. of John B. and Ethel M. (Bowen) Kelley; ed. A.B., highest honors, 1936, La Salle Coll. (4 yr. scholarship), M.S., Fordham U., 1941; Ph.D., U. of Pa., 1942 (scholarship, 1941-42); mem.: Alpha Epsilon; m. Frances Violette Sailsbery, June 16, 1945. Res. chem., Nopco Chemical Co., 1936-44; chf. chem., Sales Dev. Lab., 1944-48; dir. Ind. Dev. Lab., 1948 to date. Res. in org. chem., surface-active agents, nitrogen chems., oil and fat derivatives, synthetic resins, synthetic medicinals; several patents. Mem.: A.I.C. (fellow), (secy.-treas. N.Y. Chapter, 1948-50, chmn. N.Y. Chapter, 1950-51) A.A.A.S. (fellow), The Chemical Soc. (London, fellow), A.C.S., Soc. of Chem. Industry, Natl. Geographic Soc., U.S. Naval Institute, Associate. Club: The Chemists' (N.Y.).

KELLEY, Park, pres., Ozark-Mahoning Co., Wilcox Bldg., Tulsa, Okla.; res. 1581 Swan Dr., Tulsa, Okla.
Exec.; b. Rensselaer, Ind., Apr. 2, 1886; s. of Ira C. and Agnes O. Kelley; ed. U. of Wis., 1909; m. Hazel Bartlett, June 5, 1912; ch.: Helen J. (Mrs. Holden), Nancy B., James B. 1910-25, purch. agent, Vinegar Hill Zinc Co., Platteville, Wis.; 1925-45, secy. mgr., and then v.p., Ozark Chemical Co., Tulsa; 1945 to present, pres. Ozark-Mahoning Co., Tulsa. A. L. Bartlett Co., Rockford, Ill. Trustee, Midwest Res. Inst., Kansas City, Mo. Clubs: Tulsa, Tulsa Country. Hobbies: golf, fishing.

KELLEY, Walter Pearson, prof. emeritus, soil chem., U. of Calif.; 120 Hilgard Hall, Berkeley, Calif.; res. 2709 Dwight Way, Berkeley 4, Calif.
Conslt.; b. Franklin, Ky., Feb. 19, 1878; s. of John William and Mahala Eliza (Mayes) Kelley; ed. B.S. U. of Ky., 1904, M.S. Purdue U., 1907, Ph.D. U. of Calif., 1912. Mem.: Alpha Tau Omega, Sigma Xi, Phi Beta Kappa; m. Sue Kathrine Eubank, Aug. 6, 1913. Asst. chem., Purdue Agr. Expt. Station 1905-08; chem., Hawaii Agr. Expt. Sta., 1908-14; prof. agr. chem., U. of Calif., 1914-38; prof. soil chem., U. of Calif., 1938-48; prof. emeritus soil chem., U. of Calif. since 1948; conslt., Gulf Res. and Dev. Co., 1948 to date. Res. in investigations on pineapple and rice soils of Hawaii; base exchange investigations on soils and clay minerals; investigations on alkal soils with special reference to use of saline irrigation water and reclamation; crystal structure in relation to base exchange. Author: A.C.S. Monograph on Base Exchange in Soils," 1948, "Alkali Soils, Their Formation, Properties and Reclamation" (in press). Mem.: A.C.S., A.A.A.S., Amer. Soc. Agron. (fellow, pres. 1930), Amer. Soc. Soil Science, Internat. Soc. Soil Sc., Western Soc. Naturalists, Amer. Mineralogical Soc. (fellow), Natl. Acdy. Sc.

KELLEY, William Neal, tech. dir., H. Wenzel Tent & Duck Co.; president, Hawthorn Finishing Co., St. Louis, Mo.; res. Old Possum Trot, Rt. 14, Box 1070, Affton 23, Mo.

Wholesale canvas mfgr. and textile finishing; b. St. Louis, Mo.; s. of George L. and Martha Warren Kelley; ed. Princeton U., 1940 (Dean's list 4 yrs.), B.Sc. (Chem. Engr.); mem.: Tower club; m. Mary Helen Ramsay, June 13, 1942; ch.: William N., Jr., Timothy Ramsay. Monsanto Chem. Co., 1940-47, org. div., anal., contr. chem., dept. chem., sales engr.; H. Wenzel Tent & Duck Co., 1947 to date, tech. dir.; Hawthorn Finishing Co. 1950, president. Mem.: A.I.Ch.E. Clubs: St. Louis Farmers'; St. Louis Princeton; Natl. Audubon Soc., Mo. Audubon Soc., St. Louis Audubon Soc., Wilson. Hobbies: farming, birdbanding, hunting, fishing, reading, nature study.

KELLNER, Henry L., tech. dir., secy., The Lea Mfg. Co., Waterbury, Conn.; res. Fairgrounds Rd., Woodbridge, Conn.
Chem. engr.; b. Phila., Pa., Sept. 18, 1905; s. of Henry C. F. and Clara K. (Pickert) Kellner; ed. Penn. State, B.S., 1926; Yale U., Ph.D., 1930; mem.: Phi Sigma Kappa, Alpha Chi Sigma, Sigma Tau, Phi Lambda Upsilon; m. Virginia Scranton Kimberly, Nov. 27, 1935; ch.: Denise, Henry Kimberly. 1930-33 res. chem. engr., Doherty Research Co.; 1933-35 sales engr., Eastern Engr. Co.; 1935 to date chem. engr., sales engr., tech. dir., secy., dir., The Lea Mfg. Co.; 1949 to date pres. Lea Mfg. Co. of Canada Ltd. Mem.: A.C.S., A.E.S (res comm. 1946-49); S.P.I. (handbook comm. 1943 to date). Chmn. Bd. of Ed., Woodbridge, Conn. Clubs: Quinnipiack (New Haven), Mory's Assoc. (New Haven). Hobbies: gardening, photography.

KELLOGG, James William, mgr., chem. Chicago Off., 221 N. LaSalle St., Chilean Iodine Ed. Bur., Inc. N.Y.C., N.Y.; res. 244 E. Pearson St., DeWitt Hotel, Chicago 11, Ill.
Chem., spec., animal, human nutrition; b. Amherst, Mass., Sept. 6, 1878; s. of William and Harriet Fitch Kellogg; ed. U. Mass., B.Sc. 1900; Susquehanna U., Pa., D.Sc.; mem.: Phi Sigma Kappa; m. Ruth Elizabeth Martin, Aug. 14, 1912. 1900-02 asst. chem., Mass. Exp. Sta.; 1902-06 first asst. chem., R.I. Exp. Sta.; 1906 chf. chem., Swift Fertilizer Wks., Atlanta, Ga.; 1907 first asst. chem., N.J. Exp. Sta.; 1907-09 first asst. chem., Pa. Dept. Agr., Harrisburg, Pa.; 1909-35 dir., chf. chem., Bur. Food & Chem.; 1935-37 dir. Animal Husbandry, Iodine Ed. Bur., Inc., N.Y.; 1937-42 chem., nutritionist, Am. Meat Inst., Chicago, Ill.; 1942 to date chem., off. mgr., Chicago off., Chilean Iodine Ed. Bur., Inc. Res. inc. adm. duties, res., chem. contr. in connection with enforceemnt of State food, dairy, fertil., feeding stuffs, food plant sanitary operations; contrib. extens. to sc. and tech. jls.; Dairy Food & Drug Officials of U.S. (past pres.), Assn. Official Agr. Chems., and Assn. of Am. Feed Contr. Officials of U.S. (past pres.). Clubs: past master Robert Burns Lodge Masons No. 464 (Harrisburg, Pa.).

KELLY, Andrew J., chf. chem., Burkart-Schier Chem. Co., Chattanooga 2, Tenn.; res. 817 Mount Vernon Ave., Chattanooga 5.
Chem.; b. Charleston, S.C., Apr. 13, 1905; s. of William Joseph and Louise (Missell) Kelly; ed. Coll. of Charleston (S.C.), B.S., 1927; misc. courses, U. of Chattanooga; m. Mary Ellen Zinn, Apr. 13, 1940; ch.: Margaret, Ellen, Alicia. Jr. chem. & chem., Burkart-Schier Chem. Co., 1927-39; prod. mgr. same co., 1939-45; chf. chem., 1945 to date (and a dir.). Mem.: A.C.S. (past chmn. loc. sect.); A.A.T.C.C. (past councilor, present chmn. Sectional Advisory Res. Comm.); Chattanooga Engrs. Club (past president). Hobbies: photography; also a mild interest in astronomy and semantics.

KELLY, Margaret W., prof. of chem., Connecticut Coll., New London, Conn.; res. 269 Mohegan Ave., New London.
Chem. teacher; b. Oakmont, Pa., Jan. 6, 1886; d. of Robert Hamerton and Margaret W. Kelly; ed. Mt. Holyoke Coll., A.B., 1909, Columbia U., M.A., 1920, Ph.D., 1923. Teacher, high schools, Pittsburgh, Pa., 1909-18, res. asst. in chem., Columbia U., 1919-24, 1925-28; asst. prof. of chem., Mt. Holyoke Coll., 1924-25, 1928-29; asst. prof. of chem., Vassar Coll., 1929-30, assoc. prof. of chem., Vassar Coll., 1930-32; assoc. prof. of chem., Connecticut Coll., 1932-46, prof. of chem., Connecticut Coll., 1946 to present. Res. in fields of colloidal and analytical chem., with 27 separate papers published in sc. jls. Mem.: A.C.S., A.A.A.S., Sigma Xi, Phi Beta Kappa.

KELSEY, Erwin Burr, assoc. prof. in chem., 103 SCL, Yale U., New Haven, Conn.; res. 6 Waite St., Hamden, Conn.
Educator, chem.; b. Bristol, Conn., Sept. 29, 1896; s. of Wilbur H. and Lillie (Burr) Kelsey; ed. Yale U., 1918 Ph.B. magna cum laude, Ph.D. 1921; mem.: Alpha Chi Sigma, Gamma Alpha, Sigma Xi; m. Esther C., June 24, 1924; ch.: Elizabeth Burr. Asst., instr., asst., assoc. prof., 1919 to date, Yale U. Co-author: several lab. manuals 1922 to date; "Fundamentals of Semimicro Qualitative Anal." 1939. Mem.: A.C.S. Hobbies: botany, philately.

KELSO, David William, treas., Neville Co., Neville Is., Pittsburgh, Pa.; res. Ridge Rd., Atbridge, Pa.
Accountant; b. Aliguippa, Pa., July 1, 1906; s. of Robert M. and Rachael E. Kelso; ed. Geneva Coll., Beaver Falls, Pa.; m. Pearl W. Haskell, Oct. 27, 1933; ch.: Robert, Jean, Ruth, Anne.

KEMP, Lebbeus C., Jr., dir. of res., Texas Co., 135 E. 42nd St., N.Y. 17, N.Y.; res. 5 Baraud Rd., Scarsdale, N.Y.
Res. adm., pet. res.; b. Houston, Tex., Oct. 8, 1907; s. of Lebbeus C. and Della (Courtright) Kemp; ed. B.S. in Ch.E., Rice Inst., 1929; m. Alice Henrietta Richter, Aug. 1, 1936; ch.: Henry Richter, Mary Courtright. Texas Co., res. lab., Pt. Arthur, Tex., 1929-40, pet. processing res. & res. adm., Beacon Labs., Beacon, N.Y., 1940-41, asst. supt. in chg. of res., N.Y.C., 1941 to date. Dev. of processes for prod. of high octane aviation gas.; dev. of processes for the prod. of syn. fuels from natural gas, heavy oils, coal & shale. Mem.: Tau Beta Pi, A.I.Ch.E., A.C.S., A.A.A.S., S.A.E., Am. Rocket Soc. Clubs: Chemists' (N.Y.C.), Bonnie Briar Country (Larchmont, N.Y.).

KEMP, Milton H., dir. of res., Arno Adhesive Tapes, Inc., Michigan City, Ind.; res. 103 Main St., Michigan City, Ind.
Chem.; b. Buffalo, N.Y., Nov. 21, 1897; s. of Robert H. and Laura S. Kemp; ed. B.S., Colgate U., 1919; mem.: Lambda Chi Alpha; m. Pearl E. Frier, Apr. 24, 1923; ch.: Marilyn L. Sheaff. Chem., Ill. Dept. of Agri. Div. of Foods & Dairies, 1919-20; chem., Calumet Baking Powder Co., 1920-29; res. chem., Bauer & Black, 1930-45; dir. of res., Arno Adhesive Tapes, Inc., 1945 to present. Res.: number of pats. issued in his name involving dev. of improvements in pressure sensitive adhesive tapes. Mem.: A.C.S. Club: Rotary. Hobbies: reading, history and historical novels.

KEMPF, Norman William, mgr. of res., Walter Baker Chocolate & Cocoa, Dorchester 24, Mass.; res. 52 Kingswood Rd., Auburndale, Mass.
Chem. engr.; b. Newark, N.J., June 6, 1895; s. of Louis G. and Ottilie N. (Douai) Kempf; ed. Columbia U., chem. engr. 1916; mem.: Phi Lambda Upsilon; m. Ethel M. Haselmayer, May 15, 1918; ch.: Barbara M. Hammett, Philip W. (dec.). 1917-19 U.S.A. Ordinance Corps; 1920-30, chf. chem., Happiness Candy Stores; 1931-37, chf. chem., Runkel Bros.; 1937 to date, mgr. of res.,

Walter Baker Chocolate & Cocoa. Mem.: Am. Assn. of Candy Technol., I.F.T., A.C.S. Hobby: philately.

KENDALL, Edward Calvin, prof. of physiolog. chem., Mayo Foundation, 102-110 2nd Ave. S.W., Rochester, Minn.; res. 627 Eighth Ave. S.W., Rochester, Minn.
Biochem.; b. South Norwalk, Conn., Mar. 8, 1886; s. of George Stanley and Eva Frances (Abbott) Kendall; ed. Columbia U., B.S. 1908; M.S., 1909; Ph.D., 1910; mem.: Sigma Alpha Epsilon; m. Rebecca Kennedy, Dec. 30, 1915; ch.: Hugh, Roy, Norman, Elizabeth. 1910-11, res. chem., Parke, Davis & Co., Detroit, Mich.; investigations concerning thyroid; 1911-14, investigation of thyroid continued at St. Luke's Hospital, N.Y.C.; Feb. 1, 1914 to Mayo Clinic as hd. of div. of biochem.; undertook wk. on isolation of active constituent of thyroid; Dec. 25, 1914, isolated thyroxine; 1914-26 continued wk. on thyroxine; Apr., 1921, awarded John Scott Prize and Premium by City of Phila. for res. in thyroxine; 1922 D.Sc. from U. of Cincinnati; Feb., 1925, awarded Chandler M. by Columbia U. for recent contribs. to science; 1926-30 carried out investig. on glutathione resulting in its prepar. in crystalline form and determ. of its structure; 1930 to date investig. of chem. nature and physiolog. activity of hormones of adrenal cortex; prepar. of compd. A, and, in coop. with Merck & Co. Inc., prod. by partial synth. of cortisone; effects of cortisone in rheumatoid arthritis and rheumatic fever demonstrated in collab. with Hench, Slocumb and Polley; Squibb Award, 1945; Lasker Award (jointly with Dr. Hench), 1949; John Phillips Memorial Award, Remsen Award, Research Corporation Award for 1949, 1950 Award Amer. Pharmaceutical Mfrs. Assoc., Passano Award (jointly with Dr. Hench), last four all in 1950; D.Sc. from Yale University, Western Reserve University and Williams College, 1950. Election to Natl. Acdy. of Scs., 1950. Author: "Thyroxine," Chem. Catalog Co., 1929; also 150 arts. appearing in sc. jls. from 1908-50. Mem.: A.S.Bio.C. (pres. 1925-26), A.Phys.Soc., Am. Soc. of Experim. Pathology, Am. Soc. of Experim. Biology and Med., A.C.S., Harvey Soc., A.A.A.S., Assoc. of Amer. Physicians, Assoc. for Study of Internal Secretions (pres. 1931), Sigma Xi. Club: Rotary. Hobbies: chess, canoeing.

KENDALL, Harold St. Clair, asst. to pres., The Dow Chem. Co., Midland, Mich.; res. 1319 St. Andrews Rd., Midland.
Chem. engr.; b. Marienville, Pa., Apr. 14, 1893; s. of Benjamin F. and Marion (Van Tassel) Kendall; ed. Grove City Coll., 1913, B.S. magna cum laude; Case Schl. of Applied Sc., 1917, B.S. chem. engrg.; mem.: Alpha Chi Sigma, Sigma Xi; m. Freda Jane Spetz, Apr. 8, 1920; ch.: Harold Benne, James Allen. 1913-15, teacher, Cambridge Springs H.S., Cambridge Springs, Pa.; 1915-17, attending Case Schl. of Applied Sc.; 1917-41, plant supt., indigo, anthranilic acid, ethylene dichloride, ethylene, 1941 to date asst. to pres., The Dow Chem. Co. Brazos Oil & Gas Co. (dir.); The Dow Chem. Co. (mem. finance comm., secy. of operating bd.). Mem.: A.C.S., A.I.Ch.E. Elder, First Pres. Church; mem. City Planning Commis. Clubs: Rotary, Torch, Midland Country, Mason. Hobbies: gardening, fishing, golf, music.

KENDALL, James, prof. chem., U. Edinburgh, chem. dept., The Univ., King's Bldg., Edinburgh 9, Scotland; res. 29 Cluny Gardens, Edinburgh 10.
Prof. chem.; b. Chobham, Surrey, England, July 30, 1889; s. of William Henry and Rebecca Pickering Kendall; ed. U. Edinburgh (1907-12), M.A. (1910), B.Sc. (1910), D.Sc. (1915); mem.: Alpha Chi Sigma, Sigma Xi, Phi Beta Kappa; m. Alice Tyldesley, Sept. 13, 1915; ch.: James Tyldesley, Isabella Jean, Alice Rebecca. Vans Dunlop scholarship, U. Edinburgh, 1909-12; 1851 Exhib. Fellowship, Nobel Inst., Stockholm, Tech. Inst., St. Petersburg, 1912-13; instr. chem., Columbia U. 1913-15; asst. prof. 1915-16; assoc. prof. 1916-22; prof. 1922-26; prof. chem., hd. dept. chem., Wash. Square Coll., N.Y.U., 1926-28; dean of grad. schl., N.Y.U., 1927-28; prof. chem. U. Edinburgh, 1928 to date; (visiting prof., Stanford U. 1919, 1923, U. Calif. 1923, Pa. St. Coll. 1927). Contrib. extens. to sc. and tech. jls. Liasion off. on chem. warfare for U.S., W.W. I (Lt. 1917-19; Lt. Comm. 1924-26); author: "At Home Among the Atoms" 1929; "Breathe Freely," 1938; "Young Chem. & Great Discoveries," 1939; rev. of chem. textbook of Alex. Smith, 1922-40. Mem.: A.C.S. (chmn. N.Y. Sect. 1925), A.I.C. (hon. mem.), Royal Soc. London (fellow); Royal Soc. Edinburgh (fellow) (gen. secy. 1936-46, v.p. 1946-49, pres. 1949 to date); Chem. Soc. of London (fellow), Soc. Chem. Ind., Faraday Soc.; Gov. Heriot-Watt Coll., Edinburgh, 1928-45; dir. Murdoch Trust, Edinburgh, 1933 to date. Dir., Scottish and Dominion Invest. Trust, Edinburgh. Clubs: Chem. (N.Y., hon. mem.), Century Assn. (N.Y.), Univ. (Edinburgh). Hobbies: undergoing surgical operations, bridge.

KENDALL, Paul, pres., Sharples Chemicals Inc., 123 South Broad St., Phila. 9, Pa.; res. 651 Black Rock Rd., Bryn Mawr, Pa.
Exec.; b. Oct. 17, 1894; s. of John Hathaway and Mary Lee (Sherfey) Kendall; ed. A.B., Harvard, 1920; m. Leonora Walz, Apr. 29, 1924; ch.: Paul Carter, Susan Carter. Treas., Crunden Martin Mfg. Co., St. Louis, Mo., 1924-27; secy. and treas., Sharples Chemicals Inc., Phila., Pa., 1927-48, exec. v.p., 1941-Jan., 1950; pres. and treas., Jan., 1950 to date; pres. and dir. Sharples-Continental Corp., Phila., Pa.; dir., Sharples Corp., Phila., Pa. Clubs: Pine Valley Golf; Sunnybrook Golf; Merion Cricket; Harvard (Boston and Phila.); Racquet (Phila.). Hobbies: golf, fishing, gardening.

KENEASTER, Kenneth K., chf. chem., Converted Rice, Inc., P.O. Box 1752, Houston 1, Texas; res. 7138 Neyland, Houston 17.
Chem.; b. Mykawa, Texas, Apr. 27, 1921; s. of Virgil and Iva Marie (Geyer) Keneaster; ed. Webster High Schl., valedictorian; Rice Inst., 1941, B.S. Chem. Engrg.; m. Marie Louise Heinze, Jan. 17, 1942; ch.: Cheryl Marie, James Kenneth, John Richard. June 1941-Sept. 1942, Jos. Seagram & Sons, Lawrenceburg, Ind., prod. & statistics; Sept. 1942-summer 1944 U.S.A. chem. warfare serv.; summer 1944-Sept., 1945, U.S. Air Force (aircraft engrg. off.); Sept. 1945-Mar. 1946 City of Houston Water Div., Jr. sanitary engr.; Mar. 1946 to date, Converted Rice, Inc., chem., chf. chem. Res. of confidential nature in field of rice proc. Mem.: A.C.S., A.O.C.S., A.A.C.C., I.F.T. Hobbies: home gardening, flowers.

KENISTON, Frederick Adams, comptroller, Procter & Gamble Co., Staten Is., N.Y.; res. 109 Riegleman St., Pt. Richmond, S.I., N.Y.
Chem. engr.; b. Rockland, Me., Feb. 15, 1902; s. of Winfield S. and Sadie A. Keniston; ed. Rensselaer Polytech. Inst., Troy, N.Y., June 1927, Ch.E., Sigma Xi. Instr. math., high schl., Rockland, Me., 1920-21; instr. math. sc., Cony H.S., Augusta, Me., 1922-25; factory training, Procter & Gamble, 1928-32; factory supt., St. Bernard Factory, St. Bernard, Ohio, 1932-35; factory supt., St. Louis Factory, St. Louis, Mo., 1935-38; dir. ind. engrg., Procter & Gamble Co., Cincinnati, Ohio, 1938-42; dir. prod., Milan Ordnance Depot, Milan, Tenn., 1942-45; comptroller, Procter & Gamble Co., Staten Is., N.Y., 1945 to date.

KENNARD, Theodore Gladden, partner, Kennard & Drake, 4686 Santa Fe Ave., Los Angeles 58, Calif.; res. 20747 E. Palm Dr., Glendora, Calif.
Chem., metallurg.; b. Glendora, Calif., Aug. 9, 1903; s. of Edwin Orson and Flora (Hesse) Kennard; ed. B.A., Pomona Coll., 1925; Ph.D., Cornell U., 1929; mem.: Sigma Phi Alpha, Alpha Chi Sigma; m. Mary Peterman, Sept. 8, 1927; ch.: Kathryn Rose, Dorothy Anne. Instr. in chem., Pomona Coll., 1929-31; res. fellow in chem., Claremont Coll., 1931-42; asst. chf. chem. and chf. spectroscopist, Kaiser Steel Plant, Fontana, Calif., 1942-44; partner in firm of Kennard & Drake (chemists, metallurgists, engrs.), 1944 to date. Various pubs. on rare elements; color in minerals; spectrochem. anal.; emission control from cupolas. Mem.: Phi Beta Kappa, A.C.S., A.S.M., Optical Soc., A.A.A.S. Hobbies: horticulture (semitropical fruits).

KENNECK, Carl F., asst. supt., Quaker Chem. Prods. Corp., Conshohocken, Pa.; res. 613 Lindley Rd., Glenside, Pa.
Prod. mgr.; b. Phila., Pa., Aug. 28, 1907; s. of Charles and Marie (Ryser) Kenneck; ed. B.S. in Ch. Engrg., Drexel Inst. of Tech.; mem.: Theta Chi; m. Clara F. Zintner, June 20, 1936; ch.: Craig, Carolyn, Clifford. Control chem., John T. Lewis & Bros. Co., July 1928 to Sept. 1929; control chem., Girard Smelt. & Refin. Co., 1929-34; dept. foreman, Girard Smelt. & Ref. Co., 1934-36; asst. supt. Quaker Chem. Prods. Corp., Conshohocken, Pa. Mem.: A.C.S., A.I.Ch.E. Club: The Conshohocken Assoc. Hobbies: horticulture, photography, scouting wk. and camping.

KENNEDY, Harvey Thomas, Distinguished Prof., petroleum engrg. dept., Texas A. & M. College, College Station, Tex.; res. 727 Inwood Dr., Bryan, Tex.
Tchg.; grad. res.; b. Penfield, N.Y., June 3, 1900; ed. Cornell, B.Chem., 1921; Johns Hopkins, Ph.D., 1928; m. Helen D. Baker, Oct. 12, 1922; ch.: 3 daughters. From 1921-24 chem., Municipal Testing Lab., Rochester, N.Y.; 1924-30, jr. asst. oil tech., asst. oil tech. and assoc. sci. in Heat and Power Div., U.S. Bur. of Stds.; 1930 to Sept., 1949, chem., section chf., and asst. chf. of matls. and prod. chem. div., Gulf Res. and Dev. Co., Pittsburgh, Pa.; 1949 to date, Disting. Prof., Petroleum Engrg. Dept., Texas A. & M. College; res. on critical temp. measurements in sm. capillaries; dev. of tests and specs. of lubricants, fuels and other petroleum prods.; also geochem. prospecting. Contrib. num. tech. arts. to sc. jls. Author also of Chapt. 5, Gruse & Stevens, "Chem. Tech. of Petroleum," McGraw-Hill, 2nd ed.; and "Selective Exclusion of Water in Secondary Recovery Operations" (with Andreson and Martin), A.P.I. "Secondary Recovery of Oil in the U.S.," 2nd edit., Part III, Chapt. 24, 1949. Inventor and co-inventor of approx. 15 U.S. pats. Mem.: A.C.S., A.I.M.M.E., A.P.I., A.A.A.S., N.A.C.E.

KENNEDY, Joseph William, prof. of chem., chmn. of dept., Washington U., St. Louis, Mo.; res. 6922 Millbrook Blvd., St. Louis, Mo.
Tchr.; b. Nacogdoches, Tex., May 30, 1916; s. of J. W. and Mattie Baxter (Wade) Kennedy; ed. Stephen F. Austin State Tchrs. Coll., Texas, A.B. 1935; U. of Kans., M.A. 1937; U. of Calif., Ph.D. 1939; m. Adrienne Rushton Clark, Aug. 9, 1942; ch.: Joseph Wade, Burton Mack. 1939-43 instr. in chem. U. of Calif.; 1943-45 div. ldr., Los Alamos Lab. of the Manhattan Engr. Distr., chem. and metallurgy; 1946 to date, prof. of chem. Washington U., St. Louis, Mo. Co-author with G. Friedlander, "Introduction to Radiochem.," 1949. Mem.: A.C.S., A. Phys. Soc.

KENNEDY, Norman Fullerton, dir. of res., Corn Inds. Res. Foundation, 3 E. 45th St., New York 17, N.Y.; res. Calvary Rd., Westport, Conn.
Res. adm.; b. Cleveland, O., May 25, 1896; s. of F. F. and Lizzie D. Kennedy; ed. Williams Coll., A.B., 1917, Harvard Graduate School of Business Adm., M.B.A., 1920; mem.: Psi Upsilon; m. Doris Devereaux, June 26, 1926; ch.: Norman D., Katherine D. 1921-23, Lewis Mfg. Co., Walpole, Mass., dir. of time study; 1924-25, Crosby Steam Gauge Dev. Co., Charleston, Mass., production planning; 1926-31, SMA Corp., Cleveland, O., New England representative; 1933 to present, Corn Industries Research Foundation, dir. of res. The Dorr Foundation, trustee. Mem.: A.C.S. (exec. comm., sugar div.), A.A.A.S., Founder member Inst. Food Technology, Advisory Comm. Nutrition Foundation, Nutrition Council, Amer. Feed Mfrs., A.A.C.C., N.Y. Acdy. of Sc., Amer. Pub. Health Assn., Natl. Farm Chemurgic Council, etc. Bd. of Directors, Norwalk Hospital, Norwalk, Conn. Clubs: Williams Club (N.Y.), Harvard Faculty Club (Cambridge, Mass.), Cosmos (Washington, D.C.). Hobbies: fishing, golf, swimming.

KENNEDY, Paul S., div. v.p., Interchemical Corp., Finishes Div., 57 State St., Newark 1, N.J.; res. 20 Village Green, Orange, N.J.
Devel. and sales; b. Rockland, Me., Sept. 26, 1888; s. of William F. and Clementine (McAllister) Kennedy; ed. graduated Worcester Polytech. Inst., Worcester, Mass., class 1910, B.S. in chem.; m. Eva M. McAfee, Nov. 17, 1926. Chem. with Murphy Varnish Co., 1910, and remained with organiz. to date, having served as tech. dir., gen. supt., sales mgr., v.p. and gen. mgr.; in chg. Advance Camouflage Factory, Nancy, France, 1918, 20th Engrs., U.S.A. Original wk. on elements of wood finish, incl. many papers; chmn. Lacquer Inst., 1926-33; Natl. chmn., Industrial Sales, Paint Varnish and Lacquer Industry, 1933-48. Mem.: A.S.M.E. Clubs: Essex (Newark), Spring Lake Golf (Spring Lake, N.J.), honorary life mem. B.P.O.E.

KENNELLY, Reginald Grice, res. group leader, plastics div., Monsanto Chem. Co., Springfield, Mass.; res. 115 Overbrook Rd., Longmeadow, Mass.
Chem.; b. Cambridge, Mass., Oct. 8, 1909; s. of Arthur Edwin and Julia Grice Kennelly; ed. A.B., 1931, A.M., 1933, Ph.D. 1935, Harvard U., M.S., M.I.T., 1932; mem.: Alpha Chi Sigma, Phi Beta Kappa; m. Ellen Lee Bayard, Oct. 30, 1937; ch.: Richard Bayard. Res. chem., ammonia dept., E. I. du Pont de Nemours & Co., 1935-38; res. chem., plastics div., Monsanto Chem. Co., 1938-39; res. group leader, same connection, 1939 to date. Mem.: A.C.S., A.I.C. (fellow). Clubs: Harvard (New York & Boston), Longmeadow Country, Colony (Springfield), Century (Springfield), Dublin Lake (Dublin, N.H.). Hobbies: music, mountaineering.

KENNERLEY, Francis John, treas., dir., Hercules Powder Co., Wilmington, Del., 900 Market St.; res. 211 Edgewood Dr., Edgewood Hills, Wilmington, Del.
Treas. & dir.; b. Farnworth (near Manchester), England, Sept. 12, 1890; s. of Francis Robert and Mary Ann Bridges Kennerley; ed. General ed. in Eng.; attended night schools and correspondence courses in accounting and commercial subjects in U.S.A.; m. Ethel L. Kennerley, in 1914; ch.: Mary Catherine, Beatrice K. Davis, Frances K. Smith, Robert B. Held the following positions with the du Pont Co.: Nov. 1909, clerk, Wilmington, Del.; Jan. 1911 to Apr. 1913, chf. clerk, Georgetown, S.C. Held the following positions with Hercules Powder Co.: Apr. 1913, gen. clerk & traveling auditor, Wilmington, Del.; Mar. 1923, asst., comptroller, Wilmington; Sept. 1926, comptroller, Wilmington; Mar. 1941, asst. treas., Wilmington, Mar. 1943 treas., Jan. 1947 to present, director. Hercules Chem. Corp., treas. & dir., Hercules Pow-

der Co. (Canada) Ltd., v.p. & treas. Club: Hercules Country (Wilmington, Del.). Hobby: photography.

KENNEY, John Edward, v.p., Foster Wheeler Corp., 105 W. Adams St., Chicago 3, Ill.; res. 940 Forest Glen Dr., Winnetka, Ill.
Engrg. and sales exec.; b. Havre de Grace, Md., Apr. 27, 1900; s. of Daniel Cyril and Catherine Brown Kenney; ed. U. of Notre Dame, Carnegie Inst. of Tech., B.S. in M.E.; mem.: Phi Kappa Psi, Tau Beta Pi; m. Carolina Green, June 16, 1926; ch.: Katherine. Mem.: A.I.Ch.E., A.P.I. Clubs: University (Chicago), Exmoor Country (Highland Park, Ill.), Canadian Club (New York). Hobbies: music, golf.

KENNEY, Robert Porteous, sales manager, chemicals, B. F. Goodrich Chem. Co., 324 Rose Bldg., Cleveland 15, O.; res. 3280 Ingleside Rd., Shaker Heights 22, Ohio.
Chem.; b. Glens Falls, N.Y., Aug. 19, 1915; s. of Lewis Franklin and Mabel (Porteous) Kenney; ed. 1933-37, Dartmouth Coll. A.B.; m. Dorothy A. Egan, Mar. 4, 1944; ch.: Scott Porteous, Noreen Margaret. Chem., Archer Daniels Midland Co., 1937-38; chem., Union Bag & Paper Corp., 1938-42; unit chf., War Prod. Bd., 1942-44; mgr., internatl. sales, B. F. Goodrich Chem. Co., 1944-49, mgr., chem. sales 1949 to date. Mem.: Armed Forces Chem. Assn. Clubs: Chemists' (N.Y.), Chamber of Com. (Cleveland), Mid-Day (Cleveland). Hobby: philately.

KENNY, Donald W., supt. of semi wks., Rohm & Haas Co., 5000 Richmond St., Phila., Pa.; res. 8039 Rowland Ave.
Chem. engr.; b. Medford, Mass., July 16, 1915; s. of Albert V. and Muriel C. Kenny; ed. B.S., M.I.T. 1936; M.S., 1937; m. Audrey L., Apr. 1, 1944; ch.: Douglas W. 1937-40 du Pont; 1940-44 Kendall Ref. Co.; 1944-45 Pittsburgh Coke & Chem. Co.; 1945 to date Rohm & Haas Co.

KENT, William Barnette, chf. chem., Mathieson Chem. Corp., Saltville, Va.; res. same.
Chem., chem. supvr.; b. Saltville, Va.; s. of Joseph C. and Fannie P. (Roberts) Kent; ed. Randolph Macon Acad., U. of Va., M.S.; m. Era M. Marshall, Aug. 16, 1916; ch.: Frances Marshall, William B., Jr., Joseph C., Jr. Routine tester, routine chem., chem. asst., chem., wks. chem., chem. supvr., chf. chem. Mem.: A.C.S., A.S.T.M., Am. Geographic Soc. Trustee, William King Lodge A. F. & A.M. No. 227 Va.; trustee, Madam Russell Memorial Methodist Church. Club: Masons (past master, past district deputy grand master of Va. Masons), Sunday schl. teacher of bible class. Hobbies: household repairs, general tinkering.

KENYON, Richard Lee, assoc. editor, "Ind. & Engrg. Chem.," "Chem. & Engrg. News," 25 E. Jackson Blvd., Chicago 4, Ill.; res. 1304 N. Astor St., Chicago 10.
Tech. editor; b. Athens, Ill., Dec. 11, 1917; s. of Thomas and Elizabeth Kenyon; ed. U. of Ill., A.B., high hon., 1938; U. of N.C., Ph.D., 1942; mem.: Alpha Chi Sigma. du Pont post-doctorate res. fellow, U. of Ill., 1942-43; res. chem., Expt. Station, E.I. du Pont de Nemours & Co., Inc., 1943-46; assoc. editor, "Ind. & Engrg. Chem.," "Chem. & Engrg. News," 1946 to date. Mem.: A.C.S., A.I.C. (fellow), A.A.A.S., Alpha Chi Sigma, Sigma Xi. Club: Chicago Chemists'.

KENYON, William Orlin, hd., chem. dept., Kodak Res. Lab., Eastman Kodak Co., Rochester 4, N.Y.; res. 60 Edgemere Dr., Rochester 12.
Chem.; b. Concordia, Kans., Apr. 23, 1905; s. of Orlin Giles and Catherine Elizabeth (Sheffield) Kenyon; ed. B.S. Washburn Coll. 1927; Cornell 1927-28; A.M. Kansas 1931; Ph.D. org. chem. Rochester 1935; mem.: Phi Beta Kappa, Sigma Xi.; m. Maurine Hazel Grant, June 10, 1929; ch.: William Grant, Charles Sheffield, Janet Maurine. Anal. chem., Columbia chem. div., Pitts. Plate Glass, Ohio, 1927; asst. chem., Cornell, 1927-28; res. chem., Natl. Aniline & Chem. Co., Buffalo, 1928; instr. chem., Washburn Coll., 1928-30; Eastman Kodak Co., res. chem. 1930, asst. supt. in chg. org. res. lab. 1937; hd., high polymer dept. 1948-50; hd., chem. dept. 1950—. Prepn. & properties cellulose esters & syn. polymers; oxidation of cellulose; prepn. unsaturated cmpds.; concentration & sale stable isotopes. Mem.: Alpha Chi Sigma, Tau Delta Pi, A.C.S., Optical Soc., A.A.A.S. Trustee (chmn.) Greece Baptist Church, trustee (chmn.) Union Free Schl. District No. 4, Greece, N.Y. Hobbies: gardening, fishing.

KERR, Thomas J., conslt., Box 717, Collins, N.Y.; res. Collins.
Plastics & coated fabrics conslt.; b. Collins, N.Y., Mar. 25, 1905; s. of Thomas J. and Loraine W. (Wood) Kerr; ed. Clarkson Coll. of Tech., B.S. in Ch.E., 1926, Ch.E. 1932; mem.: Theta Pi Epsilon; m. Ruth G. Powell, Aug. 21, 1926; ch.: Jean Glenora Kerr, Thomas J. Kerr IV. June, 1926-Jan., 1931, chem., Dutchess Bleachery, Inc.; Jan., 1931-Mar., 1932, chem., Columbus Coated Fabrics Corp., Mar., 1932-July, 1935 chf. chem., July, 1935-Sept., 1940 dir. res., July, 1940-Apr., 1945 chem. supt.; Apr., 1945-Jan., 1947, dir. of res., Pantasote Co.; Jan., 1947-Apr., 1948, supt. & asst. dir. sales calender div., Columbus Coated Fabrics Corp.; Apr., 1948-Sept., 1949 mgr. plastics div., Southbridge Finishing Co.; 1949 to date, conslt. During W.W. II served as a conslt. in Office of Q.M. Gen. Mem.: A.C.S. Hobbies: agriculture, travel.

KERTESZ, Zoltan Imre, prof. of chem., N.Y. State Agr. Experiment Station, Cornell U., Geneva, N.Y.; res. 306 Lafayette Ave., Geneva, N.Y.
Res. biochem.; b. Budapest, Hungary, Sept. 2, 1903; s. of Arpad and Ada (Jelenik) Kertesz; ed. Hungary, Ph.D., 1927 (Royal U. of Debreczen); m. Anna Frommer, 1929; ch.: Vera, Christopher John. Asst., Agrochemical Inst., U. of Budapest, 1926-29; post-doctorate res. fellow, U. of Stockholm, 1928; 1929-30, asst. in res., N.Y.S. Agr. Exper. Sta., Geneva, N.Y.; 1930-39, assoc. in res.; 1939 to date, prof. of chem., Div. of Food Sc. and Tech. Over 100 res. and tech. pubs. dealing with plant chem. and biochem., agricultural chem. and foods. Author: "The Pectic Substances" (Interscience Pub., 1951); also editor, series of monographs on "Economic Crops," 2 vols., Interscience. Mem.: A.C.S., A.A.A.S., I.F.T. (charter), Am. Soc. Plant Physiol.; editor, Food Technology, also Food Research; Rockefeller Fellow, U. of Stockholm, 1937-38; (U.S.) Tech. Industrial Intelligence Comm. investigator in Europe, 1945; lecturer in food biochem., var. Australian Universities, 1948-49. Clubs: University (Geneva, N.Y.), Seneca Yacht (Geneva, N.Y.). Hobby: tech. literature and editing.

KESLER, Carl C(hambers), res. dir., Penick and Ford, Inc.; res. 2168 Linden Dr., Cedar Rapids, Ia.
Chem., chem. engr.; b. Dodge City, Kansas, July 24, 1897; s. of William and Mary E. Kesler; ed. Southwestern Coll., A.B., 1920, Ia. State Coll. M.S., 1922, U. of Pittsburgh, Ph.D., 1926; mem.: Phi Lambda Upsilon, Sigma Xi; m. Eliza Hickok; ch.: Mary Alice, Carl C., Jr., and David H. Mellon Inst., of Ind. Res. Ind. Fellow, 1926; Penick and Ford, Inc., chem. engr., factory supt., sales service, dir. of res. and labs. Not. wk.: holder of several U.S. and foreign pats., author of arts. in field. Mem.: A.C.S., A.I.C., Chem. Soc. (London),

T.A.P.P.I., C.I.R.F., A.A.T.C.C. Dir. Independent School District, Cedar Rapids, Ia. Clubs: Pickwick, Country Club. Hobbies: bridge, fishing, golf.

KESTER, Ernest Bowman; in chg. rice utilization section, Western Regional Res. Lab., U.S. Dept. of Agri., 800 Buchanan St., Albany, Calif.; res. 401 Vermont Ave., Berkeley 7, Calif.
Chem.; b. Chicago, Ill., Jan. 9, 1897; s. of Reese B. and Carrie Roome Kester; ed. B.A., 1922, M.S., 1923, U. of Minn., Ph.D., Northwestern U., 1927; mem.: Alpha Chi Sigma; m. Shirley Millman, Nov. 9, 1945; ch.: Nancy Noel, Margaret M. Res. chem., Sharp and Dohme, 1926-27; res. chem. Baltimore Gas Engineering Corp., 1928-30; chg. Organ. Chem. Sec., U.S. Bur. of Mines Exp. Station, Pittsburgh, 1930-33; fellow, Mellon Inst., Pittsburgh, Koppers Co., 1933-39; in chg. of fats and oils section to 1947; in chg. rice utilization sec. 1947 to present, Western Regional Res. Lab., the latter two positions. Res. in organo-arsenicals; coal tar chemicals, extraction of phenols from tar oils; naphthalene resins; glycidyl esters, vegetable fats and oils; chem. of phosphatides, rice and rice products, stabilization of brown rice. Mem.: Phi Beta Kappa, Phi Lambda Upsilon, Sigma Xi, A.A.A.S., Amer. Chem. Soc., Amer. Oil Chemists Soc., Inst. of Food Technologists. Hobbies: gardening, choral singing.

KETTERING, Charles Franklin, dir., Gen. Motors Corp., Detroit, Mich.; res. Ridgeleigh Terr., Dayton, Ohio.
Exec.; b. near Loudonville, Ashland Co., O., Aug. 29, 1876; s. of Jacob and Martha (Hunter) Kettering (both dec.); ed. Loudonville Dist. & H.Schls.; Wooster (O.) Normal Schl.; State U., class of 1904; mem.: Sigma Xi, Tau Beta Pi; hon. degrees, awards: U. of Cincinnati, 1928, D. Sci.; U. of Mich., 1929, D.Engrs.; O. State U., 1929, awarded Sullivant M. for noteworthy results in sci., and also made him D.Engrg.; Poly. Inst. of Bklyn. (N.Y.), 1930, D.Engrg.; Brown U., 1932, D.Sc.; U. of Detroit, 1934, D.Engrg.; Toledo (O.), U., 1934, D.Sci.; Northwest. U., 1935, D.Sci.; Lafayette Coll., Easton, Pa., 1936, D.Sci.; Feb. 25, 1936, rec. Wash. Award from the 4 Founder Engrg. Socs. and the West. Soc. of Engrs., for guiding Indus. & Res.; May 8, 1936, Bd. of City Trs. of Phila., conferred John Scott Memorial Award (Bronze M. and $1,000) for invention of auto self-starter; May 20, 1936, awarded Franklin Gold M. by Franklin Inst. of Phila. for "significant and timely contribns. to Sci. of Automotive Engrg.;" m. Olive Williams, Aug. 1, 1905; ch.: Eugene Williams. First taught country schl.; then installation man, Star Tel. Co., Ashland, O.; inventor and engr., Natl. Cash Reg. Co., Dayton, O., 7 yrs.; organized with Edw. A. Deeds Dayton Engrg. Labs. Co. (Delco) to mfr. one of Mr. Kettering's inventions, the Delco starting, lighting and ignition syst. for autos; inventor of Delco-Light farm ltg. system; ignition on Liberty Motor; Ethyl Gasoline; numerous impvts. on autos; dev. 2-cycle Diesel now used on Diesel locomotives, submarines, trucks, buses and boats; in 1916 estab. res. lab. at Dayton (moved in 1925 to Detroit); v.p. Gen. Motors Corp., gen. mgr. Res. Labs. Div., retired from both offices in 1947; now dir. of Gen. Motors Corp., Detroit. Mem.: S.A.E.; A.S.M.E.; A.I.E.E.; dir., Natl. Cash Reg. Co.; Mead Corp.; A.S.T.M.; A.S.M.; Am. Soc. C.E.; Am. Acad. of Soc. & Polit. Sci.; Am. Philosoph. Soc.; A.Phys.S.; Am. Acad. Sci.; Natl. Acad. of Sci. (F., since 1938); A.A.A.S. (pres. in 1946); Soc. Mil. Engrs.; A.C.S.; Natl. Gas Engrs. Assoc.; Engrg. Soc. of Detroit. Clubs: Dayton Engrs. (founder, part donor of club house, now dir.); The Army and Navy, Detroit Yacht. Hobby: engrg. and sci. res. and dev.

KETZLACH, Norman, chf. chem., Manganese Prods. Inc., 4260 W. Marginal Way, Seattle 6, Wash.; res. 618 Randolph Pl., Seattle.
Chem. engr.; b. Seattle, Wash., Sept. 8, 1921; s. of Michael N. and Esther Ketzlach; ed., B.S. chem. engrg., U. of Wash., June, 1943, M.S. chem. engrg. Oct., 1944; m. Esther Chernichowsky, Feb. 9, 1947; ch.: Kalman Joseph. Teaching fellow in ind. chem., U. of Wash., 1943-44; chem., chem. engr., Manganese Prods. Inc., 1944-45, chf. chem. 1945 to date. Pat. applied for Mar., 1950 on prod. of ammonium sulfate. Presented tech. paper on Prod. of Ammonium Sulfate & Manganese Oxides at Third Annual Northwest Ind. Minerals Conference sponsored by Columbia Sec. in co-operation with Ore. & North Pacific Sec. A.I.M.E., May, 1949. Mem.: A.I.Ch.E., A.C.S. Honor soc. while at U. of Wash.: Sigma Xi, Tau Beta Pi, Phi Lambda Upsilon, Zeta Mu Tau. Hobby: photography.

KEYES, Donald Babcock, v.p. in chg. of Planning & Dev., Heyden Chem. Corp., 393 Seventh Ave., New York 1.
Chem. engr.; b. Westerly, R.I., Feb. 8, 1891; ed. U. of N.H., B.S. 1913; Columbia U., M.A. 1914; U. of Calif., Ph. D., 1917; U. of N.H., (hon.) D.Sci., 1946; Stevens Inst. of Tech., (hon.) D. Engrg., 1947; m. Stella Marguerite Liss; ch.: Nancy Chloe. Chem. engr. Beckman & Linden Corp., 1917-18; chem. engr., U.S. Indust. Alcohol & U.S. Indust. Chem. Cos., 1918-24; dir. of res. for same, 1924-26; prof. of chem. engrg. and hd. of chem. engrg. div., U. of Ill., 1926-45; also on exec. staff of Eng. Exp. Sta.; hd. of Chem. Sect. of Civilian Supply Div. of O.P.A.C.S., summer, 1941; conslt. for Chem. Div., O.P.M., Fall, 1941; hd. conslt. for Chem. Div., W.P.B., 1942; also chmn. of Chem. Referee Bd. of Off. of Prod. Res. and Dev. of W.P.B., 1942-45; chf. of Chem. Indus. Branch, O.P.R.D., Jan., 1943-July 1, 1944; dir. of O.P.R.D. July 1, 1944; resigned Oct. 31, 1945; v.p. of Heyden Chem. Corp. since Nov. 1, 1945; dir. of Heyden Chem. Corp., since 1946; dir. of Amer. Plastics Corp., Mar., 1946-Jan., 1948; dir. of Amer. Potash & Chem. Corp., and mem. of exec. comm. Oct., 1946 to Apr., 1950; mem. chem. engrg. advisory bd., John Wiley & Sons, since 1937; res. in distillation and partial oxidation. Author: "Chem. Engineering Manual" (with A.G. Deem), 1942; "Indust. Chems." (with W.L. Faith and R.L. Clark), 1950. Mem.: A.C.S., A.I.Ch.E., A.I.C., A.A.A.S., E.S., S.C.I., Indus. Res. Inst., Commercial Chem. Dev. Assoc., Armed Serv. Chem. Assoc., Amer. Ordn. Assoc., Natl. Assoc. of Mfrs. Comm. on Pats. and Res., Alpha Chi Sigma, Sigma Xi, Phi Lambda Upsilon, Omega Chi Epsilon; rec. Honor Scroll from Chicago Chapt. of Amer. Inst. of Chemists, Oct., 1945; rec. Honor Scroll from N.Y. Chapt. of Amer. Inst. of Chems., May, 1949. Trustee, B.R. Armour Foundation (Calif.) since 1947; mem. Engrg. Advisory Comm., N.Y.U., since 1949, and of the Prof. Degree Advisory Comm., Cooper Union, since 1949. Clubs: Cosmos (Wash., D.C.); University (N.Y.), Chemists' (N.Y.). Hobby: photography.

KEYES, Frederick George, prof. of physical chem., emer., lecturer, M.I.T., Cambridge 39, Mass.; res. 15 Berkeley St., Cambridge 38.
Prof.; b. Kingston, Ontario, June 24, 1885; s. of John George and Margaret (Williams) Keyes; ed. B.S., R.I. State Coll., 1906; M.S., Brown U., 1907, Ph.D. 1909; D.Sc., Yale U. 1934 & R.I. Coll., 1942; m. Gabrielle Alice Bowers, Dec. 27, 1923. Asst. in chem., Brown U., 1906-07, instr. 1908-09; G.A.R. Res. Fellow, 1909; res. assoc. in physical chem., M.I.T., 1910-13; chf. engr., Cooper-Hewitt Elec. Co., 1913-16; assoc. prof. physical chem. res. 1916-19, dir. res. lab. physical chem. 1920-45, in chg. dept. of chem. 1922-45, prof. of physical chem. res. 1945-50, M.I.T. Res. in physical

chem. Author: "Thermodynamic Properties of Ammonia" 1916; co-author: "Thermodynamic Properties of Steam" with J.H. Keenan, 1936. Mem.: Am. Acdy. Arts & Sc. (fellow), A.Phys.S. (fellow), A.C.S., Am. Math. Soc., Natl. Acdy. Sc., Am. Soc. Refrig. Engrs. (hon.), A.S.M.E., Phi Sigma Kappa, Sigma Xi. Awards: Theodore William Richards M. 1942; A.S.M.E. M. 1948. Commd. Capt. U.S.A., Dec., 1917; Major, Sept., 1918; dir. Sc. & Control Lab. A.E.F. at Puteau, France, 1918-19; citation by comdr.-in-chf., A.E.F., June, 1919.

KEYES, Harmon Edward, conslt. chem. & metallurg. engr., 508 E. Culver St., Phoenix, Ariz.; res. same.
Consltg. engr.; b. Florence, Wis., July 17, 1892; s. of Edward E. and Cora I. Keyes; ed. M.I.T., 1912-13; U. of Wash., B.S., 1921, M.S.Ch.E. 1922, Ch.E. 1924; mem.: Delta Kappa Phi; m. Alice M. Cole, June 27, 1919; ch.: Elizabeth Jeanne (dec.), Mary Alice, Harmon Edward Jr., Carolyn Ruth, John David. Consol. Min. & Smelt. Co. of Canada, Ltd., asst. chem., 1917-19; Bunker Hill & Sullivan Min. & Concn. Co., chem. res., 1922-24; U.S. Bur. of Mines, assoc. met., 1924-27; Globe-Miami Dist., Ariz., metall. cons., 1927-30; Miami Copper Co., exp. eng. to hd. res. dept., 1930-37; dev. & patenting chem. process improvements in copper leaching, sewage, water & pickle liquor treat. using autoxidation meth. of sulphur dioxide conversion to acid or ferric sulphate, 1938 to date; City of Phoenix, dev. of autoxidation process for use in sewage & water treat.; also dev. and direction of general program for autoxidation process applications; Coast Artillery, W.W. I; Major, C.W.S., W.W. II; Lt. Col. Chem. Corps U.S.A.R. Overvoltage relations in electrolytic zinc deposition; dev. of reactor cells for sulphur dioxide fixation to acid or ferric sulphate by autoxidation; copper recovery by leach-precipitation-flotation; sponge iron prod.; pickle liquor regeneration; treat. of alkaline soils. Author: "Innovations in Copper Leaching" U.S. Bur. of Mines Bull. 321, 1930; various articles on copper leaching, acid & ferric sulphate prod. Mem.: A.I.M.E., A.C.S., A.W.W.A., Fed. Sewage Wks. Assn., Natl. Soc. Prof. Engrs., Sigma Xi, Phi Lambda Upsilon, Tau Beta Pi, A.I.M.E. Comm. on Hydrometallurgy, Reserve Officers Assn. (past vice-pres., Arizona Dept.), Military Order of World Wars (past commander, Phoenix Chapter). Club: Engineers (N.Y.C.). Hobbies: camping, fishing.

KIDDE, Gustave Edgar, mgr. of mfg., and tech. dir., Filtrol Corp., 2657 Short St., Los Angeles 23, Calif.; res. 626 Bellefontaine St., Pasadena 2, Calif.
Chem. engr.; b. Detroit, Mich., June 4, 1911; s. of Regnar and Elvina (Riebe) Kidde; ed. M.I.T., B.S. in Ch.E.; mem.: Phi Beta Epsilon; m. Mary Orear, 1945; ch.: John Edgar, Thomas Sloan. With Gen. Chem. Co., 1933-36, engr. and foreman; Std. Oil Co. of N.J., 1936-40, chem. engr.; U.S.A., 1940-46, Col., Gen. Staff Corps; F.D. Snell, 1946-48, chf. engr.; Filtrol Corp., 1948 to date, mgr. of mfg. and tech. dir. Author: "Infantry Attacks," 1943. Mem.: A.C.S., A.I.Ch.E., prof. engr. of N.J. and Calif. Hobby: firearms.

KIDDE, John F., pres., Walter Kidde & Co. Inc., 675 Main St., Belleville 9, N.J.; res. 71 Eagle Rock Way, Montclair, N.J.
Mfr.; b. Montclair, N.J., Oct. 21, 1905; s. of Walter and Louise (Carter) Kidde; ed. B.A., Princeton U., 1926; M.E., Stevens Inst. of Tech., 1928; mem.: Terrace Club of Princeton U., Beta Theta Pi of Stevens Inst. of Tech.; 1st m. Katharine Lyon, Apr. 19, 1929; 2nd m. Mary Taylor MacKenzie, Mar. 24, 1942; ch.: Katharine, John Lyon. Budget dept., Cities Serv. Co., N.Y., 1928-29; stock broker, J.R. Williston & Co., N.Y., 1929-34; adv. mgr. 1934-37, Walter Kidde & Co. Inc., N.Y.; treas., Walter Kidde & Co. & Walter Kidde Constructors, Inc., 1937-43; dir. since 1931 & pres. since 1943, Walter Kidde & Co.; pres., dir., Walter Kidde Co. of Canada, Ltd., since 1943; dir., Bloomfield Tool Corp., Kidde Mfg. Co. & other subsidiaries of Walter Kidde & Co.; dir. since 1937 & chmn. finance comm., Walter Kidde Constructors, Inc. Firemen's Ins. Co. of Newark, N.J., dir.; Natl. Newark & Essex Banking Co., Newark, N.J., dir. Dir., Natl. Fire Protection Assn.; dir., N.J. Safety Council; dir., N.J. State Chamber of Comm., Natl. Assn. of Mfrs., Lutheran Memorial Hosp., Newark, Jr. Achievement, Inc.; Trustee, Belleville Mfrs. Assn., Belleville Foundation, Stevens Inst. of Tech. Clubs: Newcomen Soc., Indus. Conference Bd., Montclair (N.J.) Golf, Natl. Links of Am. (Southampton, N.Y.), Seaview Country (Absecon, N.J.), Quantuck Beach, Links (N.Y.), Essex (Newark), Stevens Metropolitan, Ketchaboneck.

KIDDOO, Gordon, tech. dir., Continental Carbon Co., 1400 W. 10th Ave., Amarillo, Texas; res. 2901 Harrison St., Amarillo.
Chem. engr.; b. Omaha, Nebr., Aug. 14, 1920; s. of Guy C. and Helen S. Kiddoo; ed. Cornell U., B.chem.E., 1943; mem.: Sigma Phi; m. Lois Ford; ch.: Stephen, Nancy Ann. Chicago Corp., 1943-44, chem. engr.; Hydrocarbon Res. Inc., 1944-48, chem. engr.; Texas Co., 1948-49, chem. engr.; consltg. engr. 1949-50; Continental Carbon Co., 1950 to date, tech. dir. Mem.: A.C.S., A.I.Ch.E. Club: Amarillo Country. Hobbies: reading, gardening.

KIEFFER, William Franklin, prof. of chem., Coll. of Wooster, Wooster, Ohio; res. 430 Pearl St., Wooster.
Coll. prof.; b. Trenton, N.J., Mar. 16, 1915; s. of William M. and Jeannette H. Kieffer; ed. Coll. of Wooster, B.A., 1936; Ohio State U., M.Sc., 1938; Brown U., Ph.D., 1940; mem.: Gamma Alpha; m. Elaine Steele, June 22, 1940; ch.: Richard W., Lois J. Instr., Coll. of Wooster, 1940-42; instr., Western Reserve U., 1942-44, asst. prof. 1944-46; prof., Coll. of Wooster, 1946 to date. Photochem. (Ph.D. thesis), contributions to Journal of Chem. Ed. Mem.: A.C.S. (chmn. Wooster Sec.), A.A.A.S., Ohio Acad. of Sc. Trustee, Westminster Presby. Church.

KIEFT, Lester, chmn., dept. of chem., Bucknell U., Lewisburg, Pa.; res. 623 Market St., Lewisburg.
Prof. of chem.; b. Grand Haven, Mich., Sept. 18, 1912; s. of Martin and Deana (Rossien) Kieft; ed. Hope Coll. A.B. 1934; Pa. State Coll. M.S. 1936, Ph.D. 1939; mem.: Phi Kappa Alpha, Blue Key, Alpha Chi Sigma; m. Norma Reichenbacher, June, 1941; ch.: John Martin, Richard Leonard. Grad. asst., Pa. State Coll. 1934-37; asst. prof., Pa. State Jr. Coll. 1937-42; assoc. prof., Bucknell U. 1942-46, hd., chem. dept. 1944 to date. Anal. properties of salts of iodomettalic acids; separation & determination of bismuth with gallic acid. Mem.: A.C.S., A.A.A.S., Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma. Club: Lions Internatl. Hobbies: travel, sports.

KIELY, Helen U., dir. res. and labs., Amer. Writing Paper Corp., 9 Main St., Holyoke, Mass.; res. 10 Munroe St., Northampton, Mass.
Chem.; b. Northampton, Mass.; d. of Thomas H. and Ella T. Kiely; ed. Smith Coll., Mass. State Coll., A.B. General Chemical, analyst; Rockefeller Inst., biolog.; Amer. Writing Paper Corp., cellulose & paper. Standard methods simplification and standardization in paper industry. Mem.: A.C.S., T.A.P.P.I. Clubs: Quota Club, Business & Professional Women.

KIENLE, Roy Herman, dir. of application res. dept., Am. Cyanamid Co., Calco Chem. Div., Bound Brook, N.J.; res. Shepherd Ave., Bound Brook, N.J.
Res. chem.; b. Easthampton, Mass., Apr. 27, 1896; s. of Edmund F. and Emily M. (Hupfer) Kienle; ed. Worcester Polytech. Inst. 1912-16 B.S.; Union Coll. 1924-27 M.S.; Rutgers U. Ph.D. 1934-38; mem.: Cosmopolitan Club (W.P.I.) Sigma Xi (W.P.I.); m. Ruth L. Hine, June 17, 1920; ch.: Lawrence Frederick, Robert Nelson. Student chem., June, 1915-Oct., 1915, E.I. du Pont de Nemours; Gen. Elec. Co., chem., 1916-17; Bur. of Mines, Am. Univ. Exp. Station, jr. chem., 1917-18; Gen. Elec. Co., res. lab. (Schenectady), res. chem., 1919-33; Am. Cyanamid Co., 1933 to date, asst. res. dir., dir. of application res. dept. Res. in physical & colloid chem.; syn. resins; polymers; paints & varn.; dyes; pigments; insulation (elec.). Mem.: A.C.S. (secy., east. N.Y. sec. 1927-29, secy.-treas. paint, varn. & plastics div. 1933-35, chmn. 1937, mem. exec. comm. 1938); A.I.C. (fellow); Faraday Soc.; N.Y. Acdy. of Scs. (fellow); Soc. of Dyers & Colourists; Soc. of Chem. Ind.; A.A.T.C.C.; N.Y. Paint & Varn. Prod. Clubs; 1949 J.J. Mattiello Lecturer, Federation of Paint & Varn. Prod. Clubs. Clubs: Raritan Valley Country, Chemists'. Hobbies: golf, gardening.

KILBOURNE, Frederick Lewis, Jr., chf. chem., Xylos Div., Firestone Tire and Rubber Co., Akron 1, O.; res. 215 Ritchie Rd., R.D. 3, Kent O.
Chem.; b. Westboro, Mass.; s. of Fred L. and Harriet E. (Burr) Kilbourne; ed. Brown U., Sc. B. in chem., magna cum laude, M.S. Akron U., Ph.D., M.I.T.; m. Pearl S. Smith, July 30, 1927; ch.: Carol Louise, Audrey Alice, Richard Thomas. Firestone Tire and Rubber Co., 1927-31, control chem., res. chem.; graduate work, 1931-34; Firestone Tire and Rubber Co., 1934-50, res. chem., chf. chem. of Xylos Div. Res. on reclaiming of synthetic rubber. Mem.: Sigma Xi, A.C.S.

KILGORE, Lowell Berry, chf., chem. div., office domestic commerce, Dept. of Commerce, Wash., 25, D.C.; res. 3039 Davenport St., N.W., Wash. 8.
Chem. economist; b. Lafferty, Ohio, Jan. 28, 1901; s. of William M. and Charity A. Kilgore; ed. A.B. Oberlin Coll. 1923; A.M. 1925; Ph.D., Johns Hopkins U. 1931; mem.: Alpha Tau Omicron; m. Helen L. Ford, June 22, 1929; ch.: Kathleen Chanty, Daniel Ford. 1925-27 res. chem., du Pont Rayon, Buffalo, N.Y.; 1930-33 sr. res. fellow, U.S. Dept. Agri., Wash., D.C.; 1933-35 conslt. Food Ind.; 1935-47 exec., res. dir., Kilgore Dev. Corp., Kilgore Chems., Inc. (leave during war 1942-45 as economist, conslt., War Requirements Comm., combined raw matls. bd., W.P.B.; off. of tech. serv., Dept. Commerce; 1948 to date chf., chem. & drugs div., off. domest. commerce. Invented first synth. topical anti-malarial (insect repellent) 1935; used by Armed Services throughout the war; first synth. sun screen "organic BK-5," first synth. org. chem. air deodorant. Mem.: A.C.S.; Assn. Am. Entomologists; trustee, builder (lay chmn.) Westmoreland Cong. Ch., Wash., D.C. Hobby: photography.

KILLEFFER, David Herbert, chem. conslt., pub. relations counsel, 168 Westchester Ave., Crestwood, Tuckahoe 7, N.Y.; res. same.
Chem., chem. engr., pub. relations counsel; b. Columbia, Tenn., Dec. 22, 1895; s. of Alexander C. and Louise (Ayres) Killeffer; ed. U. of N.C., 1911-15, B.S. in Ch.E., 1915; Babbitt Scholar, 1914-15; University Poetry Prize, 1915; mem.: Sigma Upsilon; m. Dorothy Savage, Dec. 4, 1922; ch.: Robert Ayres. Brown Labs., chem. 1915-16; N.C. & St. L. Ry., chem., 1916-18; Calco Chem. Co., chem., 1918-19; "Drug & Chem. Markets," market ed., 1920-22; "Ind. & Eng. Chem.," assoc. ed. 1922-28; contrib. ed., 1931-44; contrib. ed. "Scientific American," 1924-48; sometime contrib. ed., Nelson's Loose-Leaf Encyc.; also regular contrib. to "Rotarian" and to "Industry" at times. Author: "Eminent Amer. Chemists," 1924; "The Genius of Industrial Research," 1948; "The First 150 Years . . . ," 1948; "The Chem. of Molybdenum" (with Arthur Linz), 1951. Editor, "Engrg. —A Career, a Culture," 1932. Popular and tech. arts. and books on sc. subjects; res. in refrigeration with solid carbon dioxide; 14 pats. (one with C. L. Jones); res. in the chem. of molybdenum. Mem.: A.C.S. (secy. of N.Y. Sect., 1924-27); A.I.Ch.E. (pub. comm.); A.I.C. (fellow); Amer. Inst. of the City of N.Y. (bd. of mgrs., bd. of audit); A.A.A.S. Club: Chemists' (N.Y.), var. comm. assignments. Hobbies: philately (ships on stamps); yachting, chess.

KILLHEFFER, Elvin H., res. Sewall's Point, Fla., P.O. Box 665, Stuart, Fla.
Retired; b. Millersville, Pa., Jan. 16, 1884; s. of John D. and Alice C. Killheffer; ed. Phila. Textile Inst., U. of Pa., U. of Berlin; m. Marcella C. Maher; ch.: Theo., John, Louise Hagens, Elvin, Jr. 1903-14, Kalle & Co., Biebrich A/Rhine, Germany; 1914-16, Orient Trading Co.; 1916-18, Am. Color Mfg. Co., pres.; 1918-31, Newport Co., Newport Chem. Wks., pres.; 1931-49, E. I. du Pont de Nemours. Pres., Syn. Org. Chem. Mfrs. Assn. until Dec., 1949. Mem.: A.A.T.C.C. (pres. 1927-30), A.C.S. Clubs: Wilmington (Wilmington, Del.), Chemists' (N.Y.), Union League (N.Y.), Torch (Wilmington).

KILPATRICK, Martin, prof. & chmn. dept. of chem., Ill. Inst. of Tech., Chicago 16, Ill.; res. 3934 N. Frontier Ave., Chicago 13.
Prof. of chem.; b. N.Y.C., Apr. 3, 1895; s. of Martin and Martha (Anderson) Kilpatrick; ed. A.B., C.C.N.Y., 1915; A.M., Columbia U., 1917; Ph.D., N.Y.U., 1923; m. Mary Lydston Johnson, Dec. 24, 1921. Tutor, C.C.N.Y., 1915-19; asst. prof. chem., Vassar Coll., 1919-23; asst. prof. chem., Duke U., 1923-25; Natl. Res. Council fellow, Johns Hopkins U., 1925-27; Natl. Res. Council fellow, U. of Copenhagen, Denmark, 1927 res. scientist, U. of Copenhagen under grant from Rask-Orsted Foundation, 1927-28; asst. prof., assoc. prof., prof. of chem., U. of Pa., 1928-47; during war period 1942-45 on leave of absence as asst. to dir. of res. & div. dir., S.A.M. Labs. Manhattan Project, Columbia U.; conslt. & coordinator of res. & dev. program on hydrogen peroxide for Bur. of Ordnance U.S.N., 1945-48; prof. of chem. & chmn. of chem. dept., Ill. Inst. of Tech., 1947 to date. Over 75 publ. in sc. jls.; flds. of specialization physical chem., kinetics, sols., acids & bases. Mem.: A.C.S., Sigma Xi, A.A.A.S., Phi Lambda Upsilon. Hobbies: tramping & camping, one of the few people who have walked the Appalachian Trail from Maine to Georgia.

KIMBALL, Cyril S., v.p., Foster D. Snell, Inc., 29 W. 15th St., New York City; res. 80 Chittenden Ave., Tuckahoe 7, N.Y.
Chem.; b. Manville, R.I.; s. of Daniel W. and May C. Kimball; ed. R.I. State Coll., B.S., 1926; mem.: Lambda Chi Alpha; m. Carolyn S. Forbes, Oct. 24, 1931; ch.: Warren F., Carolyn F., Suzan L., Daniel W. Asst. chem., Foster D. Snell, Inc., 1926-27, chem., 1927-29, chf. chem., 1929-31, conslt. chem., 1931 to date, v.p., Foster D. Snell, Inc., 1935 to date. Chmn. Wax. Comm., Chemical Specialties Mfrs. Assn., Waxes, Emulsions, Chemicalty Products, Coal Briquets. Hon. Secy., Am. Section, Soc. Chem. Ind., 1937-46, chmn. Amer. Section, Soc. Chem. Ind., 1947-48. Mem. Advisory Comm. to Chem. Dept., R.I. State Coll. Club: The Chemists' (New York).

KIMBALL, George E(lbert), chem. prof., Columbia U., New York 27, N.Y.; res. 384 Highwood Ave., Leonia, N.J.
University prof.; b. Chicago, Ill., July 12, 1906; s. of Arthur G. and Effie Smallen Kimball; ed. B.S. Princeton U., 1928, A.M. Princeton U., 1929; Ph.D. Princeton U., 1932; Natl. Res. Fellow, M.I.T., 1933-35; m. Alice Thurston Hunter, June 22, 1936; ch.: Prudence, Thomas, Susanna, Martha. Instr. in Physics, Hunter Coll., N.Y.C., 1935-36; instr. in chem., Columbia U., 1936-39; asst. prof., 1939-46; assoc. prof., 1946-47; prof. since 1947; on leave from Columbia as member of Operations Res. Group, Office of commander-in-chf., U.S. Fleet, 1942-46; deputy dir., 1944-46. Res. in the applications of Quantum mechanics to chem., electrochem., molecular structure, reaction kinetics, high polymers, operations res.; examiner and reader, college entrance exam., bd., mem. com. on contact catalysis, Natl. Res. Council. Co-author with Henry Eyring and John Walter "Quantum Chemistry," 1944. Mem.: A.C.S., Amer. Physical Soc. (fellow), Acdy. of Sc. (N.Y., fellow), Sigma Xi (secy. treas., Columbia Chapter, 1940-43), Presidential Certificate of Merit, 1947. Club: Cosmos.

KIMBALL, John Willard, chf. lacq. chem., Valspar Corp., Jacobus Ave., S. Kearny, N.J.; res. 85 Wash. St., E. Orange, N.J.
Res. chem.; b. Manhattan, Kans., July 30, 1889; s. of Charles W. and Louise C. Chaffee Kimball; ed. Colby Coll., B.S., 1912; Johns Hopkins U., Ph.D., 1916; mem.: Delta Kappa Epsilon; Gamma Alpha; m. Leslie A. Whitney, 1922. Instr. chem., Colby Coll., 1912-13; asst. prof. chem., U. Maine, 1916-17; instr., Western Reserve, 1917-18; C.W.S., U.S.A., 1st Lt., 1918-19; res. chem., du Pont Co., 1919-21; res. chem. Natl. Aniline & Chem. Co., 1921-24; res. chem. Valentine & Co. (Valspar Corp.), 1924 to date. Mem.: A.C.S.

KIMBALL, Vera F., editor, "The Chemist," 60 E. 42nd St., N.Y. 17, N.Y.; res. 333 W. 26th St., N.Y. 1.
Editor, writer; b. Seward, Alaska, Feb. 8, 1903; d. of Irving L. and Della (Carpenter) Kimball; ed. Barnard Coll., Columbia U., N.Y., scholarships, A.B. 1929; m. William Thomas Castles, Jr., Dec. 7, 1942. 1923, Legislature of Territory of Alaska, Juneau, Alaska; 1923-24, Alaska R.R., Anchorage, Alaska; 1925-28, part time wk. during coll. yrs. & summer vacations as counselor at a girls' camp, Me.; secy., Florentine Center, N.Y., North Am. Newspaper Alliance; ind. arts. dept., Metropolitan Museum of Art; Gen. Foods Corp.; Todd-Robertson & Todd; 1929, asst. to secy., A.I.C.; 1935 to date, editor, "The Chemist." Vocational guidance & public relat.; summaries of annual dev. in chem. & photography, in popular vein, for yrs. 1946-50 incl. for Yearbook of World Scope Encyclopedia. Co-author: "Firearms & Their Use," 1942, with W. T. Castles Jr.; sr. co-author: "Your Future in Chem.," A Monograph, 1943, with M. R. Bhagwat; num. spec. arts. for misc. publ. Mem.: A.A.A.S. Clubs: Barnard Coll., Barnard Coll. Alumnae Assn. Hobbies: photography, nature study, Am. history, anthropology.

KIMBER, George Harold, managing dir., Calcium Chloride Assn., 1200 Eighteenth St., N.W., Wash. 6, D.C.; res. 3900 Conn. Ave. N.W., Wash., D.C.
Managing dir.; b. E. Syracuse, N.Y., Aug. 19, 1893; s. of William A. and Elizabeth Kimber; ed. Syracuse U., 1916 B.S. in chem.; mem.: Phi Delta Theta, Alpha Chi Sigma; m. Hazel Koch, Apr. 12, 1927. Semet Solvay Co., N.Y., anal. chem., 1916; W.H. Beckers Aniline & Dye Co., Bklyn., N.Y., plant & res., 1916-17; U.S.A. Air Serv., pilot, 1917-18; U.S. Color & Chem. Co., Ashland, Mass., plant supt. 1919-20; Semet Solvay, org. res., 1920-21; Solvay Process Co., tech. serv., 1921-22 Wing & Evans & Solvay Sales Corp., sales, sales mgr., 1923-45; Calcium Chloride Assn., managing dir., 1946 to date. Mem.: Highway Res. Bd., Am. Road Builders' Assn., A.S.T.M. Clubs: Congressional Country (Wash., D.C.), University (Wash., D.C.). Hobbies: golf, fishing.

KIND, Paul A., gen. mgr., treas., Kind & Knox Gelatin Co., 5th & Erie Sts., Camden 2, N.J.
Chem.; b. Aussig, Bohemia, Austria; s. of Morris and Hermine Kind; ed. Phila. Coll. of Pharmacy, B.S., Sc.D.; m. Edith Clement, Apr. 21, 1919; ch.: Edith, Eleanora, Paul, Clement. Haddonfield Natl. Bank, dir.; Kind & Knox Gelatin Co., dir., officer; Northern Building & Loan Assn., dir. Mem.: A.C.S., A.A.A.S. Trustee, Phila. Coll. of Pharmacy & Sc. Clubs: Union League (Phila.), Metropolitan (Wash., D.C.), Chemists' (N.Y.).

KINDQUIST, Eric Birger Tage, chf. metallurgist, Eastwood Nealley Corp., Belleville 9, N.J.; res. 117 Davey St., Bloomfield, N.J.
Metallurg. engr.; b. Stockholm, Sweden, July 10, 1918; s. of Eric E. I. and Kathie G. M. Kindquist; ed. Pratt Inst., Bklyn., N.Y., B.Ch.E. 1939; N.Y.U. 1939-40; m. Hervor Persdotter Arnell, Feb. 10, 1949. Jr. metallurgist, Internatl. Nickel Co., Bayonne, N.J. 1939-41; res. engr., R.C.A. Mfg. Corp., Harrison, N.J. 1941-42; res. engr., Battelle Memorial Inst., Columbus, Ohio, 1942-45; chf. metallurgist, Eastwood Nealley Corp. 1946 to date. Mattias Hagglund, Inc. (dir.), Imanex, Inc. (advisor). Mem.: A.S.T.M., A.S.M., A.I.M.E.

KING, Charles C, process engr., The M. W. Kellogg Co., 225 Broadway, New York; res. 19 Garden Dr., Roselle, N.J.
Chem. engr.; b. Quincy, Mass., Oct. 30, 1916; s. of Louis C. and Marion King; ed. M.I.T. 1934-39; mem.: Alpha Chi Sigma; m. Lois G. Seip, Nov. 4, 1939. Process engr., The M. W. Kellogg Co., 1939-43; process engr., The Kellex Corp., 1943-44; process engr., in chg. Gas Processes Division, The M. W. Kellogg Co., Sept. 1944 to date. Mem.: A.I.Ch.E. Hobbies: photography, radio, golf.

KING, Charles Glen, sc. dir., The Nutrition Foundation, Inc., Chrysler Bldg., New York 17, N.Y.; res. 54 Malvern Rd., Scarsdale, N.Y.
Scientific dir. & prof. of chem., Columbia U.; b. Oct. 22, 1896, Entiat, Washington; s. of Charles Clement and Mary (Bookwalter) King; ed. B.S., Washington State Coll., 1918, Hon. Sc.D., 1950; M.S. and Ph.D., U. of Pittsburgh, 1920 and 1925, Hon. Sc.D., 1950; mem.: Sigma Xi, Omicron Delta Kappa, Phi Beta Kappa, Lambda Chi Alpha, Alpha Chi Sigma, Phi Lambda Upsilon, Phi Kappa Phi, Phi Sigma; m. Hilda Bainton, Sept. 11, 1919; ch.: Dorothy Hammel, Robert Bainton, Kendall Willard. By-products specialist, State of Wash., 1918-19; instr. of chem., U. of Pittsburgh, 1920-26; asst. prof., 1927-30; prof., 1930-43; res. asst. 1926-27, Columbia U.; visiting prof. chem., 1942-46, prof. 1946; scientific dir. of the Nutrition Foundation 1942 to date. Mem.: Acdy. of Polit. Sc., Am. Soc. of Biol. Chems., Am. Inst. of Nutrition, A.A.A.S., Am. Public Health Assn., A.C.S., Agr. Res. Pol. Com., U.S. D.A., Inst. of Food Tech., Food and Nutrition Bd. of N.R.C.; Trustee, Denison, U., Lingnan U. Clubs: University, Century Assoc., Chemists', Men's Faculty Club of Columbia U., Cosmos Club. Hobbies: fishing, roses, trees.

KING, Gelston Tyler, pres., E. & F. King & Co. Inc., 640 Pleasant St., Norwood, Mass.; res. Farm Rd., Sherborn, Mass.
Exec.; b. July 20, 1894; s. of Samuel G. and Alice T. King; ed. Harvard U., A.B.; Harvard Business Schl., M.I.T. special course; mem.: Delta Kappa

Epsilon, Spee Club; m. Mary E., Aug. 14, 1918; ch.: Mary Frothingham, Ann Gelston. Pres. and dir. of E. & F. King & Co., Inc.; trustee and dir., Merchants Chemical Co.; past president, Dry Salters Club of New England. Clubs: Harvard (Boston); Harvard (N.Y.); Somerset. Hobbies: sailing, riding.

KING, Gilbert William, res. chem., Arthur D. Little, Inc., 30 Memorial Dr., Cambridge 42, Mass.; res. Old Concord Rd., South Lincoln, Mass.
Chem.; b. Long Easton, Derbyshire, Eng., Jan. 13, 1914; ed. Dame Agnes Mellor's Schl., 1919-30; Oxford and Cambridge Schl. Certificate, 1929; matriculation, 1930; higher certificate, 1930; 1933, S.B., M.I.T., Ph.D. 1935. Natl. Res. Fellow in Chem., Calif. Inst. of Tech., 1935-37 Harvard U., 1937, Princeton U, 1937-38. Conslt. for Arthur D. Little, Inc.; conslt. chem. 1938, chem. dept.; instr., Yale U., 1938-39; res. assoc., M.I.T., 1939-41; res. chem., Arthur D. Little, Inc., 1941 to date. OSRD, Div. 2 and 11, 1944-45; res. assoc., dept. of physics, M.I.T., 1946 to date. Fellow, Amer. Physical Soc., 1946. Visiting lecturer on chem., Harvard U., 1947. Assoc. editor, Jl. Chem. Physics 1948-50. Res. in molecular structure, infrared spectra, quantum mechanics, application of large scale computing methods to quantum and statistical mechanics. Author: Chapter 20, "Applications of Punched-Card Methods to Chem. Res."; contrib. to J. W. Perry, editor of "Applications of Punched Cards to Scientific Information Problems," 1949. Mem.: Amer. Physical Soc. (fellow, Apr. 26, 1946), Amer. Inst. of Physics, A.A.A.S., A.C.S., Netherlands Physical Soc., Optical Soc. of America (N.E.S.), Army-Navy Certificate of Appreciation, Nov. 23, 1948. Non-resid. mem. The Chemists' Club of New York.

KING, Harold Skinner, scientific adviser and civilian hd. of Agents Div., Chem. Corps Board, U.S. Army, Army Chem. Center, Md.; res. Darlington, Md.
Chem.; b. Liverpool, N.Y., Apr. 5, 1892; s. of Edward S. and Kate Colson King; ed. A.B., Harvard U., 1917, Ph.D. 1928; m. Susan Raymond, 1922; ch.: Elizabeth, Nancy. Asst. prof. chem., Dalhousie U., Halifax, N.S., 1922-30; assoc. prof. chem., 1930-42; chf. chem. & chf. inspector Ordnance, U.S. War Dept. Volunteer Ord. Wks., 1942-44; chf. chem., Ringwood Chemical Corp., Ringwood, Ill., 1944-46; scientific adviser & civilian hd. agents division, Chem. Corps Board, 1946 to date. Res. military chem., org. synthesis, Isotopes, atomic structure. Mem.: A.C.S., A.A.A.S. (fellow), Nova Scotian Inst. of Sc., Armed Forces Chem. Assoc. A.C.S. (chmn. S.E. Tenn. Sec. 1943), Canadian Inst. Chem. (v.p. 1938-40), Nova Scotian Inst. Chem. (pres. 1939-40 Editor "Proceedings" 1929-40), Maritime Chem. Assoc. (chmn. 1935-36).

KING, Harry T., chf. quality control, Welch Grape Juice Co., Westfield, N.Y.; res. 77 S. Portage Rd., Westfield.
Food technologist; b. Phila., Pa., Feb. 24, 1894; s. of Edwin J. and Estella Arbelo King; ed. Pa. State Coll., B.S., in Agr. Chem., June, 1917; mem.: Alpha Zeta, Phi Kappa Phi; m. Wyllian Knapp, Jan. 20, 1923; ch.: Albert W., Wyllian K., Marcia D. Chem. Warfare, sergeant, W.W. I. Delaware Agricultural Exp. Station, asst. chem., 2 yrs.; Welch Grape Juice Co., 1920 to present. Mem.: A.C.S., Inst. of Food Technologists.

KING, John A., dir. org. res., Warner Inst. for Therapeutic Res., 113 W. 18th St., N.Y.C. 11; res. 9 Ridge Cir., Manhasset, L.I.
Org. chem.; b. Columbus, Ind., Sept. 6, 1916; s. of Perry and Mary E. King; ed. Wabash Coll., 1933-35; Indiana U., 1936-38, A.B.; U. Minn., 1938-43, M.S. 1940, Ph.D. 1942; mem.: Delta Tau Delta, Gamma Alpha; m. Martha Lee Frank, June 10, 1941; ch.: Mary Lee, Clarissa Anne, John A. 1942-43 Merck Post-doct. fel. in org. chem., U. of Minn.; 1943-46 org. res. chem., Winthrop Chem. Co. (later Sterling-Winthrop Res. Inst.) Rensselaer, N.Y.; 1946 to date dir. org. res. Warner Inst. for Therapeutic Res.; res. on chroms., amino acids, Willgerodt reactions, penicillin, and gen. org. synth. Contrib. numerous arts. to sc. jls., holds four U.S. pats. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S., Chem. Soc. (London), A.I.C., N.Y. Acdy. Sc.

KING, Joseph Clarence, res. dir., Fairforest Co., P.O. Box 1531, Spartanburg, S.C.; res. 494 Pinckney Ct., Spartanburg.
Textile chem.; b. Augusta, Ga., Oct. 28, 1913; s. of C. C. and Mattie Alice King; ed. B.S. in chem., Furman U., summa cum laude; mem.: Chi Beta Phi; m. Mary Lou Wells, Apr. 29, 1933; ch.: Joseph C. Jr., Ina Kay. 1932-33 student instr. chem., Furman U.; 1933, Pacific Mills, Lyman div,. printing; 1934-47, Gregg div., Graniteville Co., printing, asst. chem., chem., shift supt., asst. res. dir.; 1947 to date, res. dir., Fairforest Co., Fairforest Finishing div. New meths. dyeing cotton cloth; several pats. now pending. Mem.: A.C.S., A.A.T.C.C. Clubs: Lions, Executives, Masonic Order. Hobby: fishing.

KING, Robert Augustin, chem. engr. (sales), E. B. Badger & Sons Co., New York & London; res. Rye, N.Y.
Chem. engr.; b. Marion, Ind., Sept. 3, 1910; s. of Roy M. and Estella (Sheron) King; ed. 1930-35 U. of Okla., B.S. Ch.E.; m. Frances Wilkinson, Aug. 31, 1935; ch.: Hugh Melbourne, Mary Elizabeth. Anal. chem., 1935-36, Phillips Petroleum Co.; res. and dev. engr., 1937; proc. engr., 1938; chf. chem., 1939-43; chem. engr., 1944-47, E. B. Badger & Sons Co.; chem. engr. (sales), 1948 to date. Mem.: Tau Beta Pi, Alpha Chi Sigma, A.C.S., A.I.Ch.E., Inst. of Petroleum. Clubs: Tandridge Golf Club (Surrey, England), American Club, London.

KING, Robert J., pres., Robert J. King Co., Inc., Box 588—Off. Crescent St., Norwalk, Conn.; res. New Canaan, Conn.
Chem. engr.; b. Nashua, N.H., Nov. 29, 1881; s. of William H. and Amanda Ann King; ed. M.I.T. S.B. 1903; m. Elizabeth C., July 7, 1926. 1903-12, Merrimac Chem. Co., engr.; 1912-15, Thos. A. Edison, Inc., engr.; 1915-27, U.S. Rubber Co., res. engr.; 1927 to date, pres., Robert J. King Co. Inc. King Org. Chem. Inc. (pres., dir.), King & Geib, Inc. (pres., dir.). Number of pats. issued in U.S. & foreign countries, several more in process in pat. office. Mem.: A.C.S. (chmn. Western Conn. sec. 1943-44, councillor 1950), A.A.A.S. Former Sr. Deacon & former Clerk of First Congregational Church of Stamford, Conn. Club: Chemists' (N.Y.).

KING, Robert Roy, tech. dir. Mrs. Tucker's Foods, Inc., Sherman, Tex.; res. 1301 Preston Dr., Sherman, Tex.
Chem. engr.; b. Fort Dodge, Iowa, June 11, 1909; s. of Roy and Hattie (Tysseling) King; ed. Iowa State Coll., Ames, Iowa; mem.: Delta Upsilon; m. Lucy Hamner, Mar. 29, 1937; ch.: Virginia Oneta, William Robert. 1931-36 proc. dev. engr., Procter and Gamble Co., Ivorydale, O.; 1936 to date successively chf. chem., plant supt. and tech. dir. (since 1944) of Mrs. Tucker's Foods, Inc., Sherman, Tex. Holds sev. pats.; pub. papers on processing vegetable fats and oils. Mem.: A.O.C.S. (past pres.); Tex. State Soc. of Prof. Engrs. (dir.); A.C.S., Inst. of Food Tech., A.I.Ch.E., Am. Soybean Assoc., Natl. Soc. of Soybean Proc., Natl. Cottonseed Proc. Assoc., Natl. Oil Mill

Supts. Assoc. Clubs: Kiwanis, Woodlawn Country. Hobby: golf.

KING, Victor Louis, tech. dir., Calco Chem. Div., Am. Cyanamid Co.; res. P.O. Box 166, Bound Brook, N.J.
Tech. dir.; b. Nashville, Tenn., Mar. 14, 1886; s. of Louis Andrew and Chrissie H. King; ed. Dartmouth, 1907; U. of Zurich, Ph.D. summa cum laude 1912; Swiss Federal Polytechnikum, 1912; mem.: Phi Gamma Delta; m. Eugènie Catherine Ruegger, Sept. 7, 1907; ch.: Victor R., Jamie H., Gene G., Thomas A. 1906 smelter supt. Elizabeth Copper Co. (later Vermont Copper Co.); 1908 conslt. chem. Peter T. Austin, N.Y.; 1909 dev. of silicon carbide filaments, Helion Elect. Co.; 1910 constr. of zinc stearate plant, Elson & Brewer; 1912 plant supt. Hoffman-LaRoche, Grenzach, Germany; 1915 plants for aniline paranitraniline para phenyline diam. phenol, T. A. Edison; 1916 plants for phenol and picric acid, ammonium pic., Amer. Synthetic Dyes and various cos.; 1916 various pharmaceutical chems. plant supt., Chas. Pfizer & Co.; 1918 chf. Dyestuffs Section, War Ind. Bd. 1919 tech. dir. Calco Chem. Co. to date. Dev. of chem. ind. in U.S.A.;. dyes, pigments, pharmaceuticals, antibiotics, heavy chems, intermediates, explosives dev. of tech. organization, process installation, maintenance, devl. improvement; dev. of many mfg. processes in all above fields. Intimate contact with European chem. industry. Co-author of sev. sc. arts. Mem.: A.I. Ch.E., N.J. Professional Engrs. Clubs: Chemists', Dartmouth, Lavallette Yacht. Hobbies: Boy Scouts of Amer., languages, making chemicals better & cheaper.

KING, Walter Bernard, prof. chem., in charge, gen. chem., chem. dept., Iowa State Coll., Ames, Ia.; res. 400 Ash Ave., Ames, Ia.
Chem. prof.; b. Ewing, Ill., Dec. 3, 1900; s. of Aaron and Viola (Harriss) King; ed. B.S. U. of Ill., 1923; M.S. Iowa State Coll., 1924, Ph.D., Iowa State Coll., 1930; mem.: Sigma Alpha Epsilon; m. Lillian Thornton in 1936; ch.: John Bernard, Faithe Lillian, Aaron, Harriss Thornton. Held following positions at Iowa State Coll.: grad. asst., 1923, instr. Ft. Dodge Jr. Coll., 1925, grad. asst., Iowa State Coll., 1926, instr., 1927, asst. prof., 1930, assoc. prof., 1943, prof., 1950. Dev. semi micro chem; liquid hydrogen sulfide. Author: "Semi micro Experiments in General Chemistry," 1941, "Outline General Chemistry," 1950. Mem.: Sigma Xi, Phi Lambda Upsilon. Trustee: Methodist Church. Hobby: golf.

KING, William Hughes, conslt. chem., King Testing Labs., 19 Beverly Gardens, New Orleans 20, La.; res. same.
Conslt. and anal. chem.; b. Gulfport, Miss., Jan. 22, 1908; s. of Daniel H. and Roxie (Duck) King; ed. Miss. State Coll., B.S. 1928; La. State U., M.S. 1929; mem.: Kappa Kappa Psi, Kappa Mu Epsilon; m. Dorothy Willard, 1928. 1930-35 instr. in chem. Miss. State Coll.; 1935-42 chem., U.S. Food and Drug Admin.; 1942-45 chf. chem. La. State Health Dept.; 1945-48 chf., Food and Drug Div., La. State Health Dept.; 1948-49 conslt. Shilstone Testing Lab., N.O.; 1949 to date conslt. chem., King Testing Labs. (pres.); res. in partial oxidation of hydrocarbs., org. compds. of germanium; food, drug and cosmetic anal. Holds sev. pats.; contrib. numerous arts. to sc. jls. Mem.: A.C.S.; A.I.C. (fellow); Assoc. of Official Agr. Chemists'; Assoc. Food and Drug Officials of Army and Navy. Hobby: yachting.

KINGSBURY, Frank Laflin, res. chem., Natl. Lead Co., Box 58, S. Amboy, N.J.; res. Westfield, N.J.
Chem. engr.; b. Indianapolis, Ind.; s. of Frank Enoch and Pearl V. Kingsbury; ed. U. of Ill. 1924 B.S. in Chem. Engrg. special hon.; mem.: Tribe of Illini; m. Leatha E. Holliday, 1933; ch.: John F., Paul E., Ralph W. Natl. Lead Co., Titanium div.: 1924 chem., 1926 chf. chem., 1939 to date res. chem. Pats. in prep. of Titanium pigments, recovery of Vanadium, prep. of Titanium mtl. & prep. of anhydrite. Mem.: A.C.S. Hobbies: photography, arts, music, boating.

KINNE, Raymond C(harles), tech. asst., Air Materiel Command, Wright-Patterson A.F. Base, Ohio; res. 329 Fountain Ave., Dayton 5, Ohio.
Chem. engr.; b. Hamilton, Mo.; s. of Maynard Jason and Allie M. Kinne; ed. A.B. (cum laude), Mo. Wesleyan Coll., 1924; M.S., 1928 and Ph.D., 1931, State U. of Iowa; U. of Chicago, summer, 1924; mem.: Sigma Pi; m. Louise Frazier, Oct. 11, 1941; ch.: Thomas Charles, Anne Louise. Instr. in chem., Mo. Wesleyan Coll., 1924-27; res. asst., chem. engr., State U. of Iowa, 1927-31; owner, Kinne Gas Co. (compressed gas appl. engrg. and sales), Cameron, Mo.; Colonel, Army of U.S., C.W.S., res. and dev. of chem. munitions and defensive equipment, 1940-46; chem. engr., U.S. Air Force, Air Materiel Command, 1946 to date; notable wk.: carbonization of Iowa coal; chem. munition dev. Author: (besides military classified pubs.), "Carbonization of Iowa Coal," 1930. Mem.: A.C.S., Natl. Soc. of Prof. Engrs., Sigma Xi, Phi Lambda Upsilon, Theta Chi Delta. Club: Engineers' (Dayton). Hobbies: photography, woodworking.

KINNEY, Charles Noyes, prof. emeritus organ. chem., Drake U., Des Moines, Iowa; res. 1318 27th St., Des Moines.
Analyt. & conslt. chem.; b. Iowa City, Ia., Apr. 21, 1868; ed. Drake U., B.S., 1893; M.S., 1895; Boston Tech.; Yale; U. Chicago; m. Golda Jameson, Aug., 1896, Des Moines; ch.: 1 son, 1 dau. Drake U., prof. chem., physics, 1896-1900; prof. chem., 1900-26; prof. organ. chem., 1926 to retirement; currently, prof. emeritus & analyt. & consult. chem.; Iowa State Chem., 1900-15; conslt. chem. for industry. Des Moines water survey, 1896-97; Des Moines Schl. Bd., mem. & pres., 6 yrs.; Camp Dodge Sanitary Corps, 1918. Author: "Chem. Comp. of Foods," 1929, 1931; "Weekly Sc. News Bull.," 1934 on; "The Mortgage Lifter" (chapt. in composite bk.), 1936. Mem.: A.C.S., A.A.A.S., Ia. Acdy. Sc. Clubs: Grant, Des Moines Profs., Sc. Tchrs. Assn.

KINNEY, Clarence B., mgr. textile and leather oil and grease sales, E. F. Houghton & Co., 303 W. Lehigh Ave., Phila., Pa.; res. Maple Glen.
Chem. engr.; b. Salem, N.Y. 1890; s. of Burton C. and Jennie (Clark) Kinney; ed. Pratt Inst., Bklyn, N.Y., 1909; m. Florence Foster, Aug. 31, 1911; ch.: Walter B., Marjory. 1909-13 chem., A. F. Gallun & Sons, Milwaukee, Wis.; 1913-14 tech. sales, H. A. Metz & Co., N.Y.C.; 1914-30 chf. chem., asst. supt., Sawyer Tanning Co., Napa, Calif.; 1930 to date mgr. text. and leath. oil and grease sales, E. F. Houghton & Co., Phila. Mem.: A.A.T.C.C., T.A.P.P.I. Hobbies: gardening, shooting, cooking

KINNEY, Corliss Robert, prof. of fuel tech., Pa. State Coll.; res. 442 Ridge Ave., State Coll., Pa.
Org. chem.; b. Des Moines, Iowa, July 19, 1900; s. of Charles Noyes and Golda Gertrude (Jameson) Kinney; ed. B.S. Iowa State Coll. 1922; A.M. Harvard U. 1923, Ph.D. 1925; mem.: Theta Xi, Alpha Chi Sigma; m. Edith Alberta Wallis, 1925; ch.: Marigolde. Instr. in chem., U. of Utah, 1925-27, asst. prof., 1927-31, assoc. prof., 1931-42, prof., 1942-43; prof. of fuel tech., Pa. State Coll., 1943 to date. Grignard reactions, organoboron cmpds.; boiling point numbers, constitution of

coal & tars. Mem.: A.A.A.S., A.C.S., A.I.M.E., A.A.U.P., Sigma Xi, Phi Lambda Upsilon, Phi Kappa Phi. Dir., treas., Utah Conservation & Res. Foundation, 1938-43.

KINNEY, Gilbert Ford, prof. of chem. engrg., Naval Postgrad. Schl., Annapolis, Md.; res. 12 McKendree, Annapolis.
Teaching; b. Judsonia, Ark., Dec. 29, 1907; s. of G. Earle and Mabel (Ford) Kinney; ed. Ark. Coll., A.B. 1928; U. of Tenn., M.S., 1930; N.Y.U., Ph.D. 1935, post-doctorate study, M.I.T., 1938; mem.: Alpha Lambda Tau, Alpha Chi Sigma; m. Martha Stinson, Sept. 6, 1934; ch.: Abbott Hart, Gilbert Ford Jr. 1935, res. chem., Titanium Pigment Co., Bklyn., N.Y.; 1935-42, asst., assoc. prof. of chem., Pratt Inst., Bklyn.; 1942-46, Lt. Comdr., U.S.N. (Reserve); 1946, radiologist, Operation Crossroads, Bikini; 1946 to date, assoc. prof., prof. of chem. engrg., Naval Postgrad. Schl., Annapolis, Md. Misc. contr. in flds. of physical chem., chem. engrg., thermodynamics & compressible flow. Mem.: Sigma Xi, A.C.S., A.S.E.E., Am. Crystallographic Assn. Hobby: photography.

KINSEY, Hartselle Deburney, wks. mgr., Carbide and Carbon Chemicals Div., Union Carbide and Carbon Corp., 30 E. 42nd St., New York 17, N.Y.; res. 86 Penn Rd., Scarsdale, N.Y.
Exec.; b. Roanoke, Va., Sept. 8, 1901; s. of Thomas Alexandria and Zenella Josephine Kinsey; ed. Roanoke High Schl., B.A., M.A., Roanoke Coll., Salem, Va., M.S., M.I.T., Cambridge, Mass.; mem.: Sigma Chi; m Catherine R. Koontz, Sept. 22, 1926; ch.: Jo Ann, Louise V., Carol C., and Melissa. Tech. asst., in chem. units at Clendenin, W. Va., July 1, 1924; shift foreman in chem. area, S. Charleston Plant, fall of 1925; hd. of Glycol dept., May 1, 1926; asst. supt., S. Charleston Plant, 1931; supt., Whiting Plant, 1934-44—Manhattan Dist. Project. Plant Supt. of the Oak Ridge gaseous diffusion plant operated by Carbide; transferred to N.Y. and appointed wks. mgr., Dec. 1945 to present. Mem.: A.C.S., S.C.I. Club: Chemists'.

KINZEL, Augustus B., pres., Union Carbide & Carbon Res. Lab., Inc., 30 E. 42nd St., N.Y.C.; res. 320 Park Ave.
Metal.; b. N.Y.C., July 26, 1900; s. of Otto and Josephine Kinzel; ed. A.B. (cum laude) Columbia, 1919; B.S. (Gen. Engrg.), M.I.T., 1921; D.Metal., U. Nancy, 1922; D.Sc. 1926 to date Union Carbide & Carbon Res. Labs., Inc. V.p., Electro Metallurgical Division, Union Carbide & Carbon Corp. Author: "Alloys of Iron & Chromium"; contrib. extens. to sc. and tech. jls. Mem.: A.I.M.E. (v.p., dir.); A.W.S. (past dir.); Engr. Found. Bd. (past chmn.), W.R.C. (v. chmn.). Clubs: Engrs. (N.Y.), Uptown, Niagara, Pittsfield Country. Hobby: sailing.

KIPLINGER, Claude Clayton, hd. of chem. dept., assoc. prof., Lycoming Coll., Williamsport, Pa.; res. 209 E. Fourth St., Williamsport.
Chem. teacher; b. West Salem, Ohio, Jan. 6, 1884; s. of Joseph William and Elizabeth Adella Kiplinger; ed. Western Reserve U. A.B. cum laude 1910; Ohio State U., M.Sc. 1932; grad. study Iowa State Coll. & U. of Wis.; mem.: Chi Beta Phi, Phi Lambda Upsilon; m. Maude Ethel Upp, Aug. 10, 1911; ch.: John Lewis (dec.). H.S. Lincoln, Ill.; phys. chem. instr.; Iowa State Coll., instr. inorg. chem. 1913-16; U. of Miss., asst. prof. inorg. chem. 1916-17; U. of Ky., asst. prof. org. & physical chem. 1917-18; Mt. Union Coll., hd. chem. dept. 1918-25; Wells Coll., acting hd. physics dept. 1926; West Liberty State Coll., acting hd. chem. dept. 1930, hd. physics & math. depts. 1931-37, hd. chem. dept. 1937-49; chmn. of chem. dept., Lycoming Coll., Williamsport, Pa., 1949 to date. Exp. meths. in micro-org. chem.; surface tension & index of refraction. Mem.: A.A.A.S. (fellow since 1925), A.C.S., Am. Assn. of Physics Teachers, Ky. Acdy. of Sc. (corresponding). Hobbies: photography, optics, baseball.

KIPNIS, Frank Howard, v.p. production, Oxford Prods. Inc., 1814 E. 40th St., Cleveland 3, Ohio; res. 1900 E. 30th St., Cleveland 14, Ohio, Suite 209.
Chem.; b. N.Y.C., Nov. 5, 1917; s. of Isidor H. and Beatrice (Gordon) Kipnis; ed. City Coll. of N.Y., B.S. 1937 (cum laude, honors in chem.); Bklyn. Coll., M.A. 1941; Polytech. Inst. of Bklyn., Ph.D. 1944; mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon; m. Dorothy G. Sokol, May 9, 1948. 1938-44, res. chem., pilot plant supvr., Endo Prods. Inc.; 1942-44, lectur. in org. chem. of natural prods., Grad. Schl., Bklyn. Coll.; 1944-46, sr. res. chem., Publicker Indust. Inc.; 1946-48, dir. of org. res. lab. Amer. Home Foods, Inc.; 1948 to date, tech dir. and v.p. in chg. of prod., Oxford Prods. Inc.; res. on natural prods., medicinal chem., org. synth. in flds. of sulfur, nitrogen and oxygen heterocycles; aromatic chems.; high-pressure reactions; catalysis; administration. Mem.: A.I.C. (fellow), A.C.S., Res. Soc. of Amer., Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon. Clubs: Drug and Chem. (Cleveland). Hobbies: music, golf, reading.

KIRBY, George William, tech. dir., Stand. Brands, Inc., fl. mfg. div., 595 Madison Ave., N.Y. 22, N.Y.; res. 39 Mangrove Rd., Yonkers 2, N.Y.
Chem. engr.; b. Memphis, Tenn., Oct. 21, 1899; s. of Joseph A. and Rand M. (Blakemore) Kirby; ed. U. of Dayton B.Ch.E. 1922; George Washington U. 1926-27; N.Y.U. 1929, 1932-33; m. Elizabeth Reneger, June 21, 1924. U.S. Dept. of Agr., Bur. of Chem., 1923-27; Fleischmann Labs., Stand. Brands: anal. chem. 1927-29, res. chem. 1929-44, tech. dir. 1944-48; Fleischmann Mfg. Div., Stand. Brands, tech. dir. 1948 to date. Process pats. for mfr. of a souring matl. for use in baked goods; process & pat. on coffee (fermentation of pulped beans to remove mucilage); process & pat. for enzyme prep.; fermentation process & pat. for prod. of lactic acid; process & pat. for mfr. of yeast; study of yeast strains for bread flavor; process for control of growth of rope & mold. Mem.: A.C.S., A.A.C.C., I.F.T., A.S.Brew.C., A.I.C., N.Y. Acdy. of Sc. Club: Caledonia. Hobbies: gardening, curling.

KIRBY, James E., asst. lab. dir., chem. dept., E. I. du Pont de Nemours & Co., Wilmington, Del.
Res. chem.; b. Boone, Iowa, Aug. 14, 1903; ed. B.S., Drake, 1924; Ph.D., Iowa State, 1929.

KIRCHER, Charles E(dmund), Jr., prof., hd. chem. engrg. dept., Rose Polytech. Inst., R.R. 5, Terre Haute, Ind.; res. 1114 S. 6th St.
Chem. engr.; b. El Paso, Texas, Oct. 22, 1908; s. of Charles E. and Felicie McCollum Kircher, Sr.; ed. Calif. Inst. Tech., B.S. 1931; M.S. 1933; Ia. St. Coll., Ph.D. 1940; mem.: Tau Beta Pi, Phi Lambda Upsilon, Lambda Chi Alpha; m. Nancy Page Carveth, July 26, 1941; ch.: Chistopher, Josephine, Charles, III, Conrad. 1933-43 du Pont Co., electrochem. dept., resp. chg. of res., proc. dev., prod.; 1943-44 U. Chicago, Manhattan Proj., supvr. chem. engr. res.; 1944-45 du Pont Co., Hanford Engrg. Wks., sup. eng. dev. on atomic piles; 1945-47 du Pont Co., Wilmington, Del., spec. assign., econ. evaluation studies; 1947 to date Rose Polytech. Inst., hd., chem. engr. dept. U.S. patent "Apparatus for Extraction." Mem.: A.I.Ch.E., A.A.A.S., A.A.U.P., A.S.E.E., Sigma Xi. Club: B.P.O.E. Hobbies: travel, sports.

KIRCHER, John Edwin, dir. sales, Sharples-Contl. Corp., 123 S. Broad St., Phila., Pa.; res. 409 Drayton Rd., Enfield, Oreland, Pa.
Chem.; b. Wayland, Mo., Dec. 7, 1917; s. of Henry F. and Anna D. Kircher; ed. Mo. U. 1939-43 (Ph.D., Organ. Chem.); Culver Stockton Coll., Canton, Mo. 1935-39 (A.B. Maj. Chem.); mem.: Lambda Chi Alpha; m. Dorothy June Eaton, Jan. 19, 1946; ch.: Gary John, Mark Henry. 1936-43 lab. asst. undergrad. schl.; 1943-45 res. chem., Sharples Chem., Inc.; 1945-47 dev. dept.; 1947 to date dir. sales. Author: "The Action of 1:8 Naphthalyl Dichloride in the Friedel-Crafts Reaction and the Structure Proof of the Derivatives of 8-Benzoyl-1-Naphthoic Acid"; co-author: "Isomerization of Naphthalyl Chloride," 1941; "Normal and Pseudo Structions of 8-Benzolyl-1-naphthoic Acid and Derivatives" 1944. Club: Chem.

KIRCHMEYER, Frederick Joseph, hd. pharmaceut. res., Abbott Labs., No. Chicago, Ill.; res. 405 Longview Rd., Waukegan, Ill.
Pharmacist; b. St. Louis, Mo., Mar. 27, 1915; s. of Joseph H. and Marie C. Kirchmeyer; ed. St. Louis Coll. of Pharmacy, B.S. in pharmacy, June, 1938; mem.: Chi Iota Phi; m. Dorothy Herrick, Aug. 8, 1940; ch.: William H., John F., Ann Marie. Instr., St. Louis Coll. of Phar., 1938-39; res. pharmacist, Abbott Labs., 1939-45; hd. of pharmacy dept., 1945 to date.

KIRK, Paul L(eland), prof. of biochem. and criminalistics, U. of Calif., Berkeley 4, Calif.; res. 51 Bret Harte Rd., Berkeley 8.
Micro-biochem., criminalist; b. Colorado Springs, May 9, 1902; s. of Elliott H. and Mary Ellen (Mitchell) Kirk; ed. A.B. (highest honors), Ohio State U., 1924; M.S., U. of Pittsburgh, 1925; Ph.D., U. of Calif., 1927; mem.: Alpha Chi Sigma, Gamma Alpha; m. Reba Charlton, July 7, 1928; ch.: Mary Elise, Anita Louise. Res. asst. biochem., U.C., 1927-28; res. assoc., U.C., 1928-29; instr., 1929-32; asst. prof. biochem., 1932-39; asst. prof. physiology, Stanford U., summer, 1935; assoc. prof. biochem., U.C., 1939-42; res. assoc., U.C. Radiation Lab., 1942-43; res. assoc., U. of Chicago Metallurgical Lab., 1943-44; tech. specialist, E.I. du Pont de Nemours Co., Hanford Engrg. Wks., 1944-45; prof. of biochem., U. Cal., 1945-49; prof. biochem. and criminalistics, 1949 to date. Three yrs. with Manhattan Distr. Project. Author: "Quantitative Ultramicroanalysis," 1950. Mem.: A.C.S., A.A.A.S., A.S.Bio.C., Sigma Xi, Phi Beta Kappa, Phi Lambda Upsilon, Phi Sigma, etc.

KIRK, Philip M., mgr., Central Sales Dev. Dept., General Aniline & Film Corp., Easton, Pa.; res. 110 Pennsylvania Ave., Easton.
Chem.; b. Salisbury, N.C., Sept. 16, 1914; s. of Jacob L. and Connie E. Kirk; ed. Duke U., B.S., 1935, cum laude, Duke U. M.A., 1946, Polytechnic Inst. of Bklyn., Ph.D., 1939; m. Thelma Bills, Apr. 19, 1941; ch.: Philip B., Raymond S. 1939-42, res. chem., American Cyanamid Co., Stamford Labs., Stamford, Conn.; 1942-47, dev. chem., General Aniline & Film Corp., New York City; 1948 to present, mgr., Central Sales Dev. Dept., General Aniline & Film Corp., 22 Center Sq., Easton, Pa. Mem.: A.C.S., Chemists' Club, Chemical Market Res. Assoc., Commercial Chemical Dev. Assoc. Hobbies: gardening, woodworking.

KIRK, Raymond Eller, hd., dept. chem., Dean, Grad. Schl., Bklyn. Polytech. Inst., 99 Livingston St., Bklyn. 2, N.Y.; res. 9269 Shore Rd., Bklyn 9.
Chem., tchr.; b. Hamilton Co., Nebr., June 24, 1890; s. of Joseph Alexander and Virginia Eads (Eller) Kirk; ed. B.S., U. Nebr., 1915; M.S., Ia. St., 1917; Ph.D. Cornell, 1927; mem.: Phi Kappa Phi, Delta Sigma Rho, Phi Alpha Tau, Alpha Chi Sigma, Phi Lambda Upsilon, Gamma Alpha, Sigma Xi; m. Beth Sibley, June 30, 1920; ch.: Virginia, Josephine. 1917-20 instr. chem., Ia. St. Coll.; 1920-29 asst., assoc. prof. chem., U. Minn.; 1929-31 prof., hd. dept. chem., Mont. St. Coll.; 1931 to date, prof., hd. dept. chem., Bklyn. Polytech. Inst.; 1944 to date, dean, Grad. Schl. Res. in inorg. chem., Portland Cement, oxida. of hydrazine, inorg. synthesis. Mem. Bd. Eds., Inorgsynth; co-editor Enc. of Chem. Tech. (Intersc.) 5 vols. publ. (vol. 6 in press, 1950). Mem.: A.I.C. (fellow), A.A.A.S. (fellow), A.A.U.P., A.C.S.; bd. dirs., A.C.S. (for Dist. II) 1950 to date. Club: Faculty (Bklyn Polytech. Inst.). Hobbies: history, books.

KIRK, Stanley Butcher, v.p., Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N.Y.; res. 20 Oxford Rd., New Rochelle, N.Y.
Exec.; b. Winthrop Harbor, Ill., Sept. 22, 1891; s. of George Ranson and Alice Marguerite (Butcher) Kirk; ed. Kenosha, Wis., H.S., grad. 1909; U. of Wis., grad. 1913; m. Angenette Mallory, Apr. 5, 1919; ch.: Marion Beverly (Mrs. W. J. Marshall, Jr.). and Jane Mallory (Mrs. R. F. Duffy). With Chicago Telephone Co., jr. traffic mgr.; western sales mgr. for Union Carbide Sales Co. and gen. sales mgr. for Linde Air Prods. Co., of which he has been pres. since 1944; dur. W.W. II mem. of Oxygen and Acetylene Indust. Advisory Comm. to W.P.B. V.p. Union Carbide & Carbon Corp.; pres. and dir. The Linde Air Prods. Co.; pres. and dir. Dominion Oxygen Co. Ltd.; dir. The Oxweld Railroad Service Co.; pres. and dir. The Prest-O-Lite Co. of Canada; dir. Canadian Railroad Service Co.; dir. Union Carbide & Carbon Res. Labs.; dir. Niacet Chems. Corp. Clubs: Wykagyl Country; Uptown; Chicago Athletic Assoc.

KIRKBRIDE, Chalmer Gatlin, v.p., mgr. of res. & dev., Houdry Process Corp., P.O. Box 427, Marcus Hook, Pa.; res. Church St. & Turner Rd., Wallingford, Pa.
Chem. engr.; b. Tyrone, Texas Co., Okla., Dec. 27, 1906; s. of Zacharia Martin and Anne Gatlin Kirkbride; ed. B.S.E., U. of Mich., 1930, M.S.E., U. of Mich., 1930; mem.: Alpha Chi Sigma, Tau Beta Pi, Phi Lambda Upsilon; m. Billie Skains, Apr. 13, 1939; ch.: Chalmer Gatlin, Jr. Chem. engr., Standard Oil Co. (Ind.), 1930-34; asst. dir. of res., Pan American Refining Corp.,1930-42; chf. of chem. engr. dev., Magnolia Pet. Co., 1942-44; teaching chem. engr. A. & M. Coll. of Texas, 1944-47; conslt. engr., Day & Zimmerman, Feb. 1, 1947 to Apr. 1, 1947; v.p., mgr. of res. & dev., Houdry Process Corp., 1947 to date.

KIRKLIN, Wayne A., mgr., analytical div., Hercules Experiment Station, Hercules Powder Co., Wilmington, Del.; res. 1510 Brandywine Blvd., Wilmington, Del.
Chem.; b. Blountsville, Ind., Oct. 2, 1902; s. of Claude E. and Laura M. Campbell Kirklin; ed. Ind. U., A.B., 1926; mem.: Kappa Delta Rho, Alpha Chi Sigma; m. Vernus Irene Fullhart, June 22, 1929; ch.: Wayne A., Jr., Mary Jane. Chem., Hercules Powder Co., Kenvil, N.J., 1926; appointed chf. chem., Anal. Dept., Exp. Station, Kenvil, N.J., Jan. 1929; transferred to Wilmington, Del., 1931, mgr. analytical div., Hercules Expt. Station to date. Not. wk.: Organization and direction of chem. analyses of res. matls., explosives, acids, cellulose prods., resins, solvents, etc.; res. on anal. methods, and physical chem. measurements; standarization of plant control methods and product specifications. Mem.: A.C.S. 1926 to date, councilor 1948, v.chmn., div. of anal. chem. 1948, chmn. div. of anal. chem. 1949, mem. comm. on standard apparatus 1946 to date; International Union of Chemistry, appointed to comm. on standarization of laboratory materiel for 1947; Am. Soc. for Metals,

1937-40, Am. Soc. for Quality Control, 1946-49, natl. dir. Del. section, 1947-48; Am. Soc. for testing mtls. 1941 to present, mem. comm. D-1 on paint, varnish, lacquer and related prods., mem. D-17 on naval stores (secy., 1943 to date), mem. comm. D-19 on water for industrial uses, mem. comm. E-1 on methods of testing subcom. 9 on rheological properties, subcom. 17 on thermometers, subcom. 19 on laboratory glassware, task group A on distillation tests. Clubs: Hercules Country (Wilmington), F. and A.M., Alpha Chi Sigma, Kappa Delta Rho. Hobbies: people, books, gardening.

KIRKPATRICK, Sidney Dale, v.p., dir. McGraw-Hill Book Co., ed. dir. of "Chemical Engineering," 330 W. 42nd St., N.Y. 18; res. 52 Woodcrest Ave., Short Hills, N.J.
Chem. engr., ed. and pub.; b. Urbana, Ill., Apr. 2, 1894; s. of Fred D. and Virginia Hedges) Kirkpatrick; ed. U. Ill., B.S. in Ch.E., 1916; Clarkson Coll. of Tech., Sc.D. (hon.) 1946; Bklyn. Polytech., D.Eng. (hon.) 1948; mem.: Theta Delta Chi, Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi, Sigma Delta Chi, Omicron Chi Epsilon, Pi Delta Epsilon; m. Bonnie Jean Hardesty, Aug. 6, 1919; ch.: Mary Jane (Mrs. A. H. Gable), Sidney Dale, Jr. 1916-17, Ill. State Water Survey; 1917-21, U.S. Tariff Commission, 1921 to date with McGraw Hill Pub. Co. Editor: "25 Years of Chem. Engrg. Progress," Van Nostrand, 1933; conslt. ed. 28 vols. Chem. Engrg. Series of Text and Ref. Books, McGraw-Hill Book Co. Silver Anniversary M., A.I.Ch.E., 1933 (pres. 1942); Chemical Industry M., Soc. of Chem. Ind. 1945. Club: Chemists'. Hobbies: people, photography.

KIRKPATRICK, Willard H., dir. of res., plant mgr., Visco Prods. Co. Inc., P.O. Box 295, Sugar Land, Texas; res. 385 Lakeview Dr., Sugar Land.
Chem.; b. Cedar Rapids, Iowa, July 10, 1909; s. of Frank C. and Mary E. Kirkpatrick; ed. Coe Coll., 1926-29; Iowa State Coll. B.S., 1930, Ph.D., 1935; mem.: Phi Kappa Tau; m. G. Esther Smith, Aug. 15, 1936; ch.: Marcia E., Rickey C. Natl. Aluminate Corp., chf. org. chem., 1935-37; Visco Prods. Co. Inc., chf. org. chem., 1937 to date. Dev. of water treating chem. & oil treating chem. Mem.: A.C.S., Sigma Xi. Councilor, A.C.S. Club: Lions. Hobby: philately.

KIRKPATRICK, William Adams, tech. dir., Allied Paper Mills, Kalamazoo, Mich.; res. 2105 Waite Ave., Kalamazoo.
Chem. engr.; b. Portland, Maine, Jan. 31, 1911; s. of Harold Haynes and Helen Thaxter Kirkpatrick; ed. B.S., M.I.T., 1932; mem.: Psi Delta (Phi Delta Theta), Alpha Chi Sigma; m. Frances Wheelock Sutherland, Oct. 8, 1938; ch.: Celia Thaxter, Ellen Frances, Frederick Sutherland. Engr. (dev.) S.D. Warren Co., 1932-36; tech. dir., Allied Paper Mills, 1936 to date. Mem.: A.C.S., Tech. Assoc. Pulp & Paper Ind., Tech. Assoc. Lithographic Ind. Vice chmn., Adv. Comm., Schl. of Paper Tech., Western Michigan Coll. Clubs: Park Club (Kalamazoo), Kalamazoo Country (pres.). Hobbies: hunting, fishing, family, stamp collecting.

KIRKPATRICK, William John, Sr. Fellow, Mellon Inst., 4400 Fifth Ave., Pittsburgh 13, Pa.; res. 5336 Fifth Ave., Pittsburgh 32, Pa.
Res. chem. & prof. engr.; b. Cornwall, N.Y., May 2, 1908; s. of William J. and Anne C. Kirkpatrick; ed. Johns Hopkins, B.S. 1935, Ph.D. 1939; mem.: Sigma Xi; m. Margaret O. Allensworth, Aug. 13, 1932. Hercules Powder Co., res. chem., 1939-44; private conslt., 1944-45; Mellon Institute, Sr. Fellow, 1946 to date. Pats. on cymene prod., terpene isomerization, separation hydrogenated rosin into components, isomerization pinene into camphene, removal colloidal platinum from hydrogenated rosins, regeneration spent noble metal catalysts, preparation noble metal catalyst, separation of terpenes. Res. papers on oxidation of sulfur dioxide, crystallization of carbon, aging of nickel catalysts, Ni3S2 catalysts, and colloidal nickel hydroxide. Mem.: A.C.S., A.A.A.S., Am. Crystallographic Assoc., Armed Forces Chem. Assoc. Hobbies: mountain climbing and collection of antique furniture.

KIRKWOOD, John Gamble, Arthur Amos Noyes prof. of chem., Calif. Inst. of Tech., Pasadena, Calif.; res. 1790 Brae Burn Rd., Altadena, Calif.
Physical chem.; b. Gotebo, Okla., May 30, 1907; s. of John M. and Lillian G. Kirkwood; ed. S.B., U. of Chicago, 1926; Ph.D., M.I.T., 1929; m. Gladys Danielson, 1930; ch: John M. Natl. & Internatl. Res. Fellow, Harvard, 1929-30, Leipzig & Munich 1931-32; res. assoc., M.I.T., 1930-31, 1932-34; asst. prof., Cornell, 1934-37; assoc. prof., U. of Chicago, 1937-38; Todd prof. of chem., Cornell, 1938-47; A.A. Noyes prof. of chem., Calif. Inst. of Tech., 1947 to date. Num. arts. on res. in statistical mech., dielectric polarization, liquids & liquid solutions, high polymers, physical chem. of proteins. Mem.: Natl. Acdy. of Sc., Am. Phil. Soc., Am. Acdy. Arts & Sc., A.C.S., A.Phys.S. Awards: A.C.S. in Pure Chem. 1936; Theodore William Richards M. 1950.

KIRSCH, Nathan Carl, supvr., sterile prod., 86 Orange St., Schering Corp., Bloomfield, N.J.; res. 223 Prospect St., East Orange, N.J.
Biochem., bacteriol.; b. New Brunswick, N.J., Oct. 27, 1918; s. of Isidore and Dora Kirsch; ed. Rutgers U., B.S. 1940; U. Ill., M.S. 1941 (bacteriol., biochem. minor); mem.: Phi Sigma; m. Ida Bass, June 29, 1946; ch.: Kenneth Jeffrey, Philip David. 1942-43 plant prod. bacteriol., Schering Corp.; 1943-45 supvr. microbiol. res. & prod.; 1945 to date supvr. sterile prod. Res. in 1942, 43, 44, 45 on antib. prod. (unpubl.), dev. & appl. new proc. for sterilization & aseptic prod. of phar. Mem.: A.C.S., Soc. of Am. Bacteriol., A.Phar.A., A.A.A.S, Am. Publ. Health Assn., Theobold Smith Soc.; 1944-46, dir., mem. of bd. of J.C.C. Schl. of N.B., N.J. Club: Chem. (NY.). Hobby: private pilot flying.

KIRSH, Alfred J., v.p., treas., gen. counsel, West Disinfecting Co., 42-16 West St., Long Island City, N.Y.; res. 3304 Patterson Ave., Richmond, Va.
Atty. at Law; b. Richmond, Va., Mar. 5, 1892; s. of Myer and Sadie Kirsh; ed. Richmond Coll., U. of Va.; m. Irma Caldwell, Apr. 10, 1919; ch.: Sadie M. (Kirsh) Krauss. Atty. at Law, Richmond, Va., since Mar., 1913; also officer, dir. and gen. counsel, General Paper Co., Hydro-Electric Corp. of Va., Meadow Creek Corp., etc.; v.p., treas., gen. counsel, West Disinfecting Co., Long Island City, N.Y.

KISE, Mearl Alton, dir. res. & dev. div., Va. Smelting Co., W. Norfolk, Va.; res. 615 Rockbridge Rd., Portsmouth, Va.
Res. chem.; b. Allentown, Pa., Feb. 14, 1908; s. of John H. and Emma C. Kise; ed. Lehigh U., 1930 B.S. Ch.E.; Yale U., 1933, Ph.D. org.; mem.: Phi Beta Kappa, Sigma Xi; m. Julia Boister, 1930; ch.: John A., Peter E. 1933-35, sr. res. fellow, Textile Foundation, Yale U.; 1935-43, Solvay Process Co., Syracuse, N.Y., res. chem., project leader; 1943-48, Solvay Process Co., Hopewell, Va., sr. res. chem., supvr., 1948-49 asst. to chf. of res.; Sept. 1949 to date, Va. Smelting Co., W. Norfolk, Va., dir. res. & dev. div. Devoted efforts to ind. process dev. & application of detergents, shrinkproofing wool, etc. Num. publ. in tech. journals. Mem.: A.C.S., T.A.P.P.I., A.A. T.C.C., A.A.A.S. Counselor of Va. Sec. of A.C.S.;

alternate counselor of Hampton Roads Sec. of A.C.S. Hobbies: gardening, fishing, music.

KISTIAKOWSKY, G(eorge) B(ogdan), prof. chem., Harvard U., Cambridge 38, Mass.; res. So. Lincoln, Mass.
Prof. chem.; b. Nov. 18, 1900, Kiev, Russia; s. of Bogdan and Marie Kistiakowsky; ed. Ph.D., U. Berlin, Germany, 1925; m. Irma E. Kistiakowsky; ch.: Vera. 1926-30, Princeton U.; 1930 to date, Harvard U., prof. chem.

KISTLER, Samuel Stephens, dir. of res., Norton Co., 1 New Bond St., Worcester 6, Mass.; res. West Boylston, Mass.
Dir. of res.; b. Cedarville, Calif., Mar. 26, 1900; s. of Amandus C. and Stella (Stephens) Kistler; ed. A.B., Stanford U., 1921; Ch.E., Stanford U., 1922; Ph.D., Stanford U., 1929; Kaiser Wilhelm Inst. and Gottingen, 1929-30; mem.: Alpha Kappa Lambda; m. Margaret Coburn, June 28, 1924; ch.: Walter A., Elizabeth J. Engrg. dept., Standard Oil Co. of Calif., 1922-23; assoc. prof. chem., Coll. of the Pacific, 1923-29; prof., 1930-31; asst. prof., U. of Ill., 1931-35; res. dept., Norton Co., 1935-41; assoc. dir. of res., 1941-49; dir. of res., 1949 to date. Num. pubs. on physical and colloid chem. subjects; approx. 50 pats. Mem.: A.C.S., S.C.I., Amer. Branch A.A.A.S., Amer. Physical Soc. Club: Torch.

KITCHEL, Allan F., pres., Binney & Smith Co., 41 E. 42nd St., N.Y. 17, N.Y.; res. Old Greenwich, Conn.
Exec.; b. East Liverpool, Ohio, Dec. 28, 1885; s. of Farrand D. and Flora (Porter) Kitchel; ed. B.A., Yale, 1909; mem.: Alpha Delta Phi; m. Helen Binney; ch.: Allan F., Jr., Douglas B., Barbara (Kitchel) Girdler, Happy (Kitchel) Hamilton. Binney & Smith Co., 1909 to date. Carbon black in rubber. Columbian Carbon Co. (v.p., dir.), W. C. Hardesty Co. (pres., dir.), Hardesty Chem. Co. (pres., dir.), L. Martin Co. (dir.), Peerless Carbon Black Co. (dir.), Indian River Refrigeration Terminal (pres., dir.), Florindia Farms Corp. (pres., dir.). V.chmn., Veterans Home Commiss. of Conn. Clubs: Union League, Uptown, Yale, Riverside Yacht (Conn.), Portage Country (Akron).

KITE, Robert Paul, asst. mgr., dev. dept., The Dorr Co., Barry Pl., Stamford, Conn.; res. 160 Valley Stream Rd., Larchmont, N.Y.
Chem. engr.; b. Wilmington, Del., Dec. 9, 1897; s. of Robert H. and Anna M. Kite; ed. U. of Del., B.S. in chem. engrg.; mem.: Sigma Phi Epsilon; m. Albertine Rudolf, Sept. 27, 1924; ch.: Barbara Jane. 1921-22, Krebs Pigment Chem. Co., res.; 1922-32, The Dorr Co., dev., sales, mgr. Atlanta Office; 1932-34, Mathieson Alkali Wks., sales; 1934 to date, The Dorr Co., dev., asst. mgr., dev. dept. Mem.: A.I.Ch.E.

KITTNER, Robert H., prod. mgr., Industrial Rayon Corp., 660 Union Comm. Bldg., Cleveland 1, Ohio; res. 3702 Traynham Rd., Shaker Heights 20, Ohio.
Chem. engr.; b. Defiance, Ohio, Aug. 21, 1906; s. of Fred B. and Ruby H. Kittner; ed. Case Schl. Appl. Sc., B.S. 1928; Columbia U., Ch.E. 1929; m. Miriam Carver, Apr. 9, 1943; ch.: John C., Thomas F. 1929-44, Am. Hard Rubber Co., engr.; 1944-50, The Glenn L. Martin Co., v.p., chem. div.; May, 1950 to date, Industrial Rayon Corp., prod. mgr. Patents in rubber tech., vinyl chloride chem. Mem.: A.I.Ch.E., A.C.S., Soc. Plastic Engrs., Comm. Chem. Dev. Assn.

KITZMEYER, Edmund Leith, pres., Capitol Yeast Co., West Brookfield, Mass.; res. West Brookfield.
Chem., exec.; b. Woodstock, Va., Jan. 27, 1906; s. of J. Frederick W. and Anna Elizabeth (Leith) Kitzmeyer; ed. 1922-26, Gettysburg Coll., Gettysburg, Pa. A.B. 1926; 1926-29, Schl. of Medicine, Yale U., New Haven, Conn.; mem.: Phi Sigma Kappa; m. Marie I. Cavallon, Sept. 15, 1939; ch.: Gail Cavallon, Bruce Edmund. 1929-31, Fruit Industries, Ltd., Bklyn., N.Y., bacteriologist; 1931-35, Natl. Yeast Co., Belleville, N.J., chf. chem.; 1935-37, U.S. Yeast Corp., Stafford Springs, Conn., chem., factory mgr.; 1937 to date, Capitol Yeast Co., West Brookfield, Mass., chem., pres. U.S. Pats. 2,097,292—2,150,329. Mem.: A.I.C., Soc. of Am. Bacteriologists, A.A.C.C., A.A.A.S. Chmn., Bd. of Trustees, Merriam Public Library. Club: Wickaboag Boat. Hobbies: boating, fishing.

KJELLGREN, Bengt R. F., pres., The Brush Beryllium Co., 4301 Perkins Ave., Cleveland 3, Ohio; res. 2423 Eaton Rd., University Heights 1, Ohio.
Exec.; chem. engr.; b. Dalby, Sweden, July 19, 1894; s. of Hugo and Hulda Kjellgren; ed. 1918, Chem. Engrg., Royal Technical Inst. of Stockholm, Sweden; 1923-24, spec. studies, M.I.T. (Scandinavian Scholarship); m. Florence M. Gylfe, Oct. 3, 1925; ch.: Bengt Hugo. 1918-20, Bergman Magnesium Co., Trollhattan. Sweden, asst. to plant engr.; 1920-22, Hoganas-Billesholm Corp., Hoganas, Sweden, asst. to chf. engr.; 1922-23, Uddenholms Corp., Skoghall, Sweden, asst. to chf. engr.; 1924-50, Brush Labs. Co., Cleveland, Ohio, res. engr. 5 yrs., v.p., 1931-50; 1931-50, Brush Beryllium Co., Cleveland, Ohio, v.p. and director, 1935-48, pres., 1948-50; 1930-50, Brush Develop. Co., Cleveland, Ohio, supvr. and conslt. on Crystal Growing. Participated in Manhattan District (A.E.C.); res., pats. on contribs. to sc. and tech. jls. on beryllium, aluminum and crystals. Author of sect. on "Beryllium and Beryllium Alloys" Encycl. of Chem. Technology, Vol. 2, 1948. Mem.: A.C.S., E.S. Clubs: University (Cleveland), Yacht (Mentor, Ohio). Hobbies: photography, sailing.

KLARMANN, Emil G., v.p. chg. res., Lehn & Fink, Inc., 192 Bloomfield Ave., Bloomfield, N.J.; res. 153 Franklin St.
Chem., chem. engr.; b. Dec. 31, 1900, Austria; s. of Oscar and Regina Klarmann; ed. Tech. Inst. Bruenn 1918-22; U. Halle 1922-24 Chem. Engrg., Sc.D. (summa cum laude); m. Alvine Ganeau, Oct. 10, 1935; asst. to head Inst. Physical Chem. Bruenn, 1921-22; asst., instr. biol. chem., Halle, 1922-24; res. chem., Lehn & Fink, Inc., 1924-26; chf. chem., Lehn & Fink Inc., 1926-44; v.p. chg. res., 1944 to date. Num. papers, patents mostly in field of antis., disinfect.; also papers on cosmetics. Mem.: A.C.S., A.I.Ch.E., A.I.C., Soc. Am. Bacteriol., Am. Publ. Health Assn., A.A.A.S., N.Y. Acdy. Sc., Soc. Cosmet. Chem. (past pres.). Hobbies: music, travel, photography.

KLASSEN, Harold C., chem. in charge of resin dev., Jones Dabney Co., 11th & Hill Sts., Louisville, Ky.; res. Ridgeway Ave., Silver Hills, New Albany, Ind.
Chem. engr.; b. Washington, D.C., Nov. 29, 1912; s. of William C. and Elsie G. Klassen; ed. Ohio State U., B.Ch.E., 1935, M.Sc., 1947; mem.: Tau Beta Pi, Phi Lambda Upsilon, Phi Delta Chi; m. Sylvia M. Dubble in 1935; ch.: Ronald W., David D., Shirley D., Joyce E. Pittsburgh Plate Glass Co., Milwaukee, Wis., Alkyd Resin Chem., 1935-39; Devoe & Raynolds Co., Louisville, Ky., Alkyd Resin Chem., 1939-40; U.S. Army, 1st Lt. to Lt. Col. Field Arty., 1940-45; Ohio State U., Columbus, O., chem. engr. instr., 1945-47; Devoe & Raynolds, Louisville, Ky., synthetic resin chem., 1947 to date. Mem.: A.C.S., A.I.Ch.E., Sigma Xi, Reserve Officers Assoc., Bronze Star decoration with 2 clusters. Hobby: photography.

KLEIMAN, Morton, hd., org. res. dept., Velsicol Corp., 330 E. Grand Ave., Chicago 11, Ill.; res. 5434 S. Ridgewood Ct., Chicago 15.
Res. chem.; b. Kansas City, Mo., Mar. 8, 1916; s. of Saul and Esther Kleiman; ed. B.S. chem., U. of Mich., 1937, M.S. chem., 1938 (honor graduate, both degrees); Ph.D., U. of Chicago, 1942; m. Anne Shanin in 1940; ch.: Adina Sue, Jay Harvey. Asst., Dept. of Chem., U. of Chicago, 1940-41; du Pont Post-doctorate fellow, 1941-42; Coman Fellow Medical Chemistry, 1942-43 (res. in cooperation with Comm. Medical Res., O.S. R.D.). Res. Chem., Velsicol Corp., 1943-46; hd. Organic Res. Dept. 1946 to date. Res. in synthesis of medicinals; sodamide & liquid ammonia reactions; grignard reactions; synthetic estrogens; carboxylations with diphosgene; quinine-like antimalarials; synthetic organic insecticides; structure studies on new insecticides, e.g., chlordane, heptachlor, aldrin, chlorination studies, kinetics of chlorination of hydrocarbons & other org. reactions; organic sulfur cmpds., redistribution reactions. Civilian with Office Scientific Res. & Dev., under comm. for med. res. Mem.: A.C.S., A.A. A.S., Sigma Xi, Hobbies: photography, chess.

KLEIN, A. Albert, asst. dir. of res., Norton Co., Worcester, Mass.; res. 422 Lovell St.
Petrographer; b. Syracuse, N.Y., May 6, 1889; s. of Samuel D. and Ella Klein; ed. U. of Mich., B.S., 1911; m. Ann Shapiro, Dec. 26, 1913; ch.: David Louis, Donald Charles. Asst. physicist, U.S. Bur. of Standards, 1911-16; Norton Co., 1916 to date. Res. in constitution & hydration of portland cement; constitution & microstructure of porcelain; calcium aluminate cements; "Beta" alumina; abrasives and refractories. Mem.: Am. Ceramic Soc. (charter fellow), Mineralogical Soc. of Am. (charter fellow), A.A.A.S. (fellow), A.S.T.M., Am. Crystallographic Assoc., Sigma Xi. Pres. Temple Emanuel, exec. comm. Worcester Community Council. Clubs: Worcester Economic, Quinsigamond Lodge, A.F.&A.M. Hobbies: music, photography.

KLEIN, David, gen. mgr., The Wilson Labs., 4221 S. Western Blvd., Chicago 9, Ill.; res. 1642 E. 56th St., Chicago 37, Ill.
Chem.; b. Chicago, Oct. 22, 1884; s. of Albert L. and Charlotte Klein; ed. B.S., U. of Ill., 1906, M.A., 1907; Ph.D., U. of Wis., 1910. Asst. prof., U of Wis, 1912-14; state chemist, State of Ill, 1914-18; U.S.A., 1918-19; assoc. prof., Johns Hopkins U. Schl. Pub. Health & Hygiene, 1919-20; The Wilson Labs., 1920 to date. Mem.: A.C.S., Assoc. for Study Internal Secretions, Sigma Xi, Phi Lambda Upsilon. Trustee, Michael Reese Hosp.; Michael Reese Res. Foundation.

KLEIN, Howard C., res. chem., Nopco Chem. Co., First & Essex Sts., Harrison, N.J.; res. 710 Ave. S, Bklyn. 23, N.Y.
Chem.; b. Jan. 4, 1918, Jersey City, N.J.; s. of Louis and Clara Klein; ed. B.S. (cum laude), 1939, Bklyn. Coll.; M.A. 1949; mem.: Sigma Kappa Chi; m. Doris Derner, May 27, 1939; ch.: Karen Enid, Lois Joyce. Singer Sewing Mach. Co., sales mgr., Feb., 1939-May, 1942; War Dept. (Joliet, Ill.), inspector of powder explosives, May-Nov. 1942; U.S. Rubber Co., Williamsport, Pa., T.N.T. nail house supvr., Nov.-July, 1943; Nopco Chem. Co., fine chems. div., res. chem., July, 1943 to date. Contrib. extens. to sc. and tech. jls. Mem.: A.CS., A.I.C. Hobbies: music, sports

KLEIN, Hugo, v.p., treas., RC Reproduction Prods., 5601 Valley Blvd., Los Angeles 32, Calif.; res. 1876 Pepper Dr., Altadena, Calif.
Chem. engrg. conslt., exec.; b. Bklyn, N.Y., Oct. 19, 1905; s. of Roger W. (dec.) and Ellen (Hee) Klein (dec.); ed. Columbia U. A.B. 1926, B.S. 1927, Ch.E. 1928; mem.: Phi Beta Kappa, Phi Lambda Upsilon, Epsilon Chi; m. Eugenie Jeanne Day, Apr. 27, 1935; ch.: Marjorie Jean, Barbara Ann, Roger Hugh (dec.), Roy Spencer, John Day. 1928-29, du Pont, chem. engr.; 1929-46, Charles Bruning Co. Inc., sucessively chem. engr., prod. mgr., tech. dir., v.p. chg. of chem. prod. & res.; 1946-48, Converted Rice, Inc, successively mfg. mgr., v.p. for prod. & res.; 1948-50, self, chem. engrg. conslt., mfrs. rep.; 1950 to date, RC Reproduction Prods., v.p., treas., chem. engrg. conslt. Co-inventor, U.S. Pat., "Chlorination of Hydrocarbons." Author: "Paper Stocks for the Blueprint Ind." Paper Trade Journal 1949; "Paper Stocks," Internatl. Blue Printer 1950. Mem.: A.C.S., A.I.Ch.E., A.A.A.S., A.S.M.E., T.A.P.P. I., A.A.C.C.E., Res. & Dev. Corp.; registered professional engr. Texas No. 7197. Awarded: M. for Conspicuous Alumni Service to Columbia. Club: Columbia University. Hobbies: music, reading, gardening, odd jobs around house.

KLEIN, Louis, v.p., Rohm & Haas Co., 222 W. Washington Sq., Philadelphia 5, Pa.; res. 515 Shortridge Dr., Wynnewood, Pa.
Chem.; b. Brockton, Mass., Mar. 24, 1907; s. of Morris and Clara Klein; ed. Harvard U., 1927, A.B.; m. Josephine A. Seibert, Aug. 6, 1948.

KLEIN, Michael William, assoc. prof., Chem. Bldg., U. of Wis., Madison 6, Wis.; res. R. 3, Madison 5.
Chem. teacher; b. Appleton, Wis., Jan. 30, 1895; s. of Louis and Barbara Klein; ed. Lawrence Coll., Appleton, Wis., B.S. 1921; U. of Wis., M.S. 1923, Ph.D. 1924; mem.: Sigma Phi Epsilon; m. Esther May Franklin, Nov. 18, 1921; ch.: William F., Elizabeth A. Instr. in org. chem. 1924-36, asst. prof. in org. chem. 1936-43, assoc. prof. in org. chem., 1943 to date, U. of Wis.

KLEIN, Samuel, western sales mgr., Calco Chem. Div., Am. Cyanamid Co., 146 W. Kinzie St., Chicago 10, Ill.; res. 40 E. Oak St., Chicago 11.
Exec.; b. N.Y.C., Nov. 15, 1890; s. of Herman and Annie (Ungar) Klein; ed. P.S. 15, Bklyn., N.Y.; Com. H.S., Bklyn., N.Y.; m. Edith Friedman (second marriage) Feb. 7, 1946; ch.: Lester Samuel, William Franklyn. A. Klipstein & Co., lab. asst., 1906-10; Read Holliday & Sons, asst. chg. application lab. 1911-14; Calco Chem. Div., Am. Cyanamid Co.: 1917-20, salesman, 1920-44 dept. sales mgr. in chg. sales lake & jobbing trade, 1944 to date, western sales mgr. Mem.: Natl. Paint, Varn. & Lacq. Assn., A.A.T.C.C., Salesmen's Assn. Am. Chem. Ind. Clubs: Standard (Chicago), Drug & Chemical (N.Y.C.). Hobby: fishing.

KLEINER, Israel Simon, prof. and dir. of dept. of Biochem., New York Med. Coll., Flower & Fifth Ave. Hospitals, 106th St. & 5th Ave., New York 29, N.Y.; res. 27 W. 96th St., N.Y. 25, N.Y.
Biochem. prof.; b. New Haven, Conn., Apr. 8, 1885; s. of Isaac Lyon and Helen (Bretzfelder) Kleiner; ed. Ph.B. and Ph.D., Yale, 1906 and 1909; m. Alma Kempner, Mar. 27, 1912; ch.: Ruth (Kleiner) Glantz, Richard Kleiner. Instr. in biochem., Tulane U., 1909-10; asst. Rockefeller Inst. for Med. Res., 1910-14; assoc. Rockefeller Inst. for Med. Res., 1914-19; prof. of biochem. N.Y. Med. Coll., Flower & 5th Ave. Hospitals, 1919 to date; dir. of dept., 1948; dean of coll., 1921 to 1925. Res. in pre-insulin wk. on pancreatic hormone; substituted for Prof. L. B. Mendel at Yale, 1918-19 at request of U.S. Food Admin.; work on pepsin and rennin; chem. test for malignancy. Contrib. extens. to sc. and tech. jls. Coauthor with L. B. Dotti "Laboratory Instructions in Biochemistry," 1st ed., 1940, 2nd ed. 1946. Author: "Human Biochemistry," 1st ed., 1945, 2nd ed. 1948. Mem.: Am. Physiol. Soc., Am.

Soc. Biol. Chems., Am. Soc. Phar. & Exp. Therap., Am. Inst. Nutrition, Harvey Soc., Soc. Exp. Biol. & Med., N.Y.A.M. Assoc. (fellow), N.Y. Acdy. Scs. (fellow), Am. Assoc. Cancer Res., Sigma Xi. Trustee Leukemia Foundation, Inc. Hobbies: gardening, oil painting.

KLEINHANS, John Ashmore, prod. mgr., J. T. Baker Chem. Co., Phillipsburg, N.J.; res. Pond Rd., R.D. 1, Bethlehem, Pa.
Chem. engr.; b. Easton, Pa., May 3, 1913; s. of Samuel O. and Rachel A. Kleinhans; ed. M.I.T., 1932-33; Lehigh U. 1933-36; mem.: Phi Gamma Delta; m. Sylvia Hunsicker, July 14, 1941; ch.: Frederick, Alice, Virginia. 1934-35 summers, lab. technician, 1936, Oct. 1, supvrs. trainee, 1940 supvr., 1946 asst. prod. mgr., 1947 to date, prod. mgr., J. T. Baker Chem. Co. Mem.: A.C.S. Hobbies: music, photography.

KLEINHEKSEL, J. Harvey, prof. chem., Hope College, Holland, Mich.; res. 29 E. 9, Holland.
Tchr. chem.; b. Holland, Mich., Sept. 1, 1900; s. of Bert and Mina Kleinheksel; ed. A.B., Hope Coll., 1922; M.A., U. Ill., 1925; Ph.D. (inorg. chem.), 1927. U.S. Army, 1917-19; prof. chem., Hope Coll., 1928 to date. Properties anhyd. rare earth chlorides. Mem.: A.A.A.S., A.C.S. Club: Rotary.

KLEINSINGER, Harold, prof. of anal. chem. & physics, St. John's U., Bklyn., N.Y.; res. 2501 Davidson Ave., N.Y. 63, N.Y.
Prof., chf. chem.; b. N.Y.C., July 20, 1907; s. of Jacob and Rebecca (Lazarus) Kleinsinger; ed. Fordham, Ph.C. 1931; C.C.N.Y. B.S. 1935; Polytech. Inst. of Bklyn., M.S. 1938; mem.: Omega Pi Alpha, Rho Pi Phi; m. Frieda Feldman, Sept. 29, 1930; ch.: Jack Stuart. St. John's U., 1931 to date; Aquatrol Labs. Inc., Clifton, N.J., 1945 to date, chf. chem. Mem.: A.Phar.A., F.A.I.C., A.A.A.S., Am. Assn. of Univ. Professors, Am. Assn. of Physics Teachers, Am. Inst. of Physics. Hobbies: golf, philately.

KLENDSHOJ, Niels C(hristian), exec. v.p., Arner Co. Inc.; asst. prof. of pathol., U. of Buffalo; 303 Michigan Ave. & 109 Linwood Ave., Buffalo, N.Y.; res. 2 Larchmont Rd., Buffalo.
Chem. engr., physician; b. Denmark, Feb. 1, 1902; s. of Niels C. and Ane Marie K. (Jensen) Klendshoj; ed. B.A., Copenhagen, 1921; Cand. phil. & polytech. (chem. engrg.), U. of Copenhagen, 1926; M.D., U. of Buffalo Schl. of Medicine, 1937; mem.: Sigma Xi; m. Annette Roberta Heintz, Feb. 24, 1933; ch.: James H. Sloan (stepson), Ole, John, Arne. Arner Co. Inc., chem. 1927-38, med. & tech. dir. 1938-49, exec. v.p. 1949 to date; U. of Buffalo, assoc. in pathol. 1944-48, asst. prof. of pathol. 1948 to date, dir. of div. of toxicol. 1948 to date; Buffalo Gen. Hosp., asst. biochem. 1937-39, dir. of dept. of biochem. 1939 to date, asst. attending physician 1945 to date. Buffalo Res. Associates, Inc., Buffalo (mem. bd. of dir.); E.M. Rauh & Co. Inc., Buffalo (mem. bd. of dir.). Chem. isolation of blood group specific substances B&O; use of specific substances in blood transfusions; investigations into toxicolog. procedures; various publ. in flds. of biolog. & immunolog. chem. Mem.: A.M.A., Am. Diabetes Assn., Soc. Study Internal Secretions, S.E.B.M., A.Phar.A., A.A.A.S., Med. Soc. State of N.Y., Sigma Xi, Buffalo Acdy. of Medicine, Res. Bd. Am. Phar. Mfg. Assn. Mem. Medical Bd., Buffalo Gen. Hosp. Clubs: Buffalo, Buffalo Canoe. Hobby: music.

KLINE, Gordon Mabey, asst. chf., div. org. & fibrous matls.; chf., plastics sec., Natl. Bur. of Stand., Washington 25, D.C.; res. 109 Battery Lane, Bethesda 14, Md.
Chem., edit.; b. Trenton, N.J., Feb. 9, 1903; s. of Manuel Kuhl and Florence (Black) Kline; ed. Colgate U., A.B. 1925; George Wash. U., M.S. 1926; Maryland U., Ph.D. 1934; m. Dorothy Beard, Mar. 15, 1926; ch.: Ann Linthicum (Kline) Cook. N.Y. State Dept. of Health, Albany, N.Y., res. chem., 1926-28; Picatinny Arsenal, Dover, N.J., res. chem., 1928-29; Natl. Bur. of Stands., Washington, D.C., chem., 1929 to date; Modern Plastics, New York, N.Y., tech. edit., 1936 to date; Modern Plastics Encyclopedia, edit. dir., 1936 to date. Chmn., Plastics Tech. Com., Federal Specifications Bd.; chmn., Com. D-20 on Plastics, Am. Soc. for Testing Matls.; mem., Quartermaster Corps Advisory Comm. on Plastics & Elastomers, Natl. Res. Council; mem., Comm. on Aircraft Structural Matls., Natl. Advisory Com. for Aeronautics; mem., tech. comm., Soc. of the Plastics Ind. Author: "Modern Plastics Encyclopedia" (publ. annually). Mem.: Phi Beta Kappa, Sigma Xi, A.C.S., A.I.C., A.S.T.M., Am. Soc. of Mechanical Engrs., Wash. Acdy. of Scs., Soc. of Plastic Engrs., Soc. of the Plastics Ind. Club: Chemists' (N.Y.).

KLINE, Harry, mgr., tech. dir., Phenolic Plastics Div., Reichhold Chem. Inc., 601 Woodward Heights Blvd., Detroit 20, Mich.; res. 19619 Roslyn Rd., Detroit 21.
Chem. engr.; ed. Case Inst. of Tech., B.S. in chem. engrg. 1922, Ch.E. 1925; m. Eva Berman, Aug. 30, 1934; ch.: Riva, Barry, Ruthellen. 1924-42, res. & dev. chem., Bakelite Corp.; 1943 to date, mgr., tech. dir. of Phenolic Plastics Div., Reichhold Chem. Inc.; mem.: A.S.T.M., S.P.E., S.P.I., A.C.S. Dev. many of the com. phenolic resins & laminating varn. now being used by ind. Numerous articles on phenolic resins, varn., etc.; U.S. pats. & foreign pats. on phenolic resins. Mem.: Plastics Pioneer of Soc. of Plastics Ind.; Soc. of Plastics Engrs. (for past 3 yrs. natl. chmn. of laminating activities); A.S.T.M. (mem. comm. D-9, D-20). Hobbies: walking, swimming, family.

KLINE, Hayden Benjamin, pres., Industrial Rayon Corp., 660 Union Commerce Bldg., P.O. Box 5846, Cleveland 1, Ohio; res. 3157 Kingsley Rd., Cleveland 22.
Corp. exec.; b. Denver, Colo., Mar. 17, 1902; s. of Harry B. and Hildegarde K. Kline; ed. U. of Colo.; M.I.T., B.S. in Ch.E. 1924. 1924-25 res. chem Natl. Aniline; 1925-26, res. chem. Indus. Rayon Corp.; 1926-28, hd. of res. dept.; asst. to v.p. 1928-29; 1929-30, tech. dir. in chg. of plant oper.; v.p., 1930-46; exec. v.p. and mem. exec. comm. 1946-49; pres. 1949 to date, same co. Mem.: A.C.S, A.I.C., A.I.Ch.E. Club: Chemists' (N.Y.) Hobby: photography

KLINE, LeRoy George, mgr, The Dow Chem., L.A. Styrene plant, Box 500, Gardena, Calif.; res. 1319 W. 161st St., Gardena, Calif.
Chem. engr.; b. Parkville, Mich.; s. of Albert E. and Marie C. Kline; ed. B.S., Mich. St. Coll., 1934; grad. with high hons.; mem.: Alpha Chi Sigma, Tau Beta Pi, Phi Kappa Phi; m. Oluid Thaut, Aug. 31, 1940; ch.: Lawrence Grant, Ralph LeRoy. The Dow Chem. Co., 1934, Midland, Mich. 1 yr., anal. chem.; 1 yr., student trainee; 1936-43, res. & dev. dyes and plant processing; 1943-46, supt. unit, spec. units at Los Angeles Styrene plant; 1946-48 prod. supt.; 1948 to date, mgr. plant. Patent on atomization of synthetic dyestuff—titled "Vat Dyestuffs in Finely Divided Form." Mem.: A.C.S., A.I.Ch.E. Club: Toastmasters. Hobbies: gardening, golf.

KLIPSTEIN, August, Amer. Cyanamid Co., 30 Rockefeller Plaza, N.Y.C.
Chem.; b. Bklyn., N.Y., May 5, 1889; ed. Williams Coll., B.A. 1911; m. Frances Troy Long, Sept. 28, 1920; ch.: 1 son, 2 daughters. 1926 pres. Bulls Ferry Chem. Co.; v.p. 1921, treas. 1923,

pres. 1926, A. Klipstein & Co. 1st Lt. U.S. Inf. 1917-19. Mem.: A.C.S. Hobbies: horses, riding.

KLIPSTEIN, Kenneth Hampton, asst. gen. mgr., Calco Chem. Div., Am. Cyanamid Co., Bound Brook, N.J.; res. Long Hill Rd., New Vernon, N.J.
Exec.; b. E. Orange, N.J., Mar. 23, 1900; s. of Ernest Christian and Grace Lilian (Mills) Klipstein; ed. Princeton U., Econ. A.B. 1921, Chem. M.A. 1924; m. Doris H. Gubelman, May 21, 1927; ch.: David H. 1924-33, treas., E. C. Klipstein & Sons Co.; 1933-41 tech. sales, Calco Chem. Co.; 1942-45, govt. relations, Am. Cyanamid Co.; 1945-48 dir., new prod. dev., Calco Chem. Div., Am. Cyanamid Co., 1948 to date, asst. gen. mgr. Mem.: A.C.S., A.I.C., A.I.Ch.E., S.C.I., Chem. Market Res. Assn., Com. Chem. Dev. Assn. Trustee, Morristown Memorial Hospital. Dir. Morristown Trust Co. Clubs: Chemists', Cannon (Princeton), Princeton Club of N.Y., University Club of N.Y., Somerset Hills Country. Hobbies: golf, bridge, fishing.

KLOTZ, Donald Irvin, gen. supt., Calco Chem. Div., Am. Cyanamid Co., Gloucester City, N.J., res. 119 E. Browning Rd., Collingswood, N.J.
Chem. engr.; b. Richmond, Va., July 30, 1912; s. of Joseph M. and Emma K. Klotz; ed. Va. Polytech. Inst., Blacksburg, Va., B.S. Chem. Engrg.; m. Alice Haydn., Jan. 7, 1938; ch.: Arthur H., Mary K. West Va. Pulp & Paper Co., contr. chem., steam & water plant asst.; Va. Chem. Corp., supt. steam & water plant, asst. prod. supt.; U.S.A., Major, Corps. Engrs.; Calco Chem. Div., Am. Cyanamid Co., prod. supt., Piney River plant, gen. supt., Gloucester plant; mem.: A.I.Ch.E.

KLUG, Harold Philip, hd. of the Dept. of Res. in Chem. Physics, Mellon Inst., Pittsburgh 13, Pa.; res. 1131 Cedar Boulevard, Pittsburgh 16, Pa.
Res. chem.; b. Zanesville, O., Sept. 20, 1902; s. of Philip J. and Elizabeth B. Klug; ed. B.A. with high distinction, 1924, M.A., 1926, Ph.D., 1928, Ohio State U.; m. Helen P. Symons, July 25, 1930; ch.: Henry Philip. Graduate asst., Ohio State U., 1924-27; instr. and asst. prof., Carleton College, 1927-32; res. Fellow, Calif. Inst. of Tech., 1932-34; asst. prof., U. of Idaho, 1934-37; asst. and assoc. prof., U. of Minnesota, 1937-45; hd. of the dept. of research in chem. physics, Mellon Inst., 1945 to date. Res. studies on crystal and molecular structure; application of x-ray diffraction in ind. res.; molecular rotation in crystalline solids. Contrib. extens. to res. pubs. Mem.: A.C.S., Amer. Crystallographic Assoc., Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, Pittsburgh Chemists' Club. Hobbies: photography, woodworking.

KLUG, William James, Jr., tech. serv. mgr., Industrial Tape Corp., New Brunswick, N.J.; res. Prospect Plains, N.J.
Mgr., tech. serv. dept.; b. Glen Rock, N.J., Mar. 8, 1910; s. of Wm. J. and Esther Bunell Klug, Sr.; ed. St. John's Coll., Annapolis, Md., A.B. 1931; Coll. Wm. & Mary, A.M., 1932; Columbia U.; m. Mary Edith Webb, Aug. 28, 1937; ch.: Wm. James, III, Robert Webb, Mary Elizabeth. 1943-to date Ind. Tape Corp.; 1936-43, synth. org. chem., Heyden Chem. Corp., Fords, N.J.; 1935-36 asst. chf. chem., Armour Soap Wks., North Bergen, N.J.; 1934-35 chem. Allied Asphalt & Mineral Corp., N.Y.C.; res. in Atebrin synthesis, W.W. II. Mem.: A.C.S. Club: Lions. Hobbies: gardening, poultry.

KLUMPP, Theodore George, pres., Winthrop-Stearns, Inc., 1450 Bway., N.Y. 18, N.Y.; res. Sands Pt. Rd., Sands Pt., L.I., N.Y.
Exec.; b. N.Y.C., May 15, 1903; s. of Charles and Marie (Hayo) Klumpp; ed. B.S., Princeton, 1924; M.D., Harvard, 1928; D.Sc. (hon.), Phila. Coll. of Phar., 1943; mem.: Sigma Xi, Alpha Kappa Kappa; m. Virginia Morgan, Aug. 3, 1934; ch.: Maralys, Russell Allan, Virginia Ann, Karla Marie, Kathleen Morgan, Theodore George, Jr. Med. house officer, Peter Bent Brigham Hosp., 1929-30; asst. res. physician, Lakeside Hosp., 1930-32; assoc. physician, chf. hematolog. clinic. & dir. med. lab., New Haven Hosp., 1932-36; instr., internal med., Yale U., 1932-36; asst. clinic. prof., 1932; chf., drug div., Food & Drug Admin., 1936-41; adj. clinic. prof. med., George Washington U., 1941; attend. physician, Gallinger Municipal Hosp., 1941; dir., div. of drugs, food & phys. therapy, A.M.A., 1941-42; pres., Winthrop Chem. Co., Inc. (now Winthrop-Stearns Inc.), 1942 to date; pres., Winthrop Prods. Inc. of N.J. Numerous writings on longevity, hematology & other med. subjects. Fellow: Am. Coll. Physicians, A.M.A., Am. Soc. Clin. Invest., A.A.A.S. Mem.: Am. Found. Trop. Med. (dir., 1943 to date), Natl. Vitamin Found. (chmn., bd. govs., 1947 to date), Am. Phar. Mfrs. Assn. (pres., 1948-50; bd. of dirs.), U.S. Pharmacopoeia (v.p., 1950-60), A.P.H.A., New Haven Med. Soc., Acdy. de Ciencias Meds. (Havana), Natl. Health Assem., N.Y. State Legis. Comm. of Problems of the Aging (advis. comm.), U.S. Commis. on Chron. Illness, The Mayor's Advis. Comm. on Problems of Aged (chmn., sub-comm. on employment); Am. Drug Mfrs. Assn. (exec. comm.). Hobbies: tennis, sailing, gardening, geriatrics.

KNAPP, Ismond E., tech. dir., Leach Bros. Southern Naval Stores Div., Columbia, Miss.; res. Columbia.
Chem.; b. N.Y. State, 1893; s. of I.E. and Elizabeth (Preston) Knapp; ed. Cornell U., B.Chem. 1915; mem.: Alpha Chi Sigma; m. Ruth M. Brace 1916; ch.: Dr. Elizabeth L., Dr. Brace I. Res. chem., E.I. du Pont de Nemours & Co., Wilmington, Del.; res. chem., Newport Industries, Inc., Pensacola, Fla.; tech. dir., Crosby Naval Stores Co., Picayune, Miss.; hd., Naval Stores Res. Div., U.S. Dept. of Agric., New Orleans, La.; tech. dir., Southern Naval Stores Div., Leach Bros., Columbia, Miss. Numerous tech. articles & pats. in fld. of pine chem. Mem.: Sigma Xi, A.C.S., A.O.C.S., A.S.T.M. Club: Rotary (past pres.). Hobby: gardening.

KNEEN, Eric, res. dir., Kurth Malting Co., Box 1146, Milwaukee 1, Wis.; res. 4808 W. Wis. Ave., Milwaukee 13.
Chem.; b. Battleford, Sask., Canada, Mar. 23, 1909; s. of Henry and Annie E. Kneen; ed. U. Alberta, B.Sc. 1931; U. Minn., M.S. 1933; Ph.D. 1942; mem.: Gamma Alpha, Phi Lambda Upsilon, Alpha Mu: m. Dora Fry, Jan. 1, 1935; ch.: Brenda E., Ann Cynthia. Instr., U. Minn., 1934-36; asst. to assoc. agri. chem., U. Nebr. 1936-46; prof., Kans. St. Coll., 1946; res. dir., Kurth Malting Co. 1946 to date. Contrib. extens. to sc. and tech. jls.; mem.: Sigma Xi, A.C.S., A.A.A.S., A.A.C.C., A.S. Brew. C., Master Brew. Assn., Am. Inst. Food Tech., Corecipient Chem. Award, Omaha Chamber of Comm. 1945; voted one of 10 ablest agr. & food chem. in U.S., Chem. Bulletin, 1947. Club: Milwaukee Athletic.

KNIGHT, Odon Stahlhut, supervising chem. engr., Com. Solvents Corp., Terre Haute, Ind.; res. 1000 S. Center, Terre Haute.
Chem. engr.; b. Denver, Colo., June 22, 1907; s. of Odon Wilkes and Minnie A. (Stahlhut) Knight; ed. U. of Colo., B.S. with spec. hon. 1928, M.S. 1932, Ph.D. 1933, chem. engr. 1935; U. of Mich., 1931; mem.: Theta Xi, Alpha Chi Sigma, Tau Beta Pi; m. Lola Dell Johnson, Sept. 18, 1936; ch.: Odon George, Velma Elizabeth, James Fred. Engr., Link-Belt Co., Indianapolis, 1928-29 and summers 1930, 1934-36; instr. mech. engrg., U. of Colo. 1929-35, asst. prof. chem. engrg. 1935-37;

dir. of chem. div., J.P. Devine Mfg. Co. Inc., Mt. Vernon, Ill., 1937-39; asst. prof. chem. engrg., Rose Polytech. Inst., Terre Haute, Ind., 1939-44; supervising chem. engr., Com. Solvents Corp., 1943 to date. Design of liquid carbon dioxide, formaldehyde, hydrocarbon nitration plants & equip.; design of dryers, evaporators, heat transfer equip., & fractional distillation units; correlation of vapor pressure with temperature; liquid-liquid extraction; mass spectrometry. Contrib. to Transactions of the A.I.Ch.E., Ind. & Engrg. Chem., Chem. Engrg., & Journal of A.C.S. Mem.: A.I.ChE. (active mem.), A.C.S., Am. Soc. for Engrg. Ed., Sigma Xi, Elder, Central Presby. Church, Terre Haute, Ind., trustee same 1942-45; trustee, Highland Park Presby. Church, Denver, 1933-37.

KNIGHT, William Windus, Jr., gen. mgr., Plaskon Div., 2112 Sylvan Ave., Toledo 6, Ohio; res. St. B. Rt. 2, Box 685, Toledo 6.
Mfg., adm.; b. Toledo, Ohio, Jan. 27, 1905; s. of W.W. and Edna (Ford) Knight; ed. Yale, A.B. 1927; Harvard, M.B.S. 1929; mem.: Chi Psi; m. Elsie Stranahan, Sept. 12, 1931; ch.: John Lord, Diana. 1929-40, Wyandotte Chem. Co., dir., asst. gen. mgr.; 1940-42, Office Prod. Management, chf. tank & combat vehicle sec.; 1942-45, U.S.A., Major, Ord. Dept. 1942, chf., facilities sec., tank & combat vehicle div., 1942-43, commanding officer, Milan Arsenal, 1944-45, Lt. Col. chf., powder & explosives sec. of fld. dir. office; 1945-47, Libbey-Owens-Ford Glass Co., asst. to exec. v.p. 1947 to date, Plaskon Div., Libbey-Owens-Ford Glass Co., gen. mgr. Ford Building Co. (dir)., Nicholas Building Co. (dir.), Toledo Trust Co. (dir.), Toledo Scale Co. (dir.). 1947 Legion of Merit. 1947-50, dir., Toledo Community Fund; 1946-to date, pres. of trustees, Maumee Valley Country Day Schl. Clubs: Toledo Club, Inverness Golf & Country, Yale (N.Y.C.), Chemists' (N.Y.C.). Hobbies: skiing, sailing, fishing.

KNOWLES, Chester Lewis, partner & pres., Knowles Assocs., 19 Rector St., N.Y., N.Y.; res. 21 Seaview Ave., New Rochelle, N.Y.
Chem. engr.; b. Narragansett, R.I., Feb. 27, 1894; s. of Lewis Hazard and Laura Eva Amos Knowles; ed. Brown U., Prov., R.I., Ph.B. 1914; Sc.M. 1915; Ph.D. & A.M., 1920; mem.: Sigma Xi, Lambda Chi Alpha; m. Mildred Penderter Morris, Feb. 13, 1932; ch.: Chester L., Catherine P., Mary H. Res. chem., mgr., chem. div., Eastern Lab., E.I. du Pont Co., 1917-23; sales engr., mgr. eastern div., chem. sales dir., dir., Dow Co., Inc., 1923-44; tech. dir., Gen. Am. Trans. Corp., proc. equip. div., 1944-47; partner, pres., Knowles Associates, 1947 to date. Res. in chems., dyes, explosives, recaustic., al., magnesia plant des., phosphoric acid, heavy chem. plants, trade wastes, air pollution. Contrib. extens. to sc. and tech. jls. Mem.: A.I.Ch.E. (past dir.); A.I.C., Soc. Chem. Ind., T.A.P.P.I., A.C.S. Club: Chem. (past v.p.).

KNOWLTON, Lawrence G., prof. of chem., Western Michigan College, Kalamazoo, Mich.; res. 304 S. Fletcher Ave., Kalamazoo 51.
Coll. chem. teacher; b. Fargo, N.D., Mar. 19, 1901; s. of P.G. and Anna Knowlton; ed. Oberlin Coll., Oberlin, O., A.B. 1923, Cornell U., July, 1927, Ph.D.; mem.: Gamma Alpha, Alpha Chi Sigma; m. Emily, Aug. 23, 1930; ch.: Ronald. 1927-29, Case Inst. of Tech., Cleveland, O., instr. in chem.; 1929-41, Olivet Coll., Olivet, Mich., Hd. chem. dept.; 1941 to present, Western Michigan Coll., Kalamazoo, Mich., prof. of chem.

KNOWLTON, Norman P., v.p., Mallinckrodt Chemical Wks., St. Louis, Mo.; res. 18 N. Maple Ave., Ferguson, Mo.
Chem.; b. Webster, Mass., Mar. 7, 1896; s. of Herbert M. and Edith E. Knowlton; ed. 1918, Worcester Polytechnic Inst., Worcester, Mass.; mem.: Alpha Tau Omega, Tau Beta Pi, Sigma Xi; m. Florence Warner, Apr. 28, 1921; ch.: Norman P., Jr., Evelyn J. Employed by Mallinckrodt Chem. Works, 1918 to present date.

KNUDSON, Arthur, prof. of biochem. and assoc. dean, Albany Medical College, Albany, N.Y.; res. 207 S. Main Ave., Albany, N.Y.
Biochem.; b. Milwaukee, Wis., Aug. 13, 1889; s. of John and Pauline Knudson; ed. A.B., U. of Mo., 1912, U. of Wis., summer, 1912, Ph.D. (biochem.) Columbia, 1915, Harvard, summer, 1916, Cambridge, England, 1923-24; m. Lula A. Barrows, Aug. 22, 1916; ch.: Pauline B., Selden A., Lawrence B. Asst. in biochem., Columbia U., 1912-14. Held following positions in Albany Medical College: Adjunct prof., Physiological Chem., 1914-15; assoc. prof., biochem., 1915-21; prof. biochem., 1921 to present; assoc. dean, biochem., 1943 to date. Res. in biochem. of lipids, radiation, vitamin D, metabolism of cholesterol and cholesterol esters; chemical assay of digitalis and strophanthus. Mem.: Sigma Xi, Phi Beta Kappa, A.C.S., A.A.A.S. (fellow), Am. Soc. of Biol. Chem., Am. Institute of Nutrition, Soc. for Experimental Biology and Medicine. Dir. in Albany Co. Chap. Red Cross. Hobby: photography.

KNUDSON, Clarence Milton, dean, Coll. Engrg., U. Denver, Denver 10, Colo.; res. 2357 S. Clayton St.
Ed. Admn.; b. Denver, Colo., Dec. 19, 1900; s. of Michael and Christina (Rasmusson) Knudson; ed. U. Denver, B.S. Chem. Eng., 1921; M.S. 1922; St. U. Ia., Ph.D. 1924; mem.: Sigma Phi Epsilon, Alpha Chi Sigma, Gamma Alpha, Omicron Delta Kappa; m. Frank May Louise Kirk, Sept. 4, 1926, d. Oct. 17, 1948; ch.: Donald Milton, James Clarence. Instr., U. Denver, 1921-22; instr. U. Nebr., 1924-26; res. chem., Mid Continent Pet. Corp. Tulsa, Okla., summer 1926; instr., Colo. Schl. Mines, 1926-27; asst. prof. chem., Colo. Sch. Mines, 1927-29; assoc. prof. chem., chem. engr. U. Denver, 1929-33; prof. chem., chem. engr., 1933 to date; chmn. dept. chem. engr. 1938-45; dean, coll. engr. 1941 to date. Tchr. of chem., chem. engr., 21 yrs.; res. in fields of potentiometric titrations, adsorption, crystallization, heat transf. Mem.: A.C.S., A.I.Ch.E., Am. Soc. Engrg., Ed., Sigma Xi, Phi Lambda Upsilon.

KNUDSON, Harold W., tech. dir., Hollingsworth & Vose Co., East Walpole, Mass.; res. 178 Union St., East Walpole.
Chem.; b. Viroqua, Vernon Co., Wis., Dec. 12, 1912; s. of Tellman C. and Anna Christine (Vig) Knudson (dec.); ed. Viroqua Public H.S.; St. Olaf Coll., Northfield, Minn., A.B.; U. of Wis., Madison, Wis., Ph.D.; mem.: Sigma Xi, Phi Lambda Upsilon; m. Ragna O. Ullsvik, Aug. 27, 1939; ch.: Rolf O., Karen C. 1934-36, teacher, Viroqua Public H.S., Viroqua, Wis.; 1936-39, res. asst., U. of Wis. Grad. Schl., Madison, Wis.; 1939-43, prof. of chem., Concordia Coll., Moorhead, Minn.; res. chem., Naval Res. Lab., Chem. Div. Anacostia Station, Wash., D.C.; 1946 to date, tech. dir., Hollingsworth & Vose Co., East Walpole, Mass. Mem.: A.C.S., A.S.T.M., T.A.P.P.I., A.A.A.S. Award: Meritorious Civilian Service Award, 1946, U.S. Navy Dept. Bd. of trustees, Upsala Coll., E. Orange, N.J. Hobbies: fishing, golf.

KOBE, Kenneth Albert, prof. of chem. engrg., assoc. dir., Bur. of Ind. Chem., Dept. of Chem. Engrg., U. of Texas, Austin, Texas.
Chem. engr.; b. Osakis, Minn., Mar. 19, 1905; s. of Albert M. and Mildred (Stillwell) Kobe; ed. U. of Minn., B.S. in Ch.E. with distinction 1926, M.S. in Ch.E. 1928, Ph.D. 1930; mem.: Sigma Xi, Phi Lambda Upsilon, Tau Beta Pi, Omega Chi Epsilon, Gamma Alpha, Alpha Chi Sigma; m.

Jeneva K. Holm, July 6, 1932; ch.: Donald H., Jean C. du Pont Ammonia Corp., chem. 1930; Natl. Safe Protector Co., chf. chem. 1931; U. of Wash., dept. of chem. engrg., instr., 1931-34, asst. prof. 1934-39, assoc. prof. 1939-41; U. of Texas, dept. of chem. engrg., grad. prof. 1941 to date, assoc. dir., Bur. of Ind. Chem., 1946 to date, consltg. chem. engr. 1932 to date. Submerged combustion equip. & processes, unit process dev., utilization of natural resources & waste matls. Author: "Inorg. Process Industries" 1948, "Chem. Engrg. Reports" 1950. Assoc. ed. "J. Chemical Education" since 1946. Mem.: A.I.Ch.E. (active mem.), A.C.S. Major, C.W.S., 1942-44; Lt. Col., U.S.A.F.-Res. since 1950.

KOCH, Howard W., v.p., gen. mgr., Eimer & Amend, 635 Greenwich St., N.Y.C.; res. 9 Colony Court, Summit, N.J.
Exec.; b. Pitts., Pa., Apr. 1, 1902; s. of John A. and Elizabeth (Knerler) Koch; ed. 1921-25, Penn. State, B.S.; 1925-27, Mich. State, M.S.; m. Lillian Robson, Jan. 18, 1934; ch.: Robert John, Sarah Elizabeth. Fisher Scientific Co., 1927-40; Eimer & Amend, 1940 to date, v.p., gen. mgr. E. & A. Building Corp. (v.p., gen. mgr., dir.). Mem.: A.C.S., A.P.H.A., Soc. of Am. Bacteriologists, A.A.A.S., A.S.M., Masons, Shrine.

KOCH, John R., prof. dir. dept. chem., Marquette U., Milwaukee, Wis.; res. 8333 Kenyon Ave., Milwaukee (13).
Prof., dir.; b. Janesville, Wis., Sept. 23, 1898; s. of Wm. A. and Elizabeth (Falter) Koch; ed. U. Wisconsin, B.S., 1920, M.S., 1922, Ph.D., 1924; mem.: Alpha Chi Sigma, Phi Lambda Upsilon; m. Catherine Dodge, June 12, 1926. 1919-21, lecture asst. chem., U. Wis.; res. asst. chem., 1921-23; 1923-24, instr. chem.; res. chem., Lacquer Dept., Sherwin Williams Co.; conslt. chem., Fisher Body Corp.; asst. prof. chem., Marquette U., 1925-26; admitted to the Faculty of the Grad. Schl., Marquette U., 1926. Papers pub. in fields of proteolytic and lipolytic enzymes, activity of malts, waxes, special apparatus, etc. Fluorine compds., fluoride catalysts. Hobbies: electronics, golf.

KOCH, Wilmer H., wks. chem., Niagara operations, Mathieson Chem. Corp., Niagara Falls, N.Y.; res. 4621 Lewiston Rd., Niagara Falls.
Chem.; b. Bethlehem, Pa., Feb. 1, 1896; s. of Peter O. and Ellen O. Koch; ed. Lehigh U., 1916, B.S.Ch.; m. Lillian M. White, Sept., 1923. Anal., N.J. Zinc Co., Palmerton, Pa., 1916-17; chf. chem., Elec. Steel & Mtls. Co. Ltd., Welland, Ont. Canada, 1917-19; anal., E.I. du Pont de Nemours & Co., Lodi, N.J., 1919-20; anal., Mathieson Chem. Corp., Niagara Falls, N.Y., 1920-23, wks. chem., 1923 to date. Mem.: A.C.S. (past chmn., Western N.Y. Sec., councillor); A.S.T.M. (adv. comm., chmn. comm. S-4, chmn. publ. comm., all in comm. D-12). Hobbies: ornithology (Buffalo Ornitholog. Soc.), music.

KOCHS, August, chmn., Victor Chem. Wks., 141 W. Jackson Blvd., Chicago, Ill.; res. 1527 Dearborn Parkway, Chicago.
Exec.; b. Germany, Aug. 13, 1871; s. of William and Elizabeth (Juenger) Kochs; ed. grad. of Royal Tech. & Com. Schl., Cassell, 1888; m. Adelaide D. Petersen, Nov. 6, 1895; ch.: Walter August (dec.), Herbert William, Elsa A. In exec. position with Victor Chem. Wks., 1897 to date. Clubs: Chicago Athletic, Lake Shore Athletic (Chicago), Bath (Miami Beach), Indian Creek Country (Miami Beach), Chemists' (N.Y.). Hobby: outdoor sports.

KOCOUR, Cyril, pres., dir. of res., Kocour Co., 4800 S. St. Louis Ave., Chicago 32, Ill.; res. 170 Nuttall Rd., Riverside, Ill.
Chem. engr.; b. Chicago, Ill., Jan. 29, 1901; s. of Emil J. and Emma B. (Jirousek) Kocour; ed. U. of Ill., 1923. B.S., special honors; mem.: Scabbard & Blade; m. Thelma Witwer, Sept. 16, 1930. Originated Kocour Co., 1923 (major partner). Kocour Co., Inc. (pres., treas.); Fla. Hawthorne Co. (secy.); Ill. Indus. Res. (pres., treas.). Dev. & meths. of controlling electroplating soluts. & deposits. Mem.: E.S., A.C.S., Am. Electroplaters Soc., Electrodepositors' Soc. (Brit.). Club: Riverside Golf. Hobbies: philately, gardening, gadgeteering.

KOEHLER, Walter Allos, prof. and hd. dept. chem. engr. and acting dir. engineering, Experiment Station, West Va. U., Mineral Industries Bldg., Morgantown, W.Va.; res. 412 Linden St., Morgantown, W.Va.
Education; b. Manitowoc County, Wis., Mar. 25, 1893; s. of Louis C. and Ottilie D. Koehler; ed. B.S.Ch.E., U. of Wis., 1919, Ch.E., 1920, U. of Ill., M.S., 1923, Ph.D., U. of Wis., 1924; m. Laura Harker, Aug. 11, 1923; ch.: Elizabeth Louise, Walter Harker. The Carborundum Co., Niagara Falls, N.Y., 1920-21. Chem. engr. instr. to prof. and hd. dept. West Va. U., 1924 to present, Acting dir. engr. Exp. Sta. 1946 to present. Western Cartridge Co., East Alton, Ill., summers 1944, 1945. Author: "Applications of Electrochemistry," John Wiley & Co., 1935, 1949 and Dunod, Paris, 1950. Mem.: A.I.Ch.E., Am. Ceramic Soc., Electrochemical Soc., Am. Soc. Engrg. Educ., Am. Inst. Ceramic Engrs., A.A.U.P. Mem. of Gen. Council, Amer. Soc. Engrg. Educ., 1949-51. Club: Morgantown Kiwanis.

KOEHRING, Roland P., chf. metallurgist, Moraine Prods. Div., 1440 Wis. Blvd., Dayton, Ohio; res. 217 Hadley Ave., Dayton 9.
Metallurgist; b. Richmond, Ind., Nov. 21, 1897; s. of Henry J. and Mary (Grottendick) Koehring; ed. Earlham Coll., Richmond, Ind., 3 yrs.; m. Edith Wickemeyer, June 9, 1923; ch.: Kathryn Mary, Carolyn Ann. 1919-20, routine chem., Armco Steel Corp., Middletown, Ohio; 1920-25, lab. technician, Gen. Mot. Res. Lab., Dayton, Ohio; 1925-42, metallurgist, 1942 chf. metallurgist, Moraine Prods. Div., Dayton, Ohio. Principal interest fld. of powder metallurgy. Mem.: A.S.M., A.I.M.E., A.C.S., A.S.T.M. Club: Engineers (Dayton, Ohio). Hobby: color photography.

KOELLE, George Brampton, asst. prof. of pharmacology, Coll. of Physicians & Surgeons, Columbia U., New York 32, N.Y.; res. Linwood Park Apts., Fort Lee, N.J.
Pharmacologist; b. Phila., Pa., Oct. 8, 1918; s. of Frederick C. and Emily M. Brampton Koelle; ed. Phila. Coll. of Pharmacy & Sc. (B.Sc. 1939), U. of Pa. (Ph.D. 1946), Johns Hopkins U. (M.D. 1950); m. Ethol Halls Shiels, May 15, 1943. 1939-42, pharmacologist, Lawall & Harrison, Consultants, Phila. 1942-46, lieutenant, U.S. Army, Medical Research Lab., C.W.S., Edgewood Arsenal; 1946-50, Chalfant Fellow, Wilmer Inst., Johns Hopkins Hospital. Not. wk.: Pharmacology of Di-isopropyl Fluorophosphate (D.F.P.), Reactions of Adrenochrome, Histochemical studies of cholinesterases. Mem.: Am. Soc. for Pharmacology & Experimental Therapeutics; A.A.A.S. (fellow), Abel Award in Pharmacology (1950), Travel Award to XVIII International Physiological Congress (1950). Hobbies: ornithology, photography, music.

KOELSCH, C(harles) Frederick, prof. of org. chem., U. of Minnesota, Minneapolis 11, Minn.; res. 2303 Folwell St., St. Paul 8, Minn.
Chem., res. and education; b. Boise, Idaho, Jan. 31, 1907; s. of Chas. F. and Katherine (Oliver) Koelsch; ed. B.S., U. of Wis., 1928, Ph.D., 1931; mem.: Alpha Chi Sigma; m. Helen Hermanson, June 14, 1938; ch.: Karen L., Charles F., John M.

Instr. in org. chem., Ill., summer 1931; Natl. Research Council Fellow, Harvard U., 1931-32; instr. in org. chem., U. of Minnesota, 1932-34; asst. prof. U. of Minn. 1934-38; assoc. prof., 1938-46; prof. 1946 to date. Hobby: amateur radio.

KOENIG, Alfred Edward, emeritus prof. of chem., Montana Schl. of Mines, Butte, Montana; res. Route 2, Hamilton, Montana.
Retired prof. of chem.; b. Howard Lake, Minn., May 30, 1882; s. of G.A. and Amanda (Scheer) Koenig; ed. B.A., Macalester Coll., 1904; M.A., U. of Wis., 1910; Ph.D. 1912; D.Sc. (hon.) U. of Montana, 1946; mem.: Sigma Xi, Gamma Alpha, Sigma Rho; m. Alta H. MacVicker, 1916; ch.: Gordon A. Cokato, Minn. H.S., 1904-07; Astoria H.S., 1907-08; Dept. of Chem., U. of Wis., 1908-20, asst., instr. and asst. prof., Montana Schl. of Mines; assoc. prof. 1920-23, prof. and hd. of Chem. Dept., 1923-46; emeritus prof. since 1946. 38 yrs. of tchg. chem., res. on osmosis and stearates and palmitates of the heavy metals; direction of senior theses and master theses mostly on electrolytic zinc and manganese. Mem.: A.C.S. (secy. and chmn. of Wis. Section; chmn. of Montana Section); Montana Soc. of Engrs.; Engineers; E.S.; A.A.A.S. Club: Butte Exchange. Hobby: camping.

KOENIG, (Charles) Louis, asst. dir. of res., Stanford Res. Inst., Stanford, Calif.; res. 133 Portola Ave., Los Altos, Calif.
Ind. res.; b. Yonkers, N.Y., Oct. 11, 1911; s. of Henry and Gertrude (Holste) Koenig; ed. B.S., N.Y. U., 1932, Ph.D., N.Y. U., 1936, Inman Fellow, 1932-33, Syracuse U. 1942; m. Laura Staats, July 21, 1934. Stack chf., New York Public Library, 1928-32; Solvay Process Co., sr. chem., 1936-45; res. chem., Lithaloys Corp., 1945-46; U.S. Atomic Energy Comm., N.Y., chf. res. branch, N.Y. directed operations, 1946-47, conslt., 1945-47; chmn. chem. & chemical engr. res., Armour Res. Foundation, 1947-49; asst. dir. of res., Stanford Res. Inst., Jan. 1, 1950 to present. Mem.: A.C.S., A.I.C. (fellow), A.A.A.S., A.I.M.M.E., Electrochem. Soc., Am. Ordnance Assoc., Sigma Xi.

KOENIG, Edward Walter, gen. supt., Consolidated Feldspar Corp., Kona, N.C.; res. Burnsville, N.C.
Ceramic chem.; b. Detroit, Mich., Apr. 16, 1906; s. of Gustav and Marie Koenig; m. Elizabeth C., Oct. 26, 1929; ch.: Sue, E.W., Jr. Owens Bottle Co., 1927-29 contr. chem.; Consolidated Feldspar Corp., 1929 to date, chf. chem., gen. supt. Res. in ore dressing, non metallics. Mem.: A.C.S., Am. Ceramic Soc., A.I.C. (fellow). Hobbies: photography, golf.

KOENIG, Henry Theodore, secy., treas., sales mgr., Carbola Chemical Co., Inc., Natural Bridge, N.Y.; res. 6 Bridge St., Carthage, N.Y.
Sales mgr.; b. New York City, Jan. 12, 1903; s. of Henry William and Hedwig H. Koenig; ed. N.Y.U.; m. Dorotha F. Felt in 1932; ch.: Milton Carl, Henry William. Employed by the above company since 1924. Clubs: Elks, Masons, Carlowdin Country (Carthage, N.Y.) Black River Valley Club (Watertown). Hobbies: fishing, boating, golf.

KOFFOLT, Joseph Howard, chmn., prof. chem. engr., Ohio St. U., res. 146 W. Cooke Rd., Columbus, Ohio.
Chem., engr.; b. Cleveland, Ohio, Mar. 19, 1902; s. of George and Mary (Zimmerman) Koffolt; ed. B.Ch.E., Ohio St. U. 1924; M.S. 1929; Ph.D. 1931; mem.: triangle, Alpha Kappa Lambda, Sigma Xi, Tau Beta Pi, Phi Lambda Upsilon, Texnikoi; m. Ivy Louise Johnstone, Apr. 28, 1930; ch.: Thomas Joseph. 1924-26 asst. hd. bleach dept., Indust. Rayon Corp., Cleveland, Ohio; 1926-29 hd., bleach and finishing dept., Skenandoa Rayon Co., Utica, N.Y.; 1929-30 indust. fellow, Ohio Salt Co.; 1930-31 asst. chem. engr. dept., Ohio St. U.; 1931 instr. chem. engr.; 1932-36 asst. prof.; 1936-40 assoc. prof.; 1940 to date prof. Ohio St. U.; 1948 to date chmn., chem. engr. dept. Res. in distillation, dialysis, drying, liquid; liq. extract., graphical chem. engr. meths., evaporation, expls., investigations. Contrib. author: "Applications Chem. Engr. 1940." Mem.: A.I.Ch.E., A.C.S., A.S.E.E, A.I.C. Clubs: Faculty, Torch. Hobbies: bowling, minerals.

KOHLER, George O., dir. of res., Cerophyl Labs., Inc., 2100 Central, Kansas City, Mo.; res. 5317 W. 65th Terr.
Res. and dev. in Food and Feedstuff Field, b. Milwaukee, Wis., Apr. 9, 1913; s. of Oscar and Thora Kohler; ed. B.S., cum laude U. of Wis., 1934, M.S., Agri. Chem., 1936, Ph.D., Biochem., 1938; mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, Gamma Alpha, Theta Chi, Alpha Chi Sigma; m. Christine Gilchrist, Oct. 5, 1940; ch.: Cynthia, Sylvia. Post doctrate Fellow, U. of Wis., 1938-39; lab., director, Cerophyl Labs. Inc., 1939-50; dir. of res., 1950 to present. Res. in new nutritional factors for rats, guinea pigs, chicks, micro-organisms, dev. of Protamone (thyroactive protein); methods of analysis, chlorophyl and carotenoid chem. Mem.: A.C.S., Soc. Biometrics, A.A.A.S. Hobbies: gardening, philately, record collection and music, fishing, golf.

KOHLHASE, Arthur Hubert, sr. chem., 111 Second St., So. Minneapolis 1, Minn.; res. 1683 Hewitt Ave., St. Paul 4, Minn.
Chem.; b. Bertha, Minn., Dec. 22, 1893; s. of Edward Jacob and Louisa (Bottemiller) Kohlhase; ed. B.S., Hamline U., magna cum laude, 1919, M.S., U. of Minn., 1921, Ph.D., 1924; mem.: Phi Lambda Upsilon; m. Lucile L. Dittes, Sept. 1, 1922; ch.: William Lawrence, Robert Edward, Arthur Hubert, Jr. Instr., Hamline U., 1919-20; teaching asst., U. of Minn., 1920-24; res. chem., Roessler and Hasslacher Chem. Co., 1924-28; consulting wk., 1934-37; res., dev. and control, General Finishes, Inc., 1937-42; Forman, Ford and Co., 1942 to date, mgr., varnishes and wood preservatives dept. Res. A method of producing 99% formaldehyde distillate from water solutions. "A New Reduction of Aromatic Sulfonic Acids" (thesis). Mem.: A.C.S., Industrial Chemists Forum (Minnesota), Assoc. of Engrg. Socs. (Minnesota). Hobbies: glass blowing, wood-working, wood finishing.

KOHMAN, Edward F., conslt., Campbell Soup Co., Camden, N.J.; res. 136 Gill Rd., Camden.
Conslt. in food tech.; b. Dillon, Kans., Jan. 19, 1885; s. of Henry A. and Mary Kohman; ed. U. of Kansas, B.A., Yale U. Ph. D., Loomis Fellowship; mem.: Phi Beta Kappa, Sigma Xi, Alpha Chi Sigma (chem.); m. Marguerite O. Villepigue, July 29, 1914; ch.: Truman P., Barbara A., Victor E.; 1915-17 instr. U. of Ill.; 1917-18 Food Res. Lab., U.S. Dept. of Agri.; 1918-19 1st. Lt. Sanitary Corps. U.S.A.; 1919-37 res. chem. Research Lab. Natl. Canners Assoc., Washington, D.C.; 1937-50 res. chem. Campbell Soup Co., Camden, N.J.; 1950 conslt. in Food Res. and Tech. same firm and others; res. in rapid anal. of butter used in control in most creameries over world; proved to satisfaction of all vitamin C is stable to heat—its destruction result of oxidation which can be avoided in canning; clarified corrosion in tin plate as food contaminer. Author of chapt. in A.M.A. Handbook of Nutrition, "The Preservation of Nutritive Value of Foods in Processing," 1943; chapter in N.Y. State Joint Legislative Comm. on Nutritions, "Nutrition for Young and Old," "Food Processing and Nutrition," 1946. Mem.: A.C.S., Amer. Pub. Health Assoc., Inst. of Food Technologists. Hobbies: gardening, golf.

KOHMAN, Girard Theodore, physical chem., Bell Telephone Labs., Murray Hill, N.J.; res. 133 Ashland Rd., Summit, N.J.
Chem.; b. Dillon, Kan., Nov. 28, 1897; s. of Henry and Elizabeth Kohman; ed. Kan. U., B.S. chem.; Yale U., Ph.D.; mem.: Alpha Chi Sigma, Tau Beta Pi, Sigma Xi, Sigma Tau, Gamma Alpha; m. Ella A. Shank, 1923; ch.: Warren G., Wayne E. Res. chem., Western Elec. Co., 1923-30; physical chem., Bell Tel. Labs., 1930 to date. Absorption of water by rubber; absorption of oxygen by rubber & oils; didectric studies, crystal studies. Mem.: A.C.S., Ceramic Soc. Hobbies: hiking, tennis.

KOLACHOV, Paul John, dir. of res., Joseph E. Seagram & Sons, Inc., 7th St. Rd., Louisville, Ky.; res. 2117 Lauderdale Rd., Louisville, Ky.
Dir. of res.; b. Atamanskaja, Don, Russia, June 28, 1899; father & mother deceased; ed. Don Teachers Inst., B.S., The Czeck Technical U. of Prague, deg. of Eng. of Tech., Prague Distilling Inst., M.S., Czeck Tech. U. of Prague, Doctor of Sc.; m. Eugenie de Glazoff, Feb. 22, 1925; ch.: Sergei Kolachov. Tech. dir. of distilling & brewing firm, Prague, 1926-29; in charge of res. and control lab., Roberts Dairy Co., Lincoln, Neb., 1930-33; Brewmaster and in charge of res., Dr. Miller Brewing Co., York, Neb., 1933-34; res. chem. Hiram Walker & Sons, Inc., Peoria, Ill. 1934-37; dir. of res. Joseph E. Seagram & Sons, Inc. 1937-43; tech. councillor, Joseph E. Seagram & Sons, Inc. 1943-47; dir. of res., Joseph E. Seagram & Sons, Inc., 1947 to present. Res. in fermentation, biochem. processes, yeasting, distilling, importance of temperature and hydrogen concentration in fermentation processes, mycological control in industrial fermentation, ingedient basis for brewing and gin manufacture, grains, feeds, aromatic plants, drugs, essential oils, butadiene from grain. Author: "Food for Thought," 1942, A treatise on utilization of farm products for producing farm motor fuel as a means of solving agricultural problem. Mem.: A.A.A.S., A.C.S., Distillers Feed Res. Council, 1st, v.p., Institute of Food Technologists, Acdy. of Sc. (Ky.) pres. 1944-46, Natl. Farm Chemurgic Council, Bd. of Governors; v.p. Southern Assoc. of Sc. & Ind., Soc. of Am. Bact. Club: Cosmos.

KOLLOFF, Harold G., asst. dir. of res., The Upjohn Co., Kalamazoo, Mich.; res. 3537 Old Colony Rd., Kalamazoo.
Chem.; b. Allegan, Mich., July 13, 1908; s. of Harry F. and Lela B. Kolloff; ed. Kalamazoo Coll., 1933, A.B. (magna cum laude) U. of Ill., Ph.D., 1936; m. Ruth E. Thatcher, 1938; ch.: Frederick C., Richard H. The Upjohn Co., chem., 1936-45; dept. hd., 1945-50; asst. dir. of res., 1950 to date.

KOLODNY, Leo, pres., Chem. for Agric., Inc., 848 Wash. Bldg., Wash. 5, D.C.; res. 4202 Russell Ave., Mt. Rainier, Md.
Agric. chem.; b. Chicago, Ill., June 6, 1911; s. of Samuel and Anna Kolodny; ed. Rutgers U., B.S. 1934, M.S. 1936, Ph.D. 1938; mem.: Phi Beta Kappa, Sigma Xi; m. Evelyn Cross; ch.: Robert Leal, Judith Ellen. 1938-42, asst. soil chem., N.J. Agric. Expt. Station, instr. soils, Rutgers U.; 1942-43, asst. to chf. nitrogen unit, Chem. Bur. War Prod. Bd.; 1943-44, State Dept. & Foreign Econ. Adm., Office of Foreign Relief & Rehabilitation Adm., chf. Agric. Expendables, chem. fertilizers, pesticides & seeds; 1944-47, United Nations Relief & Rehabilitation Adm., Agric. Rehab. Div., chf., Agric. Expendables, chem., fert., pesticides & seeds; 1947 to date, Chem. for Agric. Inc., pres. Dev., Inc. (dir.). Publ. sev. tech. papers in Sc. & Soil Sc. Trustee, Georgetown Day Schl., Wash., D.C. Hobby: tennis.

KOLOGISKI, George Karl, chf. chem. in chg. of res. dev., and control, prod. mgr., Radiator Specialty Co., P.O. Drawer 1109, Charlotte 1, N.C.; res. 1801 E. Fifth St., Apt. 1, Charlotte 4.
Chem.; b. Charlotte, N.C., Dec. 12, 1918; s. of Karl von Jr., and Ruth Lillian Wyness Kologiski. Ed. B.S., The Citadel, Charleston, S.C.; m. Frances Lee Edwards, July 28, 1939 ch.: Frances Ruth, Karen Estelle. Control chem., bench chem. and analyst, Union Bag & Paper Corp., Savannah, Ga., 1939-41; boiler water chem. and asst. chf. chem., St. Mary's Krafts Corp., St. Mary's Ga., 1941-42; chf. chem., Herty Foundation Lab., Savannah, Ga., 1942-43; chf. chem. in chg. of res., dev., and control, prod mgr., Radiator Specialty Co., 1943 to present. Mem.: A.C.S., and following divisions thereof: Gas and Fuel Chemistry, Industrial and Engineering Chemistry, Rubber Chemistry, Carolina-Piedmont Section. Club: The Charlotte Citadel. Hobbies: hunting, reading.

KOLTHOFF, Isaak Maurits, prof. and hd. of Div. of Anal. Chem., Schl. of Chem., U. of Minn., Minneapolis 14, Minn.; res. Campus Club, U. of Minn.
Univ. prof.; b. Almelo, Holland, Feb. 11, 1894; s. of Moses and Rosetta (Wysenbeek) Kolthoff; ed. entered U. of Utrecht, Holland, 1911; rec. Diploma Apotheker, 1915, Ph.D. 1918. U. of Utrecht, asst. in pharmaceut. lab. 1915-18; conservator, 1918-23; "Privaatdocent" (lecturer) in appl. electrochem. 1923-27; U. of Minn., prof. and hd. of Div. of Anal. Chem., 1927 to date; anal. and phys. chem. res. dealing with potentiometry, conductometry, polarography, theory and appl. of indicators, theory of acids and bases, formation, properties, and aging of precipitates, adsorption, co-precipitation, and post precipitation; since 1943 has supvd. res. proj. on prep. of synth. rubber and on fundamentals of emulsion polymeriz. for Off. of Rubber Res. of Reconstruction Finance Corp.; anal. res. meths. in prep. of synth. rubber have been dev. Author: "Acid-Base Indicators," 1936; trans. from the 4th German edit., also translated in French and Russian; "Konduktometrische Titrationen," 1923; "Volumetric Anal.," Vol. I, theoretical part, 2nd edit., 1942; translated in Russian, German and Japanese; Vol. II, 1947; translated in German; Vol. III, 1952; "The Determination of pH. Electrometric Titrations," 2nd edit., 1941; translated in German and Russian; 'Potentiometric Titrations," 2nd edit., 1935, 3rd edit., 1952; "Textbook of Quantitative Inorg. Anal.," 2nd edit., 1943; translated in Spanish, Jugoslav, Russian and French, 3rd edit., 1950; "Polarography," 1939; translated in Russian; 2nd edit., 1951. Mem.: A.C.S., E.S., fellow, A.A.A.S., Dutch Chem. Soc, Royal Bohemian Acdy. of Scs. and Fine Arts, Royal Flemish Acdy. of Scs. and Fine Arts, Royal Acdy. of Scs., Amsterdam, Holland, Sigma Xi, Phi Lambda Upsilon, Assoc. of Cosmopolitan Clubs; hon. mem. A.Phar.A., Finnish Chem. Soc., Czechoslovak Chem. Soc., knighted an off. in the order of Oranje-Nassau in 1938; made a Commdr. in the same order, 1947; holder of Charles M., Nichols M., and Fisher Award; assoc. edit. of Indust. and Chem. Engrg. and Jl. of A.C.S., vice pres. sect. on Anal. Chem. of Internat. Union of Pure and Applied Chem., chmn. of Commission on Physico-Chem. Data of Internat. Union. Hobby: horseback riding. Officer: dir., Interscience Publishers, Inc.

KOMAREWSKY, V. I., dir. catalysis lab., prof. chem. engr., Ill. Inst. Tech., Chicago, Ill.; res. 5439 E. View Pk., Chicago 15, Ill.
Prof. chem. engr., chem. b. Moscow, Russia, Feb. 17, 1895; s. of Ilya and Olga Komarewsky; ed. U. Moscow, 1925, Ph.D. (equival.); m. Jessie Baxter, July 15, 1933. Res. fellow, Kaiser Wilhelm Inst. for Biochem. 1925; res. fellow, Kaiser Wilhelm Inst. for Chem., 1926; sr. chem., State Inst. for Solid Foods, Moscow, 1927-30; asst. prof. St. Acdy. Mines, Moscow, 1928-30; res. fellow Kaiser Wilhelm Inst. Chem.; res. chem. Universal

Oil Prod. Co. and lecturer of Northwestern U., 1930-36; 1936 to date, dir. catalysis lab., prof. chem. engr., Ill. Inst. of Tech. Co-inventor of reaction of alkylation; basic reaction in prod. of aviation gasoline; various discoveries of new reactions in field of organ. cataly. Author: "Isomerization of Pure Hydrocarbon, 1942; Tech. of Cataly. Reaction 1948; contrib. extens. to sc. and tech. jls. Mem.: A.C.S., A.A.A.S., A.I.C., Soc. Eng. Ed., Ill. Acdy. Sc. Hobbies: skiing, fishing, traveling.

KONEN, James C., dir. of res., Archer-Daniels Midland Co., 600 Roanoke Bldg., Minneapolis, Minn.; res. 4913 E. Sunnyslope Rd., Edina, Minn.
Chem.; b. Fargo, N.D., Aug. 11, 1909; s. of Nicholas and Tillie Konen; ed. N.D. State Coll., B.S. 1933, M.S. 1935; mem.: Sigma Alpha Epsilon, Blue Key; m. Harriet Ruth Ayre, July 15, 1939; ch.: John Ayre, Elizabeth Anne. Archer-Daniels Midland Co.: dir. dev. group 1939-41, dir. of oils res. 1941-45, dir. of res. 1945 to date. Obtained first pat. on org. catalysts for polymerization of drying oils, sev. other pats. in vegetable oil & protein flds. Mem.: A.O.C.S., A.C.S., A.S. T.M. Hobbies: fishing, fly tying, woodworking.

KONIUSZY, Frank Robert, org. res. chem., Merck & Co. Inc., Rahway, N.J.; res. 1111 Jaques Ave., Rahway, N.J.
Org. res. chem.; b. Joliet, Ill., Oct. 8, 1913; s. of Tadeus and Helen (Furman) Koniuszy; ed. U. of Ill., B.S. 1936; M.S. 1937; m. Elizabeth Graf, June 1, 1940; ch.: Pauline, Caroline. Merck & Co. Inc., 1937 to date, jr. res. chem. to sr. res. chem.; Chemical Abstracts, 1947 to date, abstractor; extensive res. on erythrina alkaloids, antimalarial plants, chem. of penicillin, isolation of vitamin B-12, investigation of new vitamins and new antibiotics in progress. Author number of chem. arts. and pats. Hobby: photography.

KOONCE, Samuel David, mgr., market res. div., Jefferson Chem. Co. Inc., 711 Fifth Ave., N.Y. 22, N.Y.; res. 17 Eton Pl., Glen Rock, N.J.
Chem.; b. Titusville, Fla., Nov. 26, 1915; s. of Martin E. and Sara T. Koonce; ed. A.B. Oberlin Coll. 1936; M.S. Ohio State U. 1940, Ph.D. 1943; m. Helen Mathews, Dec. 2, 1940; ch.: Kathryn K., Samuel D. Jr., Helen Huntington. Salesman, Innis Speiden & Co., 1936-39; student instr., Ohio State U., 1940-43; res. chem., Innis Speiden & Co., 1943-45; res. chem., Distillation Prods. Inc., 1945-47; mgr., market res. div., Jefferson Chem. Co. Inc., 1947 to date. Investig. chem. nature of carnauba wax 1941-43. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S., Chem. Mkt. Res. Assn., A.A.A.S. Hobbies: music, history.

KOPPENHOEFER, Robert Mack, supvr. of ind. prod. dev., Socony Vacuum Labs., 412 Greenpoint Ave., Bklyn. 22, N.Y.; res. 3 Monfort Rd., Pt. Washington, N.Y.
Res. chem.; b. Cincinnati, Ohio, Sept. 4, 1909; s. of Robert E. and Emma C. Koppenhoefer; ed. U. of Cincinnati, Ch.E. 1933, M.S. 1934, Ph.D. 1936; m. Dorothy Fisgus, July 26, 1937; ch.: Kenneth Robert, Karen Ann. 1933-36, grad. schl., Tanners Council Lab., U. of Cincinnati, 1936-39 asst. prof.; 1939 to date, Socony Vacuum Labs., res. chem., supvr. Res. on biochem. of skin fats, metabolism of skin fats, sulfation of fatty, lubrication of leather, composition of waxes. Mem.: Am. Leather Chem. Assn. (pres. 1950-52), A.C.S.

KOSOLAPOFF, Gennady Michael, assoc. prof., dept. of chem., Ala. Polytech. Inst., Auburn, Ala.; res. Auburn, Ala.
Education, res., consultation; b. Viatka, Russia, Sept. 2, 1909; s. of Michael and Alexandra Kosolapoff; ed. B.S. Ch.E., Cooper Union, 1932; M.S. Michigan 1933, Sc.D. 1936; m. Dorothea W. Bouton, July 20, 1934; ch.: Alexandra, Michael, Patricia. Res. chem., Libbey-Owens-Ford Glass Co., 1936-38; sr. res. chem., Monsanto Chem. Co., 1938-48; assoc. prof., Ala. Polytech. Inst. 1948 to date. Res. in fld. of org. cmpds. of phosphorus for over a decade; abstracting Russian chem. literature for the Chem. Abstracts. Author: "Organophosphorus Compounds." Mem.: A.C.S., Chem. Soc. (London), A.A.A.S., Sigma Xi. Hobbies: books, radio, tennis.

KOSOWSKY, Leo Kalman, chf. chem., Columbia Records, 1473 Barnum Ave., Bridgeport, Conn.; res. 2567 Main St., Bridgeport, Conn.
Chem. engr.; b. Bridgeport, Conn., Nov. 4, 1914; s. of Isador and Dora Kosowsky; ed. Jr. Coll. of Conn. (grad. with hon.); Columbia U. (grad. with hon.) A.A., B.S. (scholarship at Columbia); mem.: Phi Theta Kappa. Bridgeport Brass, chem. on mtl. finishing; Bridgeport Thermostat, chem. on mtl. finishing; chf. chem., Columbia Records, electroforming, plastic molding. Addition agents for acid copper; mtl. spray of silver & copper on nonmetallic objects; hi-speed electroforming; mfg. of mtl. parts for micro-groove recordings. Clubs: Foreman's, Electroplaters. Hobbies: chemistry, sports.

KOTEN, Irvin Alvin, prof. of chem., North Central Coll., Naperville, Ill.; res. 335 S. Sleight, Naperville.
Prof. of chem.; b. Bonduel, Wis., Dec. 15, 1899; s. of Herman G. and Elizabeth E. Koten; ed. North Central Coll., A.B. 1920; U. of Ill., M.S. 1921, Ph.D. 1924; mem.: Gamma Alpha, Alpha Chi Sigma; m. Dora Mahlkuch, June 24, 1924; ch.: Jean, Don. Grad. asst., U. of Ill., 1920-23, fellow in chem. 1923-24; asst. prof., Ill. Wesleyan U. 1924-30, appointed prof. 1930; prof. of chem., Battle Creek Coll. 1930-38; lecturer, Hiram Coll. 1938-39; prof., North Central Coll. 1939 to date. Org. derivatives of arsenic; reactions of alkyl & aryl mercuric hydroxides; prep. of ethyl chloride. Asst. edit.: "Outlines of Org. Chem." 1937; "Lab. Manual of Org. Chem." Mem.: Phi Kappa Phi, Gamma Sigma Epsilon, Sigma Xi, Phi Lambda Upsilon. Club: Torch. Hobbies: camping, fishing, music.

KOWALKE, Otto Louis, prof. of chem. engrg., (emeritus), Chem. Engrg. Bldg., Madison 6, Wis.; res. 2012 Jefferson St., Madison 5, Wis.
Prof.; b. Manitowoc, Wis., Jan. 18, 1878; s. of Ferdinand and Sophia (Kansier) Kowalke; ed. U. of Wis., B.S., 1906, F.B. Wheeler Thesis Prize; Ch.E. 1909; mem.: Phi Gamma Delta, Alpha Chi Sigma, Tau Beta Pi, Phi Kappa Phi; m. Winifred Titus, Sept. 8, 1910. Positions held at U. of Wis.: instr., 1907; asst. prof., 1911; assoc. prof., 1913; prof., 1917 to 1948. S.C. Johnson & Son, Inc., Racine, Wis., dir. Res. in pyrometry; alloys; manuf., distribution, and utilization of gas; absorption of gases; abandoned beach ridges on Green Bay. Author: "Fundamentals in Chemical Process Calculations," 1947 (Macmillan). Mem.: A.C.S., A.I.Ch.E., Inst. Min. & Met. Engr., A.A.A.S., The Electrochem. Soc., A.A.U.P., Sigma Xi. Dir. Madison Y.M.C.A., 1928-40, trustee since 1946. Clubs: University (Madison), Madison Technical. Hobbies: reading, photography.

KRAEMER, Albert John, principal refinery engineer, pat. and natural gas, Bur. of Mines, Washington 25, D.C.; res. Box 191, Alexandria, Va.
Chem.; b. Louisville, Ky., Dec. 26, 1892; s. of Christopher and Carrie Schoettlin Kraemer; ed. B.S., U. of Ky., 1915, M.I.T., 1921-22; mem.: Delta Chi, Alpha Chi Sigma; m. Mary Taylor Robinson, Dec. 18, 1928. Refinery chem., Union Oil Co., of Calif., 1915-17; refinery chem., Stand-

ard Oil Co., of Ky., 1919-23; asst. pet. chem. to principal refinery engr., Bur. Mines, U.S. Dept. of Interior, 1923 to date. Author num. short papers on properties, specifications, and methods of testing crude pet., and pet. prods., and technology of oil shale and shale oil. Mem.: A.S.T.M. D-2 on Pet. Products and Lubricants and Comm. D-16 on Ind. Aromatic Hydrocarbons, A.S.A. Comm. Z-11 on Pet. Prods. and Lubricants, Natl. Fire Protection Assoc., Inflammable Liquids Comm., A.C.S., Am. Pet. Inst., Federal Specifications Bd. Technical Comm. on Lubricants and Liquid Fuels. Hobbies: gardening, fishing.

KRAFT, Ferdinand, tech. dir., Marathon Paper Mills of Canada, Ltd.; res. Marathon, Ont., Can., 6 Drake St.
Chem. engr., and cellulose chem.; b. Darmstadt, Germany, Aug. 1, 1899, Canadian citizen; s. of Philipp and Hermine Nohl Kraft; ed. Ludoviciana-Giessen, Germany, and Tech. U. Darmstadt; 1923 Diplom-Ingenieur with hon. 1924 Doctor-Ingenieur with hon.; m. Aenne Marie Willhardt, Nov., 1927; ch.: Herbert Gordon, Eleanor Rosemarie. Asst. res. chem., Canadian Intl. Paper Company, 1926; active in rayon ind. of France, Belgium, Holland, Germany, Austria, Czechoslovakia, Italy, Switzerland, England, 1927; chem. in chg. of res. and dev., Canadian Intl. Paper Co., Temiskaming, Que., also conslt. in European rayon ind., and Scandinavian wood pulp ind., 1928-32; extended conslt., in Scandinavian wood pulp ind., 1933; conslt. in rayon and wood pulp ind. of Europe, 1935; asst. to tech. dir., Canadian Intl. Paper Co., 1936 to 1945; conslt. on wood pulp bleaching in Sweden 1945; tech. dir., Marathon Paper Mills of Canada, 1946 to date. Res. in dev. of multistage bleaching of sulfite and sulfate wood cellulose; chem. refining of wood pulp, special wood cellulose for plastics and nitration, wood pulp for paper and rayon. Author: "Bleaching of Wood Pulp" chapter 7 in "The Manufacture of Pulp and Paper" 1950. Mem.: Engineering Inst. of Canada, active member., A.I.Ch.E., Tech. Assoc. of the Pulp and Paper Industry, Tech. Sec. of the Canadian Pulp and Paper Assoc., Corporation des Ingenieurs Professionels de Quebec (member). Hobbies: woodwork, stamp collecting.

KRAFT, Maurice M., pres., Kraft Chem. Co., 917 W. 18th St., Chicago 8, Ill.; res. 6289 S. Clyde.
Chem. engr., Conslt., and Marketing Serv.; b. Newark, N.J., Dec., 1892; s. of Simon and G. Kraft; ed. B.S., Chem., Cornell U., 1916; ch.: Gerald, Diane. Presently employed Kraft Chem. Co., president.

KRAFT, William M., tech. dir., U.S. Chem. Corp., chf. chem., U.S. Plastics Prods. Corp., Metuchen, N.J.; res. 525 Elizabeth Ave., Newark 8, N.J.
Chem.; b. Newark, N.J., Aug. 12, 1920; s. of Samuel and Esther F. Kraft; ed. U. Coll. of Arts & Pure Sc., N.Y.U., B.A. (cum laude), 1941; Grad. Schl. of Arts & Sc., N.Y.U., Ph.D., 1944; William H. Inman Fellow in chem., 1941-42; m. Edith Spiro, June 18, 1944; ch.: Elizabeth Raina (3 yrs.), Daniel Paul (4 mo.). 1941-44, grad. asst. chem., N.Y.U.; summer, 1942, chem. Bristol Myers Co. (Hillside, N.J.); 1944-46, res. chem. E. I. du Pont de Nemours (Parlin, N.J.); 1945-46, lecturer chem., Rutgers U.; 1946 to date, tech. dir. U.S. Chem. Corp., chf. chem., U.S. Plastic Prods. Corp. Contrib. sc. jls. Patents now pending in polymer formation and synthesis of methacrylate cmpds. Mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, Beta Lambda Sigma, A.C.S., A.A.A.S. Hobby: radio amateur (W2YBE), photography.

KRANTZ, John Christian, Jr., prof. of pharmacol., U. of Md., Schl. of Medicine, Baltimore, Md.; res. Ellingham Rd., Ruxton 4, Md.
Educator, pharmacologist; b. Baltimore, Md., Oct. 8, 1899; s. of John Christian and Johanna Fredericka (Steinmann Krantz; ed. U. of Md., B.S. 1923, M.S. 1924, Ph.D. 1928; m. Helen King, June 15, 1921; ch.: Claire. Assoc. prof. of chem. & pharmacy, U. of Md., 1923-26, prof. of pharmacy 1926-27; dir. of res., phar. chem., Sharpe & Dohme, Baltimore, 1926-30; chf. Bur. of Chem., Md. State Dept. of Health, 1930-35; prof. of pharmacol., Schl. of Medicine, U. of Md., 1935 to date. Dev. of new volatile anesthetic agents & their mechanism of action; studies in carbohydrate metabolism & in the mechanism of the action of vaso-dilator drugs. Author: "Pharmacologic Principles of Medical Practice" 1949; "Formulary & Handbook of Johns Hopkins Hosp." 1942, ed. by John C. Krantz, Jr.; "Fighting Disease with Drugs" ed. by John C. Krantz, Jr.; "Treatise on Phar. Chem." 1929. Mem.: Am. Soc. for Pharmacol. & Expt. Therapeutics (mem. of council, 1946-49, v.p. 1949-50), S.E.B.M., Soc. for Cancer Res., A.C.S. (chmn. of Md. Sec. 1937, 1938), A.A.A.S. (chmn. Sec. N, Medical Sc., sub-sec. on drugs, 1935-37), Internatl. Physiolog. Congress (1937), A.Phar.A. (2nd v.p. 1935), chmn. Scientific Sec. 1928, Ebert M. (Colloids 1929), Md. Medical & Chirurgical Faculty (assoc. mem.), Md. Acdy. of Sc., Internatl. Assn. of Torch Clubs (pres. 1942-46), Res. Council on Problems of Alcohol. Clubs: L'Hirondelle of Ruxton, Grachur. Hobby: sailing.

KRASE, Herbert J., asst. dir. pat. dept., Monsanto Chem. Co., Dayton 7, Ohio; res. 486 Shiloh Dr., Dayton 5.
Pat. attorney, chem. engr.; b. Chicago, Ill., Feb. 13, 1894; s. of Herman C. and Emily S. Krase; ed. B.S. U. of Ill.; M.S. American U., Wash., D.C.; LL.B., M.P.L., Natl. U. Law Schl., Wash., D.C.; mem.: Phi Lambda Upsilon, Sigma Nu Phi; m Evelyn Miles, 1919; ch.: John M., William H. Res. div., C.W.S., 1918; res. chem., Fixed Nitrogen Res. Lab., 1919-29; pat. attorney, Monsanto Chem. Co., 1929 to date. Contrib. Fixed Nitrogen A.C.S. Monograph No. 59. Mem.: A.C.S., A.I. Ch.E. Clubs: Engineers (Dayton, Ohio), Indian Lake Yacht (Russells Point, Ohio), United States Power Squadron. Hobby: sailing.

KRASE, Norman William, mem. dev. dept., E. I. du Pont de Nemours & Co., Wilmington, Del.; res. Middletown Rd. R.D. 16, Media, Pa.
Chem. engr.; b. Chicago, Ill., Aug. 16, 1895; s. of Herman C. and Emilie S. Krase; ed. U. of Ill., B.S. 1918; Yale U., Ph.D. 1926; mem.: Alpha Chi Sigma, Tau Beta Pi, Sigma Xi; m. Mildred Morgan, Oct. 30, 1919; ch.: Elizabeth, Barbara Anne. Instr. chem. engrg., Yale U., 1923-26; asst. prof. of chem. engrg. 1926-30, assoc. prof. of chem. engrg. 1930-36, U. of Ill.; prof. of chem. engrg., U. of Pa., 1936-39; chem. engr., du Pont Co., 1939 to date. Res. publ. relating to high pressure reactions & properties of gases & solutions. Co-author with H.A. Curtis, "Fixed Nitrogen." Mem.: A.I.Ch.E., A.C.S. Hobbies: gardening, golf, coin collecting, travel.

KRASHIN, Bernard R., tech. dir., The Cosma Labs. Co., 1545 E. 18th St., Cleveland 14, O.; res. 15524 Scottsdale Blvd., Shaker Hgts. 20, O.
Chem.; b. Buffalo, N.Y., Nov. 9, 1918; s. of Julius and Ida Krashin; ed. B.S. in chem., Western Reserve U., 1941, Phi Beta Kappa and magna cum laude and honors in chem.; mem.: Zeta Beta Tau; m. Celine Rubin, Feb. 3, 1946; ch.: Sandra Lynn, Jeffrey Barry. Chem., Cosma Labs. Co., 1941 to date, also chf. chem., asst. technical dir., tech. dir. and v.p. Special Chemicals Co., v.p., Merritt Prods. Co., v.p., Macco Chemical Co., tech. dir. Res. in mildewproofing agents, emulsion polymerization of vinyl resins, coating agents. Mem.: A.C.S., A.I.C., Am. Soc. for Metals,

Paint & Varnish Assoc., Phi Beta Kappa, A.A.A.S. Hobbies: photography, golf, tennis.

KRASNOW, Frances, dir. res., The Guggenheim Dental Clinic, 422 E. 72nd St., N.Y. 21, N.Y.; res. 405 E. 72nd St.
Res. biochem., educator, admin. exec.; b. N.Y.C.; d. of Raphael and Sarah (Rifka) Krasnow; ed. B.S. (magna cum laude), Barnard, 1917; A.M., Columbia, 1917; Ph.D., 1922; m. Dr. Marcus Thau, Dec. 25, 1930; ch.: Hudelle K. Thau. Instr., Columbia, 1918-32; hd. fundament. scs. & assst. dir., Schl. Dental Hygiene, The Guggenheim Dental Clinic, 1932-44; dir. res., 1944 to date. Kohn Prize (math.), Barnard, 1917; res. fellowships, Vanderbilt Clinic (Columbia, 1918-19), Rhein-Levy Fund (Columbia, 1920-28), Lehn-Fink Fund (1925-26); conslt. biochem., dermatol. dept., skin cancer unit, N.Y. Post Grad. Schl. & Hosp. (1923-44) & N.Y.S. Dept. Labor (1929); special conslt., nutrition, Greater N.Y. Bur. Dental Info. (1940). Res. num. arts. in sc. & tech. jls. & radio talks on dent. & med. biochem., nutrition, skin diseases, bacteriol., immunol. Abstracts: "Chem. Abstracts," 1923 to date. Author: "Histology Lab. Guide," Guggenheim Dent. Cl., 1940; "Chem. Lab. Guide," G. Dent. Cl., 1941; "Guide to Bacteriol.," G. Dent. Cl., 1942 (revision in prep.). Co-author: chapt., salivary anal., "Oral Diagnos. & Treatmt. Planning," S.C. Miller, P. Blakiston's Son & Co., Phila., 1936 (revised edition, 1946); chapt., diet dent. health, genl. health, "Fundamentals of Dentistry in Med. & Pub. Health," J.O. McCall, Macmillan Co., 1938. Mem.: Phi Beta Kappa, A.C.S., A.A.A.S. (secy., local comm., sec. hd., N.Y.C., 1949), N.Y. Acdy. Med., A.M.A., Sigma Xi, Soc. Am. Bacteriols., Soc. Experi. Biol. & Med., N.Y. Acdy. Scs., A.I.C., Am. Assn. Dent. Editors, Internatl. Assn. Dent. Res. (N.Y. sec.: editor, 1940-46, 1949 to date; v.p., 1945-47; pres., 1947-49). Clubs: Barnard Alumnae, Columbia Alumni Assn., A.A.U.W., Hadassah. Hobbies: walking, reading, collecting shells & water forms (preserved, pressed, & pictures).

KRASSO, Oscar T(uk), sr. res. chem., Merck & Co. Inc., Rahway, N.J.; res. 227 Prospect St., Westfield, N.J.
Chem.; b. Tuffier, Hungary, May 3, 1901; s. of Filipp and Julia (Schiller) Krasso; ed. 1920-24, Berlin; Ph.D. (chem.) Vienna, 1931; m. Emmy Lichtwitz, Oct. 20, 1930. 1928-31, asst. mgr., Wiener Olwerke, Austria; 1932-33, dept. mgr., Soiusrasmaslo, Russia; 1934-38, dept. mgr., Kwizda Chem. Wks., Austria; 1939-43, mgr. Swastik Oil Mills, India; 1944-46, managing partner, Bombay Chem. Wks., India; 1947 to date, sr. res. chem., Merck & Co. Inc.; res. in veg. oils and fats; activated carbon; fuller's earth; pharmaceuticals and cosmetics; fine chemicals; chem. literature; science writing. Mem.: A.C.S., A.O.C.S. Hobbies: chess, photography.

KRATZ, George D., N.Y. rep., Gen. Latex & Chem. Corp., 347 Madison Ave., N.Y. 17, N.Y.; res. Old Greenwich, Conn.
Chem. sales promotion; b. Akron, Ohio, Jan. 9, 1889; s. of George F. and Helen M. (Davenport) Kratz; ed. Cornell U., Ithaca, N.Y., B.Chem. 1912; m. Margaret B. Reveley, Feb. 5, 1930. 1912-14, res. chem., Diamond Rubber Co., Akron, Ohio; 1914-30, chem. sales mgr., pres. Falls Rubber Co., Akron, Ohio; 1930-42, Gen. Latex & Chem. Corp., Cambridge, Mass.; 1942-44, Office Rubber Reserve, Wash., D.C.; 1944-46, v.p., Norwalk Tire & Rubber Co., Norwalk, Conn.; 1946 to date, Gen. Latex & Chem. Corp., Cambridge, Mass. Discovered D.P.G. (diphenyl guanidine) as accelerator for vulcanization of rubber; num. pats. on latex thread; pats. on tire mfg. Many publ. in J. Phys. Chem., J. Ind. & Engrg. Chem., Kolloid Zeitschrift, Rubber Age, Rubber World, Wharton Review. Mem.: A.C.S., Rubber Div. A.C.S. (former v. chmn.), N.Y. Rubber Group. Club: Chemists' (NY.C.). Hobbies: fishing, gardening.

KRAUS, Charles A., prof. chem. emeritus, and conslt., Metcalf Res. Lab., Brown Univ., Providence, R.I.; res. 92 Keene St., Providence, R.I.
Conslt.; b. Knightsville, Ind., Aug. 15, 1875; s. of John Henry and Elizabeth (Schaefer) Kraus; ed. B.S. (Engrg.), U. of Kansas, 1898; Ph.D. (Phys. Chem.), M.I.T., 1908; Sc.D., Kalamazoo, 1933; Sc.D., Colgate, 1939; Sc.D., Brown, 1946; Sc.D., Clark, 1949; m. Frederica Feitshans, June 9, 1902; ch.: Charles Newton, Mary Elizabeth, Philip Berkeley, Douglas Lawrence. Instr. physics, U. of Calif., 1901-04; res. assoc., M.I.T., 1908-12; asst. prof. phys. chem. res., M.I.T., 1912-14; prof. of chem. and dir. Chem. Lab., Clark U., 1914-24; prof. of chem. and dir. of chem. res., Brown U., 1924-46; lecturer: U. of Chicago, summer, 1919; Western Reserve U., summer, 1927; Harvard U., 1928-29; Ohio State U., summer, 1932; conslt. chem., Bur. of Mines, 1918; C.W.S., 1918-19; Fixed Nitrogen Lab., 1922-24; conslt. chem. in connec. with var. tech. developments. Chmn. of Div. of Chem. and Chem. Tech., Natl. Res. Council, 1932-33; Field secy., Fellowship Bd. in Physics, Chem. and Math. of the Natl. Res. Council, Jan., 1934-July 1935; chmn., Sect. of Chem., Natl. Acdy. of Scs., July, 1935-July, 1938; councillor, Natl. Acdy. of Scs., 1939-42; pres.-elect, A.C.S., 1938; pres., 1939; pres., Brown Chapt. Sigma Xi, May, 1942-May, 1944; regional dir., A.C.S., First Distr., 1945-47, 1947-50. Recip. of Nichols M., 1924; Franklin M. 1938; "Distinguished Pub. Serv. Award," rec. from the Secy. of the Navy, 1948; Priestley M., 1950. Author: "Properties of Electrically Conducting Systems," 1922; contrib. to sc. jls. of num. arts. dealing with critical phenomenon, liquid ammonia, non-aqueous solutions, electrolytic solutions, metals and their solutions, metallo-organic cmpds., free radicals, phase rule studies, gaseous equilibria, conduction in glasses, etc. Inventions relating to elec. apparatus, vacuum seals, glasses and chem. proc. Dir. of Chem. Res. in connec. with var. investigations carried out in Metcalf Res. Lab., Brown U., for var. govt. agencies, incl. the Naval Res. Lab., the Natl. Defense Res. Comm., the Off. of Sc. Res. and Dev., and the Manhattan Distr. of the U.S.A. Mem.: A.C.S., A.Phys.S., A.A.U.P., A.A.A.S., Faraday Soc., Wash. Acdy. of Scs., Am. Acdy. of Scs., Amer. Philosophical Soc., Natl. Inst. Social Scs., hon. fellow Frankin Inst., hon. mem. Chem. Metallurg. and Mining Soc. of South Africa, 1939-40; Sigma Xi, Phi Beta Kappa, Phi Lambda Upsilon, Alpha Chi Sigma. Clubs: Cosmos (Wash., D.C.); Chemists' (N.Y.); University (Providence, R.I.).

KRAUS, Fred, proc. engr., The Lummus Co., 385 Madison Ave., N.Y.; res. 335 Pelhamdale Ave., Pelham, N.Y.
Chem. engr.; b. Germany, Nov. 14, 1913; s. of Michael and Frieda Kraus; M.I.T., B.S. 1935; M.S. 1936; mem.: Pi Lambda Phi; m. Shirley, June 12, 1938; ch.: Peter, Katherine, Kenneth. Heat exch. des., Henry Vogt Mach. Co., 1936-39; heat exch. des., Lummus Co., 1939-41; proc. engr., 1942 to date. Mem.: A.I.Ch.E. Hobbies: photography, skiing, sailing.

KRAYBILL, Henry Reist, dir. of Res. and Education, Amer. Meat Inst. Foundation; professorial lecturer, Dept. of Biochem., U. of Chicago, 939 E. 57th St., Chicago 37, Ill.; res. 5720 Woodlawn Ave., Chicago 37.
Biochem.; b. Mount Joy, Penn., 1891; s. of Samuel S. and Mary G. Kraybill; ed. B.S., Penn. State Coll., 1913; M.S., Chicago, 1915; Ph.D., 1917; mem.: Alpha Zeta; m. Ruth Grove, 1916; ch.: Henry L., Richard R., Donald P. Asst. chem.,

Agr. Exp. Sta., Penn. State Coll., 1913-15; instr. Agr. Chem., 1915-17; tchg. fellow, Chicago, 1916-17; asst. physiologist, U.S. Dept. of Agr., 1917-19; prof. of Agr. Chem., U. of N.H., and chem., Agr. Exp. Sta., 1919-24; biochem., Boyce Thompson Inst., 1924-26; prof. Agr. Chem. and hd. of dept., Purdue, 1926-41; dir. Dept. of Sc. Res., Amer. Meat Inst., 1941 to date; dir. Res. and Education, Amer. Meat Inst. Fed., 1947 to date; professorial lecturer, Dept. of Biochem., U. of Chicago, 1941 to date. Res. in carbohydrate metab. of plants; biochem. aspects of blossom bud formation in fruits; biochem. studies of virus diseases; nutritive value of animal protein concentrates; protein synth. in plants; meths. of determ. available potash in fertilizer; industrial utiliz. of agricultural prods.; phosphatides, sterols and carbohydrates of the soybean; dehydration of meat; spectral anal. of fats; antioxidants for fats. Mem.: A.A.A.S., A.C.S., Assoc. of Official Agricultural Chemists (v.p. 1937, pres. 1938), Soc. of Plant Physiologists (secy.-treas. 1929-30, pres. 1931), Assoc. of Feed Controls Officials (pres. 1932), Soc. of Biolog. Chemists. Sc. advisor to Frasch Foundation; consultant to E.C.A. Mission to Greece. Clubs: Quadrangle, Chaos, Chicago Chemists.

KREBS, Robert Wm., asst. dir. of Esso Labs., Esso Stand. Oil Co.; res. 3576 N. Blvd., Baton Rouge 12, La.
Chem. engr.; b. London, Wis., June 10, 1912; s. of Wm. C. and Louise S. Krebs; ed. B.S., 1933 honors, U. of Ill., M.S. 1935, Ph.D. in chem. engrg. 1937; m. Juanita File, Jan. 24, 1938; ch.: Julia, Linda, Margaret. Asst. in chem., U. of Ill., 1934-37; chem. engr., Esso Labs., Esso Stand. Oil Co., 1937-47, asst. dir. 1947 to date. Res., publs. & pats. in flds. of gas absorption, fluid catalytic cracking, hydrocarbon syn., syn. rubber. Mem.: A.C.S., A.I.Ch.E., Sigma Xi, Phi Lambda Upsilon. Hobbies: ornithology, music.

KREHBIEL, Harry, pres. and dir., Catalin Corp. of America, 1 Park Ave., New York 16, N.Y.; res. 4 Rutland Rd., Scarsdale, N.Y.
Exec.; b. Germany, Dec. 27, 1897; s. of John and Elisabetha (Kirch) Krehbiel; ed. elementary education in Germany, high school in Connecticut; m. Sigrid Reising, Sept. 24, 1927; ch.: Peter W., Harry E. Held following positions with Catalin Corp. since 1931: Oct. 4, 1931, sales force; Oct. 19, 1938 v.p., Feb. 19, 1941, dir.; Sept. 20, 1944, pres. Clubs: Union League, Westchester Country, Rye Figure Skating, Scarsdale Art Assoc. Hobbies: music, golf, boating, painting, skating. Officer: Catalin Corp. of America, pres. and dir.

KREIDER, Leonard C(ale), res. chem., B.F. Goodrich Co., Research Center, Brecksville, O.; res. 4 Stover Court, Wadsworth, O.
Chem.; b. Sterling, O., Feb. 16, 1910; s. of Lloyd S. and Adelia (Stover) Kreider; ed. Goshen Coll., A.B. 1931, Ohio State U., M.Sc., 1933, Ph.D. 1936; m. Rachel Weaver, June 20, 1933; ch.: L. Emil, Anna R. and Sara K. Control anal. and engr. res., Columbia Chem. Div., Pittsburgh Plate Glass, Barberton, O., summers 1929 and 1930; graduate asst. (res. & teaching), Ohio State U., Columbus, O., 1931-36; res. chem., Rockefeller Inst. for Medical Res., New York, N.Y., 1936-37; asst. prof. 1937, assoc. prof. 1939, prof. chem. 1943, chmn., div. Natural Sciences after 1946, Bethel Coll., North Newton, Kansas, 1937-49; chem., Eldon Means Labs., Wichita, Kansas, summer 1944; res. chem., B.F. Goodrich Co., Research Center, Brecksville, O., 1949 to present. Res. in preparation oligosaccharides, alkaline degradation carbohydrates; structure galacturonic acid; pigment reinforcement rubber; synthetic rubber. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S. City Clerk, North Newton, Kansas from 1938 to 1949. Hobbies: philately, photography.

KREIDL, E. L., group leader, Arthur D. Little, Inc., Cambridge, Mass.; res. 228 Commonwealth Ave., Boston, Mass.
Chem.; b. Vienna, Jan. 15, 1910; s. of I. and H. (Krenn) Kreidl; ed. Austria Vienna, Ph.D. 1935; m. Anne Lois O'Keefe, May, 1948. Pat. law wk., Ing. H. Reik, Vienna, Austria, 1935-38; pat. dept., E. I. du Pont de Nemours & Co., 1938-39; private asst. to Dr. W. A. Weyl, consltg. res., 1939-40; self employed, consltg. res., 1940-42; Arthur D. Little, Inc., sr. chem., 1942 to date (2 yrs. leave of absence, U.S.A., res. at Army Engr. Bd.). Consltg. res. wk. in inorg., ceramic, building matls., chem. pat. wk. Mem.: A.C.S., Am. Ceramic Soc., Am. Rheol. Soc., Armed Serv. Chem. Soc., Soc. Glass Technology (Brit.). Hobbies: skiing, amateur movies, record collecting.

KREIDL, Norbert J(oachim), dir. of chem. res., Bausch & Lomb Opt. Co., Rochester 2, N.Y.; res. 40 Milford Rd., Rochester 10.
Res. chem. (glass tech.); b. Austria, July 3, 1904; s. of Ignaz and Hilda Kreidl; ed. U. of Vienna, 1922-27; U. of Berne, Switzerland 1925; Ph.D. U. of Vienna 1927; m. Melanie Schreiber, Sept. 22, 1934; ch.: John Francis. 1927-28, Inst. Silicate Res., Kaiser Wilhelm Inst., Berlin, res. asst.; 1928-38, dir. of res., later mng. dir., glass wks., Schreiber & Nephews, Rapotin, Czechoslovakia; 1938-43, asst. prof. glass tech., Pa. St. Coll., State Coll., Pa.; 1943-48, hd., inorg. chem. & glass res. div., chem. res. lab., Bausch & Lomb Opt. Co., Rochester, N.Y., 1948 to date, dir. chem. res. Vereinigte Chemische Fabriken (United Chem. Wks.) (partner.). Num. papers in flds. of glass & ceramics (see J. Glass Tech. England, Abstracts, Indices for detail), constitution, color, composition, etc. of glass. Mem.: Am. Ceramic Soc., A.C.S., Opt. Soc. of Am., Sigma Xi, British Soc. Glass Tech., A.A.U.P., Crystallogr. Assn. Clubs: Rochester Film Soc., World Federalists, Assn. United Nations, Roch. Civic Music Assn. Hobbies: swimming, music.

KREMBS, Ottmar Moritz, prop. of Krembs & Co., est. 1875, 669 W. Ohio St., Chicago 10, Ill.; res. Oak Crest Hotel, 1570 Oak Ave., Evanston, Ill.
Mfg. chem. & metallurgist; b. Chicago, Ill., Dec. 16, 1876; s. of Moritz and Johanna Haas Krembs; ed. six yrs. intensive training in father's lab. where special formulas made for wholesale drug trade, also made medicinal plasters, cathartic salts, poison fly paper & extracts; m. Mary Bruecke, March 30, 1949. Sales rep., The Von Heyden Chem. Works of N.Y.C., for 9 yrs.; resigned in 1912; sales rep., Gustav Martin, Boston, six months; bought Krembs & Co., from mother. Special. in brazing, welding, silver & soft soldering flux business and dev. many metal joining processes. Clubs: Union League (Chicago), The Chicago Assn. of Commerce & Ind., The Chicago Drug & Chemical Assn., American Welding Soc. Hobbies: developing new fluxes and trying to improve old ones.

KREMERS, Harry C., group leader, Optical Crystals, Harshaw Chem. Co., Cleveland, O.; res. 3169 Yorkshire Rd., Cleveland Hts., O.
Res. chem.; b. Springfield, So. Dakota, Jan. 28, 1889; s. of Lucas and Margaret (Grinwis) Kremers; ed. Hope Coll., A.B., 1913; M.S., 1915, U. of Ill.; Ph.D., 1917, U. of Ill.; mem.: Phi Lambda Upsilon, Gamma Phi Upsilon, Sigma Xi; m. Evelyn J. Van Bronkhorst, June 30, 1915; ch.: Howard Earl, Carolyn Mae, Elinor Jean, Harry Cleveland, Jr. 1913-17, asst. U. of Ill.; 1917-18, instr. chem.; 1918-20, chem. Fansteel Metallurgical Co.; 1920-29, asst. prof. chem. U. of Ill.; 1929-35 res. chem., Rohm & Haas Co.; 1935-50, res. chem. Harshaw Chem. Co. Separation rare earths, prodn. rare earth metals, porcelain enamel opaci-

fiers, production optical crystals. Mem.: A.C.S., E.S., Opt. S.A., Gordon Shore Boat Club, Mentor Harbor Yacht Club. Hobbies: cabinet work, homecraft, boating.

KREMERS, Howard E., dir. res., Lindsay Light & Chem. Co., West Chicago, Ill.; res. 461 Church St., West Chicago.
Chem.; b. Urbana, Ill., Sept. 21, 1917; s. of Harry C. and Evelyn J. Kremers; ed. A.B. Western Res. U.; M.S. Syracuse U., Ph.D. U. Ill.; m. Virginia G. Freeman, 1940; ch.: Jan H., Carol L. Chem., 1944-46, Lindsay Light & Chem. Co., dir. res., 1946 to date. Res. rare earth separations. Mem.: A.C.S., A.I.M.E., F.A.I.C., Sigma Xi.

KRIEBLE, Vernon K(riebel), prof., Trinity Coll., Hartford, Conn.
Prof. chem.; b. Worcester, Pa., Mar. 4, 1885; ed. Ph.B., Brown, 1907; M.Sc., McGill, 1909; Ph.D. (chem.), 1913; Johns Hopkins; Pennsylvania; Jefferson Med. Coll.; Cambridge, 1930-31; m. Laura Cassel, June 22, 1912; ch.: Gladys Verna (Mrs. Jean Delmas), Robert Henry. Demonstrator chem., McGill, 1907-12; lecturer, 1912-14; asst. prof., 1914-20; Scoville Prof., Trinity Coll., 1920 to date. Recip. of Duke of Connaught Medal, 1912; civilian with Off. Sc. Res. and Devel. Enzymes; hydrolysis of org. nitriles and amides; amygdalins. Mem.: A.C.S.

KRIEGE, Herbert Frick, tech dir., The France Stone Co., 110 W. Second St., Perrysburg, Ohio; res. 2445 Goddard Rd., Toledo, O.
Chem.; b. Omaha, Nebr., Mar. 14, 1895; s. of Otto E. and Emma (Frick) Kriege; ed. Central Wesleyan Coll., B.S. 1916; U. of Ill., 1918; U. of Mo. (scholarship), M.A. 1920; Ohio State U. (Natl. Agstone Fellowship), Ph.D., 1926; mem.: Alpha Chi Sigma, Phi Lambda Upsilon; m. Mabel Ruth Hobbs, Aug. 2, 1922; ch.: Owen Hobbs, Corinne E. Sc. tchr., H.S., 1916-19; instr., chem. dept., U. of Mo., 1920-23; res. chem., Mo. State Highway Dept., 1923-24; tech dir., The France Stone Co., 1926 to date; res. conslt., Joint Highway Res. Proj., Purdue U., 1936-40; lecturer, Mineralogy, U. of Toledo, 1947-49; conslt. chem., mineral aggregate industry, since 1926; res. in dissolution rates of limestones in acid media, cement contents det. of hardened concrete, res. and dev. of test meths. for mineral aggregates, chlorination of silicates. Co-compiler, U.S. Bull. 479, Iron Blast Furnace Slag, 1949. Mem.: A.S.T.M., A.C.S., Ohio Acdy. Sc., Asphalt Paving Tech., Natl. Res. Council (highway res. bd.), Natl. Slag Assoc. (problems comm.), Sigma Xi. Tchr. in large adult Bible Class.

KRIEK, Peter Paul, dir. of engrg., Am. Enka Corp., Enka, N.C. & Lowland, Tenn.; res. 4 Lake Dr., Enka, N.C.
Chg. of gen. engrg. in mfr. of rayon; b. Utrecht, Netherlands, June 29, 1895; s. of Paul and Joan E. (Schophuizen) Kriek; ed. public schl., Utrecht & Rotterdam, Netherlands, 11 yrs.; Coll., Delft, Netherlands, 5 yrs., mech. engrg. with hon.; m. Hendrika Meyer, Sept. 20, 1920; ch.: Louise Arisia (Kriek) Wait, Albert Paul. 1919-21, gen. engr., Jos. de Poorter, Rotterdam, shipowner, stevedore, shipbuilder; 1921-26, asst. chf. engr., mech. dept., City Engrg. Office, Rotterdam; 1926-29, gen. engrg. dept., A.K.U., Arnhem; 1929 to date, chf. engr., Am. Enka Corp., Enka, N.C. and Am. Enka Corp., Lowland, Tenn., 1947 to date. Mem.: A.S.M.E. Clubs: Enka Lake, Enka, N.C.), Biltmore Forest Country (Asheville, N.C.). Hobbies: music (piano), bridge, swimming, golf.

KROEGER, John W., mgr. res., Fred'k. H. Levey, 1223 Washington Ave., Phila. 47, Pa.; res. 345 Clearbrook Ave., Lansdowne, Pa.
Res. chem.; b. South Bend, Ind., Nov. 17, 1913; s. of Joseph W. and M. I. (Gates) Kroeger; ed. U. of Notre Dame, B.S. in chem. engrg., cum laude 1934; M.S. in chem., magna cum laude, 1935; Ph.D. in chem., magna cum laude 1937; m. Dorothy E. Ritter, Feb. 18, 1939; ch.: John C., Carolyn, Michael J., Kathryn A. Rohm & Haas, 1937-40; Fred'k. H. Levey 1940 to date. Mem.: A.C.S., A.I.C. (fellow), Ind. Acdy. of Sc.

KROEKER, Edwin Henry, res. chem., Rohm & Haas Co., 5000 Richmond St., Phila. 37, Pa.; res. Churchville, Pa.
Org. chem.; b. Inman, Kans., Jan. 2, 1906; s. of George H. and Susie S. Kroeker; ed. B.S. 1929 Kans. State Coll.; Ph.D. 1934 U. of Wis.; m. Edith B. Donat, May 27, 1939; ch.: Russell, Kenneth, Arthur. Instr., Kans. State Coll., 1930-31; prof. of chem., Bethel Col., North Newton, Kans., 1934-37; res. chem., Rohm & Haas Co., Phila., Pa., 1937 to date. Mem.: A.C.S., A.A.A.S., Sigma Xi, Phi Lambda Upsilon. Hobbies: music, gardening, handicrafts.

KRONMILLER, Bill Anson, serv. engr., The Flox Co., 1516 Oak St., Alameda, Calif.; res. 2619 Edison Court, Alameda, Calif.
Serv. engr.; b. Aug. 22, 1918, Ft. Wayne, Ind.; ed. Forrest Mann Grammar Schl., Chicago; Washburn H.S., Minneapolis; B.Chem. Engr., U. of Minn., 1940; m. Edith Louise; ch.: Bruce Anson, Keith George. Minneapolis Honeywell Heat Regulator Co., 1936-37, Blueprint and Mercury Switch Dept.; Sinclair Oil Refin. Co., East Chicago, Ind., 1938, control lab.; joined The Flox Co., June 24, 1940; moved to Denver, June, 1941; 1st Lt., U.S. Pub. Health Serv., Neosho, Mo., Apr., 1944; returned to The Flox Co., Apr., 1946; moved to Alameda, Calif., May, 1946.

KROPA, Edward L., chem. dir., chem. div., Borden Co., N.Y.; res. 350 Madison Ave., N.Y.C.
Chem.; b. Meriden, Conn., Dec. 14, 1907; s. of Louis and Sophia Such Kropa; ed. B.S., Wesleyan U., M.A., Ph.D., N.Y.U.; mem.: Phi Beta Kappa, Sigma Xi; m. Lois Combs; ch.: Edward Jr., James C. 1930-32, asst. org. chem., Wesleyan & N.Y.U.; 1932-33, asst. to Dr. R.R. Rensaw; 1934-36, chem., Carleton Ellis Labs., Montclair, N.J.; 1936-37 chem., Ellis-Foster, Montclair, N.J.; 1937-49 chem., Am. Cyanmid Co., Stamford, Conn.; 1946 to date adjunct. prof. chem. engrg. N.Y.U.; 1949 to date chem. dir. chem. div. Borden Co. Res. in dev. of low pressure molding resins, improv. in procedures, processes in alkyds, phenol., mel. resins, plastics; contrib. to sc. and tech. jls. Mem.: A.I.C., N.Y. Acdy. Sc., Sigma Xi, Faraday Soc.

KRUEGER, John, tech. dir., Charles Bruning Co., Inc., Box C, Verona, N.J.; res. 7 Ridge Terrace, West Caldwell, N.J.
Chem.; b. Summit Hill, Pa.; s. of John Charles Frederick and Minnie Viola (Katerman) Krueger; ed. B.S. 1932, M.S. 1933, Bucknell U.; Ph.D. 1937, U. of Va.; m. Mary Elizabeth Latham, Aug. 2, 1941; ch.: Carol, John, Elizabeth, Robin. 1937-39, res. asst., U. of Va.; 1939-40, res. asst., Pa. State Coll.; 1940-46, chf. res. chem., Edwal Labs.; 1946 to date, tech. dir., Charles Bruning Co. Inc. About 20 sc. arts. & pats. in syn. org. chem., steroids, mustard oils, TNT. Mem.: A.C.S., Sigma Xi. Clubs: Chemists' (N.Y.), Deer Lake. Hobby: gardening.

KRUEGER, Paul A., mgr., prod. dev. div., Mallinckrodt Chem. Wks., St. Louis, Mo.; res. 223 Royal Ave., Ferguson 21, Mo.
Chem.; b. Maidson, S.D., Feb. 4, 1906; s. of Ernest F. and Laura A. Krueger; ed. A.B. Sioux Falls Coll., 1927, magna cum laude; M.S. Northwestern U. 1929; Ph.D., Pa. State Coll. 1932;

mem.: Alpha Chi Sigma, Pi Kappa Delta, Phi Kappa Phi, Phi Lambda Upsilon, Sigma Xi; m. Alice Reed, Oct. 29, 1932; ch.: Allen, Thomas, William, Dennis, Clare. Jr. Pat. Examiner, U.S. Pat. Office, 1927-28; res. chem., Mallinckrodt Chem. Wks., 1932-42, prod. dev. div., 1942 to date. Mem.: A.C.S., Com. Chem. Dev. Assn., Chem. Market Res. Assn. Club: Chemists' (N.Y.).

KRUESI, Paul John, chmn, American Lava Corp., 1101 Provident Bldg., Chattanooga 2, Tenn.; res. 1507 Edgewood Circle, Chattanooga 5, Tenn. Industrialist; b. Menlo Park, N.J., Feb. 3, 1878; s. of John and Emily (Margaret) Kruesi; ed. priv. prep. schl. and Schenectady H.S., Union Coll., 1896-98, Hon. D.Sc., 1935; mem.: Sigma Phi; m. Myra Kennedy Smartt (died Nov. 1, 1941), July 26, 1906; m. 2nd Mrs. Margaret Thomas Patten, Apr. 16, 1943; ch.: Mrs. Myra Brock, Mrs. Margaret Killebrew, Mrs. Rowena Frierson, Paul John, Jr., Mrs. Eleanor Martin. Gen. Electric Co., 1896-97; Edison Lab., 1898; statistical dept., Chicago Edison Co., 1898-99; asst. to sales mgr. of former Gen. Incandescent Arc Light Co. (later absorbed by Gen. Elec. Co.) 1899-1902; sec., treas., & gen. mgr., Amer. Lava Corp., Chattanooga, 1902-18, pres. 1918-49, chmn. since 1949; organized Sou. Ferro Alloys Co., 1917, pres., 1917-47; pres. of East Tenn. Iron & Coal Co., Jacksboro, Tenn. Southern Chem. Cotton Co., dir. and former v.p., American Lava Corp., chmn., & dir., Hamilton Natl. Bank, dir., Provident Life & Accident Ins. Co., dir., Nashville, Chattanooga & St. Louis Ry., dir., East Tenn. Iron & Coal Co., pres. and dir., Sou. Ferro Alloys Co., pres. & dir. 1917-47. Mem.: The Electrochemical Soc. (past pres. honorary member), Amer. Ceramic Soc., A.A.A.S. (fellow), A.I.E.E., Am. Iron & Steel Inst., Acdy. of Sc. (Tenn., v.p. 1936), Natl. Assn. of Mfrs., Natl. Research Council 1931. Edison Pioneers; American Branch Newcomen Soc. of England. Trustee: asst. to Sec. U.S. Dept. of Commerce 1922, trustee U. of Tenn., 1922-48, trustee U. of Chattanooga, Chmn., United War Work Campaign, Chatta., 1918, former pres. Chatta. Chamber of Commerce; appointed mem. Tenn. Educational Commis. by Gov. 1933; former dir. Chamber of Commerce of U.S.; dir. Tenn. Taxpayers Assn., 1932-50; chmn. Hamilton County Selective Service Bd. No. 1, 1940, chmn. Tenn. Selective Service Appeal Bd. area 5, 1940-42. Clubs: Mountain City and Fairyland Clubs, Chattanooga, Metropolitan Club, Washington, Sigma Phi Club, New York. Elected del. to Rep. Natl. Convention, Kansas City, 1928, but resigned; delegate State-at-large to Rep. Natl. Convention, Phila., 1940, and chmn. of Tenn. Delegation.

KUBICEK, Naci Frank, engr.; Shell Dev. Co., 4560 Horton St., Emeryville 8, Calif.; res. 4719 Park Blvd., Oakland 2, Calif. Chem. engr.; b. New York, N.Y., Feb. 22, 1911; s. of Ignac and Anastasie Kubicek; ed. B.S., chem., U. of Calif., 1933, M.S., chem. Engrg. Practice, M.I.T., 1936; m. Phyllis Sue Codington, Oct. 9, 1948. Chem., Best Foods, Inc., 1934; chem. engr., Standard Oil Co. (Ind.), 1936-41; chem. engr., Shell Dev. Co., 1942 to present. U.S. Pat. "Continuous Catalytic Conversion of Hydrocarbons." Mem.: A.I.Ch.E., A.C.S., Shell Dev. Res. Clubs (Sigma Xi), Amer. Czechoslovak Engrg. Soc.

KUBIE, William Leonard, ind. biochem., Armour Res. Foundation, 35 W. 33rd St., Chicago 16, Ill.; res. 11014 S. Ridgeway Ave., Chicago 43. Res. chem.; b. N.Y.C., Dec. 4, 1910; s. of Leonard and Luella (Herrold) Kubie; ed. Brown U., Sc.B. in chem. 1937; res. fellow, Lehigh U. 1937-38; chem. engrg., Stevens Inst. of Tech. 1941-42; m. Mary Agnes Ann McLoughlin, July 29, 1939; ch.: William Leonard, Jr., Kevin Peter. 1928-33, N.Y. Stock Exchange, quotation clerk; 1938-42, Lever Bros. Co., anal. chem.; Allied Chem. & Dye Corp., 1942-44, group leader; 1944-47, Refining Unincorporated, chf. res. chem.; 1947-48, Soya Corp. of Am., hd. of sc. div.; Armour Res. Foundation, 1948 to date, res. chem. vegetable oils & fats, their prods. & by-prods.; catalytic hydrogenation, dehydrogenation & oxidation; soya bean processing, odor control, food tech. Mem.: A.C.S., A.A.A.S., A.O.C.S., A.I.C. (fellow). Club: Brown U. (Chicago). Hobbies: woodworking, radio.

KUENTZEL, Lester E, hd., physics res. labs., Wyandotte Chem. Corp., Wyandotte, Mich.; res. 1773 15th St., Wyandotte. Physical chem.; b. Ft. Worth, Tex., Feb. 12, 1911; s. of Albert P. (dec.) and Arva E. (Hickman) Kuentzel; ed. U. of Colo., A.B. 1936, Ph.D. 1941; m. LaVerne V. Carpenter, Aug. 22, 1934; ch.: Sandra Lee, Garth Lester. U. of Colo., res. fellow, 1938-40, asst. in physics 1936, asst. in chem. 1936-38, 1940-41; hd., physical measurements & mtl. cleaning sec., res. dept., Wyandotte Chem. Corp., 1941-45; hd., physics res. labs., res. div., Wyandotte Chem., 1945 to date. Acidity measurements, paint removers, electron microscopy, x-ray diffraction, infrared absorption spectroscopy, emission spectroscopy. Mem.: A.C.S., Physical Soc. (assoc.), Electron Microscope Soc. of Am., Am. Crystallographic Assn., Am. Optical Soc., Soc. of Nondestructive Testing, A.I.C. (fellow), A.S.T.M., Assn. of Anal. Chem. Hobby: photography.

KUGELMASS, Isaac Newton, M.D., dir., Heckscher Inst. for Child Health, 1060 Park Ave., New York, N.Y.; res. 910 Park Ave., N.Y.C. Pediatrician, conslt. biochem. to pharmaceut. indust.; b. N.Y.C., June 28, 1896; s. of Maurice and Sarah (Spirer) Kugelmass ed. B.S., Coll. City of N.Y., 1916; fellow, 1917; M.A., Columbia, 1917; Ph.D., Johns Hopkins, 1921; Docteur Special in Scs., Physiologiques, U. of Brussels, 1922; M.D., Yale, 1925; grad. study, Sorbonne, Paris, U. of Zurich, U. of Gottingen, U. of Leipzig, Pasteur Inst., Paris and Brussels, 1920-21; m. Ella H. Fishberg, Aug. 18, 1934. Lecturer, Bd. of Educ., N.Y.C., 1916-17; instr. in chem., Columbia, 1917-18; prof. chem., Howard Coll. and conslt. in nutrition, Birmingham, Ala., 1918-20; res. assoc., pediatrics, Yale U. Med. Schl., 1922-25; assoc. ped., Fifth Ave. Hosp., N.Y.C., 1927-35; ped., French Hosp.; dir. Heckscher Inst. for child health; assoc. phys., Riverside Hosp.; conslt. ped., Monmouth (N.J.) Memorial, Northwoods ,Saranac Lake), Lynn Memorial, Broad St. Hosps. and Pan-Amer. Clinics; chf. of growth clinic, Hosp. for Ruptured and Crippled, 1930-33; chf. ped., N.Y.C. Children's Hosp.; chf. of children's clinic for Immunology, French Hosp.; apptd. conslt. nutritionist to Dept. of Health and Dept. of Hospitals, City of N.Y.; nutritionist N.Y. Sect. U.S. Food Admin., 1916-17. Conslt. phys., Corn Prods. Refining Co. Fellow, A.M.A. Soc. Exptl. Med. and Biol., A.A.A.S., Am. Assoc. Engrs. (pres. Ala. Sect. 1920), Am. Acdy. Appl. Nutrition, Am. Acdy. Dental Med., Soc. Res. in Child Dev.; hon. mem. Union Medicale Latine; mem. A.C.S. (v.p. Ala. Sect. 1920), N.Y. Acdy. Sc., Harvey Soc., Am. Assoc. Nat. Tuberculosis Assoc., Am. Therapeutic Soc., N.Y. Acdy. Dentistry; Am. Med. Assoc. of Vienna, Ala. Tech. Assoc., Deutsche Medizinische Gesellschaft, N.Y. Endocrinology Soc., N.Y. State Med. Soc., Assoc. Amer. Tchrs. of Diseases of Children, Alpha Mu Sigma. Author: "Mechanism of Blood Coagulation," 1925; "Clinical Nutrition in Infancy and Childhood," 1930; "The Story of Infancy," 1930; "Growing Superior Children," 1934; "Pediatric Nutrition," 1937; "The Newer Nutrition in Pediatric Practice," 1939; "Vitamin K in Hemorrhagic Diseases," 1940; "Vitamin P in Vascular Purpura," 1940; "Blood

Disorders in Children," 1941; "Superior Children Through Modern Nutrition," 1943; "Management of Everyday Problems of Infants and Children," 1945; "Clinical Pediatrics," 1946; "Principles and Practice of Pediatrics," 1946; "How to Raise a Normal Child," 1949; "Handbook of Acute Infectious Diseases," 1949. Editor: Ostwald's "Practical Colloid Chem.," 1925. Co-author: "Internatl. Clinics," 1932; "Oral Diognosis and Treatment," 1937-45. Contr. on infant and child nutrition; accelerating child growth and dev.; mgmt. hemorrhagic diseases; buffer mechanisms in disease, nervous and mental disorders in children, to var. sc. jls. Club: Yale. Hobbies: chess, children's personalities.

KUHN, Harry Albert, chem. conslt., 2025 Eye St. N.W., Wash. 6, D.C.; res. 3915 Fulton St. N.W., Wash., D.C.
Ind. chem.; b. Horrell, Pa.; s. of James William and Elizabeth Margaret Kuhn; ed. undergrad. wk. in chem. engrg., Carnegie Inst. of Tech.; postgrad. wk., Coll. of Medicine, U. of Ill.; Ph.B., U. of Wis., M.S.; Army Ind. Coll.; m. Sara Louise Hoeffer 1942; ch.: Harry A. Jr. Chem. Corps, U.S.A., 1917-46, princ. in chem. res. & ind. mobilization; chem. conslt. 1946 to date. Res. in toxicology, protection against toxic agents. Mem.: Am. Medical Assn., A.C.S., Am. Soc. for Pharmacology, N.Y. Acdy. of Sc., Sigma Xi. Award: U.S.A. Distinguished Serv. M. Dir. of Assn. of Consltg. Chem. & Chem. Engrs. Inc.; Armed Forces Chem. Assn. Club: Army & Navy.

KUHN, W(ayne) E., mgr., tech. & res. div., The Texas Co., 135 E. 42nd St., New York 17, N.Y.; res. 4 Rodney Rd., Scarsdale, N.Y.
Exec.; b. Oshkosh, Wis., Oct. 25, 1903; s. of Edward J. and Emma Gene Kuhn; ed. Reed Coll., Portland, Ore., B.A., 1925, Cornell U., N.Y., Ph.D., 1929; mem.: Acacia; m. Agnes Lakie, Oct. 1929; ch.: William E. Held following positions with The Texas Co. since 1926: June, 1929 to Nov. 1929, chem., Port Arthur, Texas; 1929-31, chem. engr., Port Arthur, Texas; 1931-33, supvr., fractionation dept., Port Arthur; 1933-37, asst. chf. chem., Port Arthur; 1937-39, asst. to dir. of res., N.Y.; Jan. 1938 to Sept. 1, 1938, asst. dir. of res., N.Y.; 1938 to date, mgr., tech. & res. div., New York. Jefferson Chem. Co., Bd. of Dirs. Mem.: A.A.A.S., A.C.S., A.S.T.M., Am. Rocket Soc., Am. Inst. of Physics, A.I.C., A.P.I., Chem. Soc. (London), Inst. of Aeronautical Scs., Inst. of Pet. (London), Res. & Dev. Bd., S.A.E. Honor scroll of the A.I.C., 1950. Clubs: Cloud, Cornell, Chemists', Bonnie Briar Country. Hobbies: fishing, photography, philately.

KUMINS, Charles A(rthur), sr. res. chem., Interchem. Corp., 432 W. 45th St., N.Y. 19, N.Y.; res. 11 Cresthill Rd., Tuckahoe, N.Y.
Chem.; b. N.Y.C., Jan. 13, 1915; s. of Louis and Francis Kumins; ed. B.S., C.C.N.Y., 1936; M.S., Polytech. Inst. Bklyn., 1941; N.Y.U., 1945-49; m. Annabelle E. Ringgold, June 23, 1946; ch.: Lawrence Charles, Noel. Chem., titanium div., Natl. Lead Co., N.J., 1937-41; res. chem., group leader, Wyandotte Chem. Co., Mich., 1941-42; sr. res. chem., Interchem. Corp., 1942 to date; civilian with Office Sc. Res. & Dev. New Zr cmpd. & meth. of anal.; Zr det. in presence of interfering elements, alumino-silicates, titanium, zirconium, the metallo-organics & alkali & alkaline earth cmpds.—inorg. pigments, particle size, rheology & surface chem. Mem.: A.A.A.S., A.C.S. Hobbies: cabinet making, ceramics.

KUMLER, Ralph Waldo, tech. dir. paper chems. dept., American Cyanamid Co., 30 Rockefeller Plaza, New York 20, N.Y.; res. 162 Corlies Ave., Pelham, N.Y.
Chem.; b. DeFraff, O., June 9, 1889; s. of Louis A. and Mary Shanley Kumler; ed. A.B., Wittenberg Coll., spec. honors in sc., grad. wk. in geology, U. of Chicago, summers of 1914, 1915, & 1916, no degree; grad. wk. in chem., U. of Pa., 1916 and 1917, no degree; mem.: Phi Gamma Delta; m. Elinor Harter, June 29, 1925; ch.: Mary, George Harter, Ralph W., Jr. 1913-16 teach. chem., high school, Tiffin, O.; 1917-21, operating supvr., nitrocellulose manuf., Hercules Powder Co.; 1921-28, chem., tech. dir., & supt., Jessup & Moore Paper Co.; 1928-40, tech. rep. & sales mgr., Bennett Inc., Cambridge, Mass.; 1940 to present, asst. tech. dir. & tech. dir. of paper chems. dept., American Cyanamid Co. Mem.: T.A.P.P.I. (member, exec. comm.). Club: Phi Gamma Delta (New York).

KUNZ, Raymond John Francis, chf. engr., Borden Co., spec. prod. div., 350 Madison Ave., N.Y.C.; res. 61 Summit Rd., Clifton, N.J.
Chem. engr.; b. Jersey City, N.J., Aug. 26, 1907; s. of Fred and Anna Rapp Kunz; ed. B.S., Cooper Union, 1931; M.S., U. Mich. 1934; Ch.E., Cooper Union, 1935; Ph.D., Columbia U. 1941; mem.: Phi Lambda Upsilon, Sigma Xi (hon.), Omega Delta Phi; m. Charle V. Hill, Dec. 28, 1937; ch.: Raymond, Jr., Robert, Lawrence. 1926-30, chem., Bell Tel. Labs., Inc.; Elkon Inc.; 1930-33, chem. engr., Servel, Inc.; 1933-40, asst. prof. chem. engrg., Cooper Union Inst. Tech.; 1940-44, O.S.R.D., Northwestern U.; 1944-45, dir. engr. dev., Hoffmann-La Roche, Inc.; 1945 to date, chf. engr., Borden Co., spec. prod. div., N.Y.C., mgr. engrg. div. Dir. Div. 10.1 Natl. Def. Res. Comm. (O.S.R.D.) during W.W. II, dev. chem. weapons, chem. munitions; spec. in drying field; conslt. during 1935-42 explosives, drying, combustion. Co-author: "Gen. Chem. Manual, Qual. Lab. Manual," 1935. Mem.: A.C.S., A.I.Ch.E., Engr. Council Prof. Dev. Clubs: U. Mich. Alumni, Columbia U. Alumni. Hobbies: photography, woodworking, painting, electronics.

KUNZ, Walter B., res. chem., Sylvania Div., Amer. Viscose Corp., Marcus Hook, Pa.; res. 1105 Lindale Ave., Drexel Hill, Pa.
Chem.; b. Cincinnati, O., Feb. 10, 1901; s. of Dr. John C. and Emma B. Kunz; ed. B.A. in chem., honors degree, U. of Cincinnati, O., 1923; M.A. in chem. (Baldwin Fellow) 1924, U. of Cincinnati; mem.: Alpha Chi Sigma, Gamma Alpha; m. Elizabeth M. McGrail, June 8, 1940; ch.: Joan Elizabeth. Grad. asst. in chem., Cornell U.; res. chem., E. I. du Pont de Nemours; Heckscher Res. Asst. in chem., Cornell U.; instr. in physical chem., Geo. Washington U.; res. chem., Sylvania Ind. Corp.; res. chem. Sylvania Div., Amer. Viscose Corp. Res. in cellophane, cellulose and cellulose ethers. Co-author with C. J. West and Geo. R. Sears, "Permeability of Organic Mtls. to Gases." Mem.: A.C.S., A.I.C. (fellow), A.A.A.S. (fellow), Acdy. of Sc. (Virginia), Franklin Institute. Clubs: Kiwanis (past member, Fredericksburg, Va.), Junger Maennerchor of Phila. Hobby: music.

KURLAND, William, anal. chem. and bacteriologist, 118 Dewey Pl., Atlantic City, N.J.; res. same.
Anal. chem.; b. Europe, Sept. 15, 1904; s. of Paul and Dora Kurland; ed. Atlantic City H.S., Phila. Coll. of Phar. and Sc., Ph.G., Phar. B.; mem.: Alpha Sigma; m. Sara Sataloff, Oct. 18, 1931; ch.: David, Janet Rita, Bruce Allan. Engaged in practice of anal. chem. since grad. from coll. in 1926; for past 10 yrs. res. wk. on prep. of intravenous solutions and pyrogenic free solutions; res. wk. on prep. of injectable solutions for arthritis; engaged at present in prep. of med. ampoules and injectable solutions. Owner of lab. in Atlantic City. Mem.: A.C.S., N.J. Assoc. of Clinical Lab. Dirs. (secy.-treas.). Clubs: Ye Olde

Tymers (Atlantic City); B'nai B'rith (Atlantic City, secy.). Hobbies: fishing, ice skating, roller skating, tech. and pictorial photography.

KURT, O(scar) Edward, asst. to dir. of res. labs., Ethyl Corp., 1600 W. Eight Mile Rd., Detroit, Mich.; res. 531 W. Hildale Ave., Detroit.
Res. chem.; b. Bellevue, Iowa, Jan. 7, 1908; s. of John B. and Louisa (Heim) Kurt; ed. Loras Coll., A.B. magna cum laude; U. of Ill., M.S., Ph.D.; mem.: hon., Sigma Xi, Phi Lambda Upsilon, Epsilon Chi; m. Dorothy Gilham Hanover, 1936; ch.: Thomas Hanover, Martha Louise, Carolyn Elizabeth. U.S. Rubber Co., 1929-36; Ethyl Corp., res. labs. 1936-41, 1948 to date, mfg. dept. 1941-48 mgr. dev. sec. Mem.: A.C.S., A.I.Ch.E., A.A.A.S., Soc. of Automotive Engrs. Hobby: flying.

KURTH, Ervin Frederick, prof. of wood chem. and chf., Chem. Utiliz., Ore. Forest Prod. Lab., Industrial Bldg., Ore. State Coll., Corvallis, Ore.; res. 410 Jefferson St., Corvallis, Ore.
Chem.; b. Cascade, Wis., May 26, 1903; s. of William and Elizabeth Kurth; ed. B.S., 1927, M.S., 1929, Ph.D., 1933, U. of Wis.; m. Marjorie Gross, Mar. 8, 1930. Res. chem., U.S. Forest Products Lab., Madison, Wis., 1927-34; res. dir., Gulf States Paper Corp., Tuscaloosa, Ala., 1934-36; res. assoc., Inst. of Paper Chem., Appleton, Wis., 1936-41; major, U.S. Army, Specifications & Standards, Washington, D.C., 1941-45; prof. of wood chem. and chf., Chem. Utilization, Ore. Forest Prods. Lab., Ore. State Coll., Corvallis, Ore., 1945 to present. Res. in wood and org. chem. Contrib. extens. to sc. and tech. jls. Part III, "Wood Chemistry," A.C.S. Monograph No. 97, 1944. Mem.: A.C.S., Tech. Assoc. Pulp and Paper Ind., Forest Prods. Research Soc., Sigma Xi. Club: Elks.

KURTZ, Stewart S., Jr., mgr. res. lab., Sun Oil Co., Norwood, Pa.; res. 122 Kenilworth Rd., Merion Station, Pa.
Chem.; b. Canton, O., May 21, 1900; s. of Stewart S. and Helen Gray (Cooke) Kurtz; ed. Bowdoin (1917-18), Princeton Naval Unit fall 1918, Harvard (1919-24) A.B. and M.A.; mem.: Alpha Delta Phi, Alpha Chi Sigma; m. Ellen Chase in 1928; ch.: Stewart Kendall, William S., Edward G. 1924-28, res. chem., Goodyear Rubber Co.; 1928-35, res. chem., Atlantic Refining Co.; 1935-42; mgr. chem. sect. dev. div., Sun Oil Co.; 1942 to present, mgr. res. lab., res. & dev. dept., Sun Oil Co. Active in field hydrocarbon anal. and physical property correlations, with some 15 pertinent publications; served as mem., and frequently chmn. many committees of A.S.T.M., A.A.A.S., A.C.S., etc. Contrib. extens. to section in Science of Petroleum, 1938 edition, edited by Dunstan et al. Mem.: A.C.S., A.A.A.S., Alpha Chi Sigma, Am. Pet. Inst., A.S.T.M. Decorations: Louis Edward Levy Inst. Gold Medal 1938. Chmn. Phila. Area Council United World Federalists, Asst. Scoutmaster Merion No. 2 Troop. Club: Philadelphia Prof. Chap. Alpha Chi Sigma, Phila. Section A.C.S. Hobbies: camping, hiking.

KUSSEROW, Gerhard William, v.p. res. Riker Labs., Inc., 8480 Beverly Blvd., Los Angeles; res. 351 17 St., Santa Monica, Calif.
Chem.; b. Germany, Mar. 8, 1914; s. of Reinhold E. and Erna A.K. Jacobs Kusserow; ed. Oakland Tech. High Schl., hon. soc.; Stanford U., A.B.; Eidgenossische Tech. Hoch Schule, Zurich, Switzerland, Ph.D.; Lic. Ch.E., Calif.; mem.: Theta Chi, Alpha Chi Sigma; m. Glory Tebb, Jan. 25, 1947; ch.: Tebb, Thomas Arthur. Std. Oil Co., Calif., chem. C, 1936-39; Cutter Lab., Berkeley, Calif., dir. prod. res. 1942-44; Gerber Prods. Co., Oakland, Calif., asst. lab. dir., 1944-47; Rexall Drug Co., Los Angeles, assoc. dir prod. dev. 1947-49; Riker Labs., Inc., v.p., res. 1949 to date; res. in essential oils, dev. intraven. solut., canning bacteriol., sanitation, phar. dev., alkal. Mem.: A.C.S., A.A.A.S., I.F.T., Swiss Chem. Soc. Clubs: Stanford Alumni Assn., Jr. C.C. Hobbies: gardening, sports.

KVET, Edward J., tech. dir., Baldwin Rubber Co., Pontiac, Mich.; res. 208 Larchlea Dr., Birmingham, Mich.
Chem. engr.; b. Cleveland, O.; s. of Joseph J. and Anne M. (Kvet); ed. B.Sc. in chem. engrg. Ohio State U.; m. Wilma P. Frank, Aug. 10, 1912; ch.: Edward J. II, Patricia A. (Mrs. J. Gail). Chem. lab., Goodyear T. & R. Co., Akron, O.; Chem. Lab., Union Pac. R.R., Omaha, Neb.; asst. mgr., mill room, B.F. Goodrich Co., Akron, O.; tech. dir., Baldwin Rubber Co., Pontiac, Mich. Res. in rubber rep.—formulating—Army Specs.-1918 Navy Citation, rubber spec. formulation 1944. Mem.: A.S.T.M., S.A.E. (tech member), rubber div., A.C.S., A.S.T.M., Hobbies: gardening, fishing.

KYRIDES, Lucas P., pres., Sumner Chem. Co., Box 138, Zeeland, Mich.
Chem.; b. Bursa, Turkey, Apr. 13, 1883; s. of Petros and Theodora Kyrides; ed. A.B., Anatolia Coll. (Am. inst. now in Greece); A.B., U. Mich., 1907; Sc.D., 1909; mem.: (hon.) Psi Lambda Upsilon, Sigma Xi; ch.: Helen Lee, Phyllis Jane. Res. asst., U. Ill. 1909-10; chem., Queen Ann Soap Co., Detroit 1910; res. chem., Hood Rubber Co., E. Watertown, Mass., 1911-14, wkd. on synthetic rubber; res. chem. Parke Davis & Co., Detroit, 1914-16, medicinals, own factory, making aniline oil, 1916-17; Gen. Chem. Co., 1916-18, N.Y.; res. chem., Natl. Aniline & Chem. Co., Bklyn., N.Y.; Marcus Hook, Pa., Buffalo, N.Y., 1918-28; res. dir. Monsanto Chem. Co., St. Louis, 1928-47; pres. Sumner Chem. Co., 1947 to date. Res. in synthetic rubber, publications, patents, med. chem., dev. of antisyph. mercur. patent; dyestuffs, indust. chem., dir. res. in org. synth. Mem.: A.C.S., A.I.Ch.E., N.Y. Acdy. Sc., A.Phar.A. Club: appl. for non-res. mem. Chem. (N.Y.).

L

La BRIE, Laurent J., sales mgr., Eastern Region, Morningstar-Nicol, Inc. and Paisley Products Inc., 630 W. 51st St., New York 19, N.Y.; res. Forest Ave., Rye, N.Y.
Chem. engr.; b. Lynn, Mass., Apr. 29, 1906; s. of Lawrence F. and Emma F. (Burrell) LaBrie; ed. Drexel Inst. and U. Pa.; m. Marie K. Sternat, June 29, 1928; ch.: Lawrence James, David Andre. Chem. Thomson Wood Finishing, Phila.; supt., Farboil Paint Co., Balt., 1927-34; tech. dir., v.p., J.A. Tumbler Labs., Balt., 1934-41; chf., Chemicals Branch, O.P.A., Wash., D.C., 1941-44; tech. dir., 1944-47, and sales mgr., 1947 to date, Morningstar-Nicol, Inc. and Paisley Products Inc. Mem.: A.C.S., A.S.T.M., T.A.P.P.I. Clubs: Canadian (N.Y.), Sales Executives (N.Y.). Hobbies: photomicrography, fishing, hunting, building model railroads.

LACEY, William Noble, prof. chem. engrg., dean grad. studies, Calif. Inst. of Tech., Pasadena 4, Calif.; res. 2024 Minoru Dr., Altadena.
Chem. engr.; b. San Diego, Calif., July 25, 1890; s. of David Sherman and Charlotte (Noble) Lacey; ed. Stanford U., A.B., 1911; Ch.E., 1912; U. Calif., M.S., 1913; Ph.D., 1915; mem.: Alpha Tau Omega; m. Ruth Elder, 1917; ch.: Margaret (Lacey) Laylander, David Sherman. Res. chem., Giant Powder Co., San Francisco, Calif., 1915; res. assoc., M.I.T., 1916; instr., asst. prof., assoc. prof., prof. of chem. engrg., Calif. Inst.

of Tech., 1916 to date. Over 100 tech. articles on thermodynamics & phase behavior of hydrocarbons at elevated pressures. Author: "Instrumental Meths. of Chem. Anal." (1924); "Volumetric & Phase Behavior of Hydrocarbons" (with B.H. Sage, 1939); "Thermodynamics of One-Component Systems" (with B.H. Sage, 1947); "Thermodynamic Properties of the Lighter Paraffin Hydrocarbons & Nitrogen" (with B.H. Sage, 1950). Mem.: Sigma Xi, Tau Beta Pi, Phi Lambda Upsilon. Hanlon Award, Natural Gasoline Assn. of Am., 1946; Lucas Medal A.I.M.E., 1947; Presidential Cert. of Merit, 1948.

LACHAT, Lawrence Lysle, hd., biochem., sales res., Armour & Co., U.S. Yards, Chicago 9, Ill.; res. 2202 W. 107th Pl., Chicago 43.
Dev. & promotion of new biochems.; b. Clearfield, Pa., Mar. 22, 1904; s. of Charles Arthur and Mary Jane Lachat; ed. B.S., Pa. State Coll., 1929; M.S., 1930; Ph.D., U. Minn., 1933; mem.: Sigma Chi, Alpha Zeta, Gamma Sigma Delta, Alpha Chi Sigma, Gamma Alpha; m. Ann Patricia Burke, May 29, 1931; ch.: John Lawrence, William Burk, Lettie Ann. In chg. of vitamin-testing lab., Minn. Dept. Agr., Dairy & Food, 1930-37; in chg. feed testing lab., Great A.&P. Tea Co., 1937-39; sr. fellow, Mellon Inst., H.J. Heinz Multiple Fellowship, 1939-47; hd. biochem. sales res., Armour & Co., 1947 to present. Contrib. to approximately 50 sc. & tech. publications. Editor: "Nutritional Observatory" (1940-47); "Heinz Nutritional Charts" (1939-47). Mem.: I.F.T. (charter), A.C.S., A.A.A.S. Hobby: amateur photography.

LACOMBLÉ, Antoine Eugene, retired, chmn. bd., Shell Development Co., 50 W. 50th St., N.Y. 20, N.Y.; res. 310 E. 44th St., N.Y. 17.
Exec.; b. Arnhem, Holland, Nov. 9, 1894 s. of Eugene E.B. Lacomblé and Cornelia Maria Lacomblé-Perk; ed. Leiden U., Holland, 1912-20; m. Corinne Frederick Lacomblé. V.p. mfg., Shell Oil Co., 1935-39; mgr. res. & dev. div., Bataafsche Pet. Maatschappij, 1939-40; chmn. exec. comm., Shell Dev. Co., 1940-43; pres., 1943-49; chmn. bd., 1949-Jan. 1, 1951.

LACY, Paul Bachman, resident mgr., Covington, Va. Plant of West Va. Pulp and Paper Co., Covinton, Va.; res. Rosedale, Covington.
Mfr. pulp, paper, byprods., chlorine, etc.; b. Baltimore, Md., Dec. 3, 1890; s. of Mark L. and Ellen Adelaide (Bachman) Lacy; ed. grad. Pa. State, B.S. chem., 1911; mem.: Phi Kappa Phi (hon. frat.), Phi Kappa Sigma; m. Grace Elizabeth Gormly, Apr. 7, 1914; ch.: Paul B., Jr. All at Covington: chem., foreman, Pulp Mill supt., Pulp and Paper Mill supt., supt. of mfg., asst. mgr., 1941 mgr., 1941 dir. (mem. of bd.) of the parent co. headquarters W. Va. Pulp and Paper Co., 230 Park Ave., N.Y.C.; chmn. of bd. and pres., Citizens Natl. Bank, Covington, Va.; mem. of bd. of dirs. of W. Va. Pulp and Paper Co., N.Y.C., and of the Covington Chamber of Commerce. Sev. pats. in pulp and paper mfg. lines. Chmn., Bd. of Deacons, First Presbyterian Ch., 25 yrs.; dir., Chas. P. Jones Memorial (public) Library. Clubs: Mason, Knights Templar, Shriner; past pres. and mem. of Covington Hot Springs Rotary Club. Hobbies: fishing, collection of Indian relics, etc.

LADENBURG, Kurt, dir. res. and dev., Schenley Labs., Inc.; res. 120 Wentworth Ave., Cincinnati, O.
Chem.; b. June 19, 1914, Breslau, Germany; s. of Rudolph and Else (Uhthoff) Ladenburg; ed. Princeton U., B.A., 1935; Ph.D., 1939; honors; mem.: Phi Beta Kappa; m. Helen Whitehead, 1944; ch.: Toni, Nils. 1940-44, sr. chem., res. and dev., Merck & Co.; 1944-46, asst. operation mgr., Wyeth, Inc.; 1946-49, v.p. and tech. dir., Tech. Enterprises, Inc., Consltg. Chems. & Engrs., Schenley Labs. to date. Res. in sterols, antibiotics; built penicillin plants in Sweden and China. Sev. papers pub. on sc. subjs. Mem.: Sigma Xi, A.C.S., N.Y. Acdy. Sci. Club: Chemists'. Hobbies: skiing, photography.

La Forge, Frederick Burr, chem., Beltsville Res. Center, U.S. Dept. of Agri., Beltsville, Md.; res. 1509 17th St., N. Arlington, Va.
Res. chem.; b. Bridgeport, Conn., Mar. 12, 1882; s. of Marcus E. and Emma La Forge; ed. Wilbraham Acdy.; Princeton U., B.S.; Berlin U., Germany, Ph.D.; m. Caroline Nelson, Oct. 4. 1920. 1909, priv. asst., Berlin U.; 1910-15, Fellow, assoc. Rockefeller Inst., N.Y.; 1915-35, U.S. Dept. of Agri., Bur. of Chem.; 1935 to date, Bur. Entomology and Plant Quarantine. Res. nucleic acids, amino sugars, rare sugars; furfurol from corn crops; insecticides, structure Rotenone & the pyrethrins; synthesis esters of pyrethrin type leading to their tech. prod. Contrib. numerous arts. to sc. jls. Mem.: A.C.S., A.A.A.S.

LAING, Milton Lionel, chf. chem., Armour & Co., Union Stock Yds., Chicago 9, Ill.; res. 8406 S. Wabash Ave., Chicago 19.
Chf. chem.; b. Peever, S. Dak., Mar. 19, 1903; s. of P.E. and Grace May (Urich) Laing; ed. U. S. Dakota; Northern State Tchrs. Coll., S. Dak., B.S.; U. of Ill., M.S.; m. Jennie Gustafson, June 12, 1931. Sc. instr., tchg. chem., phys., biol., Wilmot, S. Dak. H.S.; indus. fellowship, res. on canned meats, U. of Ill.; chf. bacteriologist, sanitation and food bact., Armour & Co. Chicago; asst. chf. chem. & chf. chem., adminis., same co. Mem.: Sigma Xi, I.F.T., A.O.C.S., A.P.H.A., A.C.S., S.A.B., Soc. of Ill. Bacteriologists.

LAITENEN, Herbert August, prof. chem., Dept. Chem., U. Ill.; res. 1301 N. Berkley Ave., Urbana, Ill.
Prof. anal. chem.; b. Ottertail Co., Minn., Jan. 17, 1915; s. of Nestor A. and Minnie N. Laitinen; ed. U. Minn., B.Chem., 1936; Ph.D., 1940; mem.: Alpha Chi Sigma; m. Marjorie Gorans, 1940; ch.: Kenneth, Richard, Roger. 1936-39, asst. chem., U. Minn.; 1939-40, Shevlin Fellow in chem.; Summers, 1939 and 1940, chem., Russell-Miller Milling Co., Minneapolis; 1940-42, instr. in chem., U. Ill.; Summer, 1941, chem., Grasselli Chem. Co., Cleveland; 1942-43, assoc. in chem.; 1943-46, asst. prof.; 1946-47, assoc. prof.; 1947 to date, prof. U. Ill. Res. in polarography, amperometric titrations & related methods of instrumental anal.; prep. approx. 40 res. papers. Co-author with I.M. Kolthoff, "PH and Electrotitrations." (1941). Mem.: A.C.S., E.S., Sigma Xi, Phi Lambda Upsilon. Club: Chaos. Hobbies: photography, woodworking, gardening, camping.

LAKE, William Walter, prof., chmn. dept. of chem., Texas Western College, El Paso, Texas; res. 269 Pendale Rd., El Paso.
Chem. prof.; b. Richwood, O., June 8, 1891; s. of John and Ellen Maria Lake; ed. B.S., Ohio State U., 1913; M.S., 1921; Ph.D. (chem.), Chic., 1941; mem.: Sigma Phi Epsilon; m. Grace Talitha Harris, Aug. 1, 1925; ch.: Frances Ellen Lake. Chem., Natl. Carbon Co., Cleveland, 1913; chf. chem., Williiam Edwards Co., Cleveland, 1914; instr. math., H.S., Alliance, O., 1914-17; 2nd. Lieut. Inf., U.S.A. 1918-19; instr. chem., H.S., El Paso, 1919-21; hd., sc. dept., El Paso Jr. Coll., 1921-27; asst. prof. chem., Coll. of Mines and Metallurgy, El Paso, 1927-35; assoc. prof., 1935-40; prof. & hd. dept., 1940-49; prof. & hd. dept. chem., Texas Western Coll., U. of Texas, El Paso, 1949 to present. Mem.: A.C.S. (fellow), A.A.A.S., Sigma Xi. Club: Kiwanis. Hobbies: hunting, fishing, prospecting.

La LANDE, William Alfred, Jr., mgr. of res. and dev., Penn. Salt Mfg. Co., Res. & Devel. Div., Whitemarsh Res. Labs., Box 4388, Chestnut Hill P.O., Phila. 18, Pa.; res. Plymouth Meeting, Pa.
Chem.; b. Phila., Pa., June 19, 1905; s. of William Alfred and Agnes (Small) LaLande; ed. U. Pa., B.S., M.S., Ph.D., (all in chem.), 1927, 1928 and 1931, respectively; Harrison Fellowship, chem., Swiss Federal Polytechnic Inst., Zurich, 1937-38; mem.: Alpha Chi Sigma, Tau Beta Pi, Sigma Xi; m. Virginia Glover, Dec. 24, 1930; ch.: Virginia Helen. Asst. instr. chem., U. of Pa., 1927-31; instr., 1931-36; asst. prof., 1936-37; dir. of res. & dev., Attapulgus Clay Co., 1938-44; dir. of res., Penn. Salt Mfg. Co., 1944-45; dir., Whitemarsh Res. Labs., Penn. Salt Mfg. Co., 1946-48; mgr. of res. and dev., 1948 to present. Res. in chem. of natural org. prods., esp. resins; natural & synth. absorbents, their indus. applications; industrial chemicals and specialties; res. and dev. adminis. Mem.: A.C.S., A.A.A.S., Franklin Inst., A.S.M., Electrodepositors Tech. Soc. (London), A.W.P.A., A.I.Ch. E., Electrochemical Soc., A.I.Ch., The Chemical Soc. (London), Soc. of Chemical Ind. (London), Armed Forces Chem. Assn., Alpha Chi Sigma, Tau Beta Pi, Sigma Xi.

LAMB, Arthur Becket, conslt. ed., "Jl. A.C.S.," prof. emeritus, Harvard, Chem. Lab., 12 Oxford St., Cambridge, Mass.; res. 121 Colbourne Crescent, Brookline, Mass.
Ed., conslt.; b. Attleboro, Mass., Feb. 25, 1880; s. of Louis Jacob and Elizabeth Gamerden Townsend Becket Lamb; ed. A.B., A.M., Tufts, 1900; Ph.D. 1904, Hon. D.Sc. 1922; A.M. Harv., 1903, Ph.D. 1904; M.I.T. 1901-02; U. Leipzig, 1904, Heidelberg, 1905; mem.: Delta Upsilon, Phi Beta Kappa, Alpha Chi Sigma, Pi Lambda Upsilon; m. Anne Driscoll, Dec. 27, 1923; ch.: Deborah A., David B. Instr., electrochem., Harvard, 1905-06; asst. prof. chem., N.Y.U., 1906; assoc. prof., 1907; prof., 1909-12; also dir. Havemeyer Chem. Lab.; asst. prof. chem., Harvard, 1912-20; prof., 1920-48; dir. Chem. Lab., 1912-47; dean, grad. Schl. of arts & scs., 1940-43; Editor, "Jl. A.C. S." 1917-49; conslt. ed., 1949 to date. Dir., Manhattan Elec. Supply Co.; Ionics, Inc. Lt. col. res. div. C.W.S., U.S.A., 1918-19, chg. defense chem. res.; mem. U.S. Fixed Nitrogen Mission, 1919; dir., Fixed Nitrogen Res. Lab., Wash., D.C., 1919-21. Author: "The Thermodynamics of Tech. Gas Reactions" (trans., 1905); "Lab. Manual of Gen. Chem." (1916). Mem.: A.C.S. (pres., 1933), A. El. S., Deutsche Chemische Gesellschaft, Deutsche Bunsen Gesellschaft, Faraday Soc., A.A.A.S. of Boston, Wash. Acdy. Arts & Scs., A.Phil.S., N.A.A.S., A.A.A.S. (fellow; v.p., 1933). Awarded: Nichols M. (A.C.S.), 1943; Ballou M. (Tufts Coll.) 1944; Priestley M. (A. C.S.) 1949. Pres. bd. trustees, Windsor Schl. Clubs: Faculty (Cambridge, Mass.); Harvard (Boston); Chem. (N.Y.); Country (Brookline).

LAMB, George Goodrich, prof. chem. engrg., Northwestern U., The Tech. Inst.; res. 1856 Sherman, Evanston, Ill.
Chem. engr., educator; b. Grand Rapids, Mich., Apr. 26, 1906; s. of John Campbell and Helen (Goodrich) Lamb; ed. U. of Mich., B.S. (chem. engrg.), 1927; M.S. (chem. engrg.), 1928; N.Y. U., Ph.D. (chem. engrg.), 1935; mem.: Alpha Chi Sigma, Sigma Xi, Phi Lambda Upsilon, Phi Kappa Phi, Tau Beta Pi, Iota Alpha; m. Esther Bolitho, Sept. 10, 1930; ch.: Douglas Parry, William Bolitho. 1928-30, chem. engr., Atlantic Refing. Co., Phila., Pa., pilot plant, plant expt'l., prod. mgr., petrol. refing.; 1930-35, instr. chem. engrg., N.Y.U.; 1935-41, res. chem. engr., Standard Oil Co. (Indiana), Whiting, Ind., ldr., high pressure lab. & ldr. exploratory res. grps.; 1941-46, hd. fuels and lubricants, Power Plant Div., Bur. of Aero., Navy Dept., Capt., U.S.N.R.; 1946 to date, prof. chem. engrg. Northwestern U., Tech. Inst., Evanston, Ill. Pats. and pubs. petrol. tech.; mem. sev. govt. industry committees on aviation petr. prods. in W.W. II. N.A.C.A. sub-comm., (T.A.C. of Pt. W.C.; Avia. Pet. Prods. Allocation); ldr. grp., fundamentals of detonation Coord. Res. Council, N.Y.C. Mem.: A.C.S., A.I.Ch.E., Soc. of Auto. Engrs., A.S. M.E., W.S.E., A.S.E.E., A.S.T.M. (chmn., res. div. volatility); various offices and comms. in preceding. Chmn., Ill. State Bd. Prof. Engrs. Examiners. Club: University (Evanston). Hobbies: aviation, camping.

La MER, Victor Kuhn, prof. chem., Columbia U., N.Y. 27, N.Y.; res. 353 Moore Ave., Leonia, N.J.
Chem.; Leavenworth, Kans., June 15, 1895; s. of Joseph Secondule and Pauline (Kuhn) La Mer; ed. Kansas U., A.B. 1915; U. of Chicago, 1916; Columbia, Ph.D. 1921; post doctorate Cambridge, England, and Copenhagen; mem.: Phi Chi (medical), Epsilon Chi (electrchem.), Sigma Xi; m. Ethel A. McGreery, July 31, 1918; ch.: Luella (Mrs. A.P. Slaner), Pauline. 1916-17 res. asst. Carnegie Inst., Wash.; 1919-20 res. asst., 1920-24 instr. chem., 1924-28 asst. prof., 1928-35 assoc. prof., 1935 to date prof. Columbia U.; summer 1928 lect. Inst. Chem., Northwestern U.; 1922-23 fellow, Cutting Travel; 1931 visit. prof. Stanford U. 1917-19 1st Lt. Sanit. Corp., N.A.; 1935 mem. Exec. Comm. Chem. Ind. Tercent. Author: (with Eucken, Jette), "Fundamentals of Phys. Chem." (1925, McGraw Hill); co-author of num. arts. for sc. jls. Editor-in-chief, "Jl. Colloid Sc." Res. phys. chem. Vitamin C; oxidation reduc. potentials; experimental confirmatives; theory of electrolytes on reaction kinetics; denterium catalysis; acid-base catalysis; aerosols in resp. to gas mask filters, light scattering, screening smokes, insecticides and meteorology; monodis. colloids. Mem.: N.Y. Acdy. of Sc. (pres., 1949); N.A.S.; Royal Belgian Acdy. of Arts, Sc. and Letters (foreign mem.); Argentine Chem. Soc. Mem. Jury of Award, Nichols M. (1933-37). Club: Men's Faculty (Columbia U.). Hobbies: fishing, chess.

LAMOUREUX, Albert C(harles), dept. hd. Chem. Res. Div., Dennison Mfg. Co., Framingham, Mass.; res. Fairmount St., Marlborough.
Chem. engr.; b. Lowell, Mass., Feb. 23, 1905; s. of Joseph E. and Alphonsine (Rousseau) Lamoureux; ed. B.S. chem. engrg. prac., M.I.T., 1926; m. Jeannette C. Roussel, Oct. 12, 1931; ch.: Robert, Jeanne, Roger, Denise, Bernard, Charles David, Suzanne. Dennison Mfg. Co., since 1926. Mem.: A.C.S., N.E., T.A.P.P.I.

LAMPERT, Lincoln Maximilian, sr. chem., State Dept. of Agri., Sacramento, Calif.; res. P.O. Box 1266, Sacramento.
Chem.; b. New York City, Feb. 12, 1897; ed. A.B., U. of Calif., 1922. Chem. in chg. of lab., U.S.A. Quartermaster Dept.; res. chem., assoc. dir. res., Golden State Milk Products Co., Inc ; sr. chem., Calif. Dept. of Agri. Num. papers in chem. res., bacteriology, food tech., dairy chem. Author: "Milk and Dairy Products," Chemical Publ. Co., Bklyn., N.Y., 1947. Mem.: A.I.C. (fellow), A.C.S., A.A.A.S., Am. Dairy Sc. Assoc., Am. Federation of Scientists. Club: Commonwealth (San Francisco). Hobby: mountaineering.

LANDAU, Ralph, exec. v.p., Scientific Design Co., Inc., 2 Park Ave., N.Y. 16, N.Y.; res. 520 Lincoln Pl., Bklyn. 16, N.Y.
Chem. engr.; b. Phila., Pa., May 19, 1916; s. of Samuel and Deanna Landau; ed. B.S. chem. engrg., U. of Pa., top honors, 1937; Sc.D. chem. engrg., M.I.T., 1941; m. Claire Sackler, July 14, 1940. Res. asst., dept. chem. engrg., M.I.T., 1938-

41; dev. and design engr., M.W. Kellogg Co., 1939, 1941-43, 1946; asst. hd., and hd. chemicals dept., Kellex Corp., 1943-45; exec. v.p., Scientific Design Co., Inc. 1946 to date. Midcentury Corp., pres. and dir., Chemical Engrg. Conslts., partner. Author of 10 papers in flds. of chem. and chem. engrg., also 10 pats.; awarded Kellex Key, 1945, for key wk. on Manhattan Dist. Proj. Author of two chapters in "Engrg. Developments in the Gaseous Diffusion Process," McGraw Hill Book Co., Inc., 1949. Mem.: A.I. Ch.E., A.C.S., Electrchem. Soc., A.A.A.S., Faraday Soc., Sigma Xi, Pi Mu Epsilon, Tau Beta Pi (fellow). Clubs: Chemists', Advertising (N. Y.). Hobbies: people, sailing, music.

LANDES, Chester Grey, hd. of paper chem. lab., Stamford Res. Labs., Am. Cyanamid Co., 1937 W. Main St., Stamford, Conn.; res. 9 Brooks Rd., New Canaan, Conn.
Res. & dev. chem.; b. Lowell, Ind., Dec. 22, 1903; s. of Claire George and Mary Emma (Little) Landes; ed. Ohio State U., B.Ch.E.; grad. wk. at Polytech. Inst. of Bklyn (no degree), OSU degree 1926; attended Bklyn. Polytech. Grad. Schl. 1939-42; mem.: Sigma Delta Rho, Phi Lambda Upsilon; m. Dorothy E. Scofield, Aug. 21, 1934; ch.: Robert G., Andrew M., Emma Lou. Mead Corp., Chillicothe, Ohio (various plants) chem. (pulp & paper) 1926-34; Fitchburg Paper Co., Fitchburg, Mass., supt., 1934-36; Am. Cyanamid Co., Stamford, Conn., 1936 to date. Participated in dev. of new chem. prods. for paper ind., incl. wet-strength resins, rosin & wax sizes, coating matls. & specialties; num. publ. & pats. Mem.: A.C.S., T.A.P.P.I. (mem. coating comm.). Club: Shore & Country (Norwalk, Conn). Hobby: tennis.

LANDIS, Roy Glenn, dir., Oakland Lab., 1450 Sherwin Ave., Emeryville, Calif.; res. 1181 Oakes Blvd., San Leandro.
Chem.; b. Hillsboro, Ore., Nov. 10, 1911; s. of Christian E. and Daisy A. Landis; ed. B.S., in chem., Kent State U., Kent, O., 1935; m. Florence V. Moses, Oct. 7, 1939; ch.: Martha Jane, William, Walter. Formulator, Sherwin-Williams Co., Cleveland, Ohio, 1935-43; group ldr., Sherwin-Williams Co., Newark, N.J., 1943-47; dir. Oakland Lab., Emeryville, Calif., 1947 to present. Mem.: A.C.S., A.S.T.M.

LANDOLT, Percy E(dward), exec. v.p., Lithium Corp. of Amer., Inc., 36 W. 44th St., N.Y. 18; res. 15 N.Y. Ave., White Plains.
Chem. engr.; b. Bklyn., N.Y., Oct. 21, 1891; s. of Henry J. and Emma (Tenger) Landolt; ed. Schl. of Mines, Columbia U., Ch.E., 1912; mem.: Phi Kappa Psi, Phi Lambda Upsilon, Sigma Xi, Tau Beta Pi; m. Marie Augusta Allison, Jan. 20, 1919; ch.: Dr. Allison Booth, Joan (Landolt) Downes, John Percy. 1912-17 res. engr., Research Corp. (Cottrell Proc.); 1917-19 Capt., Ord. Dept. U.S.A., 1919-39 Maj., Ord. R.C.; 1919-24 mgr. Commercial Dept., Research Corp.; 1924-32 Eastern Mgr., Western Precipitation Corp.; 1932 conslt. chem. engr.; 1937 pres. Allied Process Corp., 1938-47 pres. Z-Metals Inc., 1940-46 pres. Lithaloys Corp., 1946 to date exec. v.p. Lithium Corp. of Amer., Inc. res. in electrical precipitation, lithium chem. and metall. Contrib. exten. to sc. jls. Mem.: A.C.S., E.S., A.I. Ch.E., A.I.M.E., A.S.M.; fellow, A.I.C., A.A. A.S., A.C.C.C.E. (pres.). Club: Columbia Mens. Hobbies: golf, music.

LANDT, Gustave E., pres., Philadelphia Textile Finishers, Inc., Ford & Lafayette Sts., Norristown, Pa.; res. Curren Terr., Norristown.
Exec.; b. Highwood, Ill., Nov. 25, 1894; s. of William A. and Matilda (Ernesti) Landt; ed. U. of Chicago, B.A.; Ph.D., Columbia U.; m. Winnie May Smith, 1923; ch.: Gabriel. 1923-25 plant chem., Agasote Millboard Co.; 1925-29 chf. chem., Diamond State Fibre Co.; 1929-43 tech. dir., Continental Diamond Fibre Co.; 1940 to date, pres., Phila. Textile Finishers, Inc.; 1940-43 assoc. prof. chem., U. of Delaware. Res. in fire resistant fabrics; pioneer wk. in phenolin plastics; paper chem. and tech. Mem.: A.S.T.M., A.C.S., Phi Lambda Upsilon, Sigma Xi. Trustee, Woman's Medical Coll. of Phila.; Home for the Aged, Colored, Phila. Dir., North Phila. Trust Co.

LANE, Charles Elmer, Jr., prof. of chem., Mississippi Southern Coll., Hattiesburg, Miss.; res. Box 136, Station A, Miss. Southern Coll. Campus.
Tchr. phys. and anal. chem.; b. Quincy, Ill., Jan. 20, 1905; s. of Charles E. and Helen Margaret (Rouse) Lane; ed. U. of Chicago, B.S., 1926; Ph.D., 1933; mem.: Delta Chi; m. Margaret Ellen Kerwin, Aug. 11, 1928; ch.: Charles E., III. 1929-40 asst. prof. of chem. and phys., Memphis State Coll.; 1940-41 assoc. prof. phys.; Mississippi State Coll.; 1941-44 dir. ground instr. (civ.) U.S.A.F. Grider Field, Pine Bluff, Ark.; 1944-46 dir. Div. of Sc. and chmn. Dept. of Chem., American U., Washington, D.C.; 1946-48 prof. chem., Bradley U., Peoria, Ill.; 1948 to date prof. chem. Mississippi Southern Coll., Hattiesburg, Miss. Res. photochemical reaction between chlorine and benzene in the gaseous phase. Mem.: Sigma Xi, A.C.S., Miss. Acdy. Sc.

LANE, Frederick William, res. assoc., Tech. Command, Army Chemical Center, Maryland; res. 37 Lee St., Bel Air, Maryland.
Chem. engr.; b. Springfield, Mass., Feb. 17, 1889; s. of Frederick L. and Nellie I. (Wade) Lane; ed. M.I.T., S.B., 1914; U. of Maine, 1915-16; Yale, Ph.D., 1920; m. Gertrude E. Burt (dec.) Sept. 22, 1928; ch.: Frederick M. 1913-15 asst. instr. org. chem. M.I.T.; 1915-16 instr. org. chem., U. of Maine; 1916-17 asst. instr. chem. Yale U.; 1917-20 instr. org. chem. same coll.; 1920-22 petroleum chem., U.S. Bur. of Mines, Pittsburgh, Pa.; 1922-24 petr. chem., same Bur., Washington, D.C.; 1924-29 petr. chem. same Bur., Bartlesville. Okla.; 1929-40 chf. Clothing Br., Protective Div., Edgewood Arsenal, Md.; 1940-43 spec. asst. to chf. same div., same arsenal; 1943-47 chf. engr., Protective Div., Army Chem. Center, Md., 1947-49 acting chf. same div.; 1949 to date res. assoc., Office Chief, Tech. Command, Army Chem. Center, Md. Res. alkyl derivatives of resorcinol as antiseptics; viscosity of petroleum oils; pollution of coastal waters by petroleum oils; properties of petroleum lubricants; composition of petroleum; development of defensive items against chem. warfare. Mem.: A.C.S., fellow, A.A.A.S., Sigma Zi, Gamma Alpha, Alpha Chi Sigma; Meritorius Award, U.S.A., 1949. Hobbies: photography, amateur automobile mechanics.

LANFORD, Oscar Erasmus, chmn. Dept. of Chem., State Coll. for Tchrs., Albany, N.Y.; res. Elmbrook Farm, Route 1, Castle-on-Hudson, N.Y.
Prof. chem.; b. Louisa County, Va., Dec. 19, 1914; s. of Oscar E. and Ruth Evelyn (Miller) Lanford; ed. V.M.I., B.S. in chem., 1934; Columbia U., A.M. in chem., 1937, Ph.D. in chem., 1939; m. Caroline Clapp Sherman, 1937; ch.: Oscar E., 3rd, Caroline Aldrich, Henry Sherman. William Armistead, Virginia Bowen. 1934-35 chem., Gold Dust Corp.; 1935-37 grad. asst. in chem., 1937-40 instr. in chem., Columbia U.; 1940 to date prof. of chem.; chmn. of the Dept., N.Y. State Coll. for Tchrs., Albany, N.Y. Res. on complex coordination compounds of the heavy metals, adsorption spectroscopy; electrochemistry. Mem.: Sigma Xi, A.C.S. (chmn. Eastern N.Y. Sect., 1947-49). Club: Albany Torch. Hobbies: farming, breeding dogs.

LANG, Otto J., dir. of res. and dev., Vulcan Proofing Co., Bklyn., N.Y.; res. 297 Richmond Ave., West Haven, Conn.
Chem.; b. N.Y.C., Oct. 18, 1899; s. of Carl and Anna H. Lang; ed. Wesleyan U., Ph.B. (with high honors); M.A.; mem.: Phi Beta Kappa; m. M. Pauline Roney Aug. 6, 1934; ch.: Margaret E., Wililam C. 1924-27, W.B. Pratt Labs., res. chem. (Boston, Mass.); 1927-34, B.F. Goodrich Co., Akron, O., chem.; 1934-36, same co., Mexico City, chf. chem.; 1936-50, Armstrong Rubber Co., West Haven, Conn., tech. dir.; to date, dir. of res. and dev., Vulcan Proofing Co., Bklyn., N.Y. Active in committee wk. which brought first low temp. G.R.S. synth. rubber (cold rubber) into prod. and pioneered its successful appl. in tires. Active on Govt. Tire & Tube Conslt. Comm. recommending to the Rubber Director meths. of use of synth. rubber mandatory under natl. law. Mem.: A.C.S., A.S.T.M., N.Y. Rubber Grp. (exec. comm.), Conn. Rubber Grp.

LANGE, Norbert Adolph, ed., Handbook Publishers, Inc., 309 W. Water St., Sandusky, Ohio; res. Cedar Point Roadway, Sandusky.
Ed. and compiler; b. Sandusky, Ohio, Aug. 4, 1892; s. of Adolph P. and Anna (Hauser) Lange; ed. U. of Mich., A.B., 1915; M.S., 1917; Ph.D., 1918; mem.: Alpha Chi Sigma. Gamma Alpha, Phi Lambda Upsilon, Sigma Xi; m. Marion Cleaveland, Apr. 18, 1946. 1917-19 instr. org. chem., U. of Mich.; 1919-33 asst. prof. org. chem., Case Inst. Tech.; 1933-34 assoc. prof. org. chem. same Inst.; 1925 to date lect. in chem., Western Reserve U.; 1934 to date ed.-in-chf., v.p. and secy., Handbook Publishers, Inc. Res. condensations of isocyanic acid; ureas; quinazolines. Co-editor of "Handbook of Chem. & Phys.," 1920-32; editor and compiler of "Lange's Handbook of Chemistry," 1934 to date. Mem.: A.C.S.; A.I.C. (fellow); reg. engr. in chem. (Ohio). Trustee, Frst Presbyterian Ch. Sandusky, Ohio. Hobbies: music, photography, fishing, boating.

LANGELIER, Wilfred Francis, prof. of Sanitary Engineering, U. of Calif., Berkeley 4, Calif.; res. 52 Alvarado Rd., Berkeley 5.
Chem.; b. Nashua, N.H., Sept. 25, 1886; ed. B.S., New Hampshire Coll. 1909; M.S., U. of Ill., 1911; m. Ruth Leone Davison, 1916. Chem., Ill. State Water Survey, 1911-16; held the following positions in the U. of Calif.: asst. prof. sanitary engineering, 1916-23; assoc. prof., sanitary engineering 1923-39; prof. sanitary engineering, 1939 to present. Res. in water tech., especially in chem. equilibria as related to water conditioning, pipe corrosion, scale control in pipes and sea water evaporators; inventor of water purifying equipment and water anal. apparatus. Mem.: Sigma Xi, Tau Beta Pi, Phi Lambda Upsilon, Chi Epsilon honor societies; A.C.S., A.W.W.A., Calif. Sewage Works Assoc.

LANGFORD, Cecil Theodore, hd., Engr. & Dev. Div., Northern Regional Res. Lab., Peoria, Ill.; res. 220 Moss Ave., Apt. C-4, Peoria 5.
Chem. engr.; b. Spanish Fort, Texas, Sept. 6, 1896; s. of W. M. and Lois M. Seay Langford; ed. B.S., U. Okla., 1918; M.S., 1920; Ph.D., U. Calif. 1926; mem.: Acacia; m. Janet G. Allan, July 6, 1918. Chem. engr., E. I. du Pont de Nemours & Co., 1918-19; instr., U. Okla., 1920-22; asst. prof., 1922-24; grad. asst. U. Calif. 1924-26; chem. engr. Res. & Dev. Dept. Maryland Oil Co., 1926-29; prof. chem. engr. U. Okla. 1929-40; hd., Engr. & Dev. Div., Northern Regional Res. Lab., U.S. Dept. Agri., 1941 to date. Res. in dev. of proc. for wet-milling wheat, grain, sorghums, prod. of butylene glycol from grains, utilization of wheat in prod. of alcohol. Mem.: A.C.S., A.I.Ch.E., Alpha Chi Sigma; Phi Beta Kappa, Tau Beta Pi, Sigma Xi. Hobbies: hunting, fishing.

LANGLYKKE, Asger Funder, dir. res. & dev. labs., E. R. Squibb & Sons, New Brunswick, N.J.; res. 38 N. Eighth Ave., Highland Park, N.J.
Biochem.; b. Pleasant Prairie, Wis., July 17, 1909; s. of Peter I. and Anna F. Langlykke; ed. B.S., 1931, M.S., 1934, Ph.D., 1936, U. of Wis., Madison, Wis.; mem.: Alpha Chi Sigma; m. Margaret Hays Page, Dec. 16, 1939; ch.: Peter Page, Kristin Margaret, Gerald Page. Res. asst., U. of Wis., 1932-36; res. assoc., U. of Wis. 1936-37; res. chem., Hiram Walker & Sons, Inc., Peoria, Ill., 1937-40; supt., Butyl Alcohol Plant, Association Azucarera Cooperative Lafayette, Arroyo, P.R., 1940-43; acting div. hd. & div. hd., Northern Regional Res. Lab., U.S. Dept. of Agric., Peoria, Ill., 1943, 1945-47; chf. pilot plant & chf. tech. officer, C.W.S., Camp Detrick, Md. & Terre Haute, Ind., 1943-45; dir. microbiolog. dev. & dir. res. & dev. labs., E. R. Squibb & Sons, New Brunswick, N.J., 1947 to date. Res. & adm. in fermentation tech.; author of many articles on fermentation, byprod. feeds, prod. of butanol & acetone, features of antibiotics prod. Mem.: A.A.A.S., A.C.S. (councilor 1947), Biochem. Soc. (London), Soc. of Am. Bacteriologists, A.I.Ch.E., A.P.H.A. Club: Union (New Brunswick, N.J.). Hobby: handicraft.

LANING, Elmer Mead, owner and mgr., E. M. Laning Co., 433 Stuyvesant Ave., Irvington 11, N.J.; res. 17 Normandy Pl., Irvington.
Chem. and perfumer; b. Newark, N.J., May 21, 1888; s. of Edwin H. and Emma (Mead) Laning; ed. Barringer H.S., Newark, N.J.; Cooper Union, N.Y., B.S. in chem; m. Carrie Heinze, Aug. 29, 1913; ch.: Elmer H., Edwin M., Horace J. 1913-16 chem. and perfumer, Tokalon Inc., New York; 1916-18 chem. and perfumer for Sanitol Chem. Lab., St. Louis, Mo.; 1918-20 chem. and perfumer for McKesson & Robbins, N.Y.; 1920-39 pres. and gen. mgr. E. M. Laning Co. Inc.; 1939 to date sole owner. Winner of first prize, two thousand dollars, in Internat. contest for outstanding Perfume for line of toilet preparations, 1919. Mem. Delta Lodge No. 232 F.A.M., Life Mem. Tall Cedars of Lebanon Essex Co. Forest No. 8; Life Mem. Aurora Grata Consistory and Kismet Temple, Bklyn., N.Y.; Modern Woodmen of America. Clubs: Union Hunting & Fishing, Inc. (secy.); Union Co. Federation of Sportsmen's Clubs (secy.). Hobbies: hunting, fishing.

LANSING, Arthur Cornelius, independent conslt., 1024 Forestdale Rd., Royal Oak, Mich.; res. 1024 Forestdale Rd.
Chem. and engr.; b. Cambridge, N.Y., Aug. 14, 1898; s. of Arthur King and Amy Elizabeth (Mason) Lansing; ed. Cambridge grade and high schls., A.B., Cornell U., 1921, Colorado Schl. of Mines. teaching fellow in chem.; mem.: Sigma Upsilon; m. Dorothy Helen Jones, Oct. 6, 1923; ch.: Dorothy Irene (Mrs. William Robert Penman), John Arthur, David Flagler. Lightfoot Schultz Co., and John T. Stanley Co., 1922-23; Commercial Solvents Corp., 1924-42; Reichhold Chems., Inc., 1942-45; Hardesty Chem. Co., Inc., 1946-47; independent conslt., 1947 to present. Res. and specialist in ester solvents and plasticizers, maleic anhydride, phthalic anhydride, sebacic acid, alkylated phenols and alkylated hydrocarbons, whisky cooperage, foundry cores, alcohol and butanol by fermentation; built and operated Plancor 1878 DPC plant for large vol. prod. of military insectifuge. Mem.: A.I.C. (Fellow and Charter Member), A.C.S., Engineering Soc. (Detroit), Natl. Rifle Assoc. (life member), Reg. Prof. Engr. (Ohio). Hobbies: rifle shooting, fishing.

La PIANA, Fred G., dir. textile res., Stein, Hall & Co., 285 Madison Ave., N.Y.C.; res. North Eastham, P.O. Box 77, Mass.
Chem.; b. Piana dei Greci, Palermo, Italy, June

2, 1885; s. of Vincenzo and Giuseppina (Capaci) La Piana; ed. elemen. schls., high schl. & lyceum & coll., Grottaferrata, Rome, Italy; m. Mary E. Fallon, May 23, 1924; ch.: Fred G. Jr. 1916-18, chem., Union Paste Co., Boston, Mass.; 1918-24, chf. chem., Gen. Adhesive Mfg. Co., N.Y.C.; 1924-29, chf. chem., textile lab., Stein, Hall & Co., Charlotte, N.C.; 1929-48, chg. of textile dev., 1948 to date, dir. textile res., Stein, Hall & Co., N.Y.C. Dev. of textile processing specialties; various pats. issued covering these prods. Many textile tech. articles & monographs publ. in textile magazines. Mem.: A.A.T.C.C., A.S.T.M., Textile Foundation (life mem., Phila., Pa.). Hobby: farming.

LAQUER, Fritz Oscar, M.D. res. prof. biochem., Temple U., Schl. of Pharmacy, Phila. 40, Pa.; res. 608 W. Upsal St., Philadelphia 19.
Teacher and conslt. biochem.; b. Frankfurt a/M. Germany, Sept. 15, 1888; s. of Leopold and Hedwig Laquer; ed. Human. Gymn., Frankfurt a/M. 1898-1907; studied medicine and chem. at Universities of Tuebingen, Freiburg, Muenchen, Berlin, Heidelberg, Frankfurt, 1907-13; M.D., Heidelberg, 1913; m. Kathleen Mary Guba, Sept. 17, 1918; ch.: Henry L., K. George, Edy L., and Ulric J. Instructor biochem., U. Frankfurt, 1920-23; mgr. Organon Labs., Oss, Holland, 1924-26; dir. Physiol. Labs., I. G. Farbenind., Wuppertal, Germany, 1927-34; asst. prof. biochem. U. Frankfurt, 1928-35; consulting biochem. & lecturer, Basle, Switzerland, 1935-39; adviser, Govt. of Venezuela, Caracas, 1939-40; res. prof. biochem., Temple U., Schl. of Pharmacy, 1940 to date; v.p., Ladox Lab., Phila., Pa., 1945-47; conslt. in biochem. for phar. companies, 1947 to date. Res. and prod. in the fld. of hormones, vitamins and glycosides. Author: "Hormone & Inner Secretion," (1st edition 1927, 2nd., 1934). Mem.: A.C.S., Am. Phar. A., A.A.A.S. (Fellow), Franklin Inst., Phila. (life member), County Med. Soc. (Phila.). Hobbies: swimming and gardening.

LARSEN, Bernard Marvin, supvr. proc. metal. res., Res. Lab., U.S. Steel Corp. of Del., Kearny, N.J.; res. 156 Chilton St., Elizabeth, N.J.
Res. chem.; b. Woodford, Wis., July 29, 1899; s. of George Albert and Susanna Larsen; ed. U. Wis., 1921, B.S. Chem. Engr.; U. Wash., 1922, M.S., Metal. Engr.; mem.: Phi Lambda Upsilon; m. Mary Elliott Stites, Oct. 25, 1925; ch.: Harry S., Bernadette M., Edna M. Jr., asst. metal supvr., Bur. Mines, 1922-28; physical chem., res. supvr., U.S. Steel Corp. of Del., res. lab. 1929 to date. Res. mainly proc. metall. slag viscosity, inclusions, in steel slag-metal equil., iron ore reduction, temp. meas. by photocells, kinetics of steelmaking reactions. Author: "Feuerf. Baust. in Siem-Martin Ofen., verlag Otto Spamer, Leipzig, 1929"; editorial, 4 chpts. Basic Open Hearth Steelmaking, A.I.M.E., N.Y. 1944, 2nd ed. prob. late 1950. Mem.: Iron & Steel Engrs.; A.I.M.E.; Robert W. Hunt M., 1948. Hobbies: music, sailing, books.

LARSEN, Delmar H., assoc. dir. res., mgr. Pat. Dept., Baroid Sales Division, National Lead Co., 830 Ducommun St., Los Angeles 12, Calif.; res. 8601 W. Knoll Dr., Los Angeles 46.
Chem., res. dir., pat. agent, and teacher; b. Los Angeles, Calif., May 23, 1911; s. of H.P. and Adele M. Larsen; ed. Calif. Inst. of Technology, B.S., 1933, M.S., 1936; Hon. Faculty Member Pi Epsilon Tau; m. Kathryn Wells, 1933; ch.: Christopher, Tiana. 1936 to present; successively res. chem., lab. mgr., res. and dev. dir., and mgr. of pat. activities, Baroid Sales Div., Natl. Lead Co.; 1940 to present, lecturer in pet. engineering, U. of Southern Calif. Pats. and publications in fields of colloid chem., physical chem. of clay minerals; chem. of pet. production; absorption refrigeration. Mem.: A.C.S., A.I.M.E.

LARSEN, Louis Melvin, res. and operating chem., Interchemical Corp., 2211 N. Elston Ave., Chicago, Ill.; res. 6631 N. Ottawa Ave., Chicago.
Chem.; b. Jan. 28, 1892; s. of Lars M. and Isabelle Larsen; ed. St. Olaf Coll., Northfield, Minn., B.S.; U. of Chicago, Ph.D.; m. Genevieve Reinertson, July 18, 1919; ch.: Anita G., Betty J. 1917 to date with Interchemical Corp. (orig. co., Ault & Wiborg Co.; after merger, Interchemical Corp.). Developed heat-dry and water-set printing inks. Mem.: A.C.S. Clubs: Printing Craftsmen; Paint and Varnish Production Club.

LARSEN, William Eugene, res. mgr., E. I. du Pont de Nemours & Co., Waynesboro, Va.; res. 777 Locust Ave.
Chem.; b. Salt Lake City, Utah, Nov. 14, 1906; s. of William A. and Martha Dorius Larsen; ed. B.S., U. Utah, 1929 (hons.); M.S., 1931; Ph.D. (physical chem.), Purdue, 1935; m. Tursell Mildred Childs, May 18, 1928; ch.: Shirley Jeanne, Flora Mae, William Edward, Wayne Ammon, George Douglas. Since schl. with du Pont, came here as res. chem. 1935, made res. supvr. 1940, mgr. 1945 to date. Res. in yarn tech., acetate & "Orlon" yarns; vinyl polymers; gen. duties, cont. connected with proc. dev. wk. in these fields. Mem.: A.C.S., Sigma Xi, Phi Kappa Phi. Hobbies: gardening, fishing.

LARSON, Leslie L., tech. dir. Detroit Sulphite Pulp and Paper Co., 9125 W. Jefferson St., Detroit 17, Mich.; res. 19179 Montrose, Detroit 35.
Chem.; b. Preston, Idaho, Oct. 18, 1910; s. of C. A. and Abbie (Lundegren) Larson; ed. U. of Idaho, B.S., 1934, M.S., 1936; Inst. of Paper Chem., Ph.D., 1940; mem.: Alpha Chi Sigma; m. Lucille Mais. Dec. 20, 1940; ch.: James, Eska, Jeri, Marie. 1939-42 res. chem. Kimberly Clark Corp.; 1942-45 proj. chem., protective clothing, C.W.S. Edgewood Arsenal; 1945 to date tech. dir. Detroit Sulphite Pulp and Paper. Mem.: Sigma Xi, Sigma Alpha Xi, A.C.S., T.A.P.P.I. Hobbies: stamp collecting, wood specimen collecting.

LARSON, Thorwald, New Eng. mgr., Carbic Color & Chem. Co., Inc., 68 Pine St., Providence 3, R.I.; res. 27 Jennys Lane, Barrington, R.I.
Dyestuff chem.; b. Warberg, Sweden, Jan. 11, 1907; s. of John and Amanda Larson; ed. M.I.T., S.B., 1928; mem.: Alpha Chi Sigma; m. Lillian Rice, Nov. 24, 1932; ch.: Robert Howard, Linda Lee. E. I. du Pont Co., Deepwater, N.J., Jackson Lab., contr. chem., July 1, 1928-Apr. 1, 1929; basic color div., jr. supvr. Apr. 1, 1929-31; U.S. Finishing Co., Prov., R.I., Cent. Lab., res. chem. Apr. 1, 1931-Feb. 1, 1932; Uxbridge Worsted Co., Uxbridge, Mass., chem., Feb. 1, 1932-May 1, 1932; Am. Printing Co., Fall River, Mass., chem., asst. supt., Aug. 1, 1932-Nov. 1, 1934; Calco Chem. Co., Prov., R.I., chem., demonstrator, Nov. 1, 1934-Apr. 1938; Carbic Color & Chem. Co., Charlotte, N.C., tech. rep., southern mgr. Apr. 1, 1938-Jan. 1, 1947; Carbic Color & Chem. Co., Prov., R.I., N.E. mgr. & dir., Jan. 1, 1947 to date. Mem.: A.C.S., A.A.T.C.C. Clubs: Chem. (N.Y.), R.I. Country. Hobbies: golf, sailing.

LARSON, Thurston E., hd. chem. sub-div., Ill. State Water Survey, Urbana, Ill.; res. 212 W. California, Urbana.
Chem.; b. Chicago, Ill., Mar. 3, 1910; s. of Gustav W. and Selma B. Larson; ed. U. of Ill., Ph.D., 1937; m. Veda T. Larson, Nov. 24, 1938; ch.: Byron G., Bruce T. 1932 to date with Ill. State Water Survey. Res. on water quality, treatment and use. Mem.: A.C.S., A.W.W.A., Natl. Assoc. of Corrosion Engrs. Club: Urbana Golf and Country. Hobbies: golf, bridge.

LARSON, William Day, prof. of chem., Coll. of St. Thomas, St. Paul 1, Minn.; res. 2112 Lincoln Ave., St. Paul, Minn.

Chem.; b. St. Paul, Minn., Oct. 3, 1908; s. of E. A. and Emily Steuding Larson; ed. B.A., Minn., 1929, M.S., Mich. State Coll., 1931, Ph. D., Minn., 1936; mem.: Alpha Chi Sigma. College of St. Thomas, 1932 to present. Res. arts. in chem. journals, mainly on electrochemistry and solutions. Mem.: A.C.S., Sigma Xi, Phi Lambda Upsilon.

LASH, Mendel Elmer, prof., Kansas State College, Dept. of Chem., Manhattan, Kans.; res. 1025 Bertrand St., Manhattan.
Chem. prof.; b. New Washington, O., Sept. 30, 1895; s. of Albert W. and Malinda Bridgeman Lash; ed. Heidelberg Coll., Tiffin, O., The Ohio State U., B.A., 1920, M.S., 1922, Ph.D., 1928; mem.: Alpha Chi Sigma; m. Maybelle P. Smith, Dec. 23, 1930; ch.: Martha, Robert, Ruth. Graduate asst. at Ohio State U., 1920-22 and 1926-28; Nebraska State Normal Coll., Chadron, Nebr., 1928-29; Kansas State College, Manhattan, Kans., 1922-26 and 1929 to date. Mem.: Phi Lambda Upsilon, Sigma Xi, A.C.S. Hobby: gardening.

LASKARIS, Lycurgus, dir. of crude oil prod. div., Res. & Dev. Dept., Atlantic Refining Co., 2700 Passyunk Ave., Phila., Pa.; res. 115 Ellis Rd., Havertown, Pa.
Chem. engr.; b. Akron, Ohio, Sept. 12, 1903; s. of Peter and Bertha Laskaris; ed. Penn. State (1 yr.); M.I.T., B.S. in chem. engrg. practice; m. Eleanor Freas, June 14, 1930; ch.: Kathryn. With Atlantic Refining Co. since coll. dir., Attapulgus Clay Co. and the Porocel Corp. Mem.: A.I.M.E., Highway Res. Bd. (assoc.). Clubs: Chemists' (N.Y.), Engineers (Phila.), Llanerch Country. Hobbies: golf, electronics.

LATHROP, Elbert Clyde, hd. agric. residues div., Northern Regional Res. Lab., U.S. Dept. of Agric., 825 N. University, Peoria 5, Ill.; res. Mt. Hawley Rd., High Point, Peoria.
Chem. engr.; b. Greensburg, Indiana, Oct. 6, 1885; s. of Rev. John R. T. and Sara L. Antis (Zeigler) Lathrop; ed. Portland Acdy., Oregon, 1904; A.B., DePauw U., 1907, D.Sc., 1936; Ph. D., American U., 1916; mem.: Beta Theta Pi; m. Claudia G. Armstrong, Nov. 26, 1912; ch.: Helen Lathrop Nicoll. 1906-09 tchr. chem.; 1909-18 Biochem. Soil Fert. Investigation, U.S. Dept. Agric., Washington, D.C.; 1918-19 mgr. gen. div. E. I. du Pont Co., Jackson Lab., 1919-22 mgr. standards div. Central Chem. Dept.; 1922-27 v.p. S. P. Sadtler & Sons, Inc., conslt. chem. engrs., Phila., Pa.; 1925-32 dir. res. and dev., The Celotex Co., insulating matls., Chicago, Ill.; 1932-34 conslt. chem. engr. Chicago; 1934-38 tech. dir. Crown Zellerbach Corp., Camas, Wash.; 1938-39 v.p. in chg. tech. matters, The Celotex Corp.; to date hd., Agricultural Residues Div., Northern Res. Lab., U.S. Dept. of Agric., Peoria, Ill. Res. in org. compounds of soils, dyes, insulating bldg. mtls., pulp, paper and board prods., saccharification of agricultural residues, butadiene from 2.3 butandiol, furane derivatives, soft-grit blasting, and gen. work on agric. residues. Holder numerous U.S. and foreign pats. Has written abt. 60 tech. papers and bulletins; also Allen-Commercial Analysis (5th edit., Blakiston's, 10 vols.). Awarded Edward Longstreth M. of Merit, Franklin Inst., Phila., 1912, Superior Serv. Award, USDA 1948. Fellow, A.A.A.S., mem.: A.C.S., T.A.P.P.I., A.I.Ch.E., Am. Soc. Agric. Engrs., Natl. Geographical Soc. Clubs: Mt. Hawley Country; Creve Coeur; Beta Theta Pi.

LATIMER, Wendell M(itchell), prof. chem., dept. of chem., U. of Calif., Berkeley, Calif.; res. 810 Euclid., Berkeley.
Chem., univ. prof.; b. Garnett, Kansas, Apr. 22, 1893; s. of Walter and Emma (Mitchell) Latimer; ed. U. of Kansas, A.B., 1915; U. Calif. Ph.D., 1919; mem.: Alpha Chi Sigma; m. Glotha Hatfield, June 26, 1926; ch.: Eleanor, Robert. 1915-17 instr. U. Kansas; 1917 fellow, U. Calif.; 1918-21 lect. U. Calif.; 1921-23 asst. prof., 1924-31 assoc. prof., 1931 to date prof. U. Calif.; asst. dean Coll. Letters and Sc., 1923-24; dean, Coll. Chem., 1941-49; assoc. dir. Radiation Lab. 1943 to date. Official investigator, Natl. Def. Res. Comm. Mem. div. 10 NORC Sc. Exp. GHQ Southwest Pacific Area, 1944; dir. Manhattan Engrg. Dist. Contr. on Chem. of Plutonium, 1941-45. Res. on thermodyamics, entrop. of aqueous forms; oxidation poten. inorgan. chem. Author (with W.C. Bray) "Course in Gen. Chem.," 1923; Semi Micro Ed., 1950. With J.H. Hildebrand, "Ref. Bk. of Inorg. Chem.," 1929. "Oxidation Potential," 1938. Mem.: A.C.S., E.S.; Natl. Acdy. of Scs. (chmn. Chem. Sect. 1947-50); A.A.A.S.; disting. serv. award, U. of Kansas, 1948; Presidential Cert. of Merit, 1948. Assoc. Ed. Jl. Chem. Phys. 1933; assoc. ed. Chem. Rev., 1940. Clubs: Faculty; Oneida Country; Bohemian. Editor: Prentice-Hall, N.Y. Chemistry Series since 1933.

LATSHAW, Walter Leroy, Sr., dir. Agric. Dept., U.S. Smelting, Refining & Mining Co., Newhouse Bldg., Salt Lake City, Utah; res. 1803 Yale Ave., Salt Lake City 5.
Chem., agriculturist; b. Spring City, Pa., Dec. 16, 1889; s. of Horace D. and Mary Emma (Knauer) Latshaw; ed. Pa. State Coll., B.S.; Kans. State Coll., M.S.; mem.: Alpha Zeta, Sigma Xi, Gamma Sigma Delta, Phi Kappa Phi, Phi Delta Theta; m. Margaret Nagel Fesmire, Oct. 18, 1915; ch.: Marie Knauer (Latshaw) Watson, Walter Leroy, Jr. Armour & Co., Chicago, 1916-17, chem.; Kans. State Coll., 1917-33, prof. of chem.; U.S. Smelting, Refining & Mining Co., 1933 to date, dir. Agric. Dept. Pioneer wk. in the control of noxious weeds with chems.; chem. composition of the organs of the corn plant; influence of environment, age & food on the chem. composition of beef animals; air pollution. Mem.: A.C.S., A.A.A.S. (fellow), A.I.C. (fellow), Ind. Hygiene Foundation of Am. (comm. on air pollution). Hobbies: hunting, fishing, agriculture, gardening.

LAUCKS, Irving Fink, dir., Laucks Labs., Inc., and Laucks Chem. Co., 1008 Western Ave., Seattle 4, Wash.; res. Cormorant Bay, Deer Harbor, Wash.
Chem.; b. Akron, O., July 3, 1882; s. of Morris B. and Louise Fink Laucks; ed. B.S., 1904, M. S., 1908. Case Inst. of Tech.; mem.: Tau Beta Pi, Kappa Sigma; m. Eulah Avela Croson, Nov. 9, 1942; ch., by previous marriage: John Thompson, Helen (Mrs. R.W.) Cool. Partner, Falkenburg & Laucks, anal. chems., Seattle, 1908-17; pres., I.F. Laucks, Inc., Seattle, 1918-44; pres., dir., Laucks Labs., Inc., Seattle, 1927-50; pres., I.F Laucks, Inc., Portsmouth, Va., 1930-44; pres., I.F. Laucks, Ltd., Vancouver, B.C., Canada, 1935-44; pres., Laucks Labs., Ltd., Vancouver, B.C., Canada, 1927-45; pres., Hercules-Laux-Merritt, Lockport, N.Y., 1938-44; dir., Laucks Chem. Co., Seattle. Res. in low temperature carbonization of coal; oriental fatty oils; dev. of soybean and resin adhesives. Author: "Commercial Oils," 1920. Mem.: A.C.S. (Fortieth Anniversary Award, Puget Sound Sec., 1949), A. I.M.E., A.I.Ch.E. Hobby: ornithology.

LAUCKS, John Thompson, dir., Laucks Labs., Inc., pres., Laucks Chemical Co., 1008 Western Ave., Seattle 4, Wash.; res. Seattle Yacht Club, Seattle.
Exec.; b. Seattle, Feb. 10, 1922; s. of I.F. and Helen V. Laucks; ed. U. of Wash. (non-grad.); mem.: Phi Delta Theta; m. Jean Stevens Sept. 2, 1949. 1942-46, U.S. Army, 2nd Lt., F.A. (enlst. Air Corps, 1942-45); 1947-49, Pub. Reltns. Officer, Laucks Labs., Inc.; treas., Laucks Chem. Co., 1950 to present; dir. Laucks Laboratories,

Inc.; pres., Laucks Chemical Co. Clubs: Seattle Yacht Club, Junior Club.

LAUER, Byron Elmer, hd., Dept. of Chem. Engrg., U. Colo., Boulder, Colo.; res. 546 14th St., Boulder.
Prof.; b. Glencoe, Okla., Apr. 14, 1907; s. of George L. and Freda (Mahlo) Lauer; ed. B.S. in Ch.E., Ore. State Coll., M.S. in Ch.E., and Ph. D., U. of Minn.; mem.: Alpha Sigma Phi; m. Opal Lewis, Oct. 3, 1931; ch.: Andrea. Asst. prof., assoc. prof., and prof. of chem. engrg., North Carolina State Coll., 1935-46 (on military leave 1942-46); res. chem. engr., Crown Zellerbach Corp., 1934-35; res. chem. engr., Northern Paper Mills, 1931-34; graduate asst. in chem., U. of Minnesota, 1927-31; U.S. Army, held ranks of capt., maj., and lt. col., 1942-46. Res. in corrosion inhibitors, and various problems relating to pulp and paper prod. Mem.: A.I.Ch.E., A.C.S., T.A.P.P.I., A.S.E.E., A.F.C.A., Sigma Xi, Phi Lambda Upsilon, Gamma Sigma Epsilon, Gamma Alpha, Sigma Tau, Alpha Chi Sigma. Lt. Col., Cml. C., U.S.A.R. Hobby: photography.

LAUER, Walter M., prof. org. chem., U. Minnesota, Minneapolis, Minn.; res. 2255 Folwell St., St. Paul 8, Minn.
Prof. of chem.; b. July 18, 1895; s. of Wesley M. and Mary E. Bott Lauer; ed. A.B., 1913, Ursinus Coll.; M.S., 1917, Ph.D., 1924, U. of Minn.; mem.: Alpha Chi Sigma, Gamma Alpha; m. May H. Grabow, Sept. 5, 1922; ch.: Jeanne. Res. in reaction mechanisms. Mem.: A.C.S., Swiss Chem. Soc., German Chem. Soc., Sigma Xi.

LAUFER, Stephen, tech. dir., 202 E. 44th St., New York 17, N.Y. (Schwarz Labs., Inc.); res. 92-10 68th Ave., Forest Ave., Forest Hills, N.Y.
Conslt. chem.; b. Bolechow, Austria, Jan. 6, 1894; s. of Israel and Golda Laufer; ed. Hochschule fur Bodenhultur Wien (Coll. for Agric., Vienna, Austria) 1922, Dr. Engr.; m. Anna Streifer, Nov. 21, 1920; ch.: Ruth, Irma H., Wilma P. 1929-32, res. biochem. Schwarz Labs., Inc.; dir. res., 1933-37; dir. of labs., 1938-46; tech. dir., 1947 to date; also asst. vice pres. Res. work in chem. and technol. of brewing, fermentation industries and foods; industrial enzymes, vitamins, etc. More than 75 articles in sc. and tech. jls. Stephen Laufer and Robert Schwarz "Yeast Fermentations and Pure Culture Systems" 1936. Mem.: A.C.S., A.A.A.S., A.O.C.S., A.I.C., A.A.C.C., A.S.Brew. C. (1st-v.p., 1950-), I.F.T., A.C.C.C.E. (v.p. 1949-50). Received Cincinnati Achievement Award for 1936 presented by Dist. Cincinnati Master Brewers Assn. of Am. for outstanding and conspicuous res. work in current brewing problems. Club: Chemists' (New York). Hobbies: gardening, swimming.

LAUFFER, Louis, chf. res. chem., Schwarz Labs., Inc., 230 Washington St., Mt. Vernon, N.Y.; res. 409 Kosciusko St., Bklyn. 21, N.Y.
Res. chem.; b. Mesolaborcz, Czeckoslovakia; s. of David and Hermina Laufer; ed. B.S., 1933, C.C.N.Y., M.S. in chem. engrg., 1934; m. Beatrice Bobroff, Jan. 16, 1938; ch.: Helen, Jeffrey, Henry. 1935-41 hired as res. chem., Schwarz Labs. Inc.; 1941 to date, chf. res. chem. Res. & publ. in brewing chem., vitamin assays, enzymes & fine org. chems. Mem.: A.C.S. Hobbies: chess, bridge.

LAUFFER, Max Augustus, Jr., res. prof., hd. dept. biophysics, U. Pittsburgh, Pittsburgh 13, Pa.; res. 605 Dewalt Drive, Pittsburgh 34.
Res. and tchg.; b. Middletown, Pa., Sept. 2, 1914; s. of Max A. and Elsie (Keiper) Lauffer; ed. Penn. State Coll., B.S. in biochem., 1933, M.S. in biochem., 1934; U. of Minn., Ph.D., 1937; mem.: Alpha Zeta, Alpha Chi Sigma; m. Dorothy L. Easton, Dec. 20, 1936; ch.: Edward William. 1935-36 grad. asst. in biochem., U. of Minn.; 1936-37 instr. in biochem. same U.; 1937-38 fellow, Rockefeller Inst. for Med. Res., Princeton; 1938-41 asst., 1941-44 assoc., same Inst.; 1944-47 assoc. res. prof. U. of Pittsburgh; res. prof. 1947-49; res. prof. and hd., Dept. of Biophysics, U. of Pittsburgh, 1949 to date. Res. on streaming potential, on use of the ultracentrifuge, electron microscope, etc. to determine the size, shape and hydration of viruses; res. on the relationship betw. chem. and phys. changes in viruses and changes in biolog. activity. Mem.: A.C.S., A.A.A.S., A.S. Biol.C., Soc. for Experim. Biol. and Medicine, Soc. of Rheology, Biometric Soc., Soc. of Naturalists. Mem. of Editorial Bd. of "Archives of Biochemistry"; Comm. on Macromolecules of the Natl. Res. Council; conslt. to Res. and Dev. Bd.; chmn. of Div. of Biological Chem. of the Amer. Chem. Soc., 1949-50; recipient of Eli Lilly Co. Res. Award in Biolog. Chem., 1945; delivered the Priestley Lectures at Penn. State Coll., 1946.

LAUFFER, Paul G. I., chf. chem., dir. of res., The George W. Luft Co., 34-12 36th Ave., Long Island City, N.Y.; res. 9 Ashley Rd., Hastings-on-Hudson, N.Y.
Chem.; b. Farmersville, O., Oct. 9, 1900; s. of Franklin Edward and Emma E. (Klingeman) Lauffer; ed. Wash. and Jeff., B.S., 1921 (magna cum laude), M.S., 1923; Columbia U., M.A., 1924, Ph. D., 1926; m. Ethel J. Robertson, Aug. 28, 1929; ch.: Elizabeth Ruth, John Robertson. 1921-23 instr. in chem., Wash. & Jeff.; 1926-27 Fritzsche Fellow, Columbia U.; 1927-33 chf. chem., Ed. Pinaud; 1933 to date chf. chem., dir. res., George W. Luft Co. Mem.: Phi Lambda Upsilon, Sigma Xi, A.C. S., A.I.C., S.C.C., (dir. 1950), chmn. Sci. Section, Toilet Goods Assoc., 1950. Mayor, Hastings-on-Hudson, N.Y., 1949 to date. Club: Adirondack Mountain (v.p. 1948 to date).

LAURENCE, Carlton O., asst. chf. chem., Tenn. Coal, Iron & R.R. Co., Fairfield Steel; res. 524 St. Chas. Ave., S.W., Birmingham, Ala.
Chem.; b. Terre Haute, Ind., July 25, 1889; s. of C. O. and Sarah E. Laurence; ed. Rose Polytech. Inst., 3 yrs.; m. Gertrude Ferguson, Oct. 15, 1913; ch.: Carlton O., Jr., Mildred (Laurence) Ogle. Tenn. Chem. Co. 1911; Federal Chem. Co. 1912; Tenn. Coal Iron & R.R. Co., 1913 to date.

LAUTER, Carl J., sr. chem. engr., 5900 Mac Arthur Blvd., Washington 16, D.C.; res. 5902 Dalecarlia Pl., N. W., Washington 16.
Sanitary engr.; b. Quincy, Ill., Sept. 1889; s. of Chas. H. and Julia M. Lauter; ed. B.S. Chem. Engrg., U. of Ill., 1911; M.S., Chem. Engrg., U. of Ill., 1914; grad. work U. Wis., 1919-20; mem.: Phi Lambda Upsilon; m. Mildred Hirth, 1922, (dec. 1929); m. Florence N. Schott, 1931; ch.: by first wife, John Wm. and Marilyn; by second wife, Carl Julian. Has written numerous papers in water works field. Mem.: A.C.S., A.I.Ch.E., A. W.W.A. Hobby: photography.

LAVEDAN, Pierre F., pres., The Liquid Carbonic Corp., 3100 S. Kedzie Ave., Chicago 23, Ill.
Exec.; b. Paris, France, June 13, 1898; s. of Lucien and Gabrielle (Flamier) Lavedan; ed. M. I.T., B.S.; mem.: Phi Kappa; m. Catharine E. Downey, Dec. 28, 1927; ch.: Marie Denise (Mrs. John F. Scott, Jr.); Genevieve Ann; Pierre F., Jr. 1920-28 chem. engr., 1928-34 sales mgr., 1934-41 v.p., 1941 to date pres. and dir., The Liquid Carbonic Corp. Mem.: term mem. of The Corporation, M.I.T., (Cambridge, Mass.). Clubs: Cloud-University (N.Y.); The Attic-Chicago Club; M. I.T. Club of Chicago; M.I.T. Club of New York; Engineers (Montreal); Seigniory (Montebello, Quebec).

LAW, George Hartland, asst. dir. res. and dev., Carbide & Carbon Chem. Div., Union Carbide & Carbon Corp., South Charleston, W. Va.; res. 1528 Bedford Rd., Charleston, W. Va.
Res. chem.; b. Camden, N.J., June 30, 1904; s. of Walter H. and Sarah J. Law; ed. Lehigh U., Ch.E., 1926; Yale U., Ph.D., 1929; m. Rosamond Hilbert, June 19, 1929; ch.: Rosamond H., Walter H. 1929-44 res. chem., Carbide & Carbon Chem. Div., 1944 to date asst. dir., res. and dev. same div., Union Carbide & Carbon Corp. Res. in vapor phase catalysis, ketene and ketene derivatives. Mem.: Sigma Xi, Alpha Xi, Alpha Chi Sigma, A.C.S. Club: Chemists' Hobbies: hunting, gardening.

LAWALL, Charles E., asst. v.p., C. & O. Railway Co., 701 C. & O. Building, Huntington, W.Va.; res. 2843 Washington Blvd., Huntington.
Mining engr.; b. Catasauqua, Pa., Nov. 21, 1891; s. of Charles Elmer and Maria (Thomas) Lawall; ed. E.M., Lehigh U. 1914; M.S., 1921, LL.D., 1939; LL.D., Waynesburg Coll. 1939, D.Sc., Morris Harvey Coll., 1950; mem.: Phi Beta Kappa, Sigma Xi, Tau Beta Pi, Sigma Gamma Epsilon; m. Marjorie Berger, Apr. 29, 1920; ch.: Charles Elmer, Jr. Testing engr., Pittsburgh Testing Lab., 1914; chem., N.J. Zinc Co., Palmerton, Pa., 1915-16; mining engr., Peal, Peacock & Kerr, St. Benedict, Pa., 1916-17; Metallurgy Dept., General Motors Co., Detroit, Mich., 1917; mining engr., Bethlehem Steel Co., Bethlehem, Pa., 1917-18; res. engr., 1919-21; instr. Geology Dept., Lehigh U., 1921; asst. prof., West Va., U. Schl. of Mines, 1921; prof. & dir., School of Mines, to 1938; acting pres., West Va. U. 1938-39; pres., West Va. U. 1939-45; engr. of coal properties, C. & O. Railway Co., 1945; chf. engr., Western Pocahontas Corp., 1945; asst. v.p., C. & O. Rwy. Co., 1947 to present. U.S. Army in France 1918-19. Contrib. extens. to sc. and tech. journals. Mem.: Mining & Metallurgical Soc. of Amer., West Va. Academy of Sc., Coal Mining Inst. of Amer., A.I.M.E. Trustee of Waynesburg Coll., Waynesburg, Pa., West Virginia Coal Mining Institute. Clubs: Kiwanis, Guyandotte (Huntington, W.Va.), Huntington Engrs., U. of Washington, D.C. (hon.), Engineers Club (New York).

LaWARE, John H., mgr., spec. prods. div., Stand. Brands, Inc., 595 Madison Ave., N.Y.C.; res. 45 Popham Rd., Scarsdale, N.Y.
Div. mgr.; b. June 11, 1898; s. of George and Margaret LaWare; ed. Cornell U., B.S., 1919; m. Ruth M. Powles, Nov. 4, 1921; ch.: John Patrick. 1919-36 chem., Borden Co.; 1936-40 asst. dir. res., chem. and biol. labs.; 1940-44 sales mgr., phar. dept., Stand. Brands, Inc.; 1944 to date mgr., spec. prod. div. Mem.: A.C.S., N.Y. Acdy. Sc.; A.A.C.C.; Text. Res. Inst.; A.A.A.S.; Natl. Vitamin Found. (Bd.Govs.). Clubs: Chem. (N.Y.C.), N.Y. Bd. of Trade, Cornell (Westchester). Hobbies: golfing, fishing.

LAWRANCE, Walter Albert, prof. of chem., hd., Dept. of Chem., Bates Coll., Lewiston, Me.; res. 111 Bardwell St., Lewiston.
Prof.; b. Pimlico, Herts, England, Sept. 4, 1894; s. of Alfred and Emma Lawrance; ed. McMaster U., B.A., 1918; M.A., 1919; U. of Toronto, M.A., 1920; Ph.D., 1921; m. Sallie Louise Hamilton-Jones, June 26, 1919. McMaster U. lecturer, 1920; Bates Coll., prof. of chem., 1921 to date; admin. Supreme Court (State of Maine), Industrial Wastes, Pollution, Androscoggin River, 1948 to date; conslt., Natl. Council for Stream Improvement, 1946 to date. Several researches pub., A.C.S., also Sewage & Industrial Wastes Jl. Mem.: A.C.S., Chemical Soc. (London), S.C.I., T.A.P.P.I.

LAWRENCE, Charles Kiddell, asst. chf. res., The Solvay Proc. Div., Allied Chem. & Dye Corp., Hopewell, Va.; res. Claremont, Va.
Chem.; b. Charleston, S.C., Aug. 21, 1902; s. of Charles Edward and Susan Brown Lawrence; ed. A.B., 1923 Harvard; M.S., 1924 M.I.T.; Ph. D., 1928; mem.: Alpha Chi Sigma; Alpha Sigma Phi; m. Ruth Purvis; ch.: Edward Purvis, Joan, Susan, Peter Dunbar. 1928 to date, The Solvay Process Div., Allied Chem. & Dye Corp.; various off. Syracuse and Va. section of A.C.S. Mem.: A.C.S., Va. Acdy. Sc., Tech. Club of Syracuse. Trustee, Schl. Dist. 10, Van Buren, N.Y., 1934-45; Dist. Comm. 1946-49; distr. chmn. 1950-, Boy Scouts of Am., (Hopewell, Va.); Oratorio Soc. of Hopewell, Va., pres. 1946-48.

LAWRENCE, Richard Marston, Gen. Dev. Dept., Monsanto Chemical Co., St. Louis 4, Mo.; res. 121 Jefferson Rd., Webster Groves 19, Mo.
Chem. market res.; b. May 1, 1906, Short Hills, N.J.; s. of Frank L. and Mary Riggs Lunt Lawrence; ed. B.S. in chem., U. of Calif., 1926; M. S., in chem. engrg., U. of Ill., 1931; mem.: Lambda Chi Alpha, Alpha Chi Sigma, Phi Lambda Upsilon; m. Mary Elizabeth Warrington, Aug. 25, 1934; ch.: Dorothy, Katherine. Chem. engr., Certainteed Products Corp., 1926-27; anal. chem., Colgate-Palmolive-Peet Co., 1927-29; graduate res. asst., U. of Ill., 1929-31; chem. expert, U.S. Tariff Commission, 1931-37; chem market res., Atlas Powder Co., 1937-47; chem. market research, Monsanto Chemical Co., 1947 to present. Comprehensive survey of literature of chemical market res. Author: "Sources of Information for Industrial Market Research," 1948, also contributor to textbooks "Chemical Engineering Economics" by Chaplin Tyler, "Development of American Industries" by Glover & Cornell. Mem.: A.C.S., 1927, A.ICh.E. 1933, chmn., Philadephia-Wilmington section, 1944, Chemical Market Research Assoc. 1940 (recording secy. 1945), Amer. Mktg. Assoc. 1947 to present. Hobby: stamps.

LAWRENCE, Robert W(ilbur), supvr. res., expl. div., Hercules Exp. Sta., Hercules Powder Co.; res. 1408 Hamilton St., Wilmington, Del.
Chem.; b. N.Y., May 12, 1904; s. of Frank L. and Mary Riggs Lunt Lawrence; ed. U. Calif., B.S., 1924; Ph.D., 1929; m. Eleanor Thompson, July 17, 1930; ch.: Mary Winifred, Laura, William T. Physical chem., Hercules Exp. Sta., Hercules Powder Co. 1929-34; res. supvr. res. div. 1934-39; res. supvr. expl. div. of exp. sta. 1942 to date. Res. on magnetic prop. of inorg. compds., nitrocellulose, plastics, explosives. Mem.: Phi Lambda Upsilon, Sigma Xi, A.C.S., A.A.A.S., Soc. Exploration Geophysicist. Trustee, First Unitarian Ch., Wilmington, Del., chmn., Wilmington Chapt. of Council Del. Ed., mem. Displaced Persons Comm. of Del. Club: Hercules Country.

LAWRENCE, Winthrop, res. dir., Kaumagraph Co., 14 and Poplar St.; res. 404 Maple Ave., Bellfonte, Wilmington, Delaware.
Chem.; b. Falmouth, Mass., Jan. 14, 1899; s. of William E. and Grace W. Lawrence; ed. Worcester Polytech. Inst. 1920; mem.: Tau Beta Pi, Sigma Xi; m. Marybelle Leake; ch.: Howard, Mary Christine. Worcester Gas Co., 1919-20; Natl. Aniline & Chem. Co. 1920-22; Kaumagraph Co. 1922 to date; Gordon Hacey Chem. Products, 1940 to date. Mem.: A.C.S., A.I.C., A.A.T.C.C. Club: Anal. Psychol. Hobbies: painting, cabinet making.

LAWROSKI, Stephen, dir. chem. engrg. div., Argonne Natl. Lab., P.O. Box 5207, Chicago 80, Ill.; res. 64 Elm St., Park Forest, Ill.
Chem. engr.; b. Scranton, Pa., Jan. 17, 1914; s. of Alex and Nancy Lawroski; ed. B.S. Chem., 1934, Pa. St. Coll.; M.S. Chem. Engr., 1939; Ph.D. (Chem. Engr.); hons.; Louise Carnegie Scholarship, 1933; Evan Pugh Scholar. 1934; m. Helen N. Wilson, Sept. 14, 1947; ch.: Nancy Ann. 1934-42 res. asst., pet. ref. lab., Pa. St. Coll.,

Pa.; 1943-44 res. chem. engr., Stand. Oil Dev. Co., Elizabeth, N.J.; 1944-46 group leader, Manhattan Proj. Metall. Lab., Chicago, Ill.; 1946 asst. sect. chf., Stand. Oil Dev. Co., Elizabeth, N.J.; 1946-47 adv. prof. trainee, Clinton Labs., Oak Ridge, Tenn.; 1947-48 assoc. dir. chem. div., Argonne Natl. Lab., Chicago, Ill.; 1948 to date dir. chem. engrg. div. Composition of pet., tech. of pet. ref., separation processes in atomic energy. Mem.: A.C.S., A.I.Ch.E., A.A.A.S., Sigma Xi, Phi Lambda Upsilon, Pi Mu Epsilon. Hobbies: golf, bowling.

LAWSON, Elmer John, dir., pat. div., Sterling Winthrop Research Inst., Rensselaer, N.Y.; res. Best Road, East Greenbush, N.Y.
Chem.; b. Chicago, Ill., Sept. 2, 1909; s. of John and Othelia Lawson; ed. B.S., U. of Chicago, 1934; Ph.D., Northwestern, 1937; mem.: Alpha Chi Sigma; m. Margaret Gledhill, July 29, 1939; ch.: Gregory. Post-doctorate Fellow, Penn. State Coll., 1937-39; chem., Parke, Davis & Co., 1939-42; dir., pat. div., Winthrop Chemical Co., and Sterling-Winthrop Research Inst., 1942 to present. Res. in steroids. Mem.: Phi Lambda Upsilon, Sigma Xi, A.C.S.

LAWSON, Walter Eastby, mem. Dev. Dept., E. I. du Pont de Nemours & Co., Wilmington, Del.; res. 34 Court Dr., Lancaster Court Apts., Wilmington.
Chem.; b. Dec. 12, 1892; s. of Torrey O. and Emma (Eastby) Lawson; ed. U. of Wash., B.S., 1917, M.S., 1922 (in absentia); Johns Hopkins, Ph.D., 1925; mem.: Phi Lambda Upsilon, Sigma Xi, Phi Beta Kappa; m. Emma Stuart Dunbar, Oct. 8, 1918; ch.: Lt. Dunbar, U.S.N., Lt. (j.g.) Walter Eastby, Jr., U.S.N. 1920-21 res. chem. Cuba Cane Sugar Corp., Havana; 1921-25 biochem. res., C.W.S.; 1925-33 res. chem.; 1933-39 dir. Eastern Lab.; 1934-46 asst. dir. in chg. of res., Explosives Dept.; 1946 to date mem. Dev. Dept., E. I. du Pont de Nemours & Co. Res. mainly in explosives. Mem. Divs. 2 and 8, Natl. Defense Res. Comm.; conslt. to others; conslt., Chem. Corps. Holds numerous pats.; written tech. arts. Mem.: A.C.S., A.I.Ch.E., Armed Forces Chem. Assoc. (president 1950), etc. Presidential Certificate of Merit. Clubs: various Masonic org. Hobbies: flying, fishing.

LAWTON, Howard Champreux, conslt., P. O. Box 41, Fillmore, Calif.; res. 539 Sespe St., Fillmore, Calif.
Chem.; b. Oakland, Calif., July 8, 1906; s. of Howard M. and Eugenie C. Lawton; ed. B.S., U. of Calif. (chem.), 1929, M.S., U. of Pittsburgh, 1932, Ph.D., 1936, (chem.); mem.: Phi Lambda Upsilon; m. Loretta L. Klauss, June 24, 1933; ch.: Kenneth Howard. Fellow, Mellon Inst. of Ind. Research, 1930-35; chem. Gulf Research and Dev. Co., 1935-37; chem. Shell Dev. Co., 1937-45; res. assoc., Pa. Crude Oil Assoc., Bradford Lab., 1945-46; sr. chem., Atlantic Refining Co., 1946-48; Eastern Representative Oilwell Chem. and Mtls. Co., Inc. 1948-49; chem. conslt., 1949 to date; owner, Lawton Research Lab. Res. in pet. production technology, problem studies on rotary drilling fluids, pressure volume and temperature relationships of crude oil-natural gas mixtures, boundary tension studies on oil, water, gas systems, oil well reconditioning methods and analysis. Mem.: A.C.S., A.P.I., A.I.M.E. Club: International Rotary. Hobby: gardening.

LAYMON, Howard W., div. tech. dir., Mead Corp., Chillicothe, Ohio; res. 249 W. 5th St., Carlisle Hill, Chillicothe.
Chem. engr. (pulp & paper mfg.); b. Edenton, Ohio, July 15, 1893; s. of Leander and Isabella (Pugh) Laymon; ed. Ohio State U., B.A., 1916, (Phi Lambda Upsilon); mem.: Phi Sigma Kappa; m. Effie L. Loiry, Apr. 9, 1927; ch.: Lois Jean. Mead Corp. continuously since grad. ind. chem. wk. & supervision; W.W.I, U.S.A., Fld. Artillery, 2nd Lt. Mem.: A.C.S., T.A.P.P.I., A.W.W.A., Prof. Chem. Engr. State of Ohio, License No. 7185. Clubs: Kiwanis, Chamber of Com., Masonic Order. Hobbies: flowers, home gardens, Spanish language, literature.

LAZIER, Wilbur Arthur, dir. chem. res., dev., Chas. Pfizer & Co., 11 Bartlett St., Bklyn., N. Y.; res. 80 Beverly Rd., Kew Gardens, New York.
Res. dir.; b. Rochelle, Ill., Mar. 28, 1900; s. of George Arthur and Alice (Countryman) Lazier; ed. B.S., Ill. 1922; M.S., Wis. 1923, Ph.D., 1925; mem.: Phi Lambda Upsilon, Sigma Xi; m. Esther Leming, Sept. 2, 1922; ch.: Barbara Jean, Carolyn Lois. Res. chem., exp. sta., E. I. du Pont de Nemours & Co. 1925-33; res. group leader, 1933-44; dir., Southern Res. Inst., 1944-48; dir. chem. res., dev., Chas. Pfizer and Co., 1948 to date. Res. in heterogeneous cataly. appl. reaction organ. comps.; high pressure synthes.; gaseous reactions; cataly. hdrogena.; methanol synthe.; long-chain alcohols; nylon interm.; antibiotic drugs; synthe. organ. pharm.; vitamins; chemother., res. mgt. Mem.: A.C.S., Herty M. 1946; Newcomen Soc.; Chem. Corps. Assn.; A.A.A.S.; N.Y. Acdy. Sc.; I.C.; Modern Pioneer Award, N.A.M. 1940. Club: Chem. Hobbies: stamp collecting, genealogy, music.

LEACH, William Butler, conslt., 324 Second St., Niagara Falls, N.Y.; res. 1402 Wathen Ave., Austin 3, Texas.
Chem. engr.; b. Aug. 28, 1889; s. of William B. and Emma Rose (Werthwein) Leach; ed. U. of Chicago, B.S. 1914; M.I.T., B.S. in Chem. Engrg. 1916; mem.: Sigma Chi; m. Helen Elizabeth Phelps, Sept. 7, 1927. 1916, Koppers Co., Pittsburgh, Pa.; 1917, instr. in chem. engrg., M.I.T.; 1917-20, U.S.A., 1st Lieut., Ord., Capt. and Major, C.W.S., Chf. of Devel. Sect., Edgewood Arsenal; 1920-40, The Mathieson Alkali Wks. (Inc.), Niagara Falls, N.Y., chem. engr., 1920-25; asst. mgr., 1925-31; mgr. of operations, 1931-40; 1940-42, E.I. du Pont, Electrochems. Dept., supt., Niagara Falls, N.Y.; 1942-45, mgr. Magnesium Div., Internatl. Minerals and Chem. Corp., Austin, Tex.; 1945 to date, pres. Southwest Cedar Oil Co., San Antonio, Tex.; 1945 to date, conslt. Pres., Chemical Utilities, Inc. Wk. in devel. of liquid chlorine; Chlorine Inst. Comm. on Specifications and Safety; Compressed Gas Mfrs. Assoc. Comm. on Containers and Specifications; devel. of mercury cell; pure liquid and solid caustic; mechanical bleaching powder; high test hypochlorite; caustic evaporation; synth. ammonia. Mem.: A.C.S., A.A.A.S., Chlorine Inst., A.I.Ch.E., Natl. Commander, C.W. Veterans' Assoc. Dir., Community Chest, Austin, Tex. Club: Niagara, Niagara Falls Country, A.F. &A.M., R.A.M., K.T. Hobbies: farming, horses, golf.

LEAGUE, John B., pres., Industrial Products, Inc., Greenville, S. C.
Mfg. chem.; b. Greenville, S. C., 1909; s. of Dora League; m. Beatrice Pruitt, 1933; ch.: John B., Harriet Parker. Clubs: Kiwanis, Greenville Country. Hobbies: golf, hunting, fishing.

LEARNED, Stanley, v.p. & chmn. operating comm., Phillips Petroleum Co., dir. Phillips Chem. Co., Drawer B, Bartlesville, Okla.; res. 821 Johnstone, Bartlesville.
Exec.; b. Lawrence, Kans., Nov. 5, 1902; s. of S. Stanley and Alice (Preisach) Learned; ed. B.S., Civil Engr., U. of Kansas, 1924, civil engr., 1936; mem.: Phi Delta Theta & Theta Tau; m. Mary Helms, Jan. 28, 1928; ch.: Ann. Positions held in Phillips Petroleum Co., since grad. from coll. in 1924; various jobs in engrg. dept. from June, 1924, to Dec., 1940, serving as chf. engr.

the last 2½ yrs.; asst. mgr. of prods. Pipe Line dept., Dec., 1940 to Feb., 1942; mgr. defense pl. div. in chg. of construction of Govt.-built butadiene pl. at Borger, Feb. 1, 1942 to Jan. 1, 1944; since Jan., 1944, in exec. dept. in various capacities, and since Apr., 1949, v.p. and chmn. of operating comm.; since May 27, 1949 dir. and member of the exec. comm. of Phillips Petroleum Co.; dir. of following companies: Amer. Independent Oil Co., Reda Pump Co., Drilling Specialties Co.; v.p. and dir. of: West Edmond Oil Co. and Phillips Oil Co. Mem.: Sigma Xi. Clubs: Hillcrest Country, Cherokee Yacht.

LEATHERLAND, Lawrence Campbell, gen. supt., chem. div., Virginia-Carolina Chem. Corp., Box 1259, Myers, S.C.; res. 700 Wappoo Dr., Charleston 43.
Chem. engr.; b. Alexandria, Va., Sept. 26, 1911; s. of L.C. and Louisa R. Leatherland; ed. Va. Polytech. Inst., B.S. (Ch.E.), 1932, M.S. (Ch. E.), 1933, both with honors; m. Betsy Howard, Feb. 17, 1937; ch.: Ann R., Lawrence C., III. 1933-34 res. asst. Sylvania Indust. Corp., 1934-36 chf. chem., same corp.; 1936-44 dept. hd., Viscose Dept., same corp.; 1944-49 res. assoc., div. hd. Inst. of Textile Tech.; 1949 to date gen. supt. Chem. Div., Virginia-Carolina Chem. Corp. Mem.: A.I.Ch.E., A.A.A.S., Tau Beta Pi, Phi Kappa Phi, Phi Lambda Upsilon. Club: Lions Internatl. Hobby: woodworking.

LEATHERMAN, Martin, sr. chem., Chem. Corps Bd., Army Chem. Center, Maryland; res. R.F.D. No. 1, Bel Air, Md.
Chem.; b. Medina Co., Sept. 13, 1902; s. of Martin and Barbara (East) Leatherman; ed. Medina Co., Ohio, pub. schls.; Ohio State U., B.A., 1924; U. of Maryland, M.S., 1925; Ph.D., 1928; (fellow in chem.) U. of Md. 1924-27; mem.: Alpha Gamma Sigma, Alpha Chi Sigma, Pi Delta Epsilon; m. Violet Ruff, Sept. 27, 1925; ch.: Marcia Elaine. 1927-42 res. chem. U.S. Dept. Agric.; 1942-46 U.S.A. (C.W.S.), Capt., Maj., Lt. Col.; 1946-48 sr. chem., grp. ldr. Whitemarsh Res. Labs., Penn. Salt Mfg. Co.; 1948 to date sr. chem., Chem. Corps Bd. Holds 18 pats. and publications in flameproofing; 15 pats. and publications in other fields, incl. quantitative anal., horticulture, naval stores tech., and chem. warfare. Contrib. numerous arts. to sc. jls. Mem.: A.C.S., A.A.T.C.C. Club: Natl. Order of Sojourners. Hobbies: subsistence farming.

Le BEAU, D(ésirée) S., dir. res., Midwest Rubber Reclaiming Co., East St. Louis, Ill.; res. 7570 Byron Pl., Clayton 5, Mo.
Chem.; b. Teschen, Poland; ed. U. of Vienna, U. of Graz, Austria, Ph.D. Employed at Austro American Rubber Works, Vienna. Austria; then conslt., Sociète de Progres Techniques, Paris; res. chem. Dewey & Almy Chem. Co., Cambridge, Mass.; res. assoc. M.I.T., Cambridge, Mass.; dir. of res. Midwest Rubber Reclaiming Co. Res. in colloid chem., specialized in rubber and clays; some 30 pub. arts., patents in the field of elastomer reclaiming. Contrib. sev. arts. to sc. jls. Mem.: A.C.S., A.A.A.S., N.Y. Acdy. of Sc., British Inst. Rubber Ind., Sigma Xi. Hobbies: music, swimming, riding.

LEBEDEFF, Yurii Eugene, supt. chem. res., Central Res. Dept., Am. Smelting & Refining Co., Barber, N.J.; res. 195 Woodbridge Ave., Metuchen, N.J.
Metallurgist; b. Tokyo, Japan, Oct. 28, 1906 (naturalized 1930); s. of Eugene F. and Alexandra A. Lebedeff; ed. U. of Wash., 1922-25; S.D., State Schl. of Mines 1926-27, B.Sc. mining engr., 1927, metallurg. engr., 1937; post-grad. Rutgers 1940, 1941, 1944, Stevens Inst. Tech., 1941-43; mem.: Sigma Xi, Triangle; m. Elice Holovtchiner, 1931; ch.: Gregori. Am. Smelting & Refining Co.; anal. chem. 1927, res. metallurgist 1927-32, plant dev. metallurgist 1932-40; sec. supvr. 1940-44, asst. supt. 1944-45, supt. chem. res. Central Res. Dept. 1945 to date. Pyro & hydro extractive & refining metallurgy of non-ferrous metals, particularly that of antimony, lead, zinc & tin; removal of bismuth from lead with alkaline earth & alkali metals; electrolytic refining of zinc; refining of lead & white metal alloys; some 34 pats. & 6 more pendg. in metal treat. & recovery fld. Mem.: A.I.M.E., A.A.A.S., A.C.S., N.Y. Acdy. of Sc., Am. Ordnance Assn., R.E.S.A. Clubs: Metuchen Golf & Country (dir.), Kiwanis. Hobbies: science, golf.

LEBO, Robert Baird, market economist, chems., Esso Std. Oil Co., 15 W. 51st St., N.Y.C.; res. 174 Lincoln Ave., Elizabeth, N.J.
Chem. engr.; b. Richmond, Indiana, Oct. 25, 1894; s. of Elmer E. and Mary Lebo; ed. Purdue U., B.S. in Ch.E., 1917, Chem. Engrg. 1922; m. Marian Titcomb, June, 1925; ch.: Robert A., Judith. 1917-19 chem., supvr., Hercules Powder Co.; 1919-20 chem., Forest Prods. Lab.; Esso Std. Oil Co. 1920 to date, chem., plant supt., coordinator, market res. in relation to petro chems. Active in early development of petro chems. Mem.: A.C.S., Boy Scouts (exec. bd.). Hobbies: cabinet making, fruit growing, meteorology.

LECHER, Hans Z(acharias), dir. of res., Calco Chem. Div., Am. Cyanamid Co., Bound Brook, N.J.; res. 1049 Kenyon Ave., Plainfield.
Dir. of res.; b. Vienna, Austria, Mar. 20, 1887; s. of Ernst and Natalie (Heymann) Lecher; ed. U. of Prague, 1905-07; U. of Munich, 1907-13 Ph.D.; m. Kate Paulus, June 30, 1932. Privatdozent U. of Munich 1920-22; prof. of chem., U. of Freiburg, Germany, 1922-27; I.G. Farbenindustrie, Leverkusen, Germany, dir. rubber dept. 1927-32, dir. of res. 1929-32; gen. org. res. div., Calco Chem. Co. 1934-38; Calco Chem. Div., Am. Cyanamid Co., assoc. dir. of res. 1938-49, dir. of res. 1949 to date. Org. radicals, sulfur cmpds., guanidines & thioureas, syn. rubber, various intermediates & dyestuffs. Mem.: A.I.C. (fellow), A.C.S., N.Y. Acdy. Scs., Soc. Chem. Ind., A.A.A.S. Club: Chemists'.

Le CLERC, Joseph Arthur, sr. chem., U.S.D.A. (retired), Kingsley Lake, Starke, Fla.; res. Kingsley Lake.
Chem. (foods, nutrition, agric.); b. Ware, Mass., May 10, 1873; s. of Jean Baptiste and Lucie (Chicoine) Le Clerc; ed. Worcester Polytech. Inst., Worchester, Mass., B.Sc., 1895; U. of Halle, Wittenberg, Germany, Ph.D., 1903; mem.: Sigma Xi; m. Helen G. David, 1943. 1895-1901 asst. chem. N.Y. State Agric. Expt. Station, Geneva, N.Y.; 1901-03 student, U. Halle; 1903-19 asst. chem. Bur. Chem. U.S.D.A., Washington, D.C.; 1919-22 chf. chem., Miner-Hillard Mil. Co., Wilkes-Barre, Pa.; 1922-28 Spec. Trade Commissioner, and specialist in Cereal Prods. U.S.D.C., Washington, D.C.; 1928-43 sr. chem. Bur. Agri. Chem. and Engr. U.S.D.A., Washington, D.C. Res. in cereals, soy beans, peanuts, baking, milling, foods and nutrition, wildrice, influence of soils and environment on composition of cereals. Has written approx. 150 bulletins and arts. U.S.D.A. and U.S.D.C. trade jls. Mem.: A.C.S., Wash. Acdy. Sc., A.A.C.C. (resigned); A.A.A.S. (resigned); A.A.A.S. (resigned); Am. Inst. Chem. Food Tech., Chevalier du Mèrite Agricole by French Govt. Clubs: Cosmos (resigned); University (Wash.), charter mem., (resigned). Hobby: gardening.

Le COMPTE, Thomas Robert, res. chem., Jonas and Naumburg Corp., 516 W. 35th St., New York 1, N.Y.; res. 454 Ft. Washington Ave., New York 33.
Res. chem.; b. Dorchester County, Md., June 11, 1886; s. of Samuel E. and Eliza (Spedden) Le

Compte; ed. B.A., Western Maryland Coll., 1907, Johns Hopkins U.; M.S., Louisiana State U., 1916, Ph.D., Columbia U., 1926; mem.: Sigma Alpha Epsilon, Alpha Chi Sigma, Sigma Xi, Phi Lambda Upsilon; m. Martha Bartlett, June 21, 1916; ch.: Thomas Robert Jr. Instr. in chem., Louisiana State U., 1912-16; jr. chem., U.S. Dept. of Agri., 1916-19; instr. in chem., Polytechnic Inst. of Bklyn., 1919-24; asst. in chem., Columbia U., 1924-26; ind. Fellow, Mellon Inst., Pittsburgh, Pa., 1926-33; chf. chem., Jonas & Naumburg Corp. 516 W. 35th St., New York, N.Y., 1934 to date. U.S. pats., synthesis of stringy mucilaginous gum from Karaya, preventing flocculation of long fibers in paper making; used in Manila Hemp papers. Res. over a period of 20 yrs. on the properties and tech. of fur in fur felt hat manuf. Asst. editor, "Van Nostrand Chemical Annual, (1922 and 1926 issues). Mem.: A.C.S., Alpha Chi Sigma. Club: Robert Kennedy Duncan. Hobby: chess.

Le CONTE, Charles R., pres., Le Conte Plastics Co. Inc., 13 Post Pl., Babylon, N.Y.; res. 17 Hollywood Ave., Nassau Shores, Massapequa, L.I., N.Y.
Chem. engr., plastics engr.; b. Phila., Pa., Sept. 16, 1896; s. of Emil and Angel Le Conte; ed. U. of Pa.; m. Mildred Venzie, June 14, 1930; ch.: Claire. Gen. mgr., Am. Oil & Paint Co., Cleveland; gen. mgr., Russell Wallace Co., Phila.; fld. engr., Synthane Corp., Oaks, Pa.; pres., Le Conte Plastics Co. Inc., Babylon, N.Y. Lubricants, low pressure laminates with contact resins. Clubs: Chemists' Club (N.Y.C.), U.S. Power Squadron (Freeport, N.Y.), Rotary (Babylon, N.Y.), Men's (Massapequa, N.Y.). Hobbies: boating, fishing, hunting, golf.

Le CROY, Clarence Rudolph, supt., Am. Agr. Chem. Co., Lathrop Ave., Savannah, Ga.; res. 5303 Skidaway Rd., Savannah, Ga.
Chem. engr.; b. Kellyton, Ala., Sept. 15, 1908; s. of Thomas Luther and Lelia Francis (White) LeCroy; ed. 1930, Ala. Polytech. Inst., Auburn, Ala., Ch.E. B.S.; v.p. Y.M.C.A., Gamma Sigma Epsilon, Phi Delta Gamma, Friendship Council (Y.M.C.A.); m. Cleo Roebuck, Nov. 26, 1930; ch.: Clarence Rudolph, Jr., Patricia Joan, Charles Michael. Frmn., asst. supt. (Savannah plant), asst. supt. (Carteret plant), supt. (Savanah plant), Am. Agr. Chem. Co. Clubs: Solomons Lodge No. 1 (A.F.&A.M., 32nd deg.), Scottish Rite, Shriner (Alee), Chanters, Royal Order of Jesters, Dir. of Training Union of Bull St. Baptist Church, lead tenor in chancel choir, v.chmn. bd. of deacons. Hobbies: fishing, hunting, golf.

LEDGETT, Lowell Ashton, asst. chf. engr., Central Engrg. Div., Colgate-Palmolive-Peet Co., No. 1 Newark Ave., Jersey City 2, N.J.; res. 25 N. Murray Ave., Ridgewood, N.J.
Mech. chem. engr.; b. Oakland, Calif., Jan. 10, 1910; s. of John Willis and Gertrude Eleanor Ledgett; ed. B.S. in M.E., 1931, U. of Calif., M.S. in M.E., 1934; graduate courses in chem. engrg. at Columbia U. and Stevens Institute of Tech. (no degree); mem.: Phi Beta Kappa, Tau Beta Pi, Theta Chi, Phi Phi; m. Catharine Elinor Johnson, June 2, 1935; ch.: Ronald A., Sandra D., Douglas A. Res. asst., San Francisco Bay Bridge and Hoover (Boulder) Dam, Cooperative Inv., 1931-32; teaching and lab. asst., Dept. of Mech. Engrg., U. of Calif., 1932-34; test wk., Hall-Scott Motors, dftsman., Bowie Switch Co., 1934; pl. engr., Colgate-Palm.-Peet Co., Berkeley, Calif., 1934-37; hd. of pl. engr., Des., J.C., N.J., 1937-40; hd. of Proc. Des. Dept., Central Engrg. Div., 1940-45; asst. chf. engr. in chg. of prodn. pl. dev., design, procurement, construction initial operation tests, 1945 to present. Res.: confidential (confidential company reports and papers only). Mem.: A.S.M.E., A.I.Ch.E., I.S.A. Treasurer, Bd. of Trustees, 1st Presby. Church, Ridgewood, N.J. Hobbies: sailing, tennis, gardening.

LEE, Alan Porter, pres., principal engr., Alan Porter Lee, Inc., Morristown, N.J.; res. Morristown, N.J.
Chem. & mech. engr.; b. Wash., D.C., Aug. 13, 1889; s. of Ellsworth and Mary C. Lee; ed. Washington & Lee U., B.Sc., 1908; Cooper Union (Extension) 1929-30; m. Marguerite Coast, 1911; ch.: Alan Coast. Chem. engr., Columbia Cotton Oil Corp., Relee, Va., 1908; chem. engr., refinery supt., Southern Cotton Oil Co., Bayonne, N.J., 1910; official chem., consltg. chem. engr., N.Y. Prod. Exchange 1912; chem. engr., Palmolive Co., gen. mgr., dir., Troco Nut Butter Co., dir., Nut Prods. Co., Milwaukee, Wis., 1916; chem. mech. engr., Allbright Nell Co., Chicago, Ill., 1918; treas., gen. mgr., dir., India Refining Co., Phila., 1921, pres. 1922; cons., constrg. engr. processes & equipt. for fatty oil & soap industries 1926 to date; pres., principal engr., Alan Porter Lee, Inc., N.Y.C., 1936 to date. Edit., Oil & Fat Industries, 1927-32; tech. edit., Soap, 1927-32; edit., Oil & Soap, 1932-34, edit., The Chemist, 1934-36. Publ. numerous articles & papers on tech. of oils, soaps, fatty acids, glycerine, etc. Dev. of processes for continuous distillation of fatty acids, continuous deodorization of edible oils, spray drying of soaps & detergents. Mem.: A.C.S., A.I.C. (fellow, natl. treas. 1934-36), A.I.Ch.E., A.O.C.S. (v.p., 1939), A.S.T.M., Assn. of Consulting Chem. & Chem. Engrs. Clubs: Chemists', Morristown, Morris Co. Golf. Hobbies: books, tennis, bridge.

LEE, Donald Douglas, manager, Technical Section, Sabine River Works, E.I. du Pont de Nemours & Co., Polychemicals Dept., Orange, Texas; res. Holland Hotel, Orange, Texas.
Res. chem.; b. Chicago, Ill., Jan. 5, 1914; s. of Robert McWha and Helen (Patterson) Lee; ed. U. of Calif. (Berkeley), B.S. 1935, (highest honors); Ph.D., 1938; mem.: Alpha Chi Sigma; m. Ethel Eleanor Dooley, 1935; ch.: Robert D., Patricia E., Richard O. 1938 to date with E.I. du Pont de Nemours & Co.; 1938-44 res. chem., 1944-46 res. supvr., 1946-49 asst. tech. supt., 1949 to 1950 tech. supt., July 17, 1950, to date technical manager. Mem.: A.C.S., A.I.Ch.E., Phi Beta Kappa, Sigma Xi, Pi Mu Epsilon. Club: University. Hobbies: fishing, hunting.

LEE, Harley C., v.p., Basic Refractories, Inc., 845 Hanna Bldg., Cleveland 15, Ohio; res. 2675 Ashley Rd., Cleveland 22.
Mining engr.; b. Ohio, Nov. 7, 1901; s. of Charles H. and Clara Hissong Lee; ed. B.E.M., Ohio St. U., 1927; m. Elizabeth Keedick. 1931-41, Basic Refractories, Inc., dir. res.; 1941-45, Basic Magnesium, Inc., supt. tech. dept.; 1945 to date, Basic Refractories, Inc., v.p. Mem.: E.S., A.C.S., Am. Ceramic Soc., A.I.M.E., A.S.M., Am. Mineralogical Soc., Geological Soc. Am.

LEE, James Augustine, Southwestern Editor, McGraw-Hill Publishing Co., 525 M. & M. Bldg., Houston, Tex.; res. 2428 Swift Blvd., Houston 5, Texas.
Publisher; b. New Iberia, La., Aug. 7, 1894; s. of Charles Hill and Dora (Weeks) Lee; ed. Wash. & Lee U., 1912-17, B.A., B.S.; M.I.T., 1917-18; Columbia U., 1922-23, M.A.; m. Margaret Lee, June 6, 1931; ch.: James A., Jr., David Weeks. 1919, chem. engr. Citizens Gas Co., Indianapolis, Ind.; 1920-25 chem. engr. Western Electric Co., New York, N.Y.; 1926-28 chem. engr. Bell Telephone Labs., New York, N.Y.; 1929-31 asst. edit., Chem. & Met. Engrg., McGraw-Hill Pub. Co.; 1932-49 managing edit.; 1950 Southwestern Editor. Author: "Materials of Construction for Chemical Process Industries," 1950. Mem.: T.A.P.P.I., A.I.Ch.E., A.C.S., E.S.

(pres. 1948-49), A.S.T.M. Clubs: Houston Chemical; Farm & Ranch.

LEE, Samuel Hunt, Jr., assoc. prof. chem., dept. chem., Okla. A.&M. Coll., Stillwater, Okla.; res. 421 W. 5.
Teach., res.; b. Hutchinson, Kans., Sept. 2, 1918;
Teach., res.; b. Htchinson, Kans., Sept. 2, 1918;
s. of Samuel Hunt and Laura Louise (Grant) Lee, Sr.; ed. B.S. Chem. Engrg. 1939 U. Texas; Ph.D. Chem. 1944 Ohio St. U.; mem.: Phi Gamma Delta, Tau Beta Pi, Phi Lambda Upsilon, Phi Eta Sigma; m. Evalyn Madden, Aug. 25, 1949. June, 1939-Sept., 1939, chem., Morton Salt Co., Manistee, Mich.; Sept., 1939-Sept., 1940, chem., Morton Salt Co., Grand Saline, Texas; Sept., 1940-Apr., 1944 teach. fellow, & du Pont fellow, Ohio St. U.; May, 1944-Aug., 1946 sr. res. chem., Houston Ref., Shell Oil Co., Inc.; Sept., 1946-Aug., 1949 asst. prof. chem., U. Texas, Austin, Texas; Sept., 1949 to date, assoc. prof. chem., Okla. A.&M., Stillwater, Okla. 2 publs. in org. chem., two papers presented at Natl. A.C.S. meetings. Res. in physical org. chem., (reaction mechanisms, molecular rearrangements. Mem.: A.C.S. (div. org. chem., chem. ed.), Sigma Xi, A.A.A.S. Hobbies: tennis, golf, music.

LEE, Sidney Phillip, assoc. dir., Dallas Labs., v.p., Sche Rose Corp., Dallas Labs., 2500 S. Ervay, Dallas, Texas.; res. 5012 Brookview, Dallas.
Chem. and chem. engr.; b. Phila., Apr. 20, 1919; s. of Samuel and Mollie (Heller) Lee; ed. U. Pa., B.S.; Cornell U., M.S. (summa cum laude); McMullen Res. Fellow, Cornell U.; mem.: Alpha Epsilon Phi; m. Elaine Rosenthal, June 4, 1945; ch.: Sidney Phillip, Jr., Leona. 1939-45 Atlantic Ref. Co., principal chem. engr., Phila., Dallas; 1945 to date assoc. dir., Dallas Labs.; v.p., dir., assoc. Dallas Labs.; tech. dir., v.p. and treas., Sche Rose Corp.; treas., dir., Bookmans Press. Res. in aviation gasoline, gasoline treating, oil well core anal., food preservation, corrosion contr.; 2 patents chem. economics. Mem.: Tau Beta Pi, Sigma Tau, A.I.C. (fellow), A.I.Ch.E. (sr. mem.), Am. Assn. Conslt. Chem. & Chem. Engrs. Dir., Dallas Symphony; Jewish Welfare Federation; pres. Dallas Jr. C. of C., dir. Co. Campaign Fund Screening Bd. Clubs: Columbian, Dallas Athletic, Engrs. Hobbies: mathematics, physics of music.

LEE, Sylvan Burton, dir. of microbiolog. res. and dev., Commercial Solvents Corp., 1331 S. First St., Terre Haute, Ind.; res. 1904 N. Eighth St., Terre Haute.
Biochem. microbiol.; b. Holmen, Wis., Jan. 5, 1916; s. of Ludwig Theodore and Delilah Honora Lee; ed. U. of Wis., B.S., M.S., Ph.D.; grad. with honors; sr. thesis honors; mem.: Alpha Chi Sigma, Phi Sigma, Gamma Alpha, Sigma Xi, Alpha Zeta; m. Eunice Carleton, Dec. 2, 1943; ch.: Carleton Lloyd. 1939-41 biochem., bact., res. and dev. div., Commercial Solvents Corp.; 1942-44 hd., microbiolog. res. sect., res. and dev. div., General Mills, Inc.; U.S.N., Lt. (j.g.), Army Commendation Ribbon; 1946-50 with Merck and Co., 1946-49 as supt. of fermentation, then 1949-50 asst. dir. of microbiolog. res. and dev.; 1950 dir. of microbiolog. res. and dev., Commercial Solvents Corp. Res. in fields of nitrogen fixation, acetone, butanol and ethanol fermentations, penicillin, streptomycin, and other antibiotic fermentations. Mem.: S.A.B., A.C.S., A.A.A.S., Soc. for Gen. Microbiology. Clubs: Rotary, Terre Haute Country. Hobbies: golf, bowling, hunting, fishing, colored movie photography.

LEEDS, Morton W., asst. chief chem., Schwarz Labs., 202 E. 44th St., New York City; res. 555 Spruce Ave., Garwood, N.J.
Chem.; b. N.Y.C., Dec. 18, 1916; s. of William and Ida Leeds; ed. Bklyn. Polytech. Inst., B.S. chem., 1937; M.S. chem., 1939; Ph.D. chem., 1944; mem.: Sigma Xi, Phi Lambda Upsilon; m. Norma Sterne, Feb. 4, 1945. 1935-39 jr. chem., Bio-Medical Res Labs.; 1939-45 sr. chem., Central Res. Labs.; 1945-47 Biochem. Div., Interchemical Corp. (hd. of dev. dept.); 1947-50 sr. res. chem. E.I. du Pont de Nemours & Co.; 1950 to date, asst. chf. chem., Schwarz Labs. Res. in protein chemistry, electrochemistry, fine organic chemicals, biochemistry. Mem.: N.Y. Acdy. Sc., A.C.S., A.I.C. (fellow). Hobbies: hiking, photography.

LEEDS, Norma Sterne, asst. mem., Sloan-Kettering Inst., E. 68 St., N.Y.C.; res. 555 Spruce Ave., Garwood, N.J.
Chem. (org.); b. N.Y.C.; d. of Harry A. and Teenie Sterne; ed. Hunter Coll., N.Y.C., A.B., Rutgers U., New Brunswick, N.J.; U. Res. Fellowship, 1947-48, 1948-49; mem.: Sigma Xi; m. Morton W. Leeds, Feb. 4, 1945. Interchem. Corp., Central Res. Lab., 1942-45, jr. chem.; Interchem. Corp., biochem. div., 1945, jr. chem.; Sloan-Kettering Inst., asst. mem., 1950 to date. Res. in proteins, amino acids, natural prods., steroids. Mem.: A.C.S., Sigma Xi.

LEEDY, Haldon A., dir., Armour Res. Foundation, 35 W. 33 St., Chicago, Ill.; res. 4729 Woodland Ave., Western Springs, Ill.
Physicist; b. Fremont, Ohio, Apr. 10, 1915; s. of Arthur E. and Alta Mae Leedy; ed. North Central Coll., B.A., 1934; U. Ill., M.A., 1935; Ph.D., 1938; mem.: Sigma Xi, Sigma Pi Sigma; m. Margaret S. Rayner, Aug. 17, 1940; ch.: Marilyn Sloan. 1933-38 asst. in phys., U. of Ill.; 1938-44 phys., Armour Res. Foundation; 1944-48 chmn. of phys. res., same foundation; 1948 to date dir. same foundation. Mem.: Physics Club of Chicago (pres. 1949-50); Acoustical Soc. of Amer., Inst. of Radio Engrs. (sr.). Clubs: Chicago University, Executives (Chicago), Economics (Chicago). Hobbies: sailing, woodworking, home movies.

LEERMAKERS, John Andrews, asst. dir. of res., Res. Lab., Eastman Kodak Co., Rochester 4, N.Y.; res. 494 Sagamore Dr., Rochester 17.
Sc., asst. dir. of res.; b. Omaha, Nebr., Apr. 29, 1907; s. of Anthony F. (dec.) and Jessie (Andrews) Leermakers; ed. Creighton U., 1924-26; Iowa State Coll., 1926-29, B.Sc., M.Sc.; Cal. Inst. Tech., 1929-32, Ph.D.; Natl. Res. Fellow in Chem., Harvard U. 1932-34; m. Jeanne Ordale Olson, July 15, 1930; ch.: John A., Jr., Peter A., Stephen W. 1928-29 tchg. fellow, Chem. Dept., Iowa State Coll.; 1929-32 tchg. fellow, Chem. Dept., Cal. Inst. Tech.; 1932-34 Natl. Res. Fellow, Chem. Dept., Harvard; 1934-43 res. chem. Eastman Kodak Co.; tech. asst. to dir., same co.; 1943 Clinton Engrg. Wks., Manhattan Proj., Radiation Lab., U. of Calif., Berkeley, Calif.; 1947 to date asst. dir. of res., Res. Lab., Eastman Kodak Co. Co-author with C.E.K. Mees of "The Organization of Industrial Sc. Res.," 1950. Mem.: A.C.S., Sigma Xi, Pi Mu Epsilon, Phi Lambda Upsilon, Phi Kappa Phi, Photographic Soc. of Amer., Natl. Res. Fellow in Chem., Harvard U., Book Club of Calif., State Historical Soc. of Oregon, Calif., Utah, Nebraska, etc. Club: Monroe Golf. Hobbies: study of history of early western U.S. and early transcontinental trails; golf.

LEFEBVRE, Paul L., N.Y. district mgr., syn. dept., Hercules Powder Co. Inc., 500 Fifth Ave., N.Y.C.; res. Owenoke Way, Riverside, Conn.
Sales; b. Holyoke, Mass., Mar. 13, 1913; s. of Adolph and Anna Lefebvre; ed. Worcester Acdy. 1933; Dartmouth Coll. 1937, B.A.; mem.: Alpha

Delta Phi; m. Marion C. Leland 1937; ch.: Barbara Ann, Paul Leland. Hercules Powder Co., Providence, R.I., 1938-40, sales; Buffalo, N.Y., 1940-42, sales; Chicago, Ill., 1942-48, dist. mgr.; Wilmington, Del., 1948-49, market dev.; N.Y.C., 1949 to date, dist. mgr. Club: N.Y. Athletic. Hobby: golf.

LeFEVRE, Milton Edward, dir. of purchases, The Dow Chemical Company, Midland, Mich.; res. 612 E. Ellsworth St., Midland, Mich.
Purchasing; b. Midland, Mich., Jan. 21, 1911; s. of Joseph E. (dec.) and Mary A. LeFevre; m. Helen B. LeFevre, Aug. 26, 1937; ch.: Mary Lynn. Held the following positions with The Dow Chemical Company: employed, Sept., 1930; purchasing dept., as buyer 1934, asst. purchasing agent, 1941, purchasing agent, Oct. 11, 1943, dir. of purchases, Dec. 30, 1948. Mem. Natl Assoc. of Purchasing Agents, Business Survey Committee. Member of Bd. of Directors, Midland Hospital. Club: Lions.

LEFFLER, Martin T., assoc. dir. of res., Abbott Labs., North Chicago, Ill.; res. 510 Prospect Ave., Lake Bluff, Ill.
Chem.; b. College Corner, Ohio, Feb. 28, 1911; s. of John C. and May (Templeton) Leffler; ed. Union H.S., College Corner, Ohio; 1924-28 Miami U., Oxford, O.; 1928-32 U. of Ill., Urbana, Ill., A.B.; 1932-36 M.A. and Ph.D.; mem.: Phi Eta Sigma, Phi Beta Kappa, Phi Kappa Phi, Sigma Xi, Phi Lambda Upsilon; m. Martha Allen Driscol, Dec. 23, 1933; ch.: Martha Ann, Mary Elizabeth, Susan. 1936-46 res. chem., 1946-49 hd., org. res., 1949-50 asst. dir. of res., 1950 assoc. dir. of res. Res. in local anesthetics; organic deuterium compounds; antiseptics; antimalarials; tropical diseases. Contrib. numerous arts. to sc. jls.; also wrote Chapt. IV, "The Amination of Heterocyclic Bases by Alkali Amides" in "Organic Reactions," Vol. I. pub. by John Wiley & Sons, Inc. 1942. Mem.: A.C.S., A.A.A.S., Sigma Xi. Club: Chemists' (Chicago). Hobbies: fishing, hunting.

LEFGREN, Frederick Valentine, sc. dir., Hart Drug Corp., 25 N.E. 25 St., Miami 37, Fla.; res. 549 N.E. 106 St., Miami 38.
Phar. chem.; b. Seattle, Wash., Apr. 12, 1897; s. of Axel V. and Amelia (Larsen) Lefgren; ed. U. of Wash., Seattle, Wash., Ph.G., phar. grad. 1920, B.S. cum laude, 1924, M.S., 1925 Arthur A. Denny Fellow, Ph.D., 1930; mem.: Kappa Psi; m. Effie Dahlstrom, June 18, 1924; ch.: Eldin J. Retail pharmacist 1920-27; instr. in pharmacy, U. of Wash., 1927-29; asst. prof. of pharmacy, acting dean, Coll. of Pharmacy, Valparaiso U., 1929-30, assoc. prof. of pharmacy, dean Coll. of Pharmacy, 1930-32, prof. of pharmacy & pharmacology, dean Coll. of Phamacy, 1932-39; prof. of pharmacology & pharmacognosy, U. of Fla., 1939-40; asst. to sc. dir., Hart Drug Corp., Miami, Fla., 1940-42, sc. dir. 1942 to date. Series of alkyl esters as local anesthetics. Mem.: Rho Chi, Sigma Xi, Am. Phar. Assn., A.C.S. Club: Masonic.

Le GRYS, Herbert James, chf. chem., Stackpole Carbon Co., St. Marys, Pa.; res. 530 Charles St., St. Marys.
Chf. chem.; b. Troy, N.Y., Apr. 26, 1901; s. of Walter J. and Harriet (Van Decar) LeGrys; ed. Rensselaer Polytech. Inst., Troy, N.Y., 1924, Ch.E.; m. Armella M. Smith, 1941; ch.: Herbert J., Jr. 1924-25 res. chem. Fisk Rubber Co., Chicopee Falls, Mass.; 1925-29 dev. engr., 1929 to date chf. chem., Stackpole Carbon Co., St. Marys, Pa. Mem.: A.A.A.S., A.C.S., A.S.T.M., Pa. Sewage & Indus. Waste Assoc.; fellow, A.I.C., E.S., Faraday Soc., reg. prof. engr. in Pa. and Mass. Mem. of exec. comm. of Local Section of A.C.S. Club: Elks.

LEHRMAN, Alexander, assoc. prof. of chem., C.C.N.Y., New York 31, N.Y.; res. 129 W. 15th St., New York 11.
Chem., techr.; b. Bklyn., N.Y. Aug. 31, 1896; s. of Morris and Elizabeth (Roamsch) Lehrman; ed. C.C.N.Y., B.S., 1918; Columbia, M.A., 1920; Ph.D., 1925; m. Elizabeth Lehrman. 1918-19 with U.S.N.; 1919 with W.R. Warner Co.; 1918 to date with City College; tutor, instr., asst. prof., assoc. prof.; 1943-45 expert, Adj. General's Off. Contrib. sc. papers and arts. to various jls. Author: "Elements of Gen. Chem." 1931; "General College Chem.," 1940; "Introductory College Chem.," 1941; "Introductory College Chem.," 2nd Edition, 1950. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S., A.A.A.S., A.A.U.P. Hobbies: photography, canoeing, fishing.

LEHRMAN, Leo, assoc. prof., chem. dept., C.C.N.Y., 140 St. & Convent Ave., N.Y.C.; res. 430 E. 86 St., N.Y. 28.
Prof. chem.; b. N.Y.C., 1900; s. of Morris and Elizabeth Rumsch Lehrman; ed. B.S., C.C.N.Y., 1921; M.A., Columbia, 1923; Ph.D., 1926; mem.: Phi Lambda Upsilon (hon. chem.); Sigma Xi (hon. sc.); Tau Delta Phi; m. Etta Cohn, Aug. 29, 1930; ch.: Barbara. Inst. chem., N.Y.U. (uptown), Feb.-June, 1921; CC.N.Y., Sept., 1921 to date; Columbia Extension 1923-25; Wash. Square Coll., 1925-29. Papers pub. field of starch, meths. of anal., coprecipitation. Mem.: A.C.S., A.A.U.P.

LEICESTER, Henry Marshall, prof. biochem., Coll. of Physicians and Surgeons, 344 14th St., San Francisco 3, Calif.; res. 560 Menlo Oaks Dr., Menlo Pk., Calif.
Prof. of chem.; b. San Francisco, Calif., Dec. 22, 1906; s. of John F. and Elsie H. Leicester; ed. A.B., Stanford U., 1927, M.A., 1928, Ph.D., 1930; res., tech. Hochschule, Zurich and University Coll., London, 1933; m. Leonore A. Azevedo, Feb. 22, 1941; ch.: Henry M., Jr., Martha Hamilton. Res. instr. in chem., Charles M. Hall, Oberlin Coll., 1930-31; chem., Div. of Plant Biology, Carnegie Inst., 1931-32; jr. res. assoc., Stanford U., 1934-35; chem., Midgeley Foundation, Ohio State U., 1936-38; asst. prof., Coll. of Physicians and Surgeons of S.F., 1938-46; assoc. prof., 1946-48; prof. 1948 to date. Res. on selenonium salts, carotene, biochem. of teeth, history of chem. Chmn., div. of hist. of chem., A.C.S. Member, advisory bd., Edgar F. Smith Coll. in hist. of chem., U. Pa. Member, bd. of editors, "Chymia," 1946-49; editor-in-chf. 1949 to date. Author: "Biochemistry of the Teeth" (St. Louis, 1949). Mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi, A.C.S., A.A.A.S., History of Sc. Soc., Intl. Assoc. for Dental Res. Club: Sierra. Hobbies: photography, mountain climbing.

LEIGHTY, John Adam, assoc. exec. dir. res. and control, Eli Lilly & Co.; 740 S. Alabama St., Indianapolis, Ind.; res. 4301 E. 38th St., Indianapolis.
Chem.; b. Shelbyville, Ill., Mar. 31, 1910; s. of Elmer E. and Dora Leighty; ed. James Millikin, A.B., 1931, summa cum laude; Purdue U., M.S., 1933 and Ph.D., 1936; m. Ula Davis, July 17, 1938; ch.: David Alan, Norman Scott. 1931-36 asst. in chem., Purdue U.; 1936-46 res. chem.; 1946-48 supt. antibiotics; 1948-50 asst. dir. div. biochem.; 1950 assoc. exec. dir. res. and control, all with Eli Lilly & Co. Res. on hormones, group specific substances, blood plasma, blood fractionation and antibiotics; civilian with Tech. Indust. Intel. Cmt. (Europe), 1945. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S., A.A.A.S. Hobbies: golf, gardening.

LEITCH, R(ichard) D(uddleston), bur. of safety engrg., Bur. of Mines, U.S. Dept. of the In-

terior, Interior Bldg., Washington, D.C.; res. 9313 Walden Rd., Silver Spring, Md.
Chem. engr., dir. of employee safety; b. Terre Haute, Ind., Apr. 18, 1894; s. of Calvin Alexander and Mary Louise Leitch; ed. element. schls. Mattoon and Paris, Ill.; high schls. Terre Haute, Ind., and Paris, Ill., 1899-1912; Rose Polytech. Inst., 1912-16, Terre Haute, B.S., 1916, Ch.E., 1921, M.S., 1922; mem.: M.E.P.; m. Hilda Bollhorst, Sept. 8, 1934. 1913-16 chem., bacteriologist, Terre Haute Water Co., Terre Haute, Ind.; 1916-17 res. chem., Rubber Regenerating Co., Naugatuck, Conn. and Mishawaka, Ind.; res. chem., E.I. du Pont de Nemours, Arlington, N.J., 1917-18; 2nd Lt., Corps of Engrs., U.S.A. 1918-19. Following positions with U.S. Bur. of Mines, Pittsburgh, Pa. and Washington, D.C., 1919 to date: Jr. Explosives Chem. 1919-20; Jr. Gas Engr. 1921-22; Asst. Fuel Engr. 1922-23; Assoc. Chem. Engr. 1924-41; Chem. Engr. 1941; Sr. Chem. Engr. 1942; Princ. Chem. Engr. and Chf., Explosives Control Div., 1942-46; Bur. Safety Engr., (dir. of employee safety) 1946 to date. Dev. of reclaimed rubber stocks; dev. of diaphragm for containers for smokeless powd. charges for big guns (14" up); built and operated plant for mfr. of filtermass (cellulose); dev. meth. for standardizing activity of iron oxides for gas purification; improved burning schedules for ceramic kilns; dev. meth. for determining small amts. of lead in bones to determine hazards of lead tetraethyl as an "anti-knock" for gasolines; dev. nonflammable airplane "dope"; dev. meth. for sealing abandoned mines or parts of mines to minimize pollution of streams; dev. meth. of anal. for acid mine waters and measurement of small stream volumes Pub. numerous reports of investigations for U.S. Bur. of Mines 1923-40; information circulars 1940, 1945; tech. paper 1922; monograph 1929; spec. reports and arts. in prof. jls. Formerly: fellow, A.A.A.S., Soc. of Am. Mil. Engrs., Pittsburgh Coal Min. Inst., Coal Mining Inst. of Am.; A.C.S., Natl. Res. Council; currently mem.: Natl. Rifle Assn., Am. Soc. Safety Engrs., Fed. Interdepartmental Safety Council, Fed. Fire Council, and Wash. (D.C.) Chapt. A.S.S.E. Clubs: Sykesville (Md.) Fish & Game; Pittsburgh Consistory A.A.S.R.; Am. Legion; Lodge 268, A.F. & A.M., Non-com. officers' Pa. Natl. Guard, 176th F.A.; Interior Dept. Recreational Assoc. Hobbies: hunting, fishing, sailing, power boating, small arms rebuilding and shooting.

LEMBCKE, Richard Edward, sect. chf., Cities Serv. Res. & Dev. Co., Tallant, Okla.
Res.; b. Appleton, Wis., Oct. 20, 1903; s. of Edward Richard and Alida Van Wyk Lembcke; ed. Wash. St. Coll., B.S. Chem. Engrg., 1926; m. Rexie Ellen Shaw, Mar. 21, 1931; ch.: Patricia Ellen, Kathryn Alida, Betty Sue, Richard Robert, John Theodore. 1926-27 jr. engr. train. course, Empire Gas & Fuel Co.; 1927 to date res. chem., plant trouble shooter, hd. plant contr. sect., res. sect. chf., all with same parent co., (Cities Serv.) but transf. of res. grp. have resulted in wking. for sev. depts., subsidary cos. (Empire Gas & Fuel, Cities Service (Del.) Cities Serv. & Dev.). Sev. pats.; pub. papers; wk. has inc. dev. several procs., starting with lab. desk level, cont. then pilot plant design, dev., starting up comm. units. Mem.: A.C.S., A.I.Ch.E. (active grade), Natl. Assn. of Corrosion Engrs. Clubs: Masonic Lodge, Eastern Star, White Shrine of Jerusalem, Natl. Rifle Assn. of Am., Homing Golf, Boots & Bustles Square Dance. Hobbies: reading, fly fishing, golf.

LEMMERMEYER, Michael, pres., Aromatic Products, Inc., 15 E. 30th St., New York 16, N.Y.; res. 1418 Arlington St., Mamaroneck, N.Y.
Exec.; b. New York City, Oct. 1, 1891; s. of Michael and Mary Lemmermeyer; ed. Cooper Union, 4 yrs.; m. Catherine Ursula Rock, June 6, 1917; ch.: Ruth, Jane. George Lueders & Co., office boy, 1907, to mgr., Chicago office, 1921; Lum & Lemmermeyer, est. in Chicago, 1924; sales mgr., Givaudan-Delawanna, Inc., 1926-35; Aromatic Products, Inc., org. 1935, pres. Served in W.W.I, with Batt. "B," 304th Field Arty., 77th Div., in Vesle and Baccarat sectors, and in Oise-Aisne and Meuse-Argonne offensives, 19 months. Clubs: Salesmen's Assoc., Chemists', Orienta Beach Club, Winged Foot Golf. Hobbies: drawing—cartoons, painting in oil, water colors and pastels.

LEMMON, Allen B., chf., Bur. of Chem., State Dept. of Agri., 243 Mull Bldg., 1125 Tenth St., Sacramento 14, Calif.; res. 604 Garden St., North Sacramento 15, Calif.
Chf., Bur. of Chem., State Dept. of Agri.; b. Sacramento, Calif., Mar. 31, 1908; s. of Allen B. and Augusta H. Lemmon; ed. Stanford U., A.B. in Engrg., 1930; degree of engr., 1932; mem.: Alpha Kappa Lambda; m. Juanita E. White, June 11, 1932; ch.: Nancy J., Robert W., Dorothy A. July, 1933 to Nov., 1937, inspector of Economic Poisons and Fertilizers; Nov., 1937 to Sept., 1944, sr. inspector of Economic Poisons and Fertilizers; Oct., 1944 to Jan., 1946, dist. inspector of Economic Poisons and Fertilizers; Jan., 1946 to date, chf., Bur. of Chem., Calif. Dept. of Agri. (All of the above positions with the Calif. Dept. of Agri.). Contrib. extens. to sc. and tch. jls. Mem.: Assoc. of Economic Entomologists, Assoc. of Official Agricultural Chemists, Assoc. of Economic Poisons Control Officials (v.p. 1950), Assoc. of Am. Fertilizer Control Officials (v.p. 1947, pres. 1948). Life member North Sacramento Volunteer Fire Dept. Club: Commonwealth (San Francisco). Hobby: amateur radio. Call W6KVT.

LENCHNER, Theodore, v.p., The Vitro Mfg. Co., Ceramics Div., 60 Greenway Dr., Pittsburgh 4, Pa.; res. 5720 Munhall Rd., Pittsburgh 17.
Chem.; b. New York, Nov. 14, 1888; s. of Sigmond and Esther Lenchner; ed. Pa. State B.S., 1912; fellow, Amer. Ceramic Soc.; mem.: Phi Epsilon Pi; m. Freda Sekovits, July 6, 1918; ch.: Mrs. Maxwell Schneider; Mrs. L.L. Schultz; Arthur. 1914-25 res. The O. Hommel Co.; 1925-32 color specialist, R.&H. Chem. Co. (now du Pont subsidiary); 1932 to date, sales, service, The Vitro Mfg. Co. Res. in dev. ceramic colors. Mem.: A.C.S. Club: Comus.

LENHART, George B., chf. chem. and supt., Wilson Rubber Co., 1200 Garfield St., S.W., Canton, Ohio; res. 1918 Dennison Pl., N.W., Canton.
Chem.; b. Kane, Pa., Mar. 19, 1905; s. of George P. and Mary Lenhart; ed. U. of Akron; mem.: Delta Epsilon Chi; m. Thora May Harris, 1927; ch.: Ruth L., Marilyn E. 1922-30 lab. helper and chem., B.F. Goodrich Co.; 1930 to date chem., Wilson Rubber Co.

LEO, Brother I(gnatius) (O'Donnell), hd. chem. dept., Christian Bros. Coll., Memphis, Tenn.; res. 650 E. Pkway. S., Memphis.
Teacher; b. Graceville, Minn., Apr. 1, 1904; s. of Patrick F. and Mary (Cooper) O'Donnell; ed. De Paul U., Chicago, Ill. B.S., 1927, M.A., 1931; The Catholic U. of Amer., Wash., D.C., Ph.D. in Chemistry, 1936. St. Mary's Coll., Winona, Minn., prof. of chem., 1936-40; Christian Bros. Coll., Memphis, Tenn. prof. chem. and dean, 1940-43; St. Mary's Coll., Winona, Minn., prof. chem., 1943-46; Christian Bros. Coll., Memphis, Tenn., prof. chem., 1946-50. Mem.: A.C.S. (chmn., Memphis sect. 1950-51), Natl. Sc. Tchrs. Assn. Hobbies: visiting chem. industries, collecting minerals.

LEONARD, Jackson D., sr. mech. engr., Merck & Co. Inc., Rahway, N.J.; res. 245 Rose St., Metuchen, N.J.
Engr.; b. Sunbury, Pa., Sept. 2, 1915; s. of Walter John and Clara A. Leonard; ed. Pa. State Coll., State College, Pa., B.S., 1937; mem.: Sigma Phi Sigma; m. Virginia Cattell, Dec. 1, 1939; ch.: Patricia Anne, Michael John. June, 1937 to Jan., 1941, Gen. Chem. Co., Marcus Hook, Pa., prod. foreman, plant engr., B.&A. Div.; Jan., 1941 to July, 1950, E.I. du Pont de Nemours & Co., Newport, Del., Newark, N.J. Edgemoor, Del., Charlestown, Ind., Houston, Tex., Wilmington, Del.; prod. foreman, plant tech., planning and scheduling engr., sr. engr.; Aug., 1950 to date, Merck & Co., Rahway, N.J., sr. mech. engr. Associated as conslt. in specialized fields with Marcus Sittenfield, Phila. Conslt. Engr. Dev. of cost reduction, and improved maintenance techniques for the chef. industry. Author of var. arts. in sc. jls. Mem.: A.I.Ch.E., A.C.S. (sr. mem.); reg. prof. engr., State of Delaware. Club: Masonic. Hobby: chess.

LEONARDS, Jack Ralph, asst. prof. biochem., Western Reserve U., Schl. of Medicine, Western Res. U., Cleveland, Ohio; res. 1156 Pomona Ave., Cleveland Heights, Ohio.
Tchg. and res.; b. Montreal, Can., Feb. 25, 1919; s. of David and Sally Leonards; ed. B.Sc., McGill U.; M.S., Va. Polytech. Inst.; Ph.D., Western Reserve U.; m. Alice Elizabeth Sizer, Apr. 15, 1941; ch.: Alice, Ruth, William, Ralph, George. 1939-41, res. fellow, Dept. of Chem., Va. Polytech. Inst.; 1941 to date, Dept. of Biochem., Western Reserve U., in following positions: 1941-42, res. felow; 1942-43, tchg. fellow; 1943-45, instr.; 1945-47, sr. instr.; 1947 to date, asst. prof.: 1943 to date, assoc. dir. of res., Benvenue Labs. Inc., Bedford, Ohio. Res. in intestinal absorption of foods; treatment of renal insufficiency; mechanism of action of salicylates; chem. of rayon; isolation of antibiotics; effect of Vitamin deficiencies on intestinal absorption. Mem.: Phi Lambda Upsilon, Phi Kappa Phi, Sigma Xi, A.C.S., A.A.A.S., S.E.B.M., Am. Soc. of Biolog. Chems.

LEPPART, John Culver, exec. v.p. and dir., Mathieson Chem. Corp. and Mathieson Hydrocarbon Chem. Corp., Mathieson Bldg., Baltimore, Md.; res. 3908 No. Charles St., Baltimore, Md.
Exec. chem. indus.; b. Boston, Mass., Sept. 25, 1898; s. of John H. and Charlotte B. (Westley) Leppart; ed. Cornell U., 1919, B.Ch.; mem.: Alpha Chi Sigma; m. Eleanor J. Buxton, Oct., 1926; ch.: Suzanne C. For 11 yrs. with The Solvay Proc. Co. and Solvay Sales Corp.; with Pittsburgh Plate Glass Co., Chem. Div. for 11 yrs.; with W.P.B. Chem. Div. for 4 yrs.; served 2 yrs. with the Southern Alkali Corp.; for sev. months with the Prior Chem. Corp.; 2 yrs. with Mathieson Chem. Corp., exec. v.p. and dir.; Mathieson Hydrocarbon Chem. Corp. (new company), exec. v.p. and dir., Mathieson Bldg. Corp., dir. Mem.: Cornell, Chemists' and Uptown clubs (N.Y.C.); Baltimore Country (Baltimore).

LEPPER, Henry Albert, chf., Cereal & Dairy Br., U.S. Food & Drug Adm., Wash., D.C.; res. 314 Ellsworth Dr., Silver Spring, Md.
Chem.; b. Washington, D.C., Mar. 27, 1889; s. of Albert and Augusta (Donch) Lepper; ed. B.S. in chem., George Washington U., 1913; mem.: Alpha Chi Sigma; m. Georgianna Hummer, June 22, 1914; ch.: Henry Albert, Jr., Mark Hummer. Asst. chem., 1913, Bur. of Chem., U.S.D.Ag.; progressed to present position in Food and Drug Adm.; instr. in Organic Chem., George Washington U., 1913-23. Composition and chem. of foods. Published num. arts. on composition and analysis of foods in sc. jls. Mem.: Assoc. Official Agricul. Chems., (secy., treas., since 1944); ed. of "Journal A.O.A.C.," 1935-44; chmn., bd. of editors, 1944; "Official and Tentative Methods of Analysis," A.O.A.C.), A.C.S. (since 1913; ed., food sect., "Chem. Abstracts," since 1926). Club: Mason (Scottish Rite, Shriner). Hobbies: gardening , music.

LEPPLA, Paul W., assoc., dir. res., Great Lakes Carbon Corp., 8210 Austin Ave., Morton Grove, Ill.; res. 932 N. Lombard, Oak Park, Ill.
Res. chem.; b. Moline, Ill., Mar. 11, 1911; s. of Albert F. and Else Leppla; ed. B.S., cum laude, U. of Ill., 1932, M.S., 1934, Ph.D., 1936; mem.: Pi Kappa Phi, Alpha Chi Sigma; m. Martha Bond, Sept. 6, 1935; ch.: Frank B., Stephen H. Res. chem., adm. aide, Continental Can Co., 1936-43; chf. chem., mgr., chem. plants, Cardox Corp., 1943-47; res. chem., assoc. dir. res., Great Lakes Carbon Corp., 1947 to present.

LERMAN, Frank, dir. bio-engrg. div., VioBin Corp., Monticello, Ill.; res. 305 Elmwood Rd., Champaign, Ill.
Chem. engr.; b. Cincinnati, Ohio, Mar. 15, 1913; s. of Nathan and Fanny Lerman; ed. U. of Cincinnati, 1929-38; Ch.E., 1933; M.S., 1935; Ph.D., 1938; m. Selma Block, Sept. 4, 1938; ch.: Phyllis Beryl, Burton Lloyd. 1933-37 grad. asst. in chem., 1937-38 fellow in grad. schl., U. of Cincinnati; 1938-41 chem. engr., design and dev., Blaw-Knox Co., Pittsburgh, Pa.; 1941-45 U.S.A., Ord. Off.; 1945-49 chem. engr., distillation and solvent extraction, Vulcan Copper & Supply Co., Cincinnati; 1950 dir., Bio-Engrg. Div., VioBin Corp., Monticello, Ill. Res. and dev. of solvent extraction and complete solvent rendering processes; design methods for packed column operations in stripping and liquid-liquid extraction; liquid distribution in packed columns. Contrib. art. on "Extraction" to Encyc. of Chem. Tech. by Kirk and Othmer (now in press). Mem.: A.C.S.; Sigma Xi; A.I.Ch.E.; A.O.C.S. Clubs: Masonic Blue Lodge and Scottish Rite.

Le SAC, Arthur William, owner, dir., Le Sac Equip. Spec. & Chem., 610 W. Michigan Ave., Milwaukee 3, Wis.; res. 923 S. 75th St., W. Allis 14, Wis.
Chem. engr.; b. W. Allis, Wis., Nov. 1, 1920; s. of Joseph and Katherine Le Sac; ed. U. of Wis., 1938-47, Ch.E.; B.S., Ill. Inst. of Tech., 1942; mem.: Beta Theta Pi. Sanitation anal., U.S.N., Gt. Lakes, Ill.; War Dept. Ord. Div., resident chf. Olds. Plant, Janesville, Wis. partner, A. & F. Electro Co.; also owner, dir., Consulting Chemical Service, 610 W. Michigan Ave. Hobby: electronics.

LESLIE, Eugene H., tech. dir., Blaw-Knox Div., Pittsburgh, Pa., owner, Leslie Labs., Ann Arbor, Mich.; res. 144 N. Dithridge St., Pittsburgh, and 1831 Traver Rd., Ann Arbor, Mich.
Chem. engr.; b. Aug. 28, 1892; s. of J.O. and Florence H. Leslie; ed. U. Ill., B.S. Chem. Engrg., 1913; Columbia U., Ph.D., 1916; mem.: Chi Beta, Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma, Scabbard and Blade; m. Emily Ebner, Nov. 10, 1917. Chf. chem., Gen. Pet. Corp., 1916-18; asst. to pres., U.S. Ind. Alcohol Co. 1918-20; prof. chem. engr., U. Mich., 1920-29; conslt. engr., 1929-37; v.p., Leader Inds., 1933-37; tech. dir., Blaw-Knox Div., 1937 to date; owner Leslie Labs. 1923 to date. Res. varied in field of pet., soybean proc., fractional distillation, other unit proc., forage dehydr. Author: "Motor Fuels," 1923. Mem.: A.I.Ch.E., A.C.S., Soc. Chem. Ind., Am. Soc. Agr. Engrs. Club: Mich. Union. Hobbies: improved farming methods, animal breeding.

LESLIE, Robert Thies, res. chem., Natl. Bur. of Standards; res. Chevy Chase, Md.
Res. chem.; b. Chester, Ill., June 3, 1902; s. of Edward R. and Edith C. Leslie; ed. U. of Ill.,

B.S., 1925; M.S., 1926; Ph.D., 1928; m. Ruth I. Steinbrink, July 10, 1938. 1928-41 res. assoc. for Am. Petroleum Inst.; 1941 to date res. chem. for Natl. Bur. of Standards.

LESSIG, Edward T(hompson), mgr. textile devel., Tire Div., B.F. Goodrich Co., Akron, Ohio; res. R.D. No. 1, Box 29, Cuyahoga Falls, O. Chem. engr.; b. July 8, 1901, Schuylkill Haven, Pa.; s. of Oscar B. and Martha T. Lessig; ed. B.S. in Chem. Engrg., 1926, Pa. State (honors); Ph.D., 1929, U. of Wis. (Dupont Fellow); mem.: Delta Sigma Chi, Phi Kappa Phi, Sigma Tau, Phi Lambda Upsilon, Sigma Xi; m. Margaret Lois Busse, June 13, 1928; ch.: Charles Edward, Lois Anne. Asst. phys. chem., 1926-28, U. of Wis.; chem. engr., 1929-31, E.I. du Pont; sr. physicist, 1931-36, grp. ldr. textile res., 1936-42; hd. textile grp. Tire Div., 1942-46, mgr. textile devel. Tire Div., 1946 to date, all with B.F. Goodrich Co. Res. and devel. of tire textiles, adhesion of rubber to textiles. Contrib. to sc. and tech. jls. and Perry's "Chem. Engrg. Handbook"; 13 pats. alone or jointly 1941-50. Lic. Prof. Engr., State of Ohio. Mem.: A.C.S., A.A.T.C.C. Clubs: Lions, Franklin (Akron), Tri City Men's. Hobbies: gardening, fishing.

LESUK, Alex, hd., preparative biochem. & dev. labs., Sterling-Winthrop Res. Inst., Rensselaer, N.Y.; res. Bethlehem Center, Glenmont, N.Y. Res. biochem.; b. N.Y.C., July 23, 1917; s. of Paul and Olga Lesuk; ed. B.S. (magna cum laude), C.C.N.Y., 1936; Phi Beta Kappa, spec. hons. chem., Ward M. in chem., A.I.C. student's m., LeClear Scholarship; Ph.D., Yale, 1939; Sigma Xi, Natl. Tuberculosis Assn. fellow in chem., 1937-39; m. Mary Regina Franke, Nov. 6, 1943; ch.: Diana Mary, Elaine Mary. Internatl. Cancer Res. Found. Post-doctorate fellow in chem. 1939-40, Yale U.; Winthrop Chem. Co., subseq. inc. into Winthrop-Stearns 1940-46; Sterling-Winthrop Res. Inst. 1946 to date, assoc. mem. Res. in isolation of a peripheral vasodil. from the pancreas; isolation of acetylcholinest. from eryth.; prep. of protein hydro. for intravenous alimentation. Mem.: A.A.A.S., A.C.S., A.I.C., N.Y. Acdy. Sc. Hobbies: boating, fishing, bridge, outboard-motoring.

LEUM, Leonard Norman, principal chem., Atlantic Refining Co., 2700 Passyunk Ave., Phila., Pa.; res. Old State Rd., R.D. 1, Media, Pa. Res. chem.; b. Westby, Wis., Oct. 8, 1908; s. of Ole L. and Inga Leum; ed. St. Olaf Coll., Northfield, Minn., 1925-29 B.A., 1929; M.I.T., 1930-36, Ph.D., 1936; m. Lillian E. Anderson, Aug. 21, 1937; ch.: Peter L., Karla E. Private asst., M.I.T., 1929-30; fulltime lab. asst., M.I.T. 1930-36; Atlantic Refining Co., asst. chem. 1936-40, sr. chem., 1940-43, principal chem. 1943 to date; instr., Drexel Inst. of Tech. Evening Schl. 1939-47, hd. of chem. engrg. dept. 1947 to date. Pet. refining res., papers & pats. Mem.: A.C.S., A.A.A.S., Sigma Xi. Hobby: woodworking.

LEVER, Cyril, prop. C. Lever Co. Inc., 503 Rodman Ave., Jenkintown, Pa. Exec., org. chem.; b. Phila., Pa., June 23, 1895; ed. A.B., Penn., 1915, B.S., 1920; m. Edna Mason, 1925; ch.: Alice Ann, Cyril, Jr. Dir. res., W.H. Burns Co., 1920 to date; C. Lever Co. Inc., 1936 to date. U.S.A., 1917-19. Res. in dyestuffs; org. pigments; org. smoke colors for signalling devices. Mem.: Franklin Inst. from 1920, A.C.S., A.T.C.C.

LEVERETT, Warren Hamilton, gen. mgr., Natl. Zinc Co., Inc., Bartlesville, Okla.; res. 1437 So. Johnstone Ave., Bartlesville. Chem. engr.; b. Alton, Ill.; s. of John and Amy H. Leverett; ed. Shurtleff Coll., B.Sc, M.Sc.; U. of Ill. Grad. Schl.; m. Mary Joanna Corrington, Feb. 9, 1909; ch.: Miles C., Muriel H. 1906-07 asst. chem., Edgar Zinc Co.; 1907-08 grad. asst. U. of Ill.; 1908-09 chf. chem., Hegeler Zinc Co.; 1909-12 in chg. of Sulphuric Acid Plant; 1912-16 supt. Roasting and Acid Plant, Granby Mining & Smelting Co.; 1916-20 asst. supt., 1920-27 supt., 1927-36 mgr., 1936 to date gen. mgr., all with Natl. Zinc Co. Mem.: A.C.S., A.I.Ch.E.

LE VESCONTE, Amy Marie, prof. chem., Mary Hardin-Baylor Coll., Belton, Texas; res. same. Tchr.; b. Prior Lake, Minn., Apr. 24, 1898; d. of John and Lillie Belle (Gibbs) Le Vesconte; ed. Macalester Coll., B.A., 1919, magna cum laude; U. of Minn., M.S., 1924; Iowa State Coll., Ph.D., 1928. 1928-30 instr., Iowa State Coll.; 1930 to date prof., Mary Hardin-Baylor Coll. Co-author with N.M. Naylor, "Introductory Chemistry," 1933; revised, 1941. Mem.: A.C.S.; A.A.A.S. (fellow); Sigma Xi; Sigma Delta Epsilon; Iota Sigma Pi; A.A.U.W.; Texas Acdy. of Sc. (fellow). Chmn. of Collegiate Comm. of Texas Acdy. of Sc.

LEVEY, Harold Alvin, Sr., indep. chem. engr. conslt., 8131 Oleander St., New Orleans, La.; res. 311 Audubon Blvd. Indep. chem. engr. conslt.; b. New Orleans, La., Oct. 14, 1889; s. of M.E. and Bella P. Levey; ed. B.Engr., Tulane U. (mech.), 1910; B.Engr. (elec.), 1911; M.S., U. Ill., 1916; Ch.Engr., Tulane, 1930 (hon.); m. Constance Dannenbaum, 1928; ch.: Harold A., Jr., Shirley Alice. Thos. S. Watson Co., Milwaukee, Wis., 1912-14; (power application); mech. engr. equip. Chas. Cahill, 1914-15; res. chem. cellulose sheeting, Mariner & Hoskins, Chicago, Ill. 1916-17; tech. dir. Gen. Mfg. Co., Sioux City, Ia., 1918-19; pres. Am. Pdts. Mfg. Co. 1920 to date; pres. Inceloid Co., Inc. 1936 to date; indep. conslt. chem. engr. conslt. 1928 to date; secy., M. Pokorny & Sons. First prod. of transparent packaging cellulose acetate sheeting in Am., dev. of all automatic equip. for same; starch film sheeting. Co-ed. Chem. Formulary, Vols. 1 to 9; contrib. to sc. jls.; holder of more than 30 U.S. patents. Mem.: (Sr. Fellow) A.I.C., A.A.A.S., A.I.Ch.E., A.C.S., So. Assn. Sc. & Ind., S.P.E., La. Council Engrs., La. Engrg. Soc. Clubs: Chem., Round Table, Philharmonic Soc., Lyceum Assn. Hobbies: music, photography.

LEVIN, Herman, chem. engr., Southwest Res. Inst., P.O. Box 2296, San Antonio 6, Tex. Chem. engr.; ed. B.S. in Ch.E., U. of Texas; M.S. in Ch.E., same U.; special flds.: chem. proc. and equip. esp. planning for spec. proc. situations; instrumentation and control; organic chem. and org. chem. proc.; physical-chemical studies. Mononitration of para-xylene, de-alkylation of di-nitroxylene isomers; anal. meths. pertaining to petrochems., also new meths. applicable to control of hydrogen fluoride (U.O.P.) alkylation unit; catalyst control for catalytic cracking units; design and operation of pilot plant for prod. of benzene hexachloride, incl. dev. of meths. of control. Mem.: A.C.S., Sigma Xi.

LEVIN, Robert Harold, group leader in chem. res., The Upjohn Co., Kalamazoo, Mich.; res. 2816 Taliesin Dr., Kalamazoo. Res. chem.; b. Chicago, Ill., Nov. 1, 1915; s. of Julius and Elizabeth Orlansky Levin; ed. A.B., U. of Ill., 1937, Ph.D., U. of Wis., 1941; mem.: Phi Beta Kappa, Gamma Alpha; m. Rae Edelstein, June 22, 1941; ch.: Leslie Ann, Judith Ellen, Richard Alan. 1941-46, res. chem., The Upjohn Co.; 1946 to date, group leader, The Upjohn Co. Res. in the field of steroids and other natural products. Mem.: A.C.S., (councilor, Kalamazoo sec., 1946-50); secy., A.C.S. comm. for revision of constitution, 1946; member A.C.S. council comm. on professional relations and status, 1946-49. Hobby: building a house designed by Frank Lloyd Wright.

LEVINE, Morris, dir. of res. and dev., tech. adv., Danciger Oil & Refin. Co., Box 670, Fort Worth, Tex.; res. 3901 Trail Lake Dr., Fort Worth.
Chem.; b. Birmingham, England, Jan. 21, 1898; s. of David Joseph and Sarah Levine; ed. U. of Chicago, B.S., 1922; U. of Ill., M.S., 1923; U. of Chicago, Ph.D., 1925; m. Virginia Clark, Sept. 4, 1926; ch.: David. 1923-25 chem. asst. Sprague Memorial Inst., Chicago; 1926-31 res. chem., Universal Oil Prods. Co.; 1931-32 res. chem., Mariner & Hoskins, Chicago; 1932-33 res. chem., Texas & Pacific Coal & Oil Co., Fort Worth; 1933 to date with Danciger Oil & Refining Co., Fort Worth. Res. in hydrocarbon anal., antiknock, acetylene from natural gas. Mem.: A.C.S.; A.C.I. (fellow); Sigma Xi.

LEVIS, Irene Becker, res. dir., v.p., Inorg. Bioelements, Inc., Shore Acres Dr., Cleveland 10, Ohio; res. 2638 Kingston Rd., Cleveland 18.
Chem.; b. Cassel, Germany, Jan. 21, 1895; d. of Carl and Frances (Hess) Becker; ed. B.S., M.S., Polytech. Institute, Karlsruhe; Ph.D., U. Frankfurt/Main; divorced; ch.: Eva M., Agatha (Levis) Kleinman, Curt A. Assistantship with Prof. Ebler, Frankfurt U., with Prof. G. Popp, Frankfurt U.; hd. of microanal. dept., Frankfurt U. under Prof. Jul. V. Braun, 3 yrs., until Hitler; resigned, tried to get out of Germany with family for several yrs., finally made it in 1938; came to U.S.A.; became assoc. in chem., Case Inst. of Tech. Sept., 1938, & stayed with this Cleveland, Ohio, institution for 8 yrs. teaching & doing res. wk.; fall 1946 went into ind. as res.-chem. for several companies; became res. dir.; 1949-50 v.p., treas., M.C.D. Corp., Cleveland; at present, res. dir., v.p. (dir. on bd. of dir.), Inorg. Bioelements Inc. Org.: Deutsche Chem. Ber. 1919-22, Uber die Einwirkung von o-Benzaldehyh auf chlor-substituierte Amine, Fluorenone und Antrachinone; publ. in German magazines on various toxins; in U.S.A. 1941 studies on Bangs disease, publ. in The History of Randleigh Farm, Lockport, N.Y. 4th edit.; Quantit. Spectrographic Analysis of Blood & Tissue fluids. Stecher, Bedell & Levis, Journ. of Lab. & Clin. Med.—Vol. 34, 1949; holder of 2 U.S.A. process pats. Mem.: A.C.S., Cleveland Physics Soc. Hobbies: reading, gardening, chess.

LEVOWITZ, David, dir., owner, N.J. Dairy Labs., 222-226 Easton Ave., New Brunswick, N.J.; res. 210 Lawrence St., New Brunswick.
Dairy technologist; b. N.Y.C., May 9, 1908; s. of Aaron D. and Jennie (Schwartz) Levowitz; ed. B.S., 1927, C.C.N.Y.; M.S., 1929, Rutgers U., Ph.D., 1936; mem.: Phi Epsilon Pi; m. Lilian Sofin, Dec. 27, 1935; ch.: Sandra, Martin, Amy. 1927-29, res. asst., Rutgers; 1929-31, res. fellow, Rutgers; 1931-36, res. assoc., Rutgers; 1936 to date, anal., N.J. Milk Control Bd.; 1931 to date, anal., N.J. Milk Merchandising Div., N.J. State Dept. of Agric.; 1936 to date, dir., N.J. Dairy Labs.; 1942 to date, special lecturer, courses in Dairy Prods. Control, N.J. State Dept. of Health; anal., dairy prods., municipalities of: Bound Brook, 1929 to date, Red Bank, Bernardsville 1936, Somerville 1931 to date, Morristown 1939 to date, Morris Plains, Harding Township, Morris Township 1946 to date; conslt., 1943-44, Office Prod. Res. & Dev., War Prod. Bd.; conslt. to other than dairy org.: Colgate-Palmolive-Peet., Westvaco Chem. Corp., Winthrop-Stearns, Al. Corp. of Am., Johnson & Johnson; conslt. to dairy org.: more than 100 dairy mfg. plants served at present. Influence of egg constituents on ice cream mfg. 1927-29; investigation of physico-chem. relationships at dairy foam systems, 1929-35; conversion of cream to butter, without churning; detergency studies on dairy equipt. 1947-50. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S., A.P.H.A., A.A.A.S., A.D.S.A., S.A.B., I.F.T., D.I.S.A., D.I.S.I., Met. Dairy Tech. Soc., Phila. Dairy Tech. Soc., N.J. Health Officers' Assn. N.Y., Conn. & Vt. Milk Sanitarians. Dir., Community Welfare Council, New Brunswick & Highland Park, N.J. Club: Masons. Hobbies: photography, machine tools.

LEVY, Lionel F., partner, tech. dir., Max Levy & Co., Wayne Ave. & Berkley St., Phila. 44; res. 1016 Westview St., Phila. 19.
Manufacturer; b. Phila., Pa., Sept. 13, 1884; s. of Louis E. and Pauline Dalsheimer Levy; ed. U. of Pa., B.S. in Ch.E., sr. honors, 1908; m. Margaret Wasserman, Feb. 11, 1926; ch.: Joan, Louis, Edith, Carol. Erecting engr., in Europe and America, Graphic Arts Co., 1908-15; partner, Repro Art Machinery Co., 1915 to date; partner, Max Levy & Co., 1920 to date; Electronized Chem. Co., N.Y. (dir.), Investment Corp. of Phila., (dir.). Mem.: A.S.M.E., A.C.S., Franklin Inst. (dir.), Benj. Franklin Memorial Museum (dir.), Phila. Art Alliance (dir.), White Williams Foundation (dir.). Clubs: Engineers (Phila.), Chemists', (New York).

LEVY, Robert Michael, asst. dir. of res. and dev., Ecusta Paper Corp., Pisgah Forest, N.C.; res. P.O. Box 743, Brevard, N.C.
Chem. engr.; b. Chicago, Ill., Mar. 1, 1916; s. of Jacob J. and Mae Levy; ed. Ill. Inst. of Tech., Ph.D. ch. engr., 1940; mem.: Rho Delta Rho, Tau Epsilon Phi; m. Helen Lowenson, Sept. 1, 1940; ch.: Jack Martin, Thea Mary. 1937 asst. instr. chem. and chem. engr., Ill. Inst. of Tech.; 1938-40 res. asst. Armour Res. Foundation; 1939-40 res. fellow, Ill. Inst. Tech.; 1940-49 dir. fundamental res., Ecusta Paper Corp.; 1949 to date asst. dir. res. and dev., same corp. Dev. the cupriethylene diamine viscosity test for cellulosic matls.; res. in cellulosic and pure phys. chem. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S., A.I.Ch.E., T.A.P.P.I., A.A.A.S., A.I.Phys.; Soc. Rheology. Clubs: Engineers (W.N.C.); Kiwanis Internatl. Hobbies: photography, gardening.

LEWENZ, Hans W., plant mgr., Gen. Ceramics & Steatite Corp., Keasbey, N.J.; res. R.D. 3, Watchung, N.J.
Engr.; b. Berlin, Germany, Feb. 5, 1913; s. of Hans L. and Ella Lewenz; ed. Inst. of Tech. (Technische Hochschule) Berlin, Germany, grad. 1935, majored in engrg. & management; m. Betty Jane Deatrick, Dec. 31, 1947; ch.: Hans Curtis Henderson. 1935-36 student engr., Chrysler Corp., Detroit, Mich.; 1936-38 plant engr., Chrysler Airtemp, Dayton, Ohio; 1938-40 die designer, Gen. Ceramics & Steatite Corp., Keasbey, N.J., 1941-46 purch. agent, 1946 to date plant mgr., Chem. Equipt. Div.

LEWIS, Bernard, chf., explosives brch., U.S. Bur. of Mines, Dept. of the Int., 4800 Forbes St., Pittsburgh 13, Pa.; res. 5863 Marlborough Ave., Pittsburgh 17.
Phys. chem.; b. London, England, Nov. 1, 1899; s. of Mark and Jenny Lewis; ed. M.I.T., B.S. chem. engr., 1919-23; Harvard U., M.A. phys. chem., 1923-24; Cambridge U. (England), Ph.D. phys. chem., 1924-26; Natl. Res. Fellow, U. of Minn., 1926-28; U. of Berlin and Kaiser Wilhelm Inst., Germany, 1928-29; m. Eunice Norton, May 4, 1934; ch.: Norton, Charlotte Rebecca. 1929-42 phys. chem. U.S. Bur. of Mines; 1942-46 Lt. Col. U.S.A. (Ord. Dept.); 1946 to date chf. Explosives Brch., U.S. Bur. of Mines. Author of over 100 sc. arts. in var. jls. in U.S., England, France, Germany, on photochem., gas kinetics, thermodynamics, active nitrogen, mechanism of explosions, flame temp., flame propagation, detonation, state of flame gases, explosion pressures, explosion limits, ignition of mine gases by explosives, etc.; inventor of smokeless, noiseless, and flameless grenade fuze, now std. grenade fuze with U.S.A. Co-author with Guenther von Elbe, "Combustion,

Flames and Explosions of Gases," Cambridge U. Press, 1938. Second edition, Academic Press, 1951. Mem.: Sigma Xi; N.Y. Acdy. of Sc.; A.C.S.; A.Phys.S.; chmn., Subcomm. on Combustion of Natl. Adv. Com. for Aeronautics; and stdg. comm. on Combustion Symposia; mem. Scientific Advisory Comm., Ballistic Res. Lab., Aberdeen. Rec. Legion of Merit Award—U.S.A. President, Pittsburgh New Friends of Music; trustee, Falk Schl., Univ. of Pittsburgh. Clubs: Cosmos; Harvard; M.I.T. Hobby: music.

LEWIS, George Arthur, pres., The L. Martin Co., 41 E. 42 St., N.Y.C.; res 22 Gramercy Pk. Chem. engr.; b. Phila., Pa., Mar. 13, 1906; s. of George Charles and Annie Julia Lewis; ed. Imperial Serv. Coll., England; Cambridge U., hons. in physics. 1926-50 The L. Martin Co. Div., Columbian Carbon Co.; 1929-30 chem. engr. Monroe, La. Carbon Co.; 1936-50 tech. dir., Un. Lamp Black Wks., England; 1944-50 v.p. Armite Corp. Res. in des., erection of plants for mfg. carbon from incomplete combustion of hydrocarbons; dev. carbons for liq. oxygen explosives. Co-author: "Lamp Black-Furnace Black Animal Vegetable & Mineral Blacks," Vol. II, "Protective & Decorative Coatings," 1942. Mem.: A.I.Ch.E., A.I.C. Clubs: Manhasset Bay Yacht. Hobby: yacht racing.

LEWIS, Harry Fletcher, dean, Inst. of Paper Chem., Appleton, Wis.; res. 903 E. Alton St., Appleton, Wis.
Chem. res. and educ. admin.; b. May 27, 1891; s. of Ben M. and Jennie P. Lewis; ed. Wesleyan U., B.S., 1912; M.S., 1913; U. of Ill., Ph.D., 1916; Cornell Coll., D.Sc. (hon.), 1945; Ohio Wesleyan U., 1948; m. Mildred Judd, June 28, 1916; ch.: Harry F., Jr., Jean, Ben M., Helen, David J. 1917 instr. chem. Grinnell Coll.; 1917-18 asst. org. chem. U.S. Dept. Agric.; 1918-19 assoc. prof. chem. U. of Maine; 1919-21 res. chem., Natl. Aniline & Chem. Co., Bnffalo, N.Y.; 1921-28 prof. chem. Cornell Coll.; 1928-30 at Ohio Wesleyan U.; 1930 to date res. assoc., Inst. of Paper Chem.; 1933 to date dean, same Inst. Res. in chem. of redwood, lignin, bark, etc. Author: "Fundamentals of Org. Chem.," McGraw-Hill, 1919. Mem.: A.C.S., T.A.P.P.I., Soc. Chem. Ind., Leather Chem. Assoc., London Chem. Soc. Dir., Appleton Y.M.C.A.; dir. North Central Area Y.M.C.A.'s.

LEWIS, Howard Bishop, John Jacob Abel Univ. Prof. of biolog. chem. and chmn. of dept., U. of Michigan; Medical Schl., U. of Mich., Ann Arbor, Mich.; res. 1714 Wells St., Ann Arbor, Mich.
Educ.; b. Southington, Conn., Nov. 8, 1887; s. of Frederick Austin and Charlotte (Parmelee) Lewis; ed. Yale U., A.B., 1908; Ph.D., 1913; mem.: Phi Beta Kappa, Sigma Xi, Alpha Chi Sigma; m. Mildred Lois Eaton, June 15, 1915; ch.: Charlotte Barber, Elisabeth Parmelee. 1913-15 instr. physio. chem., Med. Schl., U. of Penn.; 1915-22 assoc., asst. prof. and assoc. prof., U. of Ill. (Champaign-Urbana Div.); 1922 to date prof. and chmn. U. of Mich.; 1947 to date John Jacob Abel Univ. Prof.; 1933-47 dir., Coll. of Phar., Mich. Chf. fld. of res., amino acid and sulfur metabolism. Mem.: Natl. Acdy. Sc.; A.A.A.S.; A.C.S.; A.S.Bio.C. (pres. 1935-37); Am. Inst. Nutrition (pres. 1942-43); Soc. Exptl. Biol. Med., Natl. Bd. of Med. Examiners (1935-50); Council on Food and Nutrition, A.M.A. (v. chmn.). On edit. bd., J. Biol. Chem. 1937 to date. Russel Lecturer, U. Mich. 1949-50.

LEWIS, John B., dir. of res., Block Drug Co. & Associated Cos., 257 Cornelison Ave., Jersey City 6, N.J.; res. 34 McKinley Ave., Dumont, N.J.
Phar. chem.; b. Phila., Pa. July 9, 1903; s. of Howard H. and Nan M. (Prinzing) Lewis; ed. Phila. Coll. Phar. & Sc., Ph.G., 1925; Ph.C., 1926; LaWall Prize; mem.: Upsilon Sigma Phi; m. Marian Elizabeth Jenkins, Jan. 9, 1944; ch.: John David, Roger Andrew, Sybilla June. 1934-42 conslt. pharmaceut. chem.; 1942-43 phar. chem. Sharp & Dohme; 1943-46 sr. phar. chem. Wyeth, Inc.; 1946-48 dir. of res. S.F. Durst & Co.; 1948 to date dir. of res. Block Drug Co. First to make stable ammoniated tooth paste, first stable injectible physostigmine solution. Mem.: A.I.C. (fellow); N.Y. Acdy. of Scs., A.C.S., A.A.A.S., Soc. Amer. Bacteriologists. Hobbies: farming, photography, tennis.

LEWIS, Warren Kendall, prof. chem. engrg. (emeritus), M.I.T.; res. 85 Lombard St., Newton 58, Mass.
Retired tchr.; b. Laurel, Del., 1882; s. of H.C. and M.E. (Kinder) Lewis; ed. M.I.T. S.B., 1905; U. of Breslau, Germany, Ph.D., 1908; mem.: Tau Beta Pi, Sigma Xi; m. R.D. Kenway, 1909; ch.: W.K., Jr., H.C., R.K., M.L. 1905-06 asst., M.I.T.; 1908-09 res. assoc., M.I.T.; 1909-10 chem., W.H. McElwain Co., Merrimack, N.H.; since 1910 on staff of M.I.T. Co-author with Walker, McAdams and Gilliland, "Principles of Chem. Engrg.," McGraw-Hill, 1937; with Radasch, "Industrial Stoichiometry," McGraw-Hill, 1927; with Squires and Broughton, "Industrial Chem. of Colloidal and Amorphous. Matls.," Macmillan, 1942. Rec. Perkin M. (1936); Lamme M. (1947); Priestley M. (1947); 1949 Gold M. (A.I.C.); mem.: A.C.S., A.I.Ch.E., British Inst. of Chem. Engrs. (hon.); S.C.I., A.I.C. (hon.); A.I.M.E.; A.A.A.S.; Natl. Acdy. of Sc. Club: Chemists' (N.Y.). Hobby: chemistry.

LI, Choh Hao, prof. biochem., Hormone Res., 4596 Life Sciences Bldg., U. of Calif., Berkeley, Calif.; res. 1200 Oxford St., Berkeley.
Prof.; b. Canton, China, April 21, 1913; s. of Kan-Chi and Mui-Ching Tsu Li; ed. B.S., 1933, U. of Nanking (China); U. of Calif., Ph.D., 1938; mem.: Sigma Xi; m. Annie Lu, Oct. 1, 1938; ch.: Wei-i Li, Ann-si, I-fan. 1933-35, instr. U. of Nanking, China; 1938-42, res. assoc., U. of Calif.; 1942-44, res. assoc. lecturer; 1944-47, asst. prof. of Inst. of Exper. Biology; 1947-50, assoc. prof. of Inst. Exper. Biol.; 1950 to date, prof. biochem. Isolation of interstitial-sell stimulating hormone (ICSH), lactogenic hormone, adrenocorticotropic hormone (ACTH), Growth hormone and follicle-stimulating hormone (FSH) in pure form from anterior pituitary glands. Demonstration of the existence of biologically active small units (peptides) from the hydrolysates of FSH and ACTH. Author of over 140 scientific papers in various jls. and tech books. Awards: Ciba in Endocrinology, 1947; John Simon Guggenheim Memorial Foundation Fellowship, 1948. Mem.: A.A.A.S., A.C.S., Soc. for the Study of Internal Secretion, A.S.Biol.C., S.E.B.M., N.Y. Acdy. Sc. Biochem. Soc. (London), Faraday Soc. and A.A.U.P.; Faculty Club of U. of Calif. Hobby: photography.

LICATA, Francis J., chf. chem., Metasap Chem. Co., Harrison, N.J.; res. 20 Sanderson Ave., W. Caldwell, N.J.
Chf. chem.; b. N.Y.C., Aug. 23, 1901; s. of Anthony and Concetta Licata; ed. 1925, B.S., C.C.N.Y.; 1936-38 post grad. wk., Columbia U., Bklyn. Polytch. Inst.; m. Rose Kaufmann, 1947; ch.: Anthony. 1925-26 Ledoux Co., N.Y.C., anal.; 1926-28 Bristol-Myers, Hillside, N.J., asst. to tech. dir.; 1928-30 Congoleum-Nairn, Kearney, N. J., oil chem.; 1930 to date Metsap Chem. Co., Harrison, N.J., chf. chem. Res. in metallic soaps, lubricants, water proofing, paint, varn., lacq. Author: "Metallic Soaps," 1935, 1940, 1948. Mem.: A.C.S., A.O.C.S., A.I.C., Soc. Chem. Ind. (London). Club: City Coll. Alumni Assn. Hobby: gardening.

LICHTENBERG, Charles, asst. gen. mgr. sales, Monsanto Chem. Co., Plastics Div., Springfield, Mass.; res. 80 East Greenwich Rd. Longmeadow, Mass.
Exec.; b. N.Y.C., July 2, 1900; s. of Charles and Louise Lichtenberg; ed. Pratt Inst., I.Ch.E.; m. Jane A. Archhibald, Sept. 21, 1929. 1920-22 plant chem., Amer. Sugar Refin. Co.; 1922-26 tchg. H.S. phys. and chem., City of N.Y.; 1926-30 tech. sales., 1930-33 Eastern Sales Mgr. Solvent Tech. Sales Resinox; 1933-36 Alcohol Sales Mgr. Tech. Sales Resinox; 1936-38 Alcohol Sales Mgr., Sales Mgr. Resinox, all Commercial Solvents Corp.; 1938-40 v.p. chg. all operations, Resinox Corp.; 1939-47 sales mgr. molding matls. dept., Monsanto Chem. Co.; 1947 to date asst. gen. mgr. of sales, Monsanto Chem. Co. Club: Chemists'. Hobbies: photography, gardening.

LICHTENBERG, Charles R., pres., Chicago Sanitary Prod. Co., 3100 S. Throop St., Chicago, Ill.; res. 5530 S. Shore Dr., Chicago.
Soap mfg.; b. Chicago, Ill., Mar. 24, 1895; s. of Abraham and Rose Lichtenberg; m. Emma Wolpert (dec.), Mar. 15, 1950; ch.: Leo. Secy., C.O.D. Cleaning & Laundry Co., Clinton, Ia., 1920-22; secy., Bon Ton Beverage Co., Chicago (now Waukasha, Wis.), 1922-30; gen. mgr., Chicago Sanitary Prod. Co., 1930-33, pres., Chicago Sanitary Prod. Co., 1933 to present. Mem.: A.O.C.S. Clubs: American Legion, Elks. Hobbies: fishing, travel.

LICHTENWALNER, Daniel C., prof. of chem., Drexel Institute, Phila., Pa.; res. Lansdowne, Pa.
Teacher; b. Aug. 27, 1893, Tatamy, Pa.; s. of Owen C. Lichtenwalner; ed. B.S., Lafayette Coll., M.S., Ph.D., U. Maryland; mem.: Alpha Chi Sigma. J.T. Baker Chem. Co.; N.J. Zinc Co.; U.S. Naval Proving Station, Indian Head, Md.; asst. prof. of chem. U. of Md., Armstrong Cork Co.; prof. of chem., Drexel Institute.

LICKLE, Charles Harold, mgr. of cellulose purchases, Hercules Powder Co., Wilmington, Del.; res. 733 Nottingham Rd., Wilmington.
Exec.; b. Baltimore, Md., June 20, 1898; s. of Dr. John D. and Francis E. (Treakle) Lickle; ed. Washington Coll., Chestertown, Md., B.S., 1918 (cum laude); U. of Pa. Wharton Schl., spec. courses; m. Hazel C. Cauffiel, Mar. 7, 1925; ch.: William Cauffiel, Daniel Cauffiel. Foreign purchases of cotton linters for U.S. and British Govt. during W.W.II. Clubs: Wilmington Country, Hercules Country.

LIDDELL, Donald M., secy., Mining & Metallurgical Soc. of Amer.; conslt. engr., 11 Broadway, New York 4; res. 30 E. 55th St., New York 22.
Consit. engr.; b. Lawrenceburg, Ind., Feb. 28, 1879; s. of Oliver Brown and Josephine (Major) Liddell; ed. Johns Hopkins U., B.A., 1900; mem.: Phi Beta Kappa, Beta Theta Pi; m. Edith Stabler, Dec. 2, 1905; ch.: Donald M., Jr., Edith Jordan (Llddell) Twiss. Var. positions with copper and lead smelting and refin. cos., 1900-10; on edit. staff, later mng. editor, Engrg. & Mining Jl., 1910-16; conslt. engr., Merrill, Lynch & Co., 1916-17; Capt., U.S.A., 1918-May, 1919; conslt. engr., Weld & Liddell, 1919-36; pres. Crown Cork & Seal Co. of Baltimore and all foreign subsids., 1925-28; asst. secy. and treas., Superior Steel Co., 1917-42; pres., Cecil Construction Co. of Baltimore, 1926-40; pres., Calvert Court Co. of Baltimore, 1926-45; pres., The Union County Corp., 1934-42; pres., The Moa Bay Co. (Cuba), 1936-42; Lt. Col., U.S.A., 1942-Oct. 10, 1943 (retired for age). Dir. and pres., 1926 to date, Homewood Apartment Co., Baltimore; dir., 1937 to date, Natl. State Bank, Elizabeth, N.J.; trustee, 1938 to date, Natl. State Corp., Elizabeth, N.J. Author: "Metallurgists & Chemists Handbook," 1916; second ed. 1918; third, 1929; editor, "Handbook of Chem. Engrg.," 1922; was the first to make selenium and tellurium common metals; author also of "Handbook of Non-Ferrous Metallurgy," 1926; 1946; co-author with Gilbert Doan, "Principles of Metallurgy," 1931; with Kenneth Leith, "Mineral Resources of the U.S. and Its Capacity to Produce," 1934; co-editor with H. Foster Bain of Internatl. Control of Mineral Resources. Secy. of Mining & Metallurg. Soc. of Amer. Mem.: A.I.M.E. Clubs: Mining of N.Y. (past pres.); Army & Navy (Wash., D.C.); University (N.Y.); Milit. Order of Loyal Legion (sr. v.commdr.); Military Order Foreign Wars. Hobbies: collecting chessmen (wrote bk. on subj. Chessmen); bridge.

LIDOV, Rex E(verett), acting dir. res., Julius Hyman & Co., Box 2171, Denver 1, Colorado; res. 800 Adams St., Denver 6.
Res. chem.; b. Chicago, Ill., Aug. 7, 1913; s. of Samuel J. and Gladys Rose (Oxenhandler) Lidov; ed. S.B., with honors, U. of Chicago, 1934, Ph.D., 1936; mem.: Phi Beta Kappa, Sigma Xi; m. Dorothy Louise Rosenhouse, Des. 23, 1934; ch.: David Arthur, Joel Benjamin. Mar., 1937-July, 1937, Universal Oil Products Co., Chicago, Ill., res. chem.; Oct., 1937-Feb., 1940, General Fuel Engrg., Inc., Detroit, Mich., res. chem. in chg. lab. and pilot plant; Feb., 1940-Oct., 1942, Portland Gas & Coke Co., Portland, Ore., res. chem.; Oct., 1942-Sept., 1943, Dearborn Chemical Co., Chicago, Ill., res. chem.; Oct., 1942-Sept., 1943, Dearborn Chemical Co., Chicago, Ill., res. chem.; Sept., 1943-Nov., 1946, Velsicol Corp., Chicago, Ill., asst. dir. of res., Nov., 1946 to date, Julius Hyman & Co., Denver, Colo., acting dir. of res. Res. in dev. of powerful, safe, alkali stable residual and non-residual insect toxicants. Mem.: A.A.A.S., A.C.S. (chmn. elect, Colorado sect., 1950-51). Hobbies: photography, audio amplifiers, classical music on records.

LIEBERMAN, E(manuel) R(oy), res. chem., Interchem. Corp., 432 W. 45th St., New York 19, N.Y.; res. 50-14 Broadway, Woodside, L.I.
Chem.; b. N.Y.C., Aug. 1, 1919; ed. B.S. chem.. Coll. City of N.Y., 1940; Bklyn. Coll., 1940-41; B.S. elec. engrg., Kentucky, 1946; mem.: Phi Beta Kappa, Tau Beta Pi. Physiol. chem., Beth-El Hosp., Bklyn., 1940-41; pharmaceut. chem., Pro-Medico Labs., 1941; Herman Meyer Drug Co., 1941-42; res. chem., Manhattan Dist., 1943-44; chf. chem. and plant supvr., Anderson Labs., Mich., 1946-47; res. Silicone and Resin Chem., Interchemical Corp., 1947 to date; U.S.A., 1942-46. Mem.: A.C.S., Assoc. Inst Radio Engrs.

LIEBHAFSKY, Herman Alfred, res. assoc., Gen. Elec. Co., Schenectady, N.Y.; res. 1674 Lake Blvd., Schenectady.
Chem.; b. Zwittau-Hungary, Austria, Nov. 16, 1905; s. of Hugo and Albertine (Groeger) Liebhafsky; ed. Agric. & Mech. Coll. of Tex., honor student, B.S., 1926; U. of Nebr., M.S., 1927; U. of Calif., Ph.D., 1929; m. Sybil Small, Nov. 30, 1935; ch.: Douglas Small, Alison Bowe. Summer, 1926, anal. chem., Gulf Oil Co., Pt. Arthur, Tex.; 1926-27, teaching fellow, U. of Nebr.; 1927-29, teaching fellow, U. of Calif., 1929-34, instr.; 1934 to date, res. lab., Gen. Elec. Co.; 1945 tech. observer, U.S. Ord., European Theater of Operations. About 70 publ. in var. flds. of chem., such as kinetics of reactions in solution, reactivity of amalgams, chem. problems of mercury boilers, spectrophotometric anal. meths., corrosion, x-ray absorption in chem. anal., diffusion. Mem.: A.C.S., Natl. Assn. of Corrision Engrs., Phi Lambda Upsilon, Gamma Alpha, Sigma Xi. Club: Edison. Hobby: golf.

LIEBMANN, Alfred J., tech. dir., pres. Schenley Res. Inst., 350 Fifth Ave., N.Y. 1, N.Y.; res. 25 E. 77th St., N.Y. 21.
Chem.; b. Zurich, Switzerland, Aug. 4, 1885; s. of Albert and Matilda Liebmann; ed. Ch.E., Fed. Polytech. Schl., Zurich, 1907; Ph.D., Zurich, 1909; mem.: Sigma Xi; m. Edna Keller, Apr. 12, 1916. Mem. staff, res. lab., Gen. Elec. Co., 1909-10; chf. chem., Filament Wks., Munich, Germany, 1911; Watt Incandescent Lamps, Vienna, 1912; gen. engr., Independent Lamp & Wire Co., N.J., 1912-20; wks. mgr., Elkon Wks., 1921-26; indus. conslt., 1926-33; tech. dir., Schenley Distillers Corp., & pres., Schenley Res. Inst. Inc., 1933 to date. Improvements in prod. of ethyl alcohol & alcoholic beverages; res. & dev. in penicillin & other antibiotics; prod. of butane-diol from grains & conversion to butadience; utilization of distillery byprods., plastics & factices from agr. prods. Trustee, Knickerbocker Hosp. Club: Harmonie (N.Y.C.). Hobbies: books, autographs.

LIENHARDT, Winfield S., asst. v.p., Metal, Thermit Corp., 100 E. 42 St., N.Y. 17, N.Y.; res. 176 Millburn Ave., Millburn, N.J.
Chem. engr.; b. N.Y.C.; s. of Adolph and Isobel Lienhardt; ed. Columbia Coll., A.B., 1920; Columbia U., Schl. of Mines, Engrg. & Chem., Ch.E., 1923; m. Marion Cullen, Sept. 15, 1925; ch.: Barbara, Robert, Roger. Lamp dev. dept., Westinghouse Lamp Co., 1923-24; Metal & Thermit, Carteret plant, asst. supt. 1924-39; South San Francisco plant. supt., 1939-43; E. Chicago plant, gen. supt., 1944-49; N.Y.C., asst. to v.p. 1949 to date. Pats. on chems., proc. Mem.: A.I.M.E., A.S.M., A.I.Ch.E., A.C.S. Clubs: South Shore Country, Whist (Orange). Hobbies: stamp collecting, bridge, lawn bowling.

LIENTZ, James R., gen. supt., pulp & paper div., Union Bag & Paper Corp., Savannah, Ga.; res. 629 E. 50th St., Savannah.
Chem. engr.; b. Los Angeles, Calif., July 28, 1913; s. of Shannon D. and Aileen A. (Riggins) Lientz; ed. U. of Mich., Ann Arbor, Mich., B.S.E., 1936; M.S.E., 1937; mem.: Acacia; m. Mineola Gould, Nov. 9, 1940; ch.: James Richard, Jr., John Gould. 1937-40 chem. engr. Swenson Evap. Co., Harugy, Ill.; 1940-42 chf. chem., Union Bag & Paper Corp., Savannah, Ga.; 1942-46 mgr. Pulp & Paper Dept., Swenson Evap. Co.; 1946-48 supt. Mill Tech. Dept., Union Bag & Paper Corp., Savannah, Ga.; 1948 to date gen. supt., Pulp & Paper Div., same corp. Mem.: A.I. Ch.E., T.A.P.P.I.

LIGGETT, Lawrence M., supvr. inorg. res., Wyandotte Chems. Corp., Wyandotte, Mich.; res. 2350 19th., Wyandotte, Mich.
Chem.; b. Denver, Colo., June 22, 1917; s. of T.H. and Mary D. (Taylor) Liggett; ed. Central Coll., Pella, Iowa, A.B., 1938; Iowa State Coll., Ames, Iowa, Ph.D., 1943; m. Edith I. Harris, 1943; ch.: Pamela Jane, Betty Sue. 1941-42 N.D.R.C., O.S.R.D., Iowa State Coll.; 1942-43 instr. chem., Iowa State Coll.; 1943-47 Cardox Corp., Claremore, Okla., plant supt.; prod. of alkali chlorates and perchlorates; 1947 to date, Wyandotte Chems. Corp. Anal. of alkali metals in silicate rocks-anal. chem. oxygen-carrying cobalt org. compds.; prod. of alkali chlorates and perchlorates. Author: "Studies on Oxygen-Carrying Cobalt Compds.," 1947, 1948. Mem.: A.C.S., Phi Lambda Upsilon, Alpha Chi Sigma, Sigma Xi, Assoc. of Anal. Chems. (Detroit). Hobbies: photography, hunting.

LIGHT, Robert Frederick, mgr., Fleischmann Labs., Standard Brands, Inc., 810 Grand Concourse, N.Y. 51, N.Y.; res. 130 Summit Ave., Mt. Vernon, N.Y.
Res. chem.; b. Ottawa, Ohio, July 26, 1901; s. of Frank (M.D.) and Aramanta (Bartholomew) Light; ed. U. of Minn., B.S., 1926, M.S., 1927; mem.: Alpha Chi Sigma, Alpha Gamma Rho; m. Alice Caldwell, Sept. 6, 1930; ch.: Richard, John. Fleischmann Labs.: lab. asst. 1923-25, nutrition chem. 1927-37, res. chem., asst. dir. 1937-44, mgr. 1944 to date. Process pats. for prod. of sterols, enzymes, vitamin preparations; process & prod. pats. for the prod. of vitamin D preparations; calcium-phosphorus metabolism; nutritive qualities of cereal proteins. Mem.: N.Y. Acdy. of Scs. (fellow), A.I.C. (fellow), A.C.S., I.F.T., Am. Inst. of City of N.Y., A.A.A.S., Phi Lambda Upsilon. Trustee, Am. Inst. of City of N.Y.; officer & mem. of Council of N.Y. Acdy. of Scs.; mem. of exec. comm. of Armed Services of Y.M.C.A. Club: Chemists'. Hobbies: arboriculture, horseback riding.

LIGHTBODY, Albert, chf., chem. div., engrg. dept., Naval Ordnance Lab., White Oak, Md.; res. 10702 New Hampshire Ave., Silver Spring, Md.
Chem.; b. Daykin, Nebr., Mar. 19, 1907; s. of George M. and Alma Fullmer Lightbody; ed. B.Sc., cum laude, Chadron State Tchrs. Coll., Chadron, Nebr.; Ph.D., U. of Nebr.; m. Norene Collons, July 7, 1934; ch.: Linda Norene. Instr., chem., Chadron State Tchrs. Coll., 1933-35; res. chem., E.I. du Pont de Nemours & Co., 1935-43; exec. officer, Naval Ord. Lab., (plastcis), Silver Spring, Md.; U.S. Navy Lcdr. U.S.N.R., 1943-46; chf., plastics div. and chem. div., Naval Ord. Lab., White Oak, Md., 1946 to date. Res. changes in vol. and temperature that accompany the mixing of org. liquids; hiding power of white pigments in enamels; plastics mtls. and their applications in ordnance. Mem.: A.C.S., Soc. of Plastic Engrs., A.S.T.M., Sigma Xi, Pi Lambda Upsilon. Hobbies: gardening, golf.

LIKES, Carl James, prof. of chem. and hd. of dept., Hampden-Sydney Coll., res. Hampden-Sydney, Va.
Tchg.; b. Charleston, S.C., Sept. 11, 1916; s. of Daniel E. and Martha E. (Smith) Likes; ed. College of Charleston, B.S. in chem., 1937; U. of Va., Ph.D. phys. chem., 1941; mem.: Phi Beta Kappa, Alpha Chi Sigma, Chi Beta Phi, Sigma Xi; m. Mary Elisabeth Culin, June 12, 1943. 1941-43 instr. in chem., U. of Va.; 1943-46 asst. prof. chem., Tulane U.; 1946 to date prof. of chem. Hampden-Sydney Coll. Co-author with A.E. Harvey, "First-Year Qualitative Analysis." T.Y. Crowell & Co., 1947. Mem.: A.C.S., A.A.A.S., Va. Acdy. of Sc. Hobbies: music, cabinet-making.

LILLIE, Howard Russell, physicist, Corning Glass Wks., Corning, N.Y.; res. 191 Delevan Ave., Corning, N.Y.
Physicist; b. Northeast, Pa., May 13, 1902; s. of Russell C. and Frances E. (Middleditch) Lillie; ed. Ripley (N.Y.) H.S., 1919; Allegheny Coll., B.S. 1924; U. of Wis., M.S. 1926; mem.: Theta Chi; m. Jennie E. Hammond, Aug. 18, 1932; ch.: Alice Jane. With Corning Glass Works, Corning, N.Y., 1927 to date. Res. in physical properties of glass as related to time and temperature. Mem.: Am. Ceramic Soc. (chmn. Upstate N.Y. Sect., 1945-46; chmn. Glass Div., 1948-49; pres. elec. 1950-51); Soc. of Rheology (secy. 1939-40); Optical Soc. of Amer.; Sigma Xi (Wisconsin, 1926); Internatl. Commis. on Glass (exec. comm.) 1950-51.

LILLY, Eli, chmn. of bd., Eli Lilly & Co.; res. 740 S. Alabama St., Indianapolis, Ind.
Chmn.; b. Indianapolis, Ind., Apr. 1, 1885; m. Ruth Allison Nov. 7, 1927; ch.: 1 dau.; ed. Phila. Coll. Phar., P.C., 1907. Eli Lilly & Co., 1907 to date. Mem.: A.C.S., Am. Phar. A., Ind. Phar. Assn.

LILLY, Josiah Kirby, pres., Eli Lilly and Co., 740 S. Alabama St., Indianapolis, Ind.
Exec.; b. Indianapolis, Ind., Sept. 25, 1893; s. of Josiah Kirby and Lilly (Ridgely) Lilly; ed. U. of Mich., Ph.C., 1914; m. Ruth Brinkmeyer, Oct. 15, 1914; ch.: Josiah Kirby, III, Ruth (Lilly) Van Riper. With Eli Lilly and Co. 1914 to date. Mem.: A.Phar.A.

LINBERG, George O., v.p., dir. sales, Belle Chemical Co., 19 High St., Boston, Mass.; res. 19 Kirkstall Rd., Newtonville, Mass.
Dir. of sales; b. Boston, Mass., Dec. 20, 1891; s. of Anders and Maria C. Linberg; ed. Boston Tech. H.S., Pratt Inst.; m. Bertha Voight, Feb. 23, 1916; ch.: Jeanne West. 1909-12, Kalle & Co., Inc.; 1913-15, Astabula Worsted Mills, Astabula, O.; 1915-16, mgr., Bachmeier & Co., 1917-19, mgr., J.F. Linberg & Co., Inc.; 1919-30, chf. chem., Standardization Lab., Newport Chemical Wks., Inc.; 1931-46, chemical sales, E.I. du Pont de Nemours Co., Inc.; 1946-50, sales mgr., Textile Chemical Dept., Monsanto Chemical Co.; May 15, 1950, v.p. and dir. of sales, Belle Chemical Co., Inc., Reading, Pa. Originated and instigated continuous piece dyeing of woolen flannel (undress blue) for use in W.W.II by U.S. Navy. Arts.: "Continuous Dyeing of Woolen Pieces with Indigo," Sept., 1942, American Dyestuff Reporter; "Continuous Dyeing of Indigo on Wool." Dec., 1942, Amer. Dyestuff Reporter. Mem.: A.A.T.C.C., v.p., Drysalters Club of New England, v.p., New England Councilor, A.S.T.M., A.C.S. (rubber section). Clubs: Weston Golf, Southern New England Textile Club, Chemists' (New York). Hobbies: golf, photography, gardening.

LINCOLN, Bert Hartzell, chem., patent adviser, Continental Oil Co.; res. 920 E. Overbrook, Ponca City, Okla.
Pat. adviser; b. Van Buren, Ark., Sept. 6, 1900; s. of Charles Albert and Colia (Epps) Lincoln; ed. U. of Ark. and U. of Colo.; mem.: Kappa Alpha; m. Sara Alice Blackburn, Apr. 23, 1927; ch.: Gilbert H., Sara Ann, John Charles. Instr., U. of Ark. and U. of Colorado; asst. State Bacteriolog., State of Colo., Dept. of Sanitary Engrg., 1924; res. chem. Continental Oil Co., 1926-30; asst. to mfg. mgr. Continental Oil Co. 1930-33; admitted to Pat. Off. Bar in 1933; asst. secy. The Lubrizol Dev. Corp., 1935; chf. chem. 1933-48; Continental Pat. Adv., 1948 to date. Res. in petroleum chem. in general but primarily in lubricating oil and additives for lubricants. Member of Toluene Tech. Comm.; Natl. Roster of Sc. and Specialized Personnel, Alternate; Tech. Advisory Comm.; has 105 U.S. pats. as inventor and co-inventor, and 53 pats in foreign countries as inventor or co-inventor. Contrib. to Sc. of Petroleum (1938), mem. A.P.I. Comm. on "Physical Constants of Hydrocarbons." Author or co author of num. arts. in ver. sc. jls. Reserve Officer, C.W.S., 1926-41; elder, Presbyterian Ch. Mem.: A.C.S., fellow, A.I.C., Alpha Chi Sigma, A.A.A.S., Sigma Xi, Knights of Pythias, Mason.

LINCOLN, Edmond E(arl), economic adviser, E.I. du Pont de Nemours & Co., Wilmington, Del.; res. 907 Westover Rd., Wilmington.
Economist; b. near McCook, Nebraska, Feb. 5, 1888; s. of Charles Sanford and Christiana (Bayless) Lincoln; ed. B.A., Ohio Wesleyan U., 1909; selected from Ohio as Rhodes Scholar to Oxford U., 1908 (Lincoln Coll.); B.A., Honor Schl. of Modern History (Oxford), 1910; M.A., Oxford, 1914; Ph.D. in banking, finance and pub. utilities, Harvard, 1917; m. 1st, Edith Walker, Aug. 14, 1915; m. 2nd, Mary Margaret Lynch, Sept. 2, 1948; ch.: Elinore (Mrs. Edward K. Bachman), Robert Edmond, Edmond Lynch, Mary Anna. Engaged variously in farming, mfg., contracting and bldg., 1902-08; tchr. in Ohio pub. schls., 1903-04; prof. and hd. of English dept., Mt. Union Coll., 1911-12; prof. and hd. dept. history and economics, St. John's Coll., 1912-14; sec. of faculty, 1913-14; on faculties of Harvard economic dept. and Grad. Schl. of Business Admin., 1914-22, specializ. in finance, money and banking, pub. utilities, economic history, and applied economics; also lecturer in indust. and financial courses at Lowell Inst. and Radcliffe Coll. Traveled widely in foreign countries; winner of first prize ($1,000) in Hart, Shaffner & Marx economic essay contest, 1917. Expert spec. agent, U.S. Dept. of Commerce, in chg. of report on central elec. light and power stations in U.S., 1918-20; Amer. economic corresp. for Benn Bros. Syndicate, London, 1919-20; mem. committee on business finance, Boston Chamber of Commerce, 1920-21, comm. on pub. utilities, 1921-22; mem. Commerce and Industry Assoc., New York (comm. on city transit since 1924; chmn., 1926-27; and var. other comms.); mem. comm. on costs of distrib., Chamber of Commerce of U.S., 1925-26, and of finance dept. comm., 1929-31; Surplus Property, and Dept. of Mfr. Comms. since 1944; Economic Policy Comm. since 1949; mem. C. of C. of State of New York (chmn. comm. on taxation), exec. comm. of Fed. Finance and Fed. Expenditures, Council of State Chambers of Commerce; Wilmington C. of C. Chf. statistician and economist, Western Elec. Co. Inc., N.Y., 1922-27; economist, acting commercial mgr. and spec. asst. to pres., Internatl. Telephone & Telegraph Corp., 1927-31; economist, E.I. du Pont de Nemours & Co. since 1931. Author: "The Results of Municipal Electric Lighting in Massachusetts," 1918; "Central Elec. Light and Power Stations" (1917), 1920; "References in the Economic History of Europe and of the U.S.," 1920; "Problems in Business Finance," 1921 (3rd edit., 1924); "Applied Business Finance," 1922 (5th edit., 1941); "Steps in Industry," 1926; "Testing Before Investing," 1926 (2nd edit., 1930); "Applied Economic History," 1932; also mag. arts. etc.; translater, M. Pierre Samuel du Pont de Nemours' "Argument Against the Issue of Inconvertible Paper Money in France," 1790. Mem.: Amer. Finance Assoc., Amer. Management Assoc. (sometime dir. and v.p., finance), Natl. Assoc. of Mfrs. (var. comms.), Natl. Industrial Conf. Board, Am. Acdy. Political Sc., Am. Acdy. of Polit. and Social Sc., A.A.A.S., Am. Assoc. for Labor Legislation, A.C.S., Am. Econ. Assoc., Am. Museum Natural History, Am. Statistical Assoc. (life), Economic Club of N.Y., Economists' Natl. Comm. on Monetary Policy, Foreign Policy Assoc., Natl. Bur. of Economic Research, Natl. Farm Chemurgic Council, Natl. Municipal League, Am. Geog. Soc., Natl. Tax Assoc., Oxford Soc. (life), Pan American Soc., Population Assoc. of America, Royal Econ. Soc. (England), Soc. of Individual Freedom (England), Tax Institute, Phi Beta Kappa Associates. Trustee, Mount Union College. Clubs: Bankers of America, Lotos (N.Y.), Wilmington, Wilmington Country, Metropolitan (Washington), Harvard of Delaware (past pres.), Mason.

LIND, Edmund Le Roy, prof. chem., chmn. div. of sc. & math., Central Washington Coll. of Education, Ellensburg, Wash.; res. 814 E. 2d Ave., Ellensburg, Wash.
Coll. prof.; b. Joliet, Ill., Jan. 31, 1900; s. of Martin V. and Minnie (Benson) Lind; A.B., Wabash Coll., 1921; Ph.D., U. of Chicago, 1931; mem.: Phi Beta Kappa, Tau Kappa Alpha, Sigma Xi; m. Ethel V. Everett, 1932; ch.: Nancy Lee, Karen Emelia. H.S. tchg., business, 1921-33; res. chem., Pure Oil Co., 1933-36; chmn., div. of Sc. & Math., Central Washington Coll. of Education, 1933 to date; pvt., U.S. Army, W.W.I; Major, C.W.S., W.W.II. Res. gen. res. in pet. technology, activity coefficients of aqueous cadmium chloride solutions; allotropy of liquid nitro-

benzene; kinetics of polymerization of acrylonitrile, adsorption of long-chair electrolytes from aqueous solution of graphite of known area. Mem.: A.A.U.P., A.C.S., Northwest Scientific Assoc. Club: Rotary International. Hobbies: chess, hunting, fishing

LINDEN, Erik Gustaf, chem. engr., Signal Corps Engrg. Labs., Ft. Monmouth, N.J.; res. 22 William St., Red Bank, N.J.
Chem. engr. and chem.; b. N.Y.C., Nov. 21, 1909; s. of Andrew and Ester Linden; ed. Columbia Coll., A.B., 1932; Columbia U. Engrg. Schl. B.S. chem. engr., 1938; Bklyn. Polytech. Inst., M.Ch. E., 1945. 1927-38 with N.Y. Pub. Library; 1939 with John Opitz Co., L.I. City, (insecticides); 1939 with Carlton Ellis, Montclair, N.J.; 1940-41 with Clover Mfg. Co., Norwalk, Conn.; 1941-42 with U.S. Rubber Gen. Dev. Labs., Passaic, N.J.; 1942-43 with Gen. Chem. Co., Claymont, Del.; 1943 with Lake Ontario Ord. Wks. (TNT) Niagara Falls, N.Y.; 1943-44 with Alcoa Plant, Maspeth, L.I.; (spectroscopy); 1944 to date with Signal Corps Engrg. Labs., Ft. Monmouth, N.J. Mem.: A.C.S., (secy. of Monmouth Co. Sect., 1949; chmn.-elect 1951 Mon. Co. Sect.); A.I. Ch.E., A.I.C., A.A.A.S., Metrop. Microchem. Soc., Soc. for Applied Spectroscopy, Arctic Inst. of North Amer. Club: F. & A.M. Hobby: nature study.

LINDNER, Manfred, asst. prof. chem., dept. of chem., Washington State Coll., Pullman, Wash.; res. 109 Scott Pl., Pullman.
Acdy. res. and tchg.; b. Oct. 21, 1919; s. of Manfred, Sr. (dec.) and Hannah (DeCosta) Lindner (dec.); ed. Northwestern U., Evanston, Ill., B.S., 1940 (cum laude); U. of Calif., Berkeley, Calif., Ph.D., 1948; mem.: Phi Beta Kappa, Sigma Xi; m. Bernice Altman, June 29, 1946; ch.: Mark Jeffrey. 1941-42 res. asst. Biochem. Inst., U. of Texas, Austin; 1942 chem. S.A.M. Labs., Columbia Univ., New York City; 1943 res. asst. Metallurg. Lab., U. of Chicago; 1943-44 res. asst. Clinton Lab., Oak Ridge, Tenn.; 1944-45 chem. tech., Hanford Engrg. Wks., Richland, Wash.; 1946-48 chem., Radiation Lab., U. of Calif.; 1948 to date asst. prof. chem., Washington State Coll., Pullman, Wash. Res. in neutron-deficient radionuclides of rhodium, palladium, tellurium, antimony and tin; nuclear reactions and spallation of antimony with very high-energy particles; beta-unstable radionuclides in the tungsten region formed by consecutive neutron capture. Mem.: A.C.S., A.Phys.S., A.A.A.S. Hobbies: ornithology, photography.

LINDOW, Carl Warning, dir. res., Kellogg Co., Battle Creek, Mich.; res. 2550 W. Michigan Ave., Battle Creek.
Dir. of res.; b. Elkhorn, Wis., May 6, 1899; s. of Charles and Mary Warning Lindow; ed. B.S., 1922, U. of Wisconsin; M.S., 1927; Ph.D., 1929; mem.: Alpha Zeta, Phi Sigma, Sigma Xi, Phi Lambda Upsilon; m. Berenice Ewing, June 29, 1931; ch.: Carl E., John W., Robert O. Chmn., Dept. of Chem., West Ky. State Teachers Coll., 1922-26; asst. instr., Agricultural Chemistry, Wis., 1926-29; chmn., Dept. of Chem., Cent. State Teachers Coll., Wis., 1929-30; res. chem., Kellogg Co., 1930-36; dir. of res., 1936 to present. Res. wk. in the fields of antioxidants, vitamins, minerals, proteins, amino acids and general human and animal nutrition; selected as one of ten ablest chemists or chem. engrs. working in agriculture and food chem. in U.S., Chem. & Engrg. News, 1947. Author: "Principles of Feeding Fox and Mink," 1950. Mem.: A.C.S., Inst. of Chemists (fellow), Nutrition Foundation (member, Food Industries Advisory Comm.), Cereal Institute (chmn., Tech. Advisory Comm.), Am. Feed Manufacturers Assoc. (member, Nutrition Council), American Corn Miller's Federation (member, Res. Advisory Committee).

LINDQUIST, J. Raymond, assoc. dir., res. & dev. dept., Rexall Drug Co., 8480 Beverley Blvd., Los Angeles, Calif.; res. 129 N. New Hampshire Ave., Los Angeles.
Chem.; b. Red Lodge, Montana, Mar. 29, 1915; s. of J. Herman and Mary Ellen (Dunn) Lindquist; ed. Washington State Coll., B.S., 1938; various other non-credit work at Tulane U., U. of Southern Calif., Cal. Tech.; mem.: Alpha Chi Sigma, Delta Chi; m. LaVada Beverly Chuinard, Apr. 12, 1941; ch.: James R. 1938-42 res. chem. Hawley Pulp & Paper Co., Oregon City, Ore.; 1942-44 asst. chem. U.S.D.A., Southern Regional Res. Lab., New Orleans, La.; 1944-47 assoc. chem. U.S.D.A. Western Regional Res. Lab., Albany, Calif.; 1947 to date assoc. dir. Res. and Dev. Dept., Rexall Drug Co., Los Angeles, Calif. Res. in pulp and paper, utilization of agric. waste to produce useful prods., food and pharmaceuticals. Mem.: A.A.A.S., A.C.S., Inst. of Food Techs., A.Phar. Mfg. Assoc. Hobbies: woodworking, sports.

LINDSAY, Frederick Kirkwood, asst. mgr., Zeolite Dept., Natl. Aluminate Corp., 6216 W. 66 Pl., Chicago, Ill.; res. Blackhawk Trail, Indian Hd. Pk., Western Springs, Ill.
Chem.; b. St. Paul, Minn., Sept. 6, 1897; s. of Frederick F. and Effie G. Lindsay; ed. B.S., Hamline U., St. Paul; mem.: hon. scholastic frat. of Hamline U.; Phi Delta (Hamline U. loc. frat.); m. Marion E. Jones, Sept. 18, 1920; ch.: Frederick Biart, John Grout. 1920-24 in business with father; 1924-28 chem., Arizona Minerals Corp., St. Paul, Minn. & Phoenix, Ariz.; 1928 to date with Natl. Aluminate Corp., Chicago, Ill., first as anal. & res. chem., later, tech. dir., Zeolite Dept.; now asst. mgr. same dept. Approx. 12 pats. covering chem. prods. & proc. dealing with chem. water treatment. Contrib. numerous arts. to sc. jls. Co-author of chapt. in "Ion Exchange," edit. by Frederick C. Nachod. Mem.: A.C.S.; chmn. Zeolite Comm., Natl. Assoc. Water Conditioning Equipment Mfrs., Chicago, Ill.; mem. res. and engrg. comm., Natl. Assoc. of Soft Water Serv. Operators, Chicago, Ill. Trustee, First Methodist Ch., LaGrange, Ill. Hobbies: church and Boy Scout wk.; is chmn. of Planning Comm. erecting addition to ch.; was chmn. of Local Cub Scout Comm. for 10 yrs.

LINDSAY, J(ames) D(onald), hd., chem. engrg. dept., A. & M. Coll. Texas, College Sta., Texas; res. 529 Walton Dr.
Chem. engr., tchr.; b. Jamaica, N.Y.; s. of James MacCrossan and Ida Tucker Lindsay; ed. B.S., U. Mich. 1924; M.S., 1925; Ph.D., 1934; mem.: Gamma Alpha; m. Grace Boughton, Sept. 1, 1928; ch.: Donald Malcolm, James Irwin, Hugh Warren, Mark Boughton. 1917 Gen. Chem. Co., lab. asst.; 1918 U.S.N.; 1919 Chas. Pfizer & Co., lab. asst.; 1925 Stand. Oil Co. (Ind.) tech. serv.; 1929 Kelvinator Corp., chf. chem.; 1934 Tenn. Valley Authority, chem. engr.; 1935 U. Idaho, asst. prof. chem. engr.; 1937 N.C. St. Coll., assoc. prof. Chem. Engrg.; 1938 A. & M. Coll. of Texas, prof. chem. engrg. 1940 to date hd. chem. engrg. dept. Mem.: A.I.Ch.E., A.C.S., Sigma Xi.

LINDSAY, Joseph, Jr., hd. text. chem., dyeing dept., Clemson Coll., Clemson, S.C.
Coll. prof.; b. Chester, S.C., Oct. 31, 1898; s. of Joseph, Sr. and Elizabeth Duffie Lindsay; ed. Erskine Coll., A.B., 1919; U. Tenn. M.S., 1945; mem.: Phi Psi; m. Bertha Pressly, Aug. 29, 1928; ch.: Joseph, III. Tech. rep. Gen. Dyestuff Corp., Charlotte, N.C. 1926-35; hd. text. chem., dyeing dept., Clemson Coll., 1935 to date. Res. in dyeing espec. fast dyes on synthetic fibers. Contrib. to sc. and tech. jls.; mem.: A.A.T.C.C., (chmn. Student Award Comm.), dir. Fort Hill B.&L. Assn. Elder, Ft. Hill Presby. Ch. Clubs: Forum, Fellowship. Hobbies: golf, baseball.

LINDSEY, Edgar Ernest, prof. of chem. engrg., U. of Mass., Amherst, Mass.; res. Dana St., Amherst.
Chem. engr., b. Rome, Georgia, Feb. 26, 1915; s. of E.E., Sr., and Bessie (Brown) Lindsey; ed. Georgia Inst. of Tech., B.S. in chem. engrg., 1936; Yale U., Doctor of Engrg., 1940; mem.: Sigma Phi Epsilon, Alpha Chi Sigma; m. Shirley Marie Frost, Dec. 23, 1944; ch.: Thomas Kimball. 1939-41 grp. ldr. Dev. Labs., Houdry Process Co., Marcus Hook, Pa.; 1941-43 instr. Chem. Engrg., Yale; 1943-46 officer, U.S.N.R.; returned to inactive duty as Lt.j.g.; electronics training at Princeton, M.I.T.; electronics maintenance officer Destroyer Escort Div. 11. Inst., U.S. Naval Acdy. 1946-49 asst. prof. (1946-47) and assoc. prof. (1947-49) U. of Tenn.; 1949-50 prof. in chg. of the Div. of Chem. Engrg., Dept. of Chem. and Chem. Engrg., U. of Mass. Mem.: A.C.S., A.I.Ch.E., Tau Beta Pi, Sigma Xi, A.S.E.E. Hobbies: sailing, radio, golf.

LINDWALL, Harry Gustave, prof. of org. chem., chmn. of chem. dept., N.Y.U., University Heights, N.Y. 53, N.Y.; res. 44 Glen Rd., New Haven 11, Conn.
Chem.; b. New Haven, Conn., Nov. 22, 1902; s. of Gustave J. and Christine (Swenson) Lindwall; ed. Yale, B.S., 1923, Ph.D., 1926; mem.: Alpha Chi Sigma. 1926-28 res. chem., E.I. du Pont de Nemours & Co.; 1928-35 asst. prof. of chem., N.Y.U., 1935-38 assoc. prof., 1938 to date, prof. of chem., 1937 to date, chmn. of chem. dept. 35 articles in Journal of Am. Chem. Soc., the Journal of Org. Chem., and in Chem. Reviews reporting on res. wk. in the gen. fld. of Nitrogen Heterocycles. Mem.: Phi Beta Kappa, (pres., Beta Chapter, (N.Y. State) of Phi Beta Kappa), Sigma Xi, Tau Beta Pi, Phi Lambda Upsilon, Alpha Chi Sigma, A.C.S., A.A.A.S., A.I.C. (fellow), N.Y. Acdy. of Scs. (fellow). Clubs: Yale, (N.Y. C.), Chemists' (N.Y.). Hobby: gardening.

LINICK, Leslie Lloyd, res. chem., 29 E. Madison St., Chicago 2, Ill.; res. 1640 E. 54th St., Chicago 15.
Res. chem.; b. Frankfurt a.M. Germany, May 8, 1890; s. of Samuel Loew and Eva Faller Linick; ed. Philanthropin College, Frankfurt, Germany, Heidelberg, grad., 1911, Ph.D., Mexico City, honorary, 1945; m. Cecilia Stern, Mar. 16, 1913; ch.: Sanford M., Lt. U.S. Navy. The Diamontine Co., Zurich, Switzerland 1911 and since in U.S. A., Linick Chemical Co., Chicago; Chicago Jewelers Tool Works, Chicago. Regular monthly contributor of arts. of tech. nature for past 28 yrs.: The Pacific Goldsmith, San Francisco, The Trader and Canadian Jeweller, Toronto, and others. Author: "Jewelers Workshop Practices," pub. by The Paulson Press, 131 S. Wabash Ave., Chicago.

LINK, Karl Paul, prof. biochem., U. Wisconsin, 201 Biochem. Bldg., U. of Wis., Madison 6, Wis.; res. Route No. 2, Madison 5.
Biochem., org. chem.; b. La Porte, Ind., Jan. 31, 1901; s. of Rev. George and Fredericka (Mohr) Link; ed. B.Sc., 1922; M.Sc., 1923; Ph.D., 1925, U. of Wis.; fellow, Internatl. Educ. Bd., 1925-27, U. of St. Andrews, Scotland, U. of Graz, Austria, U. of Zürich, Switzerland; mem.: Alpha Chi Sigma; m. Elizabeth Feldman, Sept. 20, 1931; ch.: John Kailin, Thomas Paul. Asst. prof. of biochem., U. of Wis., Madison, 1927-29; assoc. prof. of biochem., 1929-30, prof., 1931, same U.; conslt. Clinton Foods Inc., Clinton, Iowa, 1938 to date; conslt. Pabst Brewing Co., Milwaukee, Wis., 1944 to date. Headed team that dev. the blood anticoagulant Dicumarol. used to combat thrombosis and pulmonary embolism; dev. the anticoagulant rodenticide warfarin; conslt. to U. S.D.A. Regional Labs., Urbana and Peoria, Ill. 1937-44; tchg. of carbohydrate chem. Author of many papers on the Hemorrhagic Sweet Clover Disease, chem. of the 4-hydroxy coumarins, chem. of the sugars and hexuronic acids, disease resistance in plants, blood coagulation, action of vitamin K, 1929-50. Mem.: Natl. Acdy. of Scs. (Wash., D.C.); hon. mem. Harvey Soc. (N.Y.); A.A.A. S., A.C.S., Fed. Am. Soc. Exp. Biology; Sigma Xi, Phi Sigma, Phi Kappa Phi, Alpha Zeta, Phi Lambda Upsilon

LINSKER, Fred, pres., dir. of res., Bios Labs., Inc., 17 West 60th St., N.Y. 23, N.Y.; res. 121 W. 72nd St., N.Y. 23.
Res. chem.; b. Lwow, Poland, Dec. 10, 1917; s. of Raphael and Golda Linsker; ed. Columbia U., M.A., 1943, Ph.D., 1944; mem.: Sigma Xi. Merck & Co. Fellowship 1942-44; Ralph L. Evans Assoc., N.Y.C. res. chem., 1944-46; Bios Labs., Inc., pres., dir. of res., 1946 to date. Res. & dev. of new prods. & processes in flds. of org. syn. chem., amino acids, sugars, syn. drugs, metalorg. cmpds., alkaloids, enzymes; publ. in sc. journals. Mem.: A.C.S., A.A.A.S. Hobbies: photography, stamp collections.

LIPMAN, Harry J., chf. chem., Mallet & Co. Inc., 1200 Sheffield St., Pittsburgh 12, Pa.; res. 5475 Bartlett St., Pittsburgh 17, Pa.
Food chem.; b. Johnstown, Pa., Aug. 4, 1913; s. of Jacob and Sadie Lipman; ed. B.S., U. Pitts., (high hon.) 1934; M.S., 1936; Ph.D., 1939; m. Frances Bram, Oct. 12, 1936; ch.: Richard, David, Sidney. 1939-40 Hachmeister, Inc., Pitts., Pa., bacteriol.; 1940-42 Ideal Soap & Chem. Co., chem.; 1942-43 Anchor Hocking Glass Corp., Connellsville, Pa., food chem.; 1944 to date Mallet & Co., Inc., Pitts., Pa., chf. chem. Mem.: Phi Sigma, Sigma Xi, A.C.S., I.F.T.

LIPMANN, Fritz (Albert), prof. biolog. chem., Harvard Med. Schl., Biochem. Res. Lab., Mass. Gen. Hosp., Boston, Mass.; res. 72 W. Cedar St., Boston 14.
Chem.; b. Koenigsberg, Germany, June 12, 1899; s. of Leopold and Gertrude (Lachmanski) Lipmann; ed. Medicine at Universities of Koenigsberg, Berlin, Munich, 1917-22; M.D., Berlin, 1922; chem. at Koenigsberg, 1923-27; chem. Ph.D., 1927, Berlin; M.D., (honorary) Marseille, 1947; M.A. (honorary) Harvard U., 1949; m. Freda M. Hall, June, 1931; ch.: Stephen. Res. asst., Kaiser Wilhelm Inst., Berlin, and Heidelberg, Prof. Meyerhof's Lab., 1927-30; res. asst., Kaiser Wilhelm Inst., Berlin, Dr. Albert Fischer's Lab., (tissue culture) 1930-32; Rockefeller Fellow, Rockef. Inst. for Med. Res., N.Y., Dr. P. A. Levene's Lab., 1931-32; res. assoc., Biolog. Inst. of Carlsberg Foundation, Copenhagen, Denmark, 1932-39; res. assoc., Dept. of Biochem., Cornell Med. Schl., N.Y., 1939-41; res. chem., hd. of biochem. res. lab., Mass. Gen. Hosp., Boston, 1941 to present, prof. of biolog. chem., Harvard Med., 1949 to present. Res.: energy metabolism, metabolic function of B. vitamins, discovery of coenzyme A. Mem.: A.A.A.S., A.C.S., Soc. of Biolog. Chems., Harvey Society, New York Acdy. of Sc. (fellow), Danish Royal Acdy. of Scs. (fellow), N.A.S. Awards: Carl Neuberg M., 1948, Mead Johnson and Co. award, 1948.

LIPPERT, Arnold Leroy, v.p., res. & dev., Joseph Bancroft & Sons Co., Rockford, Wilmington 99, Del.; res. 2005 Woodbrook Dr., Westwood Manor, Wilmington.
Chem.; b. Kewanee, Ill., Nov. 12, 1910; s. of Helmuth A. and Nellie B. Lippert; ed. B.S. Chem. (high hons.), U. Ill. 1931; Ph.D. Chem., Johns Hopkins, 1934; mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon; m. Lela E. Bichell, June 6, 1936; ch.: Norma N., Elizabeth L., Arlene L. Res. chem., E.I. du Pont de Nemours & Co., exp. sta., Wilmington, 1934-35; Joseph Bancroft & Sons Co., chem. dir. 1935-47; v.p. res. & dev. 1947 to date; 1941-44 chf. dyestuff sect. War

Prod. Bd. Res. in textile chem. Mem.: A.C.S., A.A.T.C.C., N.R.C., Text. Proc. Comm. (chmn.).

LIPPERT, Thomas W., gen. mgr., Titanium Metals Corp., 60 E. 42nd St., New York 17, N.Y.; res. 1015 Sleepy Hollow Lane, Plainfield, N.J.
Engr.; b. Toronto, O., Nov. 19, 1907; s. of Thomas A. and Clara B. Lippert; ed. B.S., in Physics, Carnegie Inst. of Tech., M.S. in Physics, 1932; mem.: Beta Theta Pi; m. Bernice E. Fugle, Sept. 27, 1935; ch.: Regis Ben, Nels Thomas. Mng. editor "The Iron Age," 1932-46; editor, 1946-49; mgr. of publications, Amer. Inst. Mining & Metallurgical Engrs., 1949-50.

LIPPMAN, Alfred, Jr., mgr., Bay Chem. Co., Weeks, La.; res. Weeks, La.
Chem. engr.; b. New Orleans, La., Mar. 13, 1908; s. of Alfred, Sr. and Belle (Levy) Lippman; ed. Tulane U., New Orleans, La., B.E. chem. engrg. course, 1929; Scherk Memorial Prize on Excellence in Engrg.; La. Engrg. Soc. prize for highest scholastic average; mem.: Tau Beta Pi, Sigma Alpha Mu; m. Dorothy Kahn, Oct. 29, 1934; ch.: Alfred Sol, Darryl Rock, Tanya Maureen. 1929-31 res. chem., Bay Chem. Co., Inc., Weeks, La.; 1931-33 sales rep. Chem. Rubber Co., Cleveland, Ohio; 1932-33 asst. assayer U.S. Mint, Treas. Dept., New Orleans; 1934-36 chf. chem., 1937-38 asst. supt., 1939 to date mgr., Bay Chem., Weeks, La. Hargreaves Process; muriatic acid mfr.; holds sev. pats.; contrib. arts. to sc. jls. Mem.: A.C.S., A.I.Ch.E. District v.chmn. Boy Scouts of America. Club: Rotary Internatl. Hobbies: fishing, hunting, bridge, public speaking.

LISKA, John William, asst. dir., Firestone Res., Firestone Tire & Rubber Co., Akron, O.; res. 158 Wetmore St., Stow, Ohio.
Physicist; b. Chicago, Ill., July 20, 1904; s. of Joseph and Elizabeth Liska; ed. Ripon Coll., Ripon, Wis., B.A., 1928; U. of Minn., Minneapolis, Minn., Ph.D., 1934; mem.: Alpha Omega Alpha (local); m. Florence Marie Marx, June 16, 1934; ch.: John William, Jr., Robert Charles, Dorothy Dean. With Firestone Tire & Rubber Co., Akron, Ohio, 1928 to date, in following positions: 1928-29 res. phys.; 1934-45 sr. res. phys.; 1945-46 grp. ldr. (in chg. of gen. phys. grp.); 1946 to date asst. dir. of res. (in chg. of physics and textiles grps.). Contrib. sev. arts. to sc. jls. Mem.: A.Phys.S. (fellow); Div. of High Polymer Physics, A.P.S. (chmn. 1949-50, treas. 1950-51); Ohio Section, A.P.S., A.C.S., Akron Section; Div. of Rubber Chemistry, A.C.S.

LISSE, Martin William, prof. biophysical chem., 203 Frear Labs., The Pennsylvania State Coll.; 712 McKee St., State College, Pa.
Teacher; b. Bridgeton, N.J., June 2, 1891; s. of Rev. H.F.F. Lisse and Martha Lisse; ed. Pa. State Coll., B.S., 1914, Ph.D., 1929; U. of Washington, M.S., 1916; P. of Wisconsin; mem.: Phi Lambda Upsilon, Alpha Pi Mu, Alpha Epsilon Delta, Sigma Xi, Gamma Sigma Delta, Phi Kappa Phi; m. Mary Parks, 1919; ch.: Mary Louise, Miriam Martha. Teaching Fellow, U. of Washington, 1914-16; instr., Northwestern U., 1916-17; asst. prof., The Pa. State Coll., 1917-26; assoc. prof., 1926-30; prof., 1930 to present. Res. in decay of wood, bacterial electrophoresis; the effect of ultraviolet and X-rays on bacteria. Author: "Biocolloids," Edwards Bros., 1940. Hobby: traveling.

LITCHFIELD, Paul Weeks, chmn. of the bd. & chf. exec. officer, The Goodyear Tire & Rubber Co., 1144 E. Market St., Akron 16, O.; res. 1010 Merriman Rd., Akron 3.
Rubber mfg. exec.; b. Boston, Mass., July 26, 1875; s. of Charles M. and Julia Winter (Weeks) Litchfield; ed. M.I.T., B.S., 1896; m. Florence Brinton, June 23, 1904; ch.: Katharine (Mrs. Howard Hyde), Edith (Mrs. A.W. Denny). L.C. Chase Mfg. Co., Reading, Mass., bicycle tires; N.Y. Belting & Packing Co., molded goods & packing; L.C. Chase, Chelsea, Mass., factory supt.; The Goodyear Tire & Rubber Co., Akron, O., 1900 to date; sup., 1900-11; factory mgr., 1911-15; v.p. & factory mgr., 1915-26; pres., 1926-30; pres. & chmn. of bd., 1930-40; chmn. of bd. & chf. exec. officer, 1940 to date; pres. & chmn. bd., Goodyear Aircraft Corp.; chmn. of bd. or pres., Goodyear subsids. domestic & foreign. Design, devel. & prod. automobile & airplane tires & aircraft; straight side, All-Weather non-skid tires & Life-Guard tubes; multiple-ply cord; estab., Goodyear's Indus. Assembly & its res. & devel. dept.; a drafter & admin. of N.R.A. tire code; major contrib. to devel. & prod. synthetic rubber; chmn., Rubber Indus. Advis. Comm. to Munitions Bd.; U.S. delegate, Internatl. Rubber Study Grp., post-World War II. Author: numerous articles on bus. subs.; "Autumn Leaves," 1945; "The Industrial Republic," 1946. Second "Spirit of St. Louis" Medal, A.S.M.E., aeronaut. div., "for meritorious service in the advancement of airship design & construc. in America," 1932; D.Sc. (hon.), U. of Akron, 1946; Chinese Govt. scroll of thanks for training Chinese during W.W. II, 1947; "Sponsor of the Year," Sponsor Magazine, for radio program "The Greatest Story Ever Told," 1946-47; Annual Pub. Relations Award, Natl. Assn. Pub. Relations Council, 1948; Order of Cruzeiro do Sul, Brazil, 1948; Peabody Award, Mass. State Commis. of the George Foster Peabody Radio Awards, 1948; Orden del Sol, Knight Comdr., Peru, 1948; President's Cert. of Merit, U.S.A.F., 1948; recognition of 50 yrs. serv. to rubber indus., Rubber Mfrs. Assn., 1948; oak & bronze plaque, Capital Airlines, 1950; Royal Order of Vasa, Sweden, 1950; Special Merit Award, 1950; Boston Jubilee Award, 1950; Silver Beaver, Silver Antelope, Silver Buffalo & 20 Yr. Veteran Pin, Boy Scouts of Am. (active since 1911 & one of founders of Air Scouting). Mem.: Rubber Mfrs. Assn. (past pres.), Soc. Auto-Engrs. (Detroit), N.A.M., U.S. Chamber of Com. (former dir.), Akron Chamber of Com., B.S.A. (exec. bd.), Natl. Air Council (N.Y.), Navy League (Wash., D.C.). Bd. of U. of Akron for 30 yrs. Clubs: City, Portage Country, University (all of Akron), Arizona (Phoenix), Union (Cleveland), Wings (N.Y.), Masonic (33rd degree). Hobbies: fishing, flying.

LITKENHOUS, Edward Earl, prof. and hd., Chem. Engrg. Dept., Vanderbilt U., Box 128, Station B, Vanderbilt U., Nashville 4, Tenn.; res. 201 Walnut Dr., Nashville 5, Tenn.
Hd. of Chem. Engrg. Dept., Vanderbilt U.; b. Louisville, Ky., May 19, 1907; s. of E.H. and Johanna (Frances) Litkenhous; ed. 1930, B.S. in Chem. Engrg., U. of Louisville; 1931, M.S. in Chem. Engrg.; 1934, Ph.D., Major in Chem. Engrg., U. of Minn.; 1935, Spec. Problem Courses (audit), U. of Akron, Ohio; m. Mary Lenore Ingwalson, Sept. 16, 1933; ch.: Edward Earl, Jr., Linn Widell. 1927-29, Cooperative wk., U. of Louisville; 1930 (summer) Staff Trng. Course, Goodyear Tire & Rubber Co., Akron; 1929-30, student asst., U. of Louisville; 1930-31, grad. asst., same U.; 1931-34, grad. asst., U. of Minn.; 1934-36, res. dept., Goodyear Tire and Rubber Co., Akron; 1936-38, asst. prof. of chem. engrg., U. of Louisville; 1938-41, assoc. prof. of chem. engrg., same U.; 1941-44, assoc. prof. and hd. of dept. of chem. engrg., Vanderbilt U.; 1944 to date, prof. and hd. of dept. of chem. engrg., same U.; conslt. for following cos.: 1938 (summer), res., Jos. E. Seagrams & Sons, Louisville; 1943 to date, Tenn. Prods. and Chem. Corp., Nashville; 1949 to date, Friction-Proof Oil Co., Nashville; 1949-50, Amer.

Syrup and Preserving Co., Nashville; researches (industrial): 1943-45, W.P.B., Bagasse and Its Utiliz.; 1945-47, J. Aron and Co., Bagasse Separation; 1949-50, Amer. Syrup and Preserving Co.—Continuous Preserve Making. Publications: Ten arts. in sc. and engrg. literature; holds 3 pats. Mem.: A.I.Ch.E. (counselor, Vanderbilt Student Section), A.S.E.E. (past secy.-treas. res. div., Southeastern Section; past v.chmn. res. div. and present chmn. res. div. Southeastern Section), A.C.S. (past secy.-treas., Louisville Section, past chmn., same section, and past counselor, Nashville Section), A.A.U.P., Ky. Soc. of Prof. Engrs., Tenn. Acdy. Sc., A.A.A.S., Iota Sigma, Sigma Tau, Sigma Xi, Triangle, Alpha Chi Sigma, Omega Chi Epsilon, Phi Lambda Upsilon, Tau Beta Pi, Theta Chi Delta, Theta Nu Epsilon. Reg. Prof. Engr., State of Ky. Clubs: Kiwanis, Nashville Engrg. Club: Hobbies: Boy Scouts, golf, tennis, swimming.

LITTER, David Hiram, pres., D.H. Litter & Co. Inc., 114 E. 16 St., N.Y.C.; res. 95 LeBrun Ave., Amityville, L.I., N.Y.
Exec.; b. Odessa, Russia, Nov. 12, 1887; s. of Loeb and Sarah Litter; ed. Rutgers Law Schl., LL.B., 1912; m. Mary Scheck, June 30, 1912; ch.: Mrs. Florence (Litter) Ohringer. Freight solicitor, Balt. & Ohio R.R. to 1914; Cottalap Co., Somerville, N.J., 1914-15, asst. sales mgr.; Calco Chem. Co., Bound Brook, N.J., 1915-21, dir. purchases; Litter & Allen, N.Y.C., 1921-22, pres.; D.H. Litter & Co., Inc., N.Y.C., 1922 to date, pres. and dir. Mem.: Anti-Defamation League, 212-5th Ave. Club: Chem. (N.Y.C.). Hobbies: fishing, boating, work.

LITTLE, Bunyan Hall, dir. of sales, Syn. Dept., Hercules Powder Co. Inc., Delaware Trust Bldg., Wilmington, Del.; res. 401 Lea Blvd., Brandywine Hills, Wilmington.
Chem. sales, chem. sales dev.; b. Waco, Texas, Sept. 10, 1903; s. of Aaron B. and Willie Marvyn (Hall) Little; ed. Baylor U., B.A., 1926; Okla. A.&M., M.S., 1928; m. Virgie M. Cradduck, June, 1928; ch.: Mary Marvyn, Dale Patricia, Britt Hall. Hercules Powder Co. Inc.: Expt. Station, Kenvil, N.J., July 1928; Wilmington, Del., Naval Stores Dept., sales dev. 1929 (chem. sales dev., pine oil & terpenes manufactured therefrom) to Dec. 1939; sales dev. & sales, Syn. Dept., Jan. 1940; dir. of sales, Syn. Dept., 1945 to date. Mem.: Acdy. of Sc. (former mem.), A.A.T.C.C., Natl. Assn. of Disinfectant & Insecticide Mfrs., Syn. Coating Resin Mfrs. Assn. (former dir., v.p., pres.; now merged with SOCMA), Syn. Org. Chem. Mfrs. Assn. (resin comm.). Charter mem. Home & Schl. Council, Wilmington, Del., 1947; charter mem., pres., P.S. du Pont H.S., P.T.A., 1947, 1948. Clubs: Kiwanis Internatl. (former dir., Wilmington, Del.), Phi Lambda Upsilon, Wilmington Country (Wilmington), Hercules Country (Hercules, Del.). Hobbies: gardening, cross-country travelling, youth activities, football, historical novels & biographies.

LITTLE, Ernest P., prof. of chem., Rutgers U., 1 Lincoln Ave., Newark 4, N.J.; res. 538 Summer Ave., Newark 4.
Tchr.; b. Johnstown, N.Y., June 9, 1888; s. of John and Martha Jane (Snook) Little; ed. U. of Rochester, B.S., 1911, M.S., 1913; Columbia U., A.M., 1918, Ph.D., 1923; hon. degrees: D.Sc. Phila. Coll. of Phar. and Sc., LL.D., Temple U.. Phar.D., Rutgers; mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, Rho Chi, Kappa Psi, etc.; m. Margaret Lucy Weaver, July 1, 1913; ch.: John Ernest, Robert Weaver. 1911-14 instr. U. of Rochester; 1914-18 instr. Pratt Inst.; 1918 to date with Rutgers U., first as asst. prof. of chem., then assoc. prof., then prof. of chem.; dean, Coll. of Phar., 1926-46, now prof. of chem.; treas. of the Indicator publ. of N.Y. and Northern N.J. Sections of A.C.S., 1937 to date; past pres. A.A.C.Phar.; past pres. A.Ph.A. Author of numerous arts. in sc. jls. Mem.: A.C.S., A.Ph.A., N.J. Phar. Assoc., Rutgers M., Remington M., Singer M. Past pres. New Brunswick Sc. Soc., past pres. Rutgers Chapt. of Phi Beta Kappa, past pres. Newark Rotary Club; pres. Rutgers Chapt. of Sigma Xi. Hobbies: golf, bowling.

LITTLE, Herman J., chem. engr., 54 Boylston St., Bradford, Pa.; res. 1534 Tolma Ave., Pittsburgh 16, Pa.
Tech. adviser, crude oil prod.; b. Wilmington, Del.; ed. U. of Delaware, Newark, Delaware.

LITTLE, John Ernest, chmn., dept. of agric. biochem., assoc. prof. biochem., U. Vermont, Agric. Sc. Bldg., U. of Vt., Burlington, Vt.; res. 26B Univ. Heights, Burlington.
Biochem. and tchr.; b. Rochester, N.Y., June 20, 1914; s. of Ernest and Margaret Lucy Little; ed. B.S., Rutgers, 1937; Ph.D., Columbia, 1941 (chem.); mem.: Chi Psi; m. Betty Packer, Apr. 6, 1946; ch.: Ernest John. 1941-44 res. chem. Merck & Co. Inc.; 1945 to date chmn. Dept. Agric. Biochem., U. of Vt. Has written three papers on active grps. in enzymes and inhibition of enzymes by antibiotics; three papers on isolation of new antibiotics from green plants; one paper on screening of plants for antibiotic activity; one paper on synth. of sulfur analogue of plant antibiotic. Mem.: Phi Lambda Upsilon, Sigma Xi, A.C.S. Club: Burlington Theater. Hobbies: dramatics, chess, tennis.

LITTLEFIELD, Verne Denver, chf. chem., dir. of lab. div., The Squirt Co., Post Office Box 97, Glendale, Arizona; res. 5303 Arden Dr., Phoenix, Ariz.
Chem.; b. October 1, 1912, San Bernardino, Calif.; s. of Malon and Sara Neu Littlefield; ed. 1933, B.A., Pomona Coll., Claremont, Calif., (with distinction in chem.); graduate wk. Claremont Coll., Claremont, Calif.; mem.: Alpha Gamma Sigma; m. Elizabeth Mary Nelson, Jan. 12, 1935; ch.: William Nelson. 1933-37, Dried Food Products, Maywood, Calif., chf. chem.; 1937-39, v.p., dir. of res.; 1939-41, Nesbitt Fruit Products, Los Angeles, Calif., chf. chem. 1941-46, Truesdail Labs., Los Angeles, Calif., res. and control for the Squirt Co., in Calif. and Glendale, Arizona; 1946 to present, chf. chem., dir. of the Lab. Div., The Squirt Co., Glendale, Ariz. Five individual pats. (assigned to Armour and Co.) and joint pats. with N.C. Fischer (two, also assigned to Armour and Company) relative to dried eggs and dried egg products. Mem.: A.C.S., Am. Inst. of Food Technologists. Clubs: Glendale Arizona Rotary, pres., Pomona College Club of Arizona, Arizona Club (Phoenix, Ariz.). Hobbies: gardening, photography working with the local Boy Scout Troop.

LITTLEJOHN, Charles Edward, Jr., asst. prof., dept. of chem. engrg., Clemson College, Clemson, S.C.; res. 181 Woodridge, Clemson.
Teacher; b. Spartanburg, S.C., Sept. 28, 1918; s. of Charles Edward and Marion Clifton Brown Littlejohn; ed. Clemson Coll., 1936-40, B.S., North Carolina State Coll., 1940-41, M.Ch.E., Virginia Polytechnic Institute, 1946-47; mem.: Alpha Chi Sigma; m. Doris McMillan, Dec. 15, 1946; ch.: Patricia Carol. 1941-42, Goodyear Tire & Rubber Co., trainee; 1942-46, U.S. Army, 1947 to present, Clemson College, asst. prof. Mem.: A.C.S., A.I.Ch.E., A.A.U.P. Hobbies: modern history, coin collecting.

LITTLETON, Jesse Talbot, v.p. and dir. of res., Corning Glass Wks., Corning, N.Y.; res. 31 East Fifth St., Corning, N.Y.
Physicist; exec.; b. Belle Haven, Pa., July 1, 1887; s. of Jesse Talbot and Loulie (Rosser) Littleton; ed. A.B., Southern U., 1906; M.A., Tulane, 1908;

Ph.D., U. of Wis., 1911; D.Sc., 1944; mem: Sigma Xi (Wis.), Gamma Alpha, Phi Beta Kappa; m. Bessie Cook, 1911; ch.: Martha Elizabeth, Jesse Talbot, III, Joseph Cook, Harvey Kline. Sc. asst., Southern Univ., 1905-06; fellow in physics, Tulane University, 1906-08; fellow in physics, U. of Wis., 1908; asst. in physics, U. of Wis., 1909-11; instr. of physics, U. of Mich., 1911-13; physicist, Corning Glass Wks., 1913-20; chf. of Physical Lab., 1920-40; asst. dir. res., 1940-43; v.p. and assoc. dir. of res., 1943-46; v.p. and dir. of res., 1946 to date. Co-author (with G.W. Morey), "The Electrical Properties of Glass," 1933. Mem.: A.Phys.S. (tech. mem. Advis. Comm. on Appl. Phys., mem. Editorial Staff for Jl.); A.A.A.S., Soc. of Glass Tech. (England), Amer. Optical Soc. (charter mem.), Am. Inst. Elec. Engrg., Am. Ceramic Soc. (pres. 1942-43, chmn. Glass Div., 1929-31, chmn. Publications Comm., 1932-34, trustee, 1935-38); Natl. Research Council (mem. Physics and Chem. Comms.); Deutsche Glastechnische Gessellschaft (Germany), A.S.T.M. (chmn. Sec. IV, Comm. D13 on Glass), Natl. Assoc. of Mfrs. (Comm. on Res. & Pats.); Industrial Research Inst.; Directors of Indust. Research, Chemists' Club, N.Y.C. Clubs: Corning Fish and Game, Corning Country, Lions (Corning). Hobbies: hunting, fishing, photography.

LITTLETON, Leonidas Rosser, chf., explosives & demolition unit, ammunition brch., res. and dev. div., Ord. Dept., ORDTM, Pentagon Bldg., Wash., D.C.; res. 1611 N. Greenbrier St., Arlington, Va.
Chem.; b. Belle Haven, Va., Aug. 1, 1889; s. of Jesse T. and Lulie (Rosser) Littleton; ed. Birmingham-Southern Coll., A.B., 1907; Tulane U., A.M., 1910; U. of Ill., Ph.D., 1912; m. Alice Lenore Scott, June 17, 1916; ch.: Mrs. G.W. Jones, Louisa Chandler Littleton, M.D., Capt. Leonidas Rosser, Jr., M.D. 1907-08 asst. in sc., Birmingham-Southern Coll.; 1908-10 tchg. fellow in math., Tulane U.; 1910-12 fellow in org. chem., U. of Ill.; 1912-13 instr. in chem., Grinnell Coll.; 1913-17 prof. of chem., Emory & Henry Coll.; 1917-18 asst. chem. Picatinny Arsenal; 1918-19 chf. chem. Mathieson Alkali Wks., Saltville, Va.; 1919-22 res. chem. Natl. Aniline & Chem. Co.; 1922-41 prof. chem., Emory & Henry Coll.; 1915, 1928, dir. and dean summer sessions, Emory & Henry Coll.; 1941 to date engr., Dept. of Army; res. in dyes, filtration, explosives. Mem.: A.C.S., A.A.A.S. (fellow); Va. Acdy. Sc., Sigma Xi, Phi Lambda Upsilon, Alpha Epsilon Delta. Clubs: Washington Co. (Va.) Historical Soc.; Mason; Natl. Def. Masonic Club. Hobbies: genealogy, woodworking.

LITTMANN, Edwin R., Esso Stand. Oil Co., N.Y.C.; res. 18 Bennett Pl., Westfield, N.J.
Chem. marketing; b. St. Louis, Mo., Dec. 1, 1899; s. of Paul and Julia Littmann; ed. U. of Ill., B.S., 1922, M.S., 1923, Ph.D., 1927; mem.: Sigma Xi, Phi Lambda Upsilon; m. Margaret Breese, Sept. 2, 1922; ch.: Virginia Margaret, Paul Breese. 1923-27 Com. Solvents Corp.; 1929-30 Hercules Powder Co.; 1930-31 Campbell Soup Co.; 1931-39 Hercules Powder Co.; 1939 to date, Esso Stand. Oil Co. Terpene-maleic anydride resins, resin acids, naphthenic acid. Mem.: A.C.S., Am. Wood Preservers Assoc. Club: Chemists'. Hobbies: rugs, photography.

LIVINGSTON, H(erbert) K(lossner), res. grp. ldr., E.I. du Pont de Nemours & Co., Box 525, Wilmington, Del.; res. 1224 Newport Pike, Wilmington.
Chem.; b. Brownsville, Texas, Aug. 21, 1918; s. of Homer Bailey and Vennette (Klossner) Livingston; ed. U. of Texas, B.S. in Ch.E., 1937; M.S. in Pet.E., 1939; U. of Chicago, Ph.D., 1941; mem.: Tau Beta Pi, Phi Lambda Upsilon, Pi Epsilon, Sigma Xi; m. Mary Blanchard, July 11, 1942; ch.: Paul Anthony. 1941-42 res. chem. du Pont Jackson Lab.; 1948 to date res. grp. ldr., du Pont, Waynesboro, Va.; 1941-48 res. chem. du Pont Jackson Lab. Res. in measurement of free surface energies at solid surfaces, dev. work with neoprene latex, investigation of the mechanism of anti-knock action. Abstractor, "Chemical Abstracts," 1942. Mem.: A.C.S. (councilor, 1951). Club: du Pont Country.

LIVINGSTON, John W., conslt., Chem. Industries, Box E., Manhasset, L.I., N.Y.; res. 16 The Terrace, Plandome, L.I., N.Y.
Chem. engr.; b. Dec. 31, 1889; s. of John G. and Josephine Livingston; ed. U. of Mich., A. B., 1912; M.I.T., S.B., 1914; m. 1st, Margaret Melvin, 1916; 2nd, Agnes Haskell, 1943; ch.: John W., Jr., Anne (Livingston) Watts, Robert M., James D., Neil S. Chem., Parke, Davis & Co., Detroit, Mich., 1914-15; mgr., Detroit Org. Chem. Co., 1915-16, res. chem., Gen. Chem. Co., 1917; res. chem., plant mgr., operating supt., mgr. res. & dev., Natl. Aniline & Chem. Co., 1917-24; asst. tech. dir., mgr. St. Louis plant, v.p. in chg. of mfr., gen. mgr., Org. Chem. Div. Monsanto Chem. Co., 1925-July, 1942; v.p. in chg. of prod., plant operations & tech. matters (Govt. Syn. Rubber Program), Rubber Reserve Co., R.F.C., July, 1942-Sept., 1945; conslt., Chem. Industries, 1945 to date. In chg. of operations of the Govt. Syn. Rubber Plants from late 1942-Sept., 1945 & of res. & dev. in govt. program from Sept., 1944-Sept., 1945. Mem.: A.I.Ch.E., S.C.I., A.C.S., A. A.A.S. Clubs: N.Y. Yacht, Chemists', Pitts. University, Mo. Athletic (St. Louis), Lake Placid. Hobbies: skiing, sailing, mountain climbing.

LIVINGSTON, Robert (Stanley), prof. physical chem., Schl. of Chem., U. Minnesota, Minneapolis; res. Excelsior, Minn.
Physical chem.; b. San Francisco, Calif., Aug. 11, 1898; s. of Andrew William and Laura Lillian (Hoag) Livingston. B.S., 1922, M.S., 1923, Ph. D., U. of Calif. (Berkeley); m. Savetta Leslie Chucovich, 1930; ch.: Mary Elizabeth. Teaching Fellow, chem., (Calif.) 1923-25; Bruce Howard Memorial Fellow, Polytech. Inst., Copenhagen 1925-26; instr., chem., Calif., 1926-27; asst. prof., physical chem., Minnesota, 1927-37; assoc. prof., physical chem., Minn., 1937-43; prof. physical chem., Minn., 1943 to date; Lalor Foundation Fellow, Chicago, 1938-39, Res. Assoc. NDRC, Chicago, 1942-43; hd. testing lab., NDRC (Md. Res. Lab.) 1943-44; tech. dir., NDRC (Maryland Res. Lab.) 1944-45. Res. in reaction kinetics, radiation chem., photochem.; recent research in photochem. of chlorophyll; publications in numerous sc. and tech. jls. Author: "Physico Chemical Experiments," Macmillan, 1939, revised 1948. Mem.: A. C.S., A.A.A.S. Acdy. Sc. (Minnesota), Sigma Xi; Army and Navy Certificate of Appreciation 1947. Club: Campus Club, (Univ. of Minn.).

LJUNG, Harvey A., dean, prof. of chem., Guilford Coll., Guilford College, N.C.; res. same.
Teaching; b. Greensboro, N.C., Oct. 26, 1905; s. of Karl J.A. and Annie Elmore Ljung; ed. U. of N.C., B.S., 1927, M.S., 1928, Ph.D., 1931; mem.: Alpha Chi Sigma; m. Maxine Kirch, Aug. 7, 1936; ch.: Karen, Leah, Christina. Dean and prof. of chem., 1946 to date; U.S. Navy, 1943-46; prof. of chem., Guilford Coll., 1931-43. Mem.: A.C.S., Sigma Xi. Club: Lions. Hobbies: gardening, fishing.

LLOYD, Lewis E., chem. & economic res., The Dow Chem. Co., Midland, Mich.; res. 1416 Crane Ct., Midland.
Chem. & economic res.; b. Clyde, N.D., Mar. 27, 1907; s. of Elmus L. and Nellie Edith (Cocanower) Lloyd ; ed. B.S. chem., cum laude, Manchester Coll., 1931; Sc.D. chem., U. of Mich., 1937; mem.: Sigma Psi, Tau Kappa Alpha, Phi

Beta Kappa, Phi Kappa Phi, Phi Lambda Upsilon; m. Lavan Marie Zarem, 1934; ch.: Vonnie Susan, Vivi-Anne. Teaching fellow, U. of M., 1934-35 & 1935-36; du Pont fellow, U. of M., 1936-37; The Dow Chem. Co. 1937 to date; 1937-41 ethylene & plastics res., 1942-44 engrg. on rubber reserve styrene plants, 1945-49 com. & market res. plastics div., 1950 to date chemical econ. res. Lab. distillation, meths. for efficient res., plastics ind. econ. Mem.: A.C.S., Am. Statistical Assn. Foundation for Study of Cycles. Clubs: Midland Country, Economics (Saginaw Valley). Hobbies: figure skating, canoeing, cabinet making,

LLOYD, Lyman S., v.p., Alex. C. Fergusson Co., 44 E. Oregon Ave., Phila. 48, Pa.; res. 46 Haverford Rd., Overbrook Hills, Pa.
Exec.; b. Shamokin, Pa., July 31, 1898; s. of William M. and Julia (Egan) Lloyd; ed. Phila. pub. schls.; spec. course, Temple U.; m. Lucy Brogan, Feb. 22, 1922. With Smith, Kline & French Co., asst. to pres., 1917-19; Alex. C. Fergusson Co., v.p., 1920 to date; also Eastern Rep., Wilson Labs., Chicago, Ill. Clubs: Chemists' (N.Y.), The Chemical Club (Phila., Pa.), Anglers Club of Absecon Island, Seaview Country, Llanerch Country. Hobbies: golf, fishing.

LLOYD, Stewart Joseph, dean, Schl. of Chem., Metallurgy and Ceramics, University P.O., Alabama; res. Colonial Pl., Tuscaloosa, Ala.
Chem., chem. engr., geologist; b. Hamilton, Ontario, Canada, Sept. 12, 1881; s. of Joseph and Sage (Peregrine) Lloyd; ed. U. of Toronto, 1900-04, B.A.; McGill U. 1904-06, M.Sc.; U. of Chicago, 1908-10, Ph.D.; U. of Alabama (D.Sc.) hon.; mem.: Phi Beta Kappa, Sigma Xi, Theta Chi; m. Edith Marian Dawson, Dec. 26, 1911; ch.: Frances Valentine, Virginia Edith, Edith Vane. 1904-07 demonstrator, McGill U.; 1907-08 mgr. Ruby Silver Mine, Cobalt, Ont.; 1908-09 asst. U. of Chicago; 1909-11 adjunct-prof. metallurgy, U. of Alabama; 1911 prof. of chem., same U.; 1928 to date dean of Schl. of Chem., Metallurg., Ceramics, U. of Ala.; 1935 to date asst. State Geologist, Geological Survey of Ala.; 1939-45 acting State Geologist, Geolog. Survey of Ala. C.W.S. (civilian); contrib. "Organic Hydrolysis," (chapt. in Groggins, P.H., Unit Processes), N.Y., McGraw-Hill, 1938. Mem.: A.I.Ch.E., A.C.S., S.C.I. A.I.C., A.E.S., Canadian Inst. of Chem., Newcomen Soc. Club: Rotary. Hobby: Linguistics.

LOCHTE, Harry Louis, prof. chem., U. of Texas, University Station, Austin, Tex.
Prof. chem.; b. Fredericksburg, Tex., Oct. 18, 1892; ed. Southwest Texas State Tchrs. Coll., 1913; U. of Texas., B.A., 1918; U. of Ill., Ph.D., 1922; m. Ellen Floy Guynes, Aug. 12, 1922; ch.: 2 sons. Var. Texas schls., tchr., 1909-17; U. of Tex., instr. 1922-23; adjunct. prof. 1923-26 assoc. prof. 1926-36; prof. chem. 1936 to date. Hosp. Corps, U.S.N., 1918-19. Main fld. of res., petroleum acids and bases; pub. on anal., organ. and corrosion res. Mem.: Sigma Xi, A.C.S.

LOCKE, Arthur Preston res. dir., Zonite Products Corp., New Brunswick, N.J.
Dir. of res.; b. Mitchell, So. Dak., Dec. 12, 1897; s. of Charles Alison and Lillian Maude Preston Locke; ed. Morningside Coll., Sioux City, Ia., A.B., 1918, D.Sc. (hon.), 1950; U. of Chicago, Ph.D., 1922, summa cum laude; m. Rose Brennwasser in 1933. Chem. anal., Armour & Co., Chicago, 1918-19; asst. prof. chem., Morningside Coll., 1920-21; jr. chem., U.S. Pub. Health Service, at U. of Chic., 1921-22; Carnegie Fellow, Coastal Lab., 1923; Seymour Coman Fellow, U. of Chic., at St. Luke's Hosp., 1924-34; mem. res. staff, West Pa. Hosp., Pittsburgh, 1934-44; chf. res. chem., Zonite Products Corp., 1944-45; dir. of res., Zonite Products Corp., 1945 to date. Res. in purification of immune serums, nature of bacterial toxins, copper and iron in toxin production and in blood plasma and tissue, non specific factors in resistance to infection, common cold; resistance to gravitational shock, chemotherapy. Mem.: A.C.S., A.Inst. Chems., A.A.A.S., Am. Assn. Immunol. (assoc. ed. J. Immunol. 1936-49), Soc. Exp. Biol., Am. Pub. Health Assn., Am. Soc. Bact.

LOCKE, Charles Ogden, chf. chem., Ohio-Apex Inc., Nitro, W.Va.; res. 845 Somerset Dr., Charleston 2, W.Va.
Res. chem.; b. Drakes Branch, Va., Aug. 5, 1901; s. of Floyd J. and Mary V. Locke; ed. Roanoke Coll., B.S., 1924; U. of Pittsburgh and Carnegie Inst. of Tech., 1925-27; m. Pearl Humphreys, Dec. 21, 1938; ch.: Dorothy Ann. 1925-27 jr. chem. U.S. Bur. of Mines, Pittsburgh; also for short periods with du Pont and Carbide & Carbon; 1929 chem. Rubber Service Labs. (Monsanto); 1930-32 chem. Kavalco Prods. Inc.; 1933-36 chem. with Calco Chem. Co. and subsid. E.C. Klipsteins; 1936 to date chf. chem., Ohio-Apex, Inc. Res. work developing several excellent plasticizers. Mem.: A.C.S., A.A.A.S. Club: Lake Chaweva. Hobbies: camping, motoring, reading, radio.

LOCKHART, Luther Bynum, chem., dir. res., Law & Co., Indus. Chems., 136 Forrest Ave., N.E., Atlanta 3, Ga.; res. 186 E. Wesley Rd., N.E., Atlanta 5.
Chem.; b. Chapel Hill, N.C., Aug. 16, 1881; s. of Gaston Brown and Margaret Adelaide Clegg Lockhart; ed. Ph.B., U. N.C., 1904; grad. stud. chem., Cornell U., 1907-10; mem.: Phi Beta Kappa, Gamma Alpha (grad. sc. frat.); m. Louisa Berien Hamilton, Sept. 30, 1916; ch.: Luther Bynum, Jr., James Hamilton, Gaston Brown. Asst. ind. chem., U. N.C., 1903-04; instr. physics, chem., math., Pensacola, Fla. schls., 1904-07; asst. anal., inorg. chem., Cornell U., 1907-09; chem. microscopy 1909-10; chem. asst., Bur. Stands., summer 1909; State Oil chem., Raleigh, N.C., 1910-12; chem., owner Lockart Labs., Atlanta, Ga., 1912-23; adj. prof. chem., Atlanta Med. Coll. 1913-15; chf. chem., East Point, Ga., div. of Tenn. Corp. 1923-50; chem., dir. res., Law & Co. 1923 to date. Patentee of non-diluting motor oil. Author: "Am. Lubricants" (3 eds., 1918, 1920, 1927); Tech. Bulletins. Mem.: A.C.S., Ga. Acdy. Sc., charter mem., Pet. Div. A.C.S.; chmn. N.C. Sect. A.C.S. 1902, chmn., Ga. sect. 1921 and 1937; secy. 1922, councilor 1931. Hobbies: corrosion, lubricating oils & greases.

LOCKO, Benjamin Stephenson, res. chem. and tech. serv., Muralo Co., Inc., 570 Richmond Terr., Staten Island, N.Y.; res. 59 Overlook Ave., Dongan Hills, Staten Island, N.Y.
Chem.; b. Staten Island, N.Y., Apr. 18, 1915; s. of Stephen and Natalie (Kondubovich) Locko; ed. College of the City of N.Y., 1933-41 (evening); Manhattan Coll., 1942 (evening); m. Eda Reboli, Apr. 20, 1947. 1937-41 anal. chem. U.S. Gypsum Co.; 1941-42 res. chem. Muralo Co., Inc.; 1942-46 res. chem. U.S.A.; 1946 to date res. chem. and tech. serv. Muralo Co., Inc. Res. on poison gases of classified nature in U.S.A.; resin emulsion paste paints, plastic compounds, proteins, etc. Mem.: A.C.S. Hobbies: photography, golf, music.

LOCKWOOD, Maurice H., v.p., chg. of plant food div., Internatl. Minerals & Chem. Corp., 20 N. Wacker Dr., Chicago 6, Ill.; res. 745 Sheridan Rd., Winnetka, Ill.
Exec., fertilizer mfr. and distrib.; b. New Britain, Conn., Aug. 6, 1899; s. of Herbert Newton and Bertha Adelle (Doolittle) Lockwood; ed. B.S., 1921, U. of Conn.; m. Elena Mae Crough,

Aug. 15, 1927. County Agric. Agent, Conway, N.H., 1921-24; fieldman, Eastern States Farmers' Exchg. 1924-26; mgr., Fertilizer Div., Eastern States Farmers' Exchg., West Springfield, Mass., 1926-46; pres., The Natl. Fertilizer Assoc., Wash., D.C., 1946-48; v.p., Internatl. Minerals & Chem. Corp., Chicago, Ill., 1948 to date.

LODGE, Fred S., asst. to the pres., The Nat'l. Fertilizer Assoc., 616 Continental Bldg.; res. 1424 Van Buren St., N.W., Washington 12, D.C.

Chem. engr.; b. Monticello, Ill., June 9, 1884; s. of William E. and Frances Ann (Platt) Lodge; ed. B.S, U. of Ill. 1908; mem.: Alpha Chi Sigma; m. 1st, Louise J. Retz, 1911, m. 2nd, Grace V. Retz, 1948; ch.: Fred R., Richard S. Chem., Armour & Co., Chicago, 1908-10; asst. chf. chem., 1910-11; dir. chem. control, Armour Fertilizer Wks., Chicago, 1911-16; asst. dir. of mfg., Armour Fertilizer Wks., 1916-32; v.p., Canisteo Mfg. Co., Canisteo, N.Y., 1933-34; The Nat'l. Fertilizer Assoc., Washington, D.C., 1934 to present. Res. in fertilizer chem. and technology. Contrib. extens. to sc. and tech. journals. Trustee, Nat'l Parks Assoc., Washington, D.C. Club: Cosmos (Washington, D.C.). Hobbies: ornithology, conservation.

LOEB, Harold Gordon, res. assoc., Stanford U., Medical School, Dept. of Pediatrics, San Francisco; res. 589 N. Ridge Rd., San Francisco 24, Calif.

Biochem.; b. Boston, Mass., Aug. 14, 1912; s. of Maurice and Anna Glickling Loeb; ed. B.S., Harvard Coll., 1935; Ph.D., U. of Minn., 1940; m. Ruth Kornblum, Aug. 1, 1948. Post-doctoral Fellow, Univ. of Minn., 1940-41; Rockefeller Foundation Fellow, U. of Minn., 1941-42; assoc. chem., Lab. of Physiol. Hygiene, U. of Minn., 1942-43; Capt., San. Corps, U.S. Army Medical Dept., 1943-46; dir., Biochem. Div., Permanente Foundation, Dept. of Med. Research, 1946-49. Contrib. extensively publications on endocrine influences on fat metabolism, the composition of rats with detailed analyses of body fat, the thiocyanogen number of linolenic acid, microbiological assays for glutamic acid and glutamine in blood plasma. Mem.: A.C.S., Acdy. of Scs. (New York), Sigma Xi. Hobbies: photography, hiking.

LOEFFLER, Alfred Thorpe, dir. of devel., organic chems. Div., Monsanto Chem. Co., St. Louis, Mo.; res. Round Hill Rd., Greenwich, Conn.

Sales mgr.; b. Oswego, N.Y., Feb. 2, 1904; s. of Theodore and Marcia (Morrison) Loeffler; ed. Bklyn. Polytech.; Colo. Schl. of Mines; U. of Rochester, B.S., 1926; mem.: Beta Theta Pi; m. Kathryn Makin, June 22, 1929; ch.: Alfred Thorpe, Jr., Marcia-Kay. Eastman Kodak Co., 1926; Yawman & Erbe, 1927; Hooker Electrochem. Co., asst. sales mgr. in chg. org. chem. sales, 1927-37; gen. branch mgr., Monsanto Chem. Co.; to date, dir. of devel., Organic Chems. Div., Monsanto Chem. Co., St. Louis, Mo. Club: Union League (N.Y.). Hobbies: golf, music.

LOESCH, Hugo George, food chem., conslt., 29 Stoneleigh Pk., Westfield, N.J.

Chem.; b. Mar. 15, 1895; s. of Peter and Alma Kehrer Loesch; ed. Pulitzer Scholar, Columbia Coll., B.S., 1915, Deg. Chem., 1917, Columbia Schl. Mines, Engrg., Chem.; mem.: Tau Beta Pi, Phi Lambda Upsilon; m. Margaretha A. Mueller, Mar. 25, 1922; ch.: Frances, John, Gretchen, Gertrude, William. 1917 Waldrich Bleachery, mfg. dyestuffs; 1917-19 U.S. Bur. Chem., Buffalo, N.Y., chem.; 1919-29 Certo Corp., Rochester, N.Y., chf. chem.; 1929-44 Gen. Foods Corp., N.Y.C., tech. dir. res. dev.; 1944 to date conslt., food and allied fields. Mem.: A.C.S., A.A.A.S. Elder, Presby. Ch. (Westfield, N.J.). Club: Chem. (N.Y.C.). Hobbies: collecting paintings, antiques.

LOFGREN, Frederick Valentine, assoc. prof. hospital & mfg. pharmacy, Coll. Pharmacy, U. Texas, Austin, Texas.

Phar. chem.; b. Seattle, Wash., Apr. 12, 1897; s. of Axel V. and Amelia (Larsen) Lofgren; ed. U. of Wash., Seattle, Ph.G., 1920; B.S. (cum laude), 1924; M.S., 1925, Arthur A. Denny Fellow; Ph.D., 1930; mem.: Kappa Psi; m. Effie Dahlstrom, June 18, 1924; ch.: Eldin J. Retail pharmacist 1920-27; instr. pharmacy, U. Wash., 1927-29; asst. prof. pharmacy, acting dean, Coll. of Pharmacy, Valparaiso U., 1929-30; assoc. prof. of pharmacy, dean Coll. of Pharmacy, 1930-32; prof. of pharmacy & pharmacology, dean Coll. of Pharmacy, 1932-39; prof. of pharmacology & pharmacognosy, U. Fla., 1939-40; asst. to sc. dir., Hart Drug Corp., Miami, Fla., 1940-42; sc. dir. 1942-50; assoc. prof. Coll. Pharmacy, U. Texas, 1950 to date. Series of alkyl esters as local anesthetics. Mem.: Rho Chi, Sigma Xi, Am. Phar. Assn., A.C.S. Club: Masonic.

LOFTON, William, Jr., dir. res. & dev., Sloss-Sheffield Steel and Iron Co., Birmingham, Ala.; res. 721 Altmont Apts., Birmingham.

Chem.; b. Mendenhall, Miss., Apr. 22, 1904; s. of W.M. and Emma D. Lofton; ed. B.A. (spec. distinct.), Miss. U., 1925; M.A. & Ph.D., U. N.C. 1926, 1928; mem.: Alpha Chi Sigma; m. Flo Osborne, May 31, 1931. Prof. chem., Guilford Coll., 1928-31; res. chem., Texas Co., 1932-32; Penn. Coal Prod. Co., 1933-36; chf. chem., 1936-37; res. chem., Va. Smelting Co., 1937-38; chf. chem., Pa. Coal Prod. Co., 1938-46; asst. dir., U. Louisville Inst. of Indus. Res., 1946-49; dir. res. & dev., Sloss-Sheffield Steel & Iron Co., 1949 to date. Res. in indus. organ., chem. warfare agts., synth. adhesives, dye interm.; coal tar chems. Mem.: A.C.S., A.A.A.S., Sigma Xi. Club: Chem. (N.Y.). Hobbies: gardening, golf, detective stories.

LOGAN, Milan A(lexander), Andrew Carnegie prof. of biolog. chem. & hd. of dept., Coll. of Medicine, U. of Cincinnati, Cincinnati, Ohio; res. 4916 Colerain Ave., Cincinnati.

Prof.; b. Brockton, Mass., July 15, 1897; ed. B.S. 1919, Ph.D. biol. chem. 1928, Harvard; m. Queenie Wilson, 1921. Dir., Niagara Falls Mem. Hosp. Lab., 1921-25; assoc. biolog. chem., Harvard Med. Schl., 1928-37, asst. prof. 1937-40; chem., Forsyth Dental Infirmary, 1928-40; prof. hd. of biolog. chem. dept., Coll. of Medicine, U. of Cincinnati, 1940 to date. Inorg. metabolism; toxin prod.; bacterial nutrition; proteolytic enzymes. Mem.: A.A.A.S., Chem. Soc., Soc. of Biolog. Chems.

LOHR, James Martin, ret., Driver-Harris Co., Harrison, N.J.; res. 58 Maple Ave., Morristown, N.J.

Metallurgist; b. Clear Spring, Md., Oct. 22, 1879; s. of James and Mary (Miller) Lohr; ed. Franklin & Marshall Coll., Lancaster, Pa., 1902-05, A.B.; Cornell U., Ithaca, N.Y., 1909-13, Ph.D.; mem.: Phi Sigma Kappa, Sigma Xi; m. Mabel J. Harey, Apr. 22, 1914; ch.: Justine Louise (Lohr) Baldwin. Jr. alloy chem., U.S. Bur. of Mines, 1912-16; plant metallurgist & supt. of melting, Hoskins Mfg. Co., Detroit, Mich., 1916-21; supt. of melting & hot rolling, Elec. Alloy Co., Morristown, N.J., 1922-25; plant metallurgist, Driver-Harris Co., Harrison, N.J., 1925-29, mgr. of res. lab. 1929-49, ret. 1949 but still keeps in close touch with Driver-Harris Co. Spent 33 yrs. in mfr. & dev. of heat resisting alloys for use at high temp., 15 pats. in this fld. & 3 more pats. pending at present. Num. pubs. in sc. jls. Mem.: Electrochem. Soc., Sigma Xi. Hobbies: contract bridge, mutual investment funds.

LOLLAR, Robert M(iller), assoc. prof. basic sc. in tanning res., Tanners' Council Res. Lab., U. Cincinnati, Cincinnati 21, O.; res. 6406 Elbrook Ave., Cincinnati 13.
Res. ind. biochem.; b. Warren County, O., May 17, 1915; s. of Harry D. and Ruby Miller Lollar; ed. Lebanon public schls. to 1932. Ch.E., 1937; M.S., 1938, Ph.D., 1940, U. of Cincinnati; mem.: Alpha Chi Sigma, Tau Beta Pi, Sigma Xi, Phi Lambda Upsilon, Soc. Prof. Chem., Eng. Hon., Res. Hon., Chem. Honors; m. Dorothy Williams, Jan. 1, 1941; ch.: Janet Ruth, Katherine Louise. Part-time chem. tech., American Rolling Mills, Miami Valley Coated Paper Co., Kroger Food Foundation prior to 1937; Fellow, Shoe Polish Div., Best Foods Corp., 1937-40; dev. chem., 1940-41; Tanners' Council Res. Lab., U. of Cincinnati, 1941 to date. Contrib. numerous arts. from 1938 to date, mostly in the jl. of the Am. Leather Chemists Assoc., especially in the study of the mechanism of tannage. Mem.: Am. Leather Chemists Assoc. (Comm. chmn.), A.C.S. (Natl. Councilor), Soc. of Leather Trades Chemists (England), Sigma Xi, (Research) Acdy. Sc. (N.Y.), A.A.A.S. Hobbies: gardening, local public service activities.

LONG, Carlos P., chem., anal. sect., stds. dept., chem. div., Procter & Gamble, M.A. and R. Bldg., Cincinnati 17, Ohio; res. 1283 Michigan Ave., Cincinnati 8.
Chem.; b. Thetford, Mich., Sept. 2, 1881; s. of William H. and Persis A. (Wilson) Long; ed. U. of Mich., A.B., 1905, A.M., 1906; mem.: Sigma Xi; m. Anna Brown, Apr. 8, 1908; ch.: Anna E. Campbell, Persis M. 1906 chf. chem. Globe Soap Co., to chem. dir. about 1918 until 1928 (May 1) when Globe Soap Co. was purch. by Procter & Gamble. With P. & G., Anal. Sect., Stds. Dept., Chem. Div. since 1928. Mem. of various tech. comms., Am. Oil Chem. Soc., A.C.S., A.O.C.S., A.I.Ch.E., Ohio Valley Sect., Am. Optical Soc. Hobbies: Amer. Indian archeology, botany.

LONG, Cyril Norman Hugh, M.D., dean, Schl. of Med., Yale U., and Sterling prof. of phys. chem., 333 Cedar St., New Haven 11, Conn.; res. 100 Old Farm Rd., Hamden 14, Conn.
Biochem., physiol.; b. Nettleton, England, June 19, 1901; s. of John Edward Langdill and Rose (Fanny) Long; ed. U. of Manchester, England, B.Sc., 1921; M.Sc., 1923; D.Sc., 1932; M.D. C.M., McGill U., Montreal, Can., 1928; hon. M.A., Yale U., 1936; Sc.D. (hon.), Princeton U., 1946; m. Hilda Gertrude Jarman, July 28, 1928; ch.: Barbara Rosemary, Diana Elizabeth. 1923-25 instr. physiol., Univ. Coll., London; 1925-29 lect. in med. res., McGill U.; 1929-32 asst. prof.; 1932-36 dir. George S. Cox Med. Res. Inst., and asst. prof. med., U. of Pa.; 1936-38 prof. physiol. chem., Yale U. Schl. of Med.; chmn. dept. 1936 to date; Sterling prof. physiol. chem., 1938 to date; dean, Schl. of Med. 1947 to date. Civ. with Off. Sc. Res. and Dev., U.S.A.; conslt., U.S. Pub. Health Serv.; Sc. Adv. Bd., Army Inst. of Path.; Adv. Council, Life Ins. Med. Res. Fund; chmn. Comm. Res. in Endocrin.; Natl. Res. Council; Bd. Sc. Adv., Jane Coffin Childs Mem. Fund; mem.: Natl. Acdy. Sc.; A.Phil.S.; A.A.A.S.; A.Phys.S.; Amer. Soc. Clin. Inv. (pres. 1944-45); Amer. Diabetes Assoc.; Amer. Phys.; Amer. Soc. Biol. Chem.; Assoc. Study Int. Sec. (pres. 1947-48); Soc. Exper. Biol. & Med. (councilor 1947); Biochem. Soc., Gt. Britain; Phys. Soc., Gt. Britain; hon. mem. Argentine Soc. for Biol.; Edit. Bd., "Endocrinology." Newbold Lecturer, Coll. of Phys., Phila., 1935; Harvey Lect., Harvey Soc., N.Y., 1937; Hatfield Lect., Coll. of Phys., Phila., 1939; Graves Lect., U. of Ind., 1950. Trustee: Brookhaven Natl. Lab. Clubs: Faculty and Graduate (New Haven), Yale (N.Y.). Hobby: stamp collecting.

LONG, Earl A(lbert), prof. chem., Inst. for Study Metals & Dept. Chem., U. Chicago, Chicago, Ill.; res. 5637 Woodlawn Ave.
Physical chem.; b. Altoona, Pa., July 2, 1909; s. of A.R. and Grace Beattie Long; ed. A.B., Catawba Coll., 1930; M.Sc., Ohio St. U., 1932; Ph.D., 1934; m. Marietta Moss, Feb. 8, 1947. Natl. Res. Fellow, U. of Calif., Berkeley, 1934-36; instr., 1936-37; fellow of Lalor Found. 1937-38; asst. prof. chem., U. Mo., 1938-43; assoc. prof. chem. 1943 (on leave); Los Alamos Lab. 1943-46; asst. dir. 1945; prof. U. Chicago, 1946 to date. Res in low temp. physico., thermody., nuclear physics, liq. helium. Mem.: A.Phys.S., A.C.S. Hobbies: mt. climbing, tennis, fishing.

LONG, Franklin A., chmn., dept. chem., Cornell U., Ithaca, N.Y.; res. Warren Rd., Ithaca.
Prof. of chem.; b. Great Falls, Mont., July 27, 1910; s. of Franklin A. and Ethel (Beck) Long; ed. B.A., U. of Mont., 1931, M.A., 1932; Ph.D., U. of Calif. 1935; m. Marion Thomas 1937; ch.: Elizabeth, Franklin A. Instr., U. of Calif., 1935-36; instr., U. of Chicago, 1936-37; instr., Cornell U., 1937-39, asst. prof. 1939-42, assoc. prof. 1942-46, prof. 1946, chmn. dept. of chem. Feb., 1950 to date. Res. in chem. kinetics, radioactive tracers, surface chem.; supvr. Div. 8, N.D.R.C., 1942-45. Mem.: A.C.S., Physical Soc., Phi Beta Kappa, Sigma Xi.

LONG, Henry Johnson, pres., Greenville College, Greenville, Ill.; res. 221 E. College, Greenville.
Pres. Greenville Coll.; b. Cashion, Okla., Jan. 18, 1897; s. of Otis and Ida Belle (Childers) Long; ed. U. of Kansas, A.B., 1920; A.M., 1922; Ph.D., 1927; Wheaton Coll., LL.D. (hon.), 1942; Greenville Coll., D.Sc. (hon.), 1948; m. Lena May Watson, Sept. 3, 1919; ch.: Ruth Elaine (Long) Galbreath; Harold Johnson; Doris Jean (Long) Schofield. 1920-21, also 1922-25, instr. math. and sc., Central Coll., McPherson, Kansas; 1921-22, also 1925-27, asst. instr. chem., U. of Kansas; 1927-36 prof. of chem., Greenville Coll.; 1933-36 exec. asst. same coll.; 1936 to date pres. same coll. Doctoral dissertation: "The Mono-Chlor Mono-Iodo derivatives of Tolnene"; "Organic Dyes for Testing Metal Ions." Former mem. A.A.A.S., Ill. Acdy. of Sc., A.C.S., elected fellow of A.I.C. Club: Mid-Day Luncheon Club, Springfield, Ill., for about 12 yrs. Hobbies: fishing, hunting, lecturing, tennis.

LONG, Louis, Jr., dir. and owner, Concord Labs., 292 Main St., Cambridge 42, Mass.; res. Carr Rd., Concord, Mass.
Org. chem., conslt. and res.; b. New York, Jan. 3, 1903; s. of Louis and Elsa (Blun) Long; ed. Princeton U., B.S., 1923; M.I.T., S.M., 1925; Harvard U., M.A., 1937, Ph.D., 1939; mem.: Delta Psi; m. Helena A. Thompson, Jan. 29, 1938; ch.: Sara Apthorp, Mary Frances Thomas, Hilary Sargent, Charlotte Cunningham. 1925-29 spec. apprentice, U.S. Finishing Co., New York, N.Y.; 1929-32 statis., Goldman, Sachs & Co., New York, N.Y.; 1932-34 indus. engr., Sanderson & Porter, New York, N.Y.; 1939-42 res. assoc., U. of Va., Charlottesville, Va.; 1942-44 res. asoc., Harvard U., Cambridge, Mass.; 1944-46 res. assoc. M.I.T., Cambridge, Mass.; 1946-48 conslt. chem., 53 State St., Boston, Mass.; 1948 to date, Concord Labs. Synthesis of adrenal cortex hormones under the Comm. on Med. Res. of the OSRD during W.W.II. Author: "Absorption of a Gas by a Liquid Drop" (Masters Thesis) M.I.T., 1925; "Ozonization of Hydrindene" "Hydroxy derivatives of 1, 2-benzanthra-

cene," (Ph.D. Thesis) Harvard U., 1939. Coauthor: (with L.F. Fieser, E.B. Hershberg and M.S. Newman) of "Hydroxy derivatives of 3, 4-benzpyrene and 1, 2-benzanthracene"; contrib. also num. arts. to sc. jls. Mem.; A.C.S., A.A.A.S., Assoc. of Cons. Chemists and Chem. Engrs. Clubs: Harvard Faculty (Cambridge), Harvard (N.Y.).

LONG, Robert Sidney, asst. dir., org. section., res. dept., Amer. Cyan. Co., Calco Chemical Div., Bound Brook, N.J.; res. Hawthorne Ave., Bound Brook.
Chem.; b. Chicago, Ill., Mar. 30, 1916; s. of Sidney S. and Ethel Anderson Long; ed. St. Mary's Coll., B.S., 1932-36, U. of Minn. Grad. Schl., 1936-37, U. of Ill., Grad. Schl., 1937-40, Ph.D.; mem.: Gamma Alpha; m. Mary Faith Moodry, Apr. 16, 1943; ch.: Patricia Suzanne, Nancy Elizabeth. Amer. Cyan. Co., Calco Chem. Div., res. chem., July, 1940 to Dec., 1943; asst. chf. chem., org. res., Jan., 1944 to Sept., 1947; asst. dir. org. section, res. dept., Oct., 1947 to present. Res. in dyes and intermediates. Mem.: A.C.S., A.I.C., A.A.A.S., Sigma Xi. Club: Raritan Valley Country. Hobbies: golf, tennis, bridge.

LONG, Walter Sterrett, hd. chem. dept., chmn. div. science & math., Kansas Wesleyan, Salina, Kansas; res. 225 E. Jewell, Salina.
Prof. of chem.; b. Tipp City, Ohio, Oct. 16, 1879; s. of William H. and Cornelia Long; ed. Tipp City H.S., 1900; Ohio Wesleyan, A.B., 1905, M.A., 1908; U. of Kansas, M.S., 1919, Ph.D., 1930; m. Monna D. Robins, 1907; ch.: Janet, Ruth, Zaire. 1905-09 tchr. of sc., Sandy Valley Seminary, Paintsville, Ky.; 1909-11 prof. of sc., Manchester Coll., N. Manchester, Ind.; 1911-12 instr. in chem. and grad. student, Wisconsin U.; 1912-13 chf. chem., Ford Mfg. Co., Vandalia, Ill.; 1913, grad. student in chem. (2 terms) U. of Ill.; 1913-21 asst. prof. of chem. in chg. of State Food Lab., U. of Kansas; 1921-24 city chem., Kansas City, Mo.; 1924 to date hd. chem. dept. chmn. div. sc. and math., Kansas Wesleyan. Contrib. "On the Constitution of Disubstituted Thiohydantoins" (thesis) and "On the Reaction of the Formamidines" (thesis), both under F.B. Davis; also a number of papers on Food Anal. (Kans. Acdy. of Sc. Bulletins). Mem.: Kansas Acdy. of Sc., A.C.S., A.A.A.S.

LONGENECKER, Herbert Eugene, dean, Grad. Schl. & Res. in Natural Sc., U. Pittsburgh, Pitts. 13, Pa.; res. Elmhurst Pl., Pitts. 15.
University adm.; b. Lititz, Pa., May 6, 1912; s. of Abraham S. and Mary Ellen (Herr) Longencenecker; ed. Pa. State Coll., B.S., 1933, M.S., 1934, Ph.D., 1936; m. Marjorie Jane Segar, June 18, 1936; ch.: Herbert Eugene, Marjorie Segar, Geoffrey Herr. Stanton Lee. Pa. State Coll., Dept. of Agric. & Biol. Chem., grad. asst., 1933-35, instr. 1935-36; Rohm & Haas, Phila., summers only, 1934-35; N.R.C. Fellow, U. of Liverpool, England, 1936-37, U. of Cologne, Germany, 1937, Queens U., Kingston, Canada, 1938; U. of Pitts., dept. of chem., sr. res. fellow & lecturer 1938-41, asst. res. prof. of chem. 1941-42, assoc. prof. of chem. 1942, prof. of biochem. 1942, dean of Res. in Natural Sc., 1944 to date, dean of Grad. Schl. 1946 to date. Mem. of Comm. on Food Res., Office of QM Gen., 1944-47; Food & Nutrition Bd., N.R.C., mem. 1943 to date; chmn., Comm. on Fats 1943-49; exec. comm. 1945-49; Comm. on Dietary Surveys 1946-49; Comm. on Survey of Food & Nutrition Res. 1947-49; chmn., Comm. on Food Protection, 1949 to date; expert conslt. on fats & oils, Office of QM Gen.; Scientific Advisory Comm., Am. Inst. of Baking, 1944 to date; expert conslt., Army Medical Nutrition Lab., Office of Surgeon Gen., 1944-46; mem., Biochem. & Nutrition Study Sec., Natl. Insts. of Health, 1946-47; mem., Fats & Oils Commis., Internatl. Union of Chem., 1947 to date; mem., Panel on Chem. Warfare Programs, Comm. on Chem. Warfare, R. & D. Bd., 1949 to date; mem., Res. Council, Chem. Corps Advisory Bd., 1949 to date. Cert. of Appreciation awarded by Depts. of Army & Navy for excellent contr. to war effort in fld. of sc. res. & dev.; designated one of "ten ablest chem. or chem. engrs." working in U.S. in fld. of fats, oils, & soaps by reader poll conducted by Chicago Sec. of A.C.S. Mem.: Phi Lambda Upsilon, Sigma Xi, Phi Delta Kappa, A.C.S. (mem. since 1933, elected councilor since 1940, pres. Pitts. Sec. 1946-47, Comm. on Nominations & Elections 1947 to date), A.O.C.S. (mem. since 1938, chmn. Award Comm. 1944-47, mem. Edit. Advisory Bd. 1944-49, v.p. 1946-47), Pitts. Housing Assn. (pres. of bd. of dir. since 1948), Biochem. Soc. (London), Am. Soc. of Biol. Chemists, I.F.T., Canadian Physiolog. Soc., A.A.A.S., N.Y. Acdy. of Sc. (elected to fellowship 1946), A.A.U.P., Am. Inst. of Nutrition, A.P.H.A., Pitts. Health and Welfare Federation (v.p. of bd. of dri. 1950 to date). Clubs: Pitts. Chemists', University (Pitts.). Hobbies: music, gardening.

LONNEKER, Paul L., mgr., indust. div., Thompson-Hayward Chem. Co., 2915 Southwest Blvd., Kansas City, Mo.; res. 9406 W. 53rd St., Merriam, Kansas.
Sales mgr.; b. Altamont, Kansas, May 31, 1918; s. of M.M. and Alta C. Lonnecker; ed. B.S., U. of Kansas; mem.: Sigma Nu; m. Lela B. Marks, Jan. 13, 1943; ch.: Georgia, Paul, Jr., Sarah, Thomas. Salesman, Thompson-Hayward Chem. Co., 1940-42; C.W.S., U.S. Army, Captain, 1942-46; mgr. Industrial Div., Thompson-Hayward Chem. Co., 1946 to date. Hobbies: painting, golf.

LOOKER, Cloyd Delson, dir. res., Internatl. Salt Co., P.O. Box 110, Watkins Glen, N.Y.; res. Montour Falls, N.Y.
Dir. of res.; b. Yatesville, O., Aug. 19, 1889; s. of Levi S. and Susan Abigail (Durflinger) Looker; ed. B.S. in Educ., Ohio State U., 1919, M.S., 1920, Ph.D., 1923; m. Hazel M. Groves, July 26, 1911 (dec. Jan. 17, 1939); m. 2nd, Frieda Starkey Baay, Apr. 12, 1942; ch.: Gwendolyn Baay, John M. Baay. Successively tchr., princ. and supt. schls., Madison County, Ohio, 1908-15; instr. chem., Ohio State U., 1918-25, asst. prof., 1925-28; res. dir. Baltimore Gas Engrg. Corp., Charleston, W.Va., 1928-31, Internatl. Salt Co. Inc. since 1931; most recent experiments have been with salt as bomb extinguisher. Mem.: A.C.S., (highway res. bd.), Phi Lambda Upsilon, Phi Delta Kappa, Gamma Alpha, Sigma Xi. Author: (articles) Mechanism of Carbohydrate Oxidation, 1925; Influence of Potassium Hydroxide on the Formation of Vinyl Alcohol from Acetaldehyde, 1921; Sodium Chloride, 1934; Salt as a Chem. Raw Matl., 1941; Relation of Salting to Stains on Hides and Leather, 1933; Some Recent Devs. in the Use of Sodium Chloride, 1936; Use of Sodium Chloride in Road Stabilization, 1938; Economy in Ice Control, 1937; Use of Sodium Chloride and Stone Screenings in Stabilized Road Construction, 1938; Salting of Hay, 1937. Republican. Methodist.

LOOMIS, Albert Geyer, petroleum engr., U.S. Bur. of Mines, 630 Sansome St., San Francisco, Calif.; res. 85 Parnassus Rd., Berkeley 8, Calif.
Petroleum engr.; b. Lexington, Mo., Feb. 17, 1893; s. of William Henry and Annie (Geyer) Loomis; ed. A.B., 1914, U. of Mo., A.M., 1915, Ph.D., 1919, U. of Calif.; Gregory Fellow, U. of Mo., 1915-16; Natl. Res. Fellow in Chem., 1921-22; mem.: Alpha Chi Sigma, Sigma Xi, Phi Delta Kappa, Phi Lambda Upsilon; m. Metta Clare Green, Aug. 5, 1932; ch.: William, Alden, Nancy. Instr., U. of Ill., 1919-20; asst. prof., U. of Mo., 1920-21; phys. chem., U.S. Bur. of Mines, Washington, D.C. and Pittsburgh, Pa., 1921-29; coop. expert,

Internatl. Critical Tables, 1922-25; lecturer, Geo. Washington U., 1923-25; sr. fellow, Mellon Inst. of Industrial Res. and chf. chem., Gulf Res. and Devel. Co., Pittsburgh, Pa., 1929-35; asst. and assoc. dir., Shell Devel. Co., Emeryville, Calif., 1935-45; conslt. chem. and petroleum engr., 1945-49; petroleum engr., U.S. Bur. of Mines, San Francisco, 1949 to date. Res. in the extraction of helium from natural gas; chem. problems in petroleum engrg. Mem.: A.C.S., A.I.M.M.E. Clubs: Faculty (U. of Calif.), Commonwealth (San Francisco, Calif.). Hobbies: gardening, music, mountain camping.

LOOMIS, Chauncey C., pres., New Eng. Lowe Co., Adams, Mass.; res. Stockbridge, Mass.
Pres.; b. N.J., 1892; s. of John A. and Abbie H. Dana Loomis; ed. Harvard, A.B., A.M. 1915.

LOOMIS, Eugene C(harles), sr. biochem., res. labs., Parke, Davis & Co., Detroit 32, Mich.; res. 15895 Tacoma, Detroit 5.
Res. biochem.; b. Milwaukee, Wis., June 18, 1914; s. of Edward and Clara (Fischer) Loomis; ed. B.E., B.S., State Teachers Coll., Milwaukee, Wis., 1937; M.S., Marquette U., Milwaukee, Wis., 1941; mem.: Delta Chi Sigma; m. Martha L. Bierwagen, June 1, 1941; ch.: Maxine Ellen, Mae Elaine. Res. biochem., Marquette U. Schl. of Med., and Dow Chem. Co., Midland, Mich. (support), 1941-42; res. biochem. to sr. biochem., Parke, Davis & Co., Detroit 32, Mich., 1942 to present. Res.: Liver function, blood coagulation, isolation and physical studies of blood proteins. Mem.: Sigma Xi, Phi Sigma, Michigan Acdy. of Sc., Detroit Physiolog. Soc., Coagulationists. Hobbies: woodworking, gardening.

LORAND, Eugene J., sr. res. chem., Hercules Experiment Station, Hercules Powder Co., Wilmington, Del.; res. 1208 Lovering Ave., Wilmington, Del.
Res. chem.; b. Debreczen, Hungary, Oct. 8, 1889; s. of David and Cecilia Lorand; ed. Royal Joseph Tech. U., Budapest, Dr. of Engrg. Sc.; m. Eva Braun, June 11, 1931; ch.: John Peter. Res. chem., Chinoin Works, Budapest, Hungary, 1913; asst. prof. at Royal Joseph Tech. U., Budapest, 1913-19; owner & mgr. of chem. plant, 1917-23; tech. dir., Orion Tartaric Acid Works, 1923-25; instr., The Pa. State Coll. 1926; asst. prof. of Industrial Research. Ibid, 1927-28; res. chem., Hercules Powder Co., Wilmington, Del., 1928-46; sen. res. chem., Hercules Powder Co., 1946 to present. Res.: 30 pats. and 8 original papers; mechanism of cellulose reaction; oxidation of terpenes, olefins and aromatic hydrocarbons with molecular oxygen; hydroperoxides and their reactions. Mem.: A.C.S., N.Y. Acdy. of Sciences (fellow). Hobbies: foreign policy, travel, golf.

LORENZ, Herbert E., mgr. eastern hemisphere, dyes & chem. export dept., Am. Cyanamid Co., N.Y.C.; res. 534 Pelham Manor Rd., Pelham Manor, N.Y.
Exec.; b. North Bergen, N.J., July 19, 1906; s. of Theodore Charles and Wilhelmina (Roth) Lorenz (dec.); ed. Rutgers U., 1924-28, Lit.B.; mem.: Zeta Psi; m. Irene Berko, June 21, 1934; ch.: Judith Margit, Brian Edward, twins born in Bombay, India. Natl. Aniline Div., Allied Chem. Corp., asst. mgr., mgr. of Bombay branch, 1933-45; Am. Cyanamid Co., rep. for India, 1945 to date; Bombay, India, 1937-42, 1946-Jan., 1950. Lt. Commander, U.S. Naval Reserve. Clubs: Pelham Country, Zeta Psi Frat., Willingdon Sports, Bombay Club (Bombay, India).

LOTHROP, Warren Craig, hd. org. chem., Arthur D. Little, Inc., 30 Memorial Dr., Cambridge 42, Mass.; res. 121 Claremont St., Newton 58, Mass.
Chem.; b. Brookline, Mass., Mar. 7, 1912; s. of Theodore A. and Fannie M. (Craig) Lothrop; ed. Harvard Coll., A.B., 1933; Harvard U., M.A., 1935, Ph.D., 1937; m. Margaret Sevier Lotspeich, Sept. 2, 1941; ch.: Mark Avery, Sarah Sevier. 1937-38, Natl. Tuberculosis Res. Fellow, Yale U.; 1938-42, instr. in chem., Trinity Coll., Hartford, Conn.; 1942-46, tech. aide, N.D.R.C., Wash., D. C.; 1945-46, asst. prof., Williams Coll., Williamstown, Mass.; 1946 to date, staff mem., Arthur D. Little, Inc. Articles in sev. chem. jls. on aromatic hydocarbons, lipids of tubercle bacillus, high explosives. Co-author: "Chem.-Sc. in W.W.II" edited by W.A. Noyes, Jr., 1948. Mem.: A.C.S., A.I.C., Soc. of Chem. Ind. Award: President's Cert. of Merit 1948. Clubs: Harvard (Boston), Chemists' (N.Y.).

LOTT, William A(dolf), dir., div. medicinal chem., E.R. Squibb & Sons, New Brunswick, N.J.; res. 53 Park Ave., Maplewood, N.J.
Med. chem.; b. Atlantic City, N.J., Feb. 9, 1898; s. of Louis and Emilie (Stiegler) Lott; ed. Rutgers, B.Sc., 1921; M.Sc., 1922 (Van der Poel Fellow 1921-22); Columbia and Rutgers grad. studies, 1922-25; mem.: Kappa Sigma; Phi Beta Kappa; Sigma Xi; m. Rachel Bradley, Apr. 10, 1928. 1918 Lt., U.S.A.; 1922-25 instr. Rutgers U.; 1925-38 res. chem., 1938 to date dir., Div. of Med. Chem., E.R. Squibb & Sons. Res. in medicinal chem., anesthetics, chemotherapy; dev. new drugs such as cyclopropane for inhalation anesthesia; dev. sulfathiazole, cardiac drugs (Pronestyl). Holds U.S. pats.; contrib. arts. to sc. jls. Mem.: Sigma Xi, A.C.S., A.A.A.S., N.Y. Acdy. of Scs., The Squibb Inst. for Med. Res. Club: Chemists'.

LOTZ, Paul L., tech. dir., Socony Paint Prods., Metuchen, N.J.; res. East Drive, Hydewood Park, Watchung, N.J.
Tech. exec.; b. Baltimore, Md.; s. of William H. and Laura (Lange) Lotz; ed. Baltimore Polytech. Inst., 1912; Gettysburg Coll., B.S., (hon. mention—chem. prize), Johns Hopkins U., Ph.D., University Scholarship, 1918-20; mem.: Phi Gamma Delta; m. Etha Black, 1917; ch.: Madelyn, Virginia, Kathy. Chf. chem., U.S. Ord., 1918-19; res. chem., Socony Vacuum Oil Co., 1920-22; tech. dir., Socony Paint Prods., 1923 to date. Mem.: A.C.S., A.I.C. (fellow). Hobbies: exploration in S.W. U.S.A. and Indian Country; travel, creative cooking, gardening.

LOUCKS, Charles E., chf., chem. div., H.Q. European Command, U.S.A., Heidelberg, Germany; Off., of Chf. Chem. Div., H.Q. European Command, A.P.O. 403, c/o Postmaster, N.Y.; res. 348 Bush St., Mountain View, Calif.
Military; b. June 29, 1895, Palo Alto (then Mayfield), Calif.; s. of Menzo Samuel and Maria Letitia (Sherman) Loucks; ed. Leland Stanford Jr. U., A.B., 1921; M.I.T., M.Sc., 1931; Grad. Chem. Corps Schl., U.SA. (two courses), 1926, 1938; grad Army Ind. Coll., 1940; mem. Alpha Chi Sigma; m. Pearl Reyburn, Jan. 13, 1921; ch.: Charles Sherman, Lois Reyburn. U.S.A., 1917 to date. 1917-25, Battery Comm. & Adjut.; 1925-39, asst. tech. dir. & tech., Dir. for Res. & Dev., C.W.S.; 1940-41, asst. mltry. attaché, Paris & London; 1941-42, exec. off., Off. Chf. Chem. Warfare Service; 1942-44, Commanding General, Rocky Mountain Arsenal, Denver, Colo.; 1944-45, chf. industrial div., office, chf. chem. warfare service; 1945 Chf. Chem. Off., G.H.Q., Manila, P.I. & Tokyo, Japan; 1946-48, Chf., Res. & Engrg. office Chf. Chem. Corps; 1948 to present, Chf. Chem. Div., European Command, A.P.O. 403, U.S.A., Europe. Directed development and standardization of the 4.2 Chem. Mortar, and other chem. corps weapons, munitions and equipment used in W.W.II. Mem.: A.C.S., A.A.A.S., Armed Forces Chem. Assn., A.O.A. Decorations:

(Military) Distinguished Service Medal, Legion of Merit, Commendation Ribbon. Mem.: Army & Navy Club, Wash., D.C. Hobbies: gardening, bowling, golf.

LOUDER, Earl A., tech. dir. Pet Milk Co., Greenville, Ill.; res. 315 Cedar St., Greenville.
Res. dir.; b. Wessington Springs, So. Dakota, Oct. 2, 1893; s. of Albert N. and Hattie Louder; ed. Huron Coll., B.S.; Cornell U., Ph.D.; mem.: Alpha Chi Sigma, Gamma Alpha, Sigma Xi; m. Jean Hawley, June 13, 1942; ch.: Darrell. Asst. instr. chem., Cornell U.; 1918-22 Signal Corp, U.S.A.; Pet Milk Co., 1922 to date. Pub. in nutrition. Mem.: A.C.S., Am. Pub. Health Assoc., I.F.T., A.I.C. (fellow). Club: Masonic.

LOUGEE, F(lora) Marion, prof. chem., hd. dept., Keuka Coll., Keuka Park, N.Y.; res. 141 Nichols St., Lewiston, Maine.
Teaching; b. N. Parsonsfield, Maine, May 6, 1892; d. of Hugh Bartes and Anna Maria Eastman Lougee; ed. A.B., 1914, Bates Coll.; A.M., 1921, Ph.D., 1924, U. Ill. High schl. tchr., Norway, Me., 1914-18; chem., Chem. Warfare Serv., Gas Defense Div., 1918-19; grad. stud., grad. asst., U. Ill., 1919-24; prof. chem., Keuka Coll. 1924 to date. Mem.: A.C.S., A.A.A.S., Sigma Xi, Iota Sigma Pi, A.A.U.P., A.A.U.W., Phi Beta Kappa, Pi Gamma Mu. Clubs: Keuka Park Conservation; Maine Poetry Fellowship. Hobbies: bird study, writing of poetry, genealogical research.

LOUGH, Samuel Allan, chf., Radioisotopes Brch., Isotopes Div., U.S. Atomic Energy Commis.; Oak Ridge, Tenn.; res. 133 W. Vanderbilt Dr., Oak Ridge, Tenn.
Allocation of radioisotopes; b. Baldwin, Kansas, Aug. 28, 1900; s. of Samuel Alexander and Mary (Benedict) Lough; ed. U. of Denver, A.B., 1924; U. of Mich., M.S., 1927; Ph.D., 1933; mem.: Delta Tau Delta; m. Esther Efnor Brown, June 12, 1926; ch.: Maryella. 1924-25; 1927, res. asst., U. of Mich., physiol. chem.; 1928-29, instr. chem., 1929-33, asst. prof., 1933-39, assoc. prof., U. of Nevada; 1932-33, acting asst. prof. physiol. chem., U. of Mich.; 1940-42 biometrician, Venereal Dis. Div., U.S. Pub. Health Serv.; 1942-46, Capt., Sanitary Corps, Army of U.S.; Major, 1947; 1947-48, biochem., Isotopes Div., U.S. Atomic Energy Commis.; 1948 to date, chf., Radioisotopes Br., Isotopes Div., U.S.A.E.C. Res. in metabolism of sulfur; synthesis of phosphatic esters of polyhydric alcohols; massive dose therapy in syphilis. Mem.: Phi Lambda Upsilon, Gamma Alpha, Phi Kappa Phi, Sigma Xi, A.C.S.

LOUK, Harry E., chf. chem., Geo. A. Hormel & Co., Austin, Minn.; res. 1104 Baldwin St., Austin, Minn.
Chem.; b. Lano County, Oregon, Jan. 3, 1912; s. of Arthur and Verna (Brown) Louk; ed. Greenfield, Iowa, H.S.; Iowa State Coll., B.S., chem. engrg., 1934; mem. Delta Tau Delta; m. Ione Howe, June 15, 1935; ch.: William, Charles, Harriet, David, Mary Margaret, Susan. With Geo. A. Hormel & Co., Austin, Minn., since July, 1934; foreman in canning div.; dev. of canned goods; res. chem.; chf. chem. Mem.: A.C.S., A.O.C.S., I.F.T. Clubs: Austin Camera, B.P.O.E. Hobbies: photography, gardening.

LOUTREL, Louis F., pres. Shawinigan Prods. Corp., 350 Fifth Ave., New York 1, N.Y.; res. 243 Irving Ave., South Orange, N.J.
Exec.; b. South Orange, N.J., June 15, 1890; s. of Cyrus Francis and Harriet Amanda Loutrel; ed. Yale U., S. 1911; Aurelian Honor Soc.; mem.: Delta Psi; m. Margarett Bourne Street, May 24, 1913; ch.: Louis F., Jr., Charles Francis, Rosalind L. 35 yrs. with present business, Shawinigan Prods. Corp., having previously been connected with Thos. A. Edison, Warner Bros., Amer. Locomotive Co.; dir. Shawinigan Chems. Ltd., Canada; pres. Midwest Carbide Corp., Keokuk, Iowa; dir. Natl. Cylinder Gas Co., Chicago; dir. Howe Folding Furniture. Club: Union League. Hobbies: fishing, golf, woodworking.

LOVE, Samuel Kenneth, chem. and chf., Quality Water Branch, U.S. Geological Survey, Washington 25, D.C.
Anal. chem.; b. Erie, Pa., Jan. 4, 1903; s. of Brice D. and Nellie L. Love; ed. B.S., Florida, 1927; M.S., 1930; m. Mary Lewis Evans; ch.: Evelyn C., Janet E. Chem., U.S. Geol. Surv., 1928-46; chem. and chf. Quality Water Branch, 1946 to date. Res. chem. qual. of natural waters; fluvial sediments; character of surface and ground water in southeastern Florida; measurement of sediment loads in San Juan, Little Colorado and Boise Rivers. Mem.: A.C.S., A.G.U., A.W.W.A., A.S.T.M. Club: Cosmos (Wash.).

LOVELL, Stanley Platt, pres., Lovell Chem. Co., Watertown 72, Mass.; res. 65 Prospect Pk., Newtonville 60, Mass.
Exec.; b. Brockton, Mass., Aug. 29, 1890; s. of Gustavus C. and Ella M. (Platt) Lovell; ed. Dartmouth Coll., Hanover, N.H., Cornell U., Ithaca, N.Y., B.S., Cornell Grad. Schl.; mem.: Sigma Phi Epsilon; m. Mabel L. Bigney, June 25, 1915; ch.: Richard H. Chem., Spencer Kellogg & Sons; Celastic Corp., mgr., E.I. du Pont de Nemours & Co.; v.p., Beckwith Mfg. Co.; Lovell Chem. Co., pres.; Natl. Res. Corp., Cambridge, Mass., dir., Union Market Natl. Bank, Watertown, Mass., dir., Lukon, Inc., Leominster, Mass., dir. Res. in precipitation of colloids, hysteresis of thermoplastics, synthetic wax structures. Mem.: A.C.S., A.A.A.S., Patent Bar, Presidential M. For Merit, 1948. Natl. Foundation for Arthritis and Rheumatism. Clubs: Cosmos (Wash., D.C.), Algonquin (Boston, Mass.).

LOVELL, Wheeler G(lass), assoc. dir. res., Ethyl Corp., 1600 W. 8 Mile Rd., Detroit, Mich.; res. 18235 Birchcrest Dr., Detroit 21, Mich.
Chem.; b. Mason City, Iowa, Oct. 1, 1900; s. of Fred W. and Eva (Glass) Lovell; ed. Harvard, A.B., 1922; M.I.T., M.S., 1924; m. Elfreda Jessel, June 21, 1926; ch.: Martha Elfreda, Lawrence Wheeler. Asst. hd., fuel sect., Gen. Motors Res. Labs., 1926-47; assoc. dir. res., Ethyl Corp., 1947 to date. Sc. & tech. papers & pats. relating to internal combustion engine & fuels. Mem.: Phi Beta Kappa, A.A.A.S., A.S.T.M., S.A.E., Am. Pet. Inst., A.C.S., Engrg. Soc. Detroit.

LOVERIDGE, Gilbert Thomas, pres. & treas., Fair Haven Mfg. Co., Fair Haven, Vermont; res. East Poultney, Vt.
Chem; engr.; b. Grenfell, Saskatchewan, Canada, May 19, 1898; s. of Alfred Thomas and Henrietta Marie Hall Loveridge; ed. B.A.Sc., U. of British Columbia, 1923, M.S., M.I.T., 1924; m. Rosabel Frances Nowry, Apr. 29, 1935; ch.: Rosabel Ann, Joan Meredith. Res. chem. on cellulose and textile prods., 1925-28; Hartford Rayon Corp., Rocky Hill, Conn., 1928-41 as follows: chem. supt., 1928-29, plant mgr., 1929-33, exec. v.p., gen. mgr., and dir., 1933-41; pres. and treas., (founded) Fair Haven Mfg. Co., 1941 to date. Res. chem. and ind. engrg. in textile fld. Mem.: A.C.S. Clubs: various. Hobbies: mountain climbing, figure skating, boating.

LOW, Fletcher, prof. chem., Steele Chemistry Bldg., Dartmouth Coll., Hanover, N.H.; res. Hanover, N.H.
Tchr.; b. Essex, Mass., Apr. 7, 1893; s. of George P. and Elizabeth B. Burnham Low; ed. Dartmouth Coll., B.S., 1915; Columbia U., M.A.,

1917; Ph.D., 1927; mem. K.K.K.; m. Margery Story, Feb. 19, 1916; ch.: David S., Georgia (dec.), Nancy E., Joanne. Instr. chem., Dartmouth Coll., 1917-24; asst. prof., 1924-34; prof. chem., 1934 to date. Res. in Bredig Gold Sols. (colloidal chem.). Mem.: Phi Lambda Upsilon, Sigma Xi, A.C.S., A.A.U.P. Selectman, Hanover, N.H.; pres. (trustee) Howe Lib.; trustee, Ch. of Christ (both of Hanover). Club: Graduate (Hanover, N.H.). Hobby: golf.

LOW, Frank S., tech. & pat. adviser, Westvaco Chem. & Food Machy. & Chem. Corp., 405 Lexington Ave., N.Y. 17, N.Y.; res. 26 Rowayton Ave., Rowayton, Conn.
Chem. engr.; b. Mannsville, Jefferson Co., N.Y., Aug. 22, 1878; s. of Frank Webber and Martha Elizabeth (Jacobs) Low; ed. Pulaski Union Schl. & Acdy., Pulaski, N.Y.; Masten Park H.S., Buffalo, N.Y.; U. of Mich.; Gratwick Res. Lab. of U. of Buffalo; m. Margaret B. Lyle, Sept. 23, 1916; ch.: David F. 1905-07, Detroit White Lead Wks., res. & dev. dept.; 1907-12, Patton Paint Div., Pitts. Plate Glass Co., res. & dev. dept.; 1912-17 Gutler Hammer Mfg. Co., spec. res. projects; 1918-24, Niagara Alkali Co., secy., treas.; 1925-27, Mathieson Alkali Co., chromium recovery process; 1928 to date, Westvaco Chem. & Food Machy. & Chem. Corp., electrolytic cell dev., pat. dept. supvr., co. rep. in var. tech. orgs. Invention & patenting of electrolytic chlorine from hydrochloric acid process. Mem.: A.C.S., Am. Stands. Assoc., Am. Ind. Hygiene Assoc. Dir., Niagara Falls Memorial Hosp. 1925-26. Clubs: Chemists' (N.Y.), Mountain View Country, (Greensboro, Vt.). Hobbies: hunting, fishing.

LOWE, Edmund Waring, chmn. of the bd., The Edwal Labs., Inc., Ringwood, Ill.; res. Lake Geneva, Wisconsin.
Chem.; b. Dover, Minn., July 28, 1905; s. of John and Mary Chermak Lowe; ed. Hamline U., St. Paul, 1922-26, B.S., magna cum laude; U. of Chicago, 1927-30, M.Sc., Ph.D.; mem.: Eta Phi; m. Elsie Traynor, Nov. 17, 1932; ch.: Henry Allan, Veronica Mary. 1930-34, Stieglitz Fellow in med. chem., U. of Chicago; 1934-47, one of founders and pres. of The Edwal Labs., Inc., Chicago, Ill.; 1941-47, pres., Ringwood Chemical Corp., Ringwood, Ill., 1947 to present. Chmn. of Bd., Edwal Labs., Inc., Ringwood, Ill. Author: "What You Want to Know about Developers," 1939, "Modern Developing Methods," 1939. Mem.: A.C.S., A.A.A.S., Sigma Xi, Associate, Photographic Soc. of Am., A.A.T.C.C. Clubs: Quadrangle, University of Chicago, Chemists' (Chicago, Ill.). Hobbies: photography, mountain climbing.

LOWE, Henry Burton, exec. v.p., Rheinhold Publ. Corp., 330 W. 42nd St., N.Y.
Publisher; b. Jan. 11, 1894; s. of Henry F. and Hattie (Brinckeroff) Lowe; ed. Dartmouth Coll., A.B., 1916; Columbia U., grad. work chem. 1916-17; mem.: Sigma Phi Epsilon; m. Katheryn Noble, Dec. 29, 1922; ch.: Katheryn Elizabeth and Burton Noble. 1917-19, high explosives work, Army Ordnance Dept.; 1919-21, Barret Co., Tech. Service work; 1921-22, U.S. Dept. of Agriculture, chem.; 1922-26, Chemical Industries, exposition staff; 1926 to date, Reinhold Publ. Corp., publ. of chem. engrg. catalog., chemical mtls., catalog and exec. v.p. of company. Mem.: A.C.S., (chmn. elect N.Y. sect. 1950-51), National Industrial Advertisers Assoc., Chemists' Club (N.Y.C., trustee 1949-51); Advertising Club (N.Y.C.). Hobbies: gardening, photography.

LOWE, Rupert Bidwell, v.p., Bakelite Div., Union Carbide and Carbon, 30 East 42nd St., New York 17, N.Y.; res. 411 Tuttle Pkwy., Westfield, N.J.
Engr.; b. Weatherford, Texas, Mar. 18, 1900; s. of Robert S. and Nellie Bidwell Lowe; ed. U. S. Naval Acdy., Colorado Schl. of Mines, Engineer of Mines; mem.: Kappa Sigma, Theta Tau; m. Ruth Adele Heller, June 27, 1925; ch.: Cecile C., Robert A., Frances A., Rupert B., Jr. Held the follwing positions with Bakelite Div. of Union Carbide and Carbon: dev. engr., 1923, asst. wks. mgr., 1925, asst. dir. of mgr., 1929, v.p. 1944 to present. Bakelite Co., Canada Ltd., dir., v.p.; Bakelite De Mexico, v.p.; Heller Bros. Co., dir.; Heller Bros. Co., Ohio, dir. Clubs: Chemists' (New York), Echo Lake Country (Westfield, N. J.). Hobbies: golf, gardening.

LOWERY, Joseph D., sales mgr., heavy chem. dept., Am. Cyanamid Co., 30 Rockefeller Pl., N.Y.C.; res. 173 Lincoln Ave., Elizabeth, N.J.
Exec.; b. Mar. 19, 1895; s. of Thomas F. and Agnes D. Lowery; ed. public, high and Newark Tech. Inst.; m. Ann Doris Hollander, Apr. 9, 1917. Kalbfleisch Corp., factory supvr., 1910-17; Butterworth-Judson Corp., salesman to asst. sales mgr. 1917-22; Kalbfleisch Corp., salesman to asst. sales mgr., 1922-30; Am. Cyanamid Co., sales mgr., heavy chem. dept., 1930 to date, also asst. sales mgr., ind. chem. div., 1949 to date. Mem.: T.A.P.P.I., A.W.W.A. During W.W.II mem. of advisory comm. of War Prod. Bd. in Wash., D. C. on sulphuric acid & sulphate of alumina. Hobby: outdoor sports.

LOWRANCE, Edgar Gowan, chem. engr., Stone & Webster Engrg. Corp., 49 Federal St., Bosson, Mass.; res. 41 Lilly Lane, Dedham, Mass.
Chem. engr.; b. Chester, S.C., Feb. 14, 1910; s. of Samuel E. and Julia E. Lowrance; ed. B. S. Ch.E., 1936; U. Ark.; m. Lillian F. Brunelle, 1936; ch.: Edgar G., II, Mary Louise. 1936-Nov., 1941 Danciger Oil & Refineries, Inc., Pampa, Texas, chem. engr.; Nov. 1941-Aug., 1945 Magnolia Pet. Co., Dallas, Texas, group leader, field res. dept.; Aug., 1945 to date, Stone & Webster Engrg Corp., chem. engr., proc. div. Reg. Prof. Engr. State of Mass. Hobby: flower gardening.

LOWRY, Charles Doak, Jr., asst. prof. of chem., Loyola U., 6525 Sheridan Rd., Chicago; res. 2242 Forestview Rd., Evanston, Ill.
Chem.; b. Chicago, June 16, 1896; s. of Charles Doak and Lydia Purdy Hess Lowry; ed. B.S., Northwestern U., 1917, Ph.D., Harvard, 1924; Sheldon Travelling Fellow of Harvard U., at U. of Munich, 1924-25; mem.: Phi Beta Kappa, Sigma Xi, Alpha Delta Phi, Alpha Chi Sigma; m. Lucia Marie Holmes, Sept. 2, 1922. Lieut., U.S. Army, 1917-19; instr. Stanford U., 1922-24; res. chem. American Meat Institute, 1925-27; chem. Universal Oil Prods. Co. 1927 to date; exec. dir., Panel on Petroleum, Res. and Dev. Bd., U.S. Military Establishment 1948. Res. and tech. service in fld. of antioxidants. Mem.: A.C.S., A.A. A.S. Clubs: U. of Evanston, Chemists' (Chicago), Harvard (Chicago). Hobbies: tennis, golf, photography.

LOWRY, H(omer) H(iram), dir., coal res. lab., Carnegie Inst. of Tech., Pittsburgh 13, Pa.; res. 321 Marguerite Ave., Wilmerding, Pa.
Chem.; b. Peking, China; s. of George D. and Cora (Calhoun) Lowry; ed. B.A., Ohio Wesleyan U., 1918, M.A., Princeton U., 1919; Ph. D., 1920; mem.: Alpha Sigma Phi; m. Helen Mary Smith, June 30, 1920; m. Gertrude Hurney Tomlinson, Dec. 16, 1949; ch.: Helen Louise, Barbara. Res. dept., chem. div., Western Electric Co., 1920-25; physical chem., Bell Telephone Lab., 1925-30; dir. coal res. lab., Carnegie Institute of Tech., 1930 to date. Res. in carbons, dielectrics and insulating mtls., coal & derived prods. Editor: "Chemistry of Coal Utilization," Natl. Res. Council, publ. by John Wiley & Sons, 1945, 2 vols. Mem.: Phi Beta Kappa, Phi Kappa Phi, Sigma Xi, A.C.S., A.I.M.E., Engineers Soc.

(Western Pa.), Eastern States Blast Furnace & Coke Ovens Assn., A.A.A.S. (fellow), Institute of Fuel (London), fellow, honorary member, Am. Coke & Coal Chemicals Inst., Am. Gas Assn.

LOWSTUTER, W(illiam) Robert, res. chem., Hercules Powder Co., Wilmington, Del.; res. 400 Victoria Ave., Wilmington, Del.
Chem.; b. Denver, Colo., June 16, 1913; s. of William J. and Lida (Moore) Lowstuter; ed. Allegheny Coll., A.B., 1936; U. of Pitts., Ph.D., 1940; mem.: Theta Chi; m. Emily S. Campbell, Aug. 20, 1938; ch.: William Robert, Jr., Clyde Campbell, Bruce Richard. Am. Cyanamid Co., Stamford, Conn., 1940, chem.; Simonds Abrasive, Phila., Pa., 1940-46 chem.; Atomix, Inc., Wilmington, Del., 1946-49, dir. of res.; Hercules Powder Co., Wilmington, Del., 1949 to date, res. chem. Mem.: A.C.S.

LOXLEY, Irving Grundy, branch mgr., New England Div., Heyden Chem. Wks., Providence 3, R.I.; res. 94 Albert Ave., Edgewood 5, R.I.
Branch mgr.; b. Providence, R.I., July 16, 1905; s. of Samuel and Hannah A. Loxley; ed. Brown U., 1927, A.B.; mem.: Sigma Xi, Alpha Tau Omega; m. Sally L. Coller, Apr. 23, 1932; ch.: Sally Ann, Barbara Elizabeth, Judith Marilyn. Mem.: A.A.T.C.C., Providence Engrg. Soc. Chmn., Cranston Schl. Comm. Clubs: Providence Players, Edgewood Yacht, Brown Club. Hobbies: photography, sailing.

LOY, Henry W., Jr., chf., microbiol. branch, div. of nutrition, Food & Drug Adm., Federal Sec. Agency, Washington 25, D.C.; res. 328 N. Oxford St., Arlington, Va.
Biochem.; b. Chanute, Kansas, Sept. 9, 1906; s. of Henry W. and Ella W. Loy; ed. B.S., 1930, M.S., 1933, Kansas State Coll.; Ph.D., 1941 Georgetown U.; m. Lorene Heller Aug. 10, 1931; ch.: Linda Ann and Nancy Diane. Chem., Experiment Station, Kansas State Coll., 1930-35; inspector, Food & Drug Adm., 1935-38; biochem., Food & Drug Adm., 1938 to present. Res.: nutrition, vitamin assays. Mem.: Animal Nutrition Res. Counc., A.A.A.S., A.C.S., Assoc. Soc. Exp. Biol. & Med., Poultry Sc. Assoc., Assoc. Off. Agric. Chem.

LUBS, Herbert August, mgr., dye & genl. prods. section, tech. div. du Pont Co., Wilmington Delaware; res., 3209 Fordham Road, Westmoreland, Wilmington, Del.
Chem.; b. Savannah, Ga., Dec. 20, 1891; s. of John F. and Louise Lubs; ed. Newberry Coll., B.A., 1910; Johns Hopkins, Ph.D., 1914; mem.: Gamma Alpha, Beta Theta Pi; m. Grace LeCraw, Nov. 7, 1917; ch.: Kathryn (Mrs. Harold F. Furber), Herbert Augustus, Jr. 1914-19, U.S. Dept. of Agric.; 1919 to date, mgr. du Pont Co. Extensive study on importance of and development of new materials and methods for hydrogen ion control. Technological contributions in development of U.S. dye industry. Mem.: A.C.S., A.A.T.C.C., A.I.Ch.E., A.A.A.S. Mem. Board of Dir., Elizabeth Storck Kraemer Memorial Foundation, Inc. Clubs: Du Pont Country, Concord Country. Hobbies: flowers, photography.

LUCAS, Emil A., exec. v.p., Molybdenum Corp. of America, Washington, Pa.; res. 161 LeMoyne Ave., Washington, Pa.
Chem.-metallurgist; b. Pittsburgh, Pa., Sept. 14, 1895; s. of Julius and Emilia Lucas; ed. Carnegie Inst. of Tech., Pittsburgh, Pa.; m. Elsie Katherine Grunert, Oct. 2, 1918; ch.: Eugene Frederick. Chem., Crucible Steel Co.; chem., Jones & Laughlin Steel; chem. and asst. met., Lewis Fdry. & Machine Co., 1916-17; chf. chem., Electric Reduction Co., Apr., 1917 to Mar., 1918, gen. supt., Mar., 1918 to June, 1920. This company then merged to form Molybdenum Corp. of America; Wks mgr., June, 1920 to Jan., 1930; v.p., Operations and Director to 1944; exec. v.p. and dir. to date; Washington Union Trust Co., dir., exec. comm., Cleveland Tungsten Co. Inc., pres. and dir. Res. in dev. of methods, equipment, etc., in production of alloys, salts and cmpds. of tungsten, molybdenum, boron, cerium, columbium, tantalum. Mem.: A.S.T.M. (chmn. comm. on specification for ferro alloys), A.C.S. Member Athletic Bd., Carnegie Inst. of Tech., also Steffen Memorial, Scholarship Comm. of C.I.T., Chamber of Commerce (Washington, Pa.). Clubs: Duquesne (Pittsburgh), Oakmont Country (Oakmont, Pa.), Nemacolin Country (Beallsville, Pa.). Hobbies: golf, baseball, music.

LUCAS, J(ames) (B)urleigh, prof. chem., Virginia Polytechnic Institute, 1010 South Main St., Blacksburg, Va.; res. same.
Chem. prof.; b. Childress, Va., Mar. 30, 1888; s. of James C. and Nannie Cecil Lucas; ed. B.S. in applied chem., V.P.I. 1910; M.S. chem., V.P.I., 1913; M.S., U. of Ill. 1931; m. Frangie Davis, Nov. 27, 1917; ch.: Fay, Frangie II, Gray, Laura. Graduate student and asst. U. of Ill., 1914-15; prof. of chem. and physics, Davis and Elkins College, 1915-16; V.P.I. since 1916; div. supt. of schls., Montgomery County, Va., (part-time) 1917-20. Res. on estimation and distribution of rare earth elements in plant and animal matter. Coauthor with Dr. J.A. Addlestone, 1932, "Introductory course in Qualitative Analysis," revised in 1946; assoc. editor, with Degering and others "Review Outline of Organic Chemistry," Barnes-Noble and Co. Mem.: A.C.S. Acdy. of Sc. (Va.), Phi Lambda Upsilon. Steward in Methodist Ch. Club: Mason. Hobbies: gardening, fishing.

LUCAS, William Albert, equip. engr., The Standard Stoker Co., 1701 Gaskell Ave., Erie, Pa.; res. 31 W. 10th St., Erie, Pa.
Prof. engrg. (chem., indust.); b. Elizabeth, N.J., Aug. 5, 1885; s. of William Siebert Albert and Lydia Gertrude (Parkinson) Lucas; ed. Cooper Union, N.Y.C., Ch.G., 1905; B.S., 1908; Ch.E.; m. Isabel Smith, Oct. 18, 1915. 1901-06 sampler, chem. and tech., Grasselli Chem. Co., Grasselli, N.J.; 1906-13 chf. engr., supt., mem. bd. of dirs., Butterworth-Judson Co., Newark, N.J.; 1913-15 adv. engr., Chile Exploration Co., Chuquicamata, Chile, S.A., Braden Copper Co., Rancagua, Chile, S.A.; 1915-19 gen. supt. of operations, Butterworth-Judson Corp., Newark, N.J., Curtis Bay, Md., and Medford, Mass.; also, conslt. engr., Design of U.S. Govt. Munitions Plant, Brunswick, Ga.; 1919-21 conslt. engr. in chg. of plant design and surveys, L.L. Summers & Co., Conslt. Engrs., N.Y.C. and Chicago, Ill.; 1921-27 asst. to pres., Granton Chem. Co., N.Y.C.; 1927-33 conslt. engr., Marsden-Sewell Corp., N.Y.C.; 1933-38 conslt. engr., Peyton-Hunt Co., N.Y.C.; 1938 to date equip. engr., The Standard Stoker Co., Inc., Erie, Penn. Dev. equip. and tech. contr. in prod. of lithopone; carried on res. to determ. causes for darkening of lithopone when subjected to sunlight; devised meth. of prod. non-darkening lithopone; dev. proc. equip. for prod. of ammonium nitrate for safety explosives; dev. proc. equipment for concentration of sulphuric acid; dev. proc. equipment for prod. of hydrochloric acid and sodium sulphate from by-prod. sodium bi-sulphate; superv. design, erection and prelim. operation of sulphuric acid plants (Chile, S.A.); superv. dev. of proc. equip. for lge. scale prod. of picric acid and ammonium picrate for high explosive purposes (Butterworth-Judson Corp., Newark, N.J.); served as official umpire in checking gun cotton prod. in five Amer. plants for the English Govt.; served as gen. supt. of mfg. operations in prep. of heavy chems., high explosives and dyestuffs for use of the U.S., English, French and Russian Govts.; superv. design of U.S. Govt. munitions plant, Brunswick, Ga.; superv. design and procurement of

equip. for sulphuric acid plant (Mexico); made engrg. survey of munitions plants of U.S. Govt. at Muscle Shoals, Ala., Old Hickory, Tenn., Nitro, W.Va., and New Diggings, Wis.; superv. design and erection of sulphuric acid plants for Anglo-Mex. Petroleum Co., Tampico, Mex. and Minititlin, Mex.; superv. erection and prelim. operation of by-prod. sulphuric acid plant for Natl. Zinc Separating Co., Cuba City, Wis.; made engrg. survey of sulphuric acid plants of the Utah Copper Co.; made engrg. survey of liq. sulphur dioxide plants for Amer. Smelting & Refin. Co. at Tacoma, Wash., and Norfolk, Va.; dev. spec. tools, equip. and plant design for numerous plants; served as conslt. in indust. litigation and dev. of indust. engrg. sales in Canada, U.S., Argentina, China and India; dev. tools and equip. for spec. types of marble quarry practice; at present pract. indust. engrg. Mem.: A.C.S., A.I.C., Amer. Soc. of Chem. and Chem. Engrs., N.J. Soc. Prof. Engrs. and Land Surveyors. Clubs: Erie Press, Masonic, Shrine. Hobby: dahlia culture.

LUCASSE, Walter W(illiam), assoc. prof. chem., U. of Pa., Phila. 4, Pa.; res. 119 S. Princeton Ave., Swarthmore, Pa.
Prof.; b. Kalamazoo, Mich., Mar. 9, 1895; s. of John M. and Nellie (Hoeck) Lucasse; ed. A. B. Kalamazoo Coll., Kalamazoo, Mich., 1917; Clark U., Worcester, Mass., M.A., 1920, Ph.D., 1921; m. Phyllis Blanchard, May 1, 1925. Jr. gas chem., U.S. Bur. of Mines, 1918; instr. chem., Worcester Polytech. Inst., 1921-22; U. of Pa., 1922-27, asst. prof. 1927-36, assoc. prof. 1936 to date. Thermodynamics of electrolytic solutions; transition points of salt hydrates; conductance titrations in non-aqueous solvs.; mutual miscibility of liquids. Mem.: Alpha Chi Sigma, Sigma Xi, A.C.S., A.A.A.S.

LUCHT, Robert August, plant mgr., Harshaw Chem. Co., Foot of Water St., Gloucester City, N.J.; res. 607 Bowling Green, Moorestown, N.J.
Chem. engr.; b. Cleveland, Ohio, Sept. 26, 1917; s. of Herman and Ida Marie Lucht; ed. Case Inst. Tech. 1935-39, B.S. Chem. Engr.; Findlay Coll. 1940; W.Va. U., 1940-41; John Huntington Polytech. Inst. 1941-43; mem.: Zeta Psi, Alpha Chi Sigma; m. Evelyn Marie Miller, Sept. 20, 1941; ch.: David Lee. Sept., 1939-Aug., 1940, Natl. Refining Co., Findlay, Ohio, Jr. engr.; Aug., 1940-Jan., 1941, U.S. Publ. Health Serv., Morgantown, W.Va., jr. chem. engr.; Jan., 1941 to date, Harshaw Chem. Co., chem., engr., asst. chf. engr., asst. to v.p., mfg.; asst. plant mgr. Gloucester City plant; plant mgr., Phila. & Gloucester City plants. Hobbies: athletics, reading, music.

LUCKENS, Mark Manfred, dir., Emmet Tech. Associates, 1466 49th St., Bklyn. 19, N.Y.; res. 1985 E. 15th St., Bklyn. 29.
Chemist, bacteriologist, ind. hygienist, toxicologist; b. Kiev, Russia, Apr. 7, 1912; s. of Morris A. and Anne Rise (Jampolsky) Luckens; ed. B.S., Columbia, 1935; M.S., N.Y.U., 1950; mem.: Alpha Beta Delta; m. Ruth Deborah Majesky, Oct. 26, 1943; ch.: David Judson, Bennet John. 1928-35, misc. positions as food technologist, chem.; 1935-36, spec. engr., N.Y.C. Dept. of Purchase; 1937-42, dir., Technichem. Labs., N.Y.C.; 1943-47, Major, Sanitary Corps, U.S.A., sanitary engr., dir. of lab. serv., dir. lab. schl., medical fld. serv. schls.; 1948 to date, dir., Emmet Tech. Associates, Bklyn., N.Y.; 1950 special lecturer in sanitary chem. & bacteriol., Newark Coll. of Engrg., Newark, N.J. Food technol.: fermented & pickled prods., confectionery, prepared food mixes, rations; textiles: stand. test meths., microscopy; biochem.: the chem. & physiol. of heat effects, the steroid hormones; radiochem.: disposal of radioactive wastes; toxicol.: sanitary chem. & toxicol. of beryllium; misc.: biochem. oxygen demand. Num. pubs. in tech. journals. Torah Umesorah, N.Y.C. (dir. of Schl. Health & Sanitation). Mem.: A.I.C. (fellow), A.C.S., A.P.H.A. Hobbies: cryptography, comparative religion, Semitics, chess, skiing.

LUCY, Frank Allen, staff mem., Los Alamos Sc. Lab., Box 1663, Los Alamos, New Mexico.; res. 1472A 40 St.
Physical chem.; b. Schoolcraft, Mich., July 22, 1907; s. of F.A. and Frances F. Lucy; ed. Stanford U., Ph.D., 1933; mem.: Phi Lambda Upsilon, Sigma Xi; m. Esther Redman, 1935; ch.: Barbara Packard, Richard Dwight. Richards Chem. Wks., J.C., N.J., 1934-40, chem.; Pa. Salt Mfg. Co., chem., Phila., 1940-45; Shell Dev. Co., Emeryville, Calif., 1945-46, chem.; Stanford Res. Inst., Stanford, Calif., 1946-47, res. assoc.; Los Alamos Sc. Lab., 1948 to date, staff mem.

LUDT, Randall White, assoc. prof. of Chemical Engineering, Dept. Ch.E., Michigan State Coll., East Lansing, Mich.; res. 422 M.A.C. Ave., East Lansing, Mich.
Coll. teacher; b. Youngstown, O., Nov. 5, 1899; s. of Carl E. and Lily May Ludt; ed. U. of Detroit, B.Ch.E., 1921, M.I.T., M.S. 1922, Mich. State College, Ph.D., 1947; m. Virginia, Apr. 16, 1924; ch.: Patricia Mae. 1923-25, Youngstown Sheet & Tube Co., Blast Furnace Foreman; 1925-26, Hanna Furnace Co., Detroit, Stovetender, Gas Man; 1926, Gen. Motors Research Corp., oil chemist; 1926-29, Marquette Univ., Milwaukee, asst. prof. Industrial Relations; 1929-36, Kimberly-Clark Corp., Neenah, Wis., paper mill engineer; 1936-42, Marquette Univ., asst. prof. chem. engineering; 1942 to present, Michigan State College, asst. prof. Ch.E., assoc. prof. Ch.E.; acting head, Ch.E. dept. Mem.: A.I.Ch.E., A.C.S., A.S.E.E., Mich. Soc. Prof. Engrs. Club: State College. Hobbies: fishing, spectator baseball, reading.

LUDWIG, Bernard John, dir. org. chem. labs., Carter Products, Inc., and Wallace Labs., New Brunswick, N.J.; res. 12 Garden Terrace, Milltown, N.J.
Chem. org.; b. Burlington, Vt., Nov. 2, 1912; s. of Otto A. and Adele E. Ludwig; ed. B.S., U. of Vt., 1935, M.S., 1936; Ph.D., Columbia U., 1940; m. Elizabeth Coretti, 1934; ch.: Bernard J. Jr., Gerald P., Donald R., James A. Res. chem. and group ldr., Wallace & Tiernan Co., Belleville, N.J., 1939-47; tech. dir., Dabney Pharmacal Co., Indianapolis, Ind. & Louisville, Ky., 1947-48; Carter Products, Inc. & Wallace Labs. Inc., New Brunswick, N.J., dir. org. chem. labs., 1948 to present. Res. in enzymes, active halogen cmpds., ethical pharmaceuticals. Contrib. extens. to sc. and tech. journals. Mem.: A.C.S., A.A.A.S., Sigma Xi, Phi Lambda Upsilon, Eli Lilly Fellow 1935 (Vt.), Ellis Fellow, 1938, (Columbia). Hobbies: philately, photography.

LUEBBERS, Ralph H(enry), prof. chem. engrg., Coll. of Engrg., U. of Mo.; res. 507 S. Fourth St., Columbia, Mo.
Tchr.; b. Burlington, Iowa, Mar. 24, 1906; s. of Dietrich John and Clara (Rieke) Luebbers; ed. Burlington H.S., 1922; Iowa State Coll., B. S. in Ch.E., 1927; M.S., 1932; Ph.D., 1935; mem. Amer. Commons Club; m. Jean Maurice, Dec. 25, 1935; ch.: Robert M., Roger A., David J. Plant chem., Universal Gypsum Co., Ft. Dodge, Iowa; plant chem. and chem. engr., Des Moines Water Co.; jr. res. engr., Combustion Engrg. Corp.; dev. engr., Dorr Co.; grad. schl. Iowa State Coll.; chem. and sanitary engr., Civil Service, U.S.A.; instr., asst. prof. and assoc. prof. U. of Mo.; U.S.A. Officer in Med. Dept.; prof. of chem. engrg. U. of Mo. Calcination studies on Iowa gypsums; studies on the use of cermic shapes as supports for biological oxidation processes; studies on the mixing of dry powders. Mem.: A.C.S.,

A.S.E.E., A.I.Ch.E., A.W.W.A., Sigma Xi, Omega Chi Epsilon, Alpha Chi Sigma; Reserve Officer (M.S.C. U.S.A.R.) Major. Club: University.

LUECK, Roger H., mgr. of sales, Amer. Can Co., 111 Sutter St., San Francisco, Calif.; res. 49 Brookside Rd., Orindo, Calif.
Chem.; b. Fox Lake, Wis., Dec. 17, 1896; s. of Dr. George W. and Flora E. Lueck; ed. Carroll Coll., B.S.; U. of Wis., M.S.; mem.: Tau Kappa Epsilon, Alpha Chi Sigma; m. Margaret I. McCaslin, May 31, 1924; ch.: Margaret Eleanor, Nancy Jean. 1922-26 res. chem. Amer. Can Co., Maywood, Ill.; 1926-34 dist. mgr. of res. same co. in San Francisco; 1935-36 mgr. Hawaiian factories, same co., Honolulu; 1936-44 dir. of res. same co., Maywood, Ill.; 1944 to date mgr. of sales, same co., San Francisco, Calif. Res. in reaction velocity, corrosion of tinplate, discoloration of canned foods, food tech. Mem.: A.C.S., A.I.C., Inst. of Food Techs., A.A.A.S. Clubs: San Francisco Golf, Stock Exchange Club. Hobby: golf.

LUKE, Charles Daniel, prof. and chmn., chem. engrg. dept., Syracuse U., Engrg. and Sc. Campus, E. Syracuse 4, N.Y.; res. 662 Cumberland Ave., Syracuse 10, N.Y.
Prof. chem. engrg.; b. Coin, Iowa, Oct. 4, 1907; s. of Edward and Delia (Johnson) Luke; ed. 1929, State U. Iowa, B.S. Chem. Engrg.; 1931, M.I.T., S.M.; 1934, Sc.D.; mem.: Alpha Chi Sigma; m. Minerva Mary Egan, May 29, 1941. 1933-35, Standard Oil Co. of La., proc. engr.; 1935-37, deFlorez Engrg. Co., chem. engr.; 1937-39, asst. prof. chem. engrg., Syracuse U.; 1939-40, assoc. prof. and chmn. dept. chem. engrg.; 1940 to date, prof. and chmn. dept. of chem. engrg.; 1942-46, Major, U.S.A., Manhattan Engr. District. Thermodynamics, filtration, distillation. Mem.: A.I.Ch.E., A.C.S., Am. Soc. Engrg. Education, A.A.U.P. Hobby: music.

LUKENS, Alan R., pres., Powdered Matl. Research Labs., 227 California St., Newton, Mass.; res. 52 Rockledge Rd., Newton, Highlands, Mass.
Chem., physicist; b. Otsego, Mich., May 27, 1893; s. of Alan R. (2nd) and Jane Janette Hitchcock Lukens; ed. Pratt Inst., 1914, I.Ch.E.; Columbia U., 1918; U.C., 1923, Sc.D.; M.I.T., 1933-38, grad. st.; m. Helen E. Lukens, 1915; ch.: Alan R., 4th, John Philip, Donald Neal. Chf. chem., Balt. Roofing & Asbestos Mfg. Co., 1918; chf. chem., Richardson Co., Lockland, Ohio, 1918-26; dev. mgr., Bituminous Prods. Hood Rubber Co., Mass. 1926-33; res. dir., Thompson, Weinman & Co., Cambridge, Mass. 1933-43; v.p. Pigment Res. Labs., 1943-47; pres. Powd. Mtl. Res. Labs., 1947 to date; v.p. Wingdale Chem. Corp., Wingdale, N.Y.; v.p. Laminar Calcium Corp., Berwick, La. Inventor of asphalt battery box (1926), 10 million used annually; co-inventor: colored slate granules, (unruled 1923); atomite, (ultra-fine water ground cal. carbon.); 50,000 ton used annal. in paint, rubber industs. Mem.: A.S.T.M., A.C.S. (v. chmn., rubber div., N.Eng.); T.A.P.P.I.; Am. Ceramic Soc.; Fed. of Paint & Varnish Prodn. Clubs; natl. secy. Afterguard, (grad. soc. of Intercollegiate Yacht Racing Asso. N.A., 89 colleges). Clubs: Masonic (various), Mass. Inst. Nautical Assn. Hobbies: yachting (was coach M.I.T. sailing team 1945-46, when they won Natl. Championship), winner various Yacht Club trophies; oil painting.

LUKENS, Hiram Stanhope, Blanchard prof. of chem., dir. dept. of chem. and chem. engrg., U. of Pa., John Harrison Lab. of Chem., 34th and Spruce Sts., Phila. 4, Pa.; res. 5843 Woodbine Ave., Phila. 31.
Prof. of chem.; b. Phila., Pa., Sept. 30, 1885; s. of Joseph C. and M. Louisa (Stanhope) Lukens; ed. U. of Pa., B.S., 1907; Ph.D., 1913; m. Marguerite D. Perrine, Nov. 6, 1912; ch.: William Perrine. 1907-13 instr. in chem., 1913-21 asst. prof. of chem., 1921-37 prof. of chem., 1937-38 acting dean, Towne Sc. Schl., 1932 to date dir. Dept. of Chem. and Chem. Engrg., 1937 to date Blanchard prof. of chem., all U. of Pa.; 1918-32 tech. dir. Royal Electrotype Co., Phila., Pa.; 1923-32 v.p. and tech. dir. Solidon Prods., Inc., Phila.; 1934-37 mem., Div. of Chem. and Cheml. Tech., Natl. Res. Council. Contrib. numerous arts. to sc. jls. Holds many pats. both U.S. and foreign. Mem.: A.C.S. (councilor, 1926-47; Comm. on Licensing Inquiry, 1939-44; chmn., Phila. Sect., 1924; trustee, Phila. Sect., 1933-48); A.I.Ch.E., (Comm. on Papers, 1936-40; Comm. on Prof. Legis. 1945-46; v.chmn., Phila.-Wilmington Sect., 1938; chmn. Phila.-Wilmington Sect. 1939; exec. comm. Phila.-Wilmington Sect. 1933-39); Electrochem. Soc. (pres. 1934-35; exec. comm. 1934-39; chmn. Electrodeposition Div., 1931; Comm. on Res. Proj., 1947-48; Ways and Means Comm., 1946 to 1950; secy. Phila. Sect., 1930; chmn. Phila. Sect. 1931; exec. comm. Phila. Sect. 1931 to date); A.A.A.S.; A.E.S. (hon. mem.); Amer. Soc. for Engr. Education; Penn. Chem. Soc.; The Franklin Inst. (bd. of mgrs. 1942 to date; Comm. on Sc. and the Arts, 1937 to date; chmn. Comm. on Sc. and the Arts, 1946); Sigma Xi (pres., U. of Pa. Chapt. 1936); Hexagon Senior Soc. (hon. mem.), U. of Penn.; Alpha Chi Sigma (prof. chapt.); Tau Beta Pi. Clubs: Engineers' (Phila.); Chemists' (N.Y.); University of Penn. (N.Y.); Rittenhouse (Phila.); Lenape (U. of Penn.). Mem. of Presbyterian Church. W.W. I, Civ. Appointee, C.W.S.; W.W. II, chmn. Comm. on Flatwear for Army Use, War Metallurgy Comm., OSRD—NDRC. Hobbies: boating, gardening.

LUKENS, Reginald P., v.p. of prod., Merck & Co., Inc., Rahway, N.J.; res. 375 Wychwood Rd., Westfield, N.J.
Chem.; b. Moorestown, N.J., Sept. 1, 1891; s. of George N. and Sarah Pennington Lukens; ed. Rutgers U., 1914, B.S. Chem.; mem.: Pi Kappa Alpha; m. Mabel Lorance, June 20, 1914; ch.: Hope L., James G. 1914-15 Am. Smelting & Ref. Co., anal. chem.; Merck & Co., Inc., 1915 to date: prod. chem., 1915-19; asst. supt. 1919-28, Rahway plant; supvr. prod., 1929-32; gen. supvr. mfg., all plants, 1932-42; dir. prod. 1942-48; v.p. prod. 1948 to date; bd. dirs., Merck & Co., Ltd., 1946 to date (Canadian subsidiary); Exp. Plantations, Inc., v.p., dir. Mem.: Bd. Govs., Rahway, N.J. Memorial Hosp. Hobby: fishing.

LULEK, Ralph Norbert, v.p., dir., Heyden Chemical Corp., 393 Seventh Ave., New York 1, N.Y.; res. 441 Tompkins Ave., Rosebank, Staten Island, N.Y.
Chem. exec.; b. Graz, Austria, Aug. 13, 1901; s. of Dr. Fery Lulek and Nelly Lulek; ed. U. of Graz, Graz, Austria, 1920-24, Ph.D. in chem.; m. Noronica R., June 24, 1929. E.I. du Pont de Nemours & Co., Wilmington, Del., group leader, 1925-43; Publicker Industries, Phila., Pa., plant mgr., 1943-46; Heyden Chemical Corp., N.Y.C., mgr. of res. 1946, mgr. of Morgantown Ordnance Works, Morgantown, W.Va., 1946-48; Jan., 1948 to date, v.p. and dir.; American Potash & Chemical Corp., Los Angeles, Calif., dir., Heyden Pharmacal Company, New York City, pres. and dir., Heyden Labs., New York, N.Y., pres. and dir., Jamieson Pharmacal Co., Detroit, Mich., dir., Jamieson & Co. (Dom.) Ltd., Canada, dir., Nyal Company, Detroit, Mich., dir. Various publications on dyestuffs; 75 U.S. and foreign pats. Mem.: A.C.S., A.I.Ch.E., A.A.T.C.C., The West Virginia Soc. of Professional Engineers, Modern Pioneer, The National Association of Manufacturers, 1940. Club: Chemists'. Hobbies: water sports, woodworking.

LUM, James Henry, managing dir., c/o Monsanto Chemicals (Australia) Limited, Somerville Rd., Braybrook, Victoria, Aust.; res. 7 Torresdale Rd., Toorak, Victoria, Australia.
Exec.; b. Whiting, Ind., U.S.A., July 27, 1903; s. of Charles J. and Teresa M. Lum; ed. S. Weir Mitchell, Phila., West Philadelphia High School for Boys, Pennsylvania State Coll., 1921-25, B.S. in Ch.E.; Yale U., 1929-32, Ph.D. in Ch.E.; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi; m. Kathryn A. Wallace, 1936. Calco Chem. Co., Bound Brook, N.J., 1932; School of Mineral Industries, Penn. State Coll., 1933; Thomas & Hochwalt Laboratories, 1933-36; group leader, Central Research Dept., 1936-42 (Monsanto Chemical Company); group leader, Natl. Defense Research Council, Pittsburgh, 1943; dir. Manhattan Project, Dayton O., 1943-45; asst. res. dir., Central Research Dept., 1945; asst. to Dr. C.A. Thomas, St. Louis, 1945; exec. dir., Clinton Labs. Oak Ridge, 1946-47; managing dir., Monsanto Chemicals (Australia) Limited, 1947 to date. Mem.: A.I.Ch.E., Australian Chemical Institute (fellow). Clubs: Australian (Melbourne), Royal Melbourne Golf. Hobbies: golf, music.

LUNDBERG, Walter O., dir., The Hormel Institute, and prof. agric. biochem., U. Minnesota, Austin, Minnesota; res. 504 Elm Tree Rd., Austin, Minnesota.
Chem., dir. and administrator of res.; b. Minneapolis, Minn., Dec. 15, 1910; s. of Oscar M. and Annette Lundberg; ed. U. of Minnesota, Johns Hopkins U., Ph.D., 1934, Natl. Fellow, Johns Hopkins U., 1930-34; mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, Beta Theta Pi; m. Olga B. Kalvig, Jan. 24, 1942; ch.: Stephen, Stewart, Sandra, Susan. Instr. in chem., Johns Hopkins U., 1934-35; physical chem., U.S. Steel Corp., Kearny, N.J., 1935; post-graduate Fellow, Physiol. Chem. (Hormel Res. Foundation) 1938-39; res. assoc., Physiol. Chem., U. of Minn., 1941-44; asst. prof., Physiol. Chem., 1944-45; assoc. prof., 1945-47; prof. of Agri. Biochem., U. of Minn., 1937 to date; resident dir., Hormel Institute, U. of Minn., 1944-49, executive director, 1949 to date. Res. in chem. and biochem. studies of fats and oils. Mem.: A.C.S., Am. Oil Chemists Soc., A.A.A.S., Amer. Soc. of Biol. Chemists, Acdy. of Sciences (New York), Industrial Chemists Forum (Minnesota). Clubs: Rotary, Benevolent and Protective Order of Elks. Hobbies: politics, fishing, hunting.

LUNDQUIST, William Emil, dir. res. & dev., tape div., Minn. Mining & Mfg. Co., St. Paul, Minn.; res. Savage, Minn.
Chem.; b. Kandiyohi, Minn., Oct. 9, 1912; s. of Peter E. and Ida (Holmberg) Lundquist; ed. U. of Minn., B.Ch.E., 1934, M.S., 1936, Ph.D., 1938, U. of Ill.; mem.: Allpha Chi Sigma; m. Jeanne Moorhead, June 26, 1948; ch.: Victoria McKelvey. 1930-34 with U. of Minn.; 1934-38 with U. of Ill.; 1938-42 with E.I. du Pont de Nemours Exper. Sta., Wilmington, Del.; 1942 to date with Minn. Mining & Mfg. Co., St. Paul. Res. in org. synth., polymers and plastics, pressure sensitive adhesive tapes. Mem.: A.C.S., Sigma Xi, Tau Beta Pi, Phi Lambda Upsilon, Phi Beta Kappa, Alpha Chi Sigma.

LUNDSTROM, Frank Oscar, res. chem., Bur. Plant Ind. Sta., Beltsville, Md., res. 4616 Chase Ave., Bethesda 14, Md.
Chem.; b. Denver, Colo., June 21, 1896; s. of Nels and Tilda Bjornson Lundstrom; ed. Denver U., 1915-18; Geo. Wash. U., Wash., D.C., A.B., 1921; M.S., 1926; U.S.D.A. and Bur. St'ds., grad. schls., American U.; mem.: Sigma Phi Epsilon, Colo. Beta Chpt.; m. Edith Campbell; ch.: Mrs. Jewell Thompson. Nitrates div., Ordn. Dept., U.S.A. (enlisted) Arlington, Va. 1918-19, chem.; War Dept. 1919; Fixed Nitrogen Res. Lab. 1919-23; catalytical chem., Bur. Soils, U.S.D.A., sc., soil investigations, 1923-27; Bur. Chem., Soils, 1927-38; Bur. Plant Ind., U.S.D.A., 1939 to date, chem. Res. in high press. amm. synth., anal.; improv. in anal. proced. of chem. fertil.; studies of reactions in fertil. mixtures; discov., investigation of methd. prod. of alkali metal nitrates and nitro. chloride, precise test of "salt index" theory pertaining to fertil. salt plant injury. Contrib. extens. to sc. and tech. jls. Mem.: A.C.S., A.I.C. (fellow, secy. Wash., D.C. Chpt. 1936-38), (pres. 1938-40, natl. councilor, 1941-47); Assn. Off. Agr. Chem., chmn. Coop. Comm., Wash., D.C. area, chem. adv. council 1940. Hobby: figure skating.

LUNN, Charles A., conslt., Old Boston Road, Wilton, Conn.; res. same.
Conslt.; ed. U. of Mich., B. of Ch.E., 1911. 1st Lt. U.S.A. Ordn., 1917-19; Chem. Engr., Consol. Edison Co., N.Y. 1920-46, now conslt., Old Boston Rd., Wilton, Conn. Mem.: A.C.S., A.I.Ch.E., Am. Gas Assoc., Soc. Gas Lighting. Club: Chemists'.

LUNN, John Aleck, v.p., Dewey and Almy Chem. Co., 62 Whittemore Ave., Cambridge, Mass.; res. 37 Larch Rd., Cambridge.
Exec.; b. Ft. Collins, Colo., Sept. 6, 1894; s. of John G. and Kate (Wentz) Lunn; ed. B.S. C. Engrg., A.&M. Coll., 1915, B.S. Mech. Engrg., Harvard Engineering Schl., 1917; S.B. Mech. Engrg., M.I.T., 1917, Colorado A.&M. Coll., M.S. Mech. Engrg., 1921; mem.: Sigma Alpha Epsilon, Theta Tau; m. Susan Williams, Feb. 4, 1926; ch.: Jean Williams, John Gordon. Res. in refrigeration, 1919-23; factory mgr., Natl. Refrig. Co., 1923-26; sales engr., Winchester Repeating Arms Co., 1926-29; Dewey and Almy Chem. Co., exec. asst. to the pres., chf. engr., v.p., 1929 to present; also director in Dewey & Almy Chemical Co.; and dir., Mass. Iota-Tau Assoc. Res.: group leader with Fiat agency investigation of chem. plants, Germany, 1946. Mem.: A.S.M.E., A.S.T.M., I.F.T. Former dir. Cambridge Chamber of Commerce, Corp. Member Browne & Nichols Schl., Pres. Alumni Assoc., M.I.T. Clubs: Harvard Faculty (Cambridge, Mass.), Tuscarora (Lockport, N.Y.), Army and Navy (Washington, D.C.). Hobby: photography.

LUSTBADER, Melvin H., supt. carbon mfg. dept., chf. chem., Autographic Register Co., 1114 Willow Ave., Hoboken, N.J.; res. 75 Bank St., N.Y. 14, N.Y.
Chem. engr.; b. New York City, Aug. 8, 1912; s. of Harry H. and Frances (Van Blerkom) Lustbader; ed. A.B., 1935, B.S., 1936, Ch.E., 1937, Columbia U.; m. Ruth S. Aaronson, Apr. 5, 1941; ch.: Eric Van. Held following positions with the Autographic Register Co.: res. chem., 1937; foreman plant chem., 1938; chf. chem., supt., Carbon Mfg. Dept., 1946. Mem.: A.C.S., T.A.P.P.I., Natl. Farm Chemurgic Council. Hobbies: photography, painting.

LUSTIG, Bernard, dir. of res., Lawrence Richard Bruce, Inc., Stamford, Conn.; res. 22 Glenbrook Rd., Stamford.
Biochem.; b. Kolomea (Austria), Dec. 21, 1902; s. of Simon and Esther Lustig; ed. U. of Vienna, Ph.D.; m. Frances G., 1938; ch.: Naomi Ruth, Dinah Susan. Chem. and chf. chem., Rudolf's Hospital, Vienna, 1925-32; chf. chem., Pearson Res. Found. (Cancer), Vienna, 1932-38; chf. chem., same Foundation, at West London Hospital, London W. 8, 1938-40; biochem., Lawrence Richard Bruce, Inc., Stamford, Conn., 1940-44; dir. of res. same corporation, 1944 to date. Over 100 pubs., pats. and arts. on chem. of proteins, clinical

and pharmaceut. fld. pub. since 1925. Mem.: A.C.S., Biochem. Soc. (London), Soc. Exper. Biol. & Med., N.Y. Acdy. of Sc., A.A.A.S., A.A. T.C.C., Soc. Europ. Chem. Hobbies: hiking, books, stamps.

LUTH, Harold J., pres., tech. dir., Harsyd Chem. Inc., Holland, Mich.; res. 627 Columbia Ave., Holland.
Chem. & mech. engr.; b. Ute, Iowa, Aug. 25, 1903; s. of John D. and Emma Luth; ed. Ill. Inst. of Tech., B.S.; mem.: Triangle, Tau Beta Pi; m. Myrtle B. Cox, July 19, 1924; ch.: Robert L., Phillip J., Carol J. Apr., 1925-Oct., 1925, Walter H. Flood & Co., chem.; Oct., 1925-Mar., 1944, Brunswick Balke Collendar Co., dir. of res. & engrg.; Mar., 1944 to date, Harsyd Chem. Inc., pres., tech. dir.; Harcco Tech. Prods. Inc., dir., pres. Dev. plastic laminates, condensation prods., org. accelerators & other org. processes covered by pats. granted & pending. Mem.: A.C.S., A.S.M.E., Natl. Assn. of Power Engrs. (past deputy), Mich. State Assn. of Power Engrs. (past pres.), A.I. Ch.E., A.A.A.S. Award: Naval Ordnance Res. & Dev.

LUTHER, William Francis, dir. res., Dixie Mercerizing Co., Chattanooga 1, Tenn.; res. 127 S. Seminole Dr., Chattanooga.
Res. dir.; b. Wingo, Ky., Jan. 13, 1915; s. of W.F., Sr. and Edna Kitts Luther; ed. B.S., U. of Ky., 1936, M.S., U. of Iowa, 1938, Ph.D., U. of Iowa, 1940; mem: Alpha Chi Sigma; m. Rosalie Wartman, June 7, 1938; ch.: Rosetta Frances, William David. 1936-37, du Pont Rayon Corp., student foreman; 1940-41, prof. of chem., Arkansas College; 1941-42, Sharples Chemicals, Inc., res. chem.; 1942-44, American Enka Rayon, res. chem.; 1944-46, Western Cartridge Co., res. chem.; 1946 to present, Industrial Res. Institute, hd., textile res., U. of Chattanooga, Dixie Mercerizing Co., dir. of res. Mem.: A.C.S., A.A.A.S., A.A. T.C.C., Am. Soc. of Quality Control, Sigma Xi. Clubs: Kiwanis, Chattanooga Engineers.

LUTHY, Max, plant mgr., tech. dir., The Givaudan Corp., Delawanna, N.J.; res. Ridgewood, N.J.
Chem. engr.; b. Basle, Switzerland, Feb. 17, 1898; ed. Federal Polytechnic Inst., Zurich, Switzerland, D. Tech. Sc., 1917-23; m. in 1925; ch.: three. Res. asst., Organic Chem. Lab., Federal Polytechnic Inst., 1921-23; res. chem. and chem. engr., Monsanto Chem. Co., St. Louis, Mo., 1923-30; plant mgr. and tech. dir., The Givaudan Corp., Delawanna, N.J., 1930 to present. Mem.: A.C.S., Swiss Chem. Soc., Acdy. of Scs. (New York).

LUTZ, John A., mgr. tech. serv. dept., Titanium Div., Natl. Lead Co., 111 Broadway, N.Y. 6, N.Y.; res. 150 Forest Ave., W. Caldwell, N.J.
Chem.; b. Lebanon, Pa., Dec. 16, 1907; s. of John H.L. and Sallie A. (Derr) Lutz; ed. Lehigh U., 1928, Ch.E.; 1932 M.S. chem.; m. Blanche Robson, Oct. 19, 1932; ch.: John Robson. 1928-31 chem., Hercules Powder Co.; Lehigh U. (see above); 1932-33 chem. Sherwin-Williams Co.; 1933-35 spec. res. Goodyear Tire & Rubber Co.; 1935 to date sales service Titanium Div., Natl. Lead Co. Has written var. papers on protective coatings during past 15 yrs. Mem.: A.C.S., A.I.C. Clubs: Essex Fells Country, Valhalla Lake, Masons. Hobbies: golf, gardening.

LUTZ, J(ohn) George, chmn. chem. dept., Hofstra Coll., Hempstead, N.Y.; res. 212 Oak St., W. Hempstead, N.Y.
Prof. of chem.; b. Bklyn., N.Y., Nov. 13, 1900; s. of Charles B. and Kathrine A. Lutz; ed. B.S., Polytech. Inst. of Bklyn., 1922; Columbia U., M.A., 1924, Ph.D., 1934; mem.: Phi Pi Phi; m. Marion Redway, Oct. 23, 1931; ch.: Richard R., Charles A. 1924-27 instr., 1927-30 asst. prof., Westminster Coll., New Wilmington, Pa.; 1932-34 lab. asst., Columbia U.; 1935-37 instr., Union Coll., Schenectady, N.Y.; 1937-42 prof., Union U. (Albany Coll. of Phar.), Albany, N.Y.; 1942 to date prof., Hofstra Coll., Hempstead, N.Y. Res. on purification of enzymes. Mem.: A.C.S., F.A. I.C., A.A.A.S., N.Y. Acdy. Sc., N.Y. Sc. Teachers Assoc., Sigma Xi, Phi Lambda Upsilon, Kappa Mu Epsilon, Sigma Kappa Alpha.

LUTZ, Robert Eliot, prof. org. chem., Cobb Chem. Lab., U. of Va., Charlottesville, Va.; res. 1345 Hilltop Rd., Charlottesville, Va.
Tchg. and res.; b. Boston, Mass., Mar. 24, 1900; s. of Rev. Harry and Mary S. Lutz; ed. B.A. (cum laude), Harvard, 1921; M.A., 1922; Ph.D., 1925; mem.: Alpha Chi Sigma; m. Margaret Steadman, Sept. 24, 1924; ch.: Nancy R., Robert G. Asst. in phys., Harvard Schl. of Pub. Health, res., 1924-25; instr., N.Y.U., 1925-28; assoc. prof., 1928-40 and prof. to date, U. of Va. Res. in var. branches of org. chem. (over 100 pub. arts. in sc. jls.); res. on the morphine alkaloids; responsible investigator, (O.S.R.D., W.W. II) and res. on antimalarials, tumor-necrotizing agents. Mem.: Sigma Xi. Hobbies: camping, hiking, archery, music, photography.

LUTZ, William A., chf. chem., The Dorr Co., Westport, Conn.; res. Norfield Rd., Westport.
Chem. engr.; b. Berwick, Pa., Mar. 9, 1912; s. of William J. and Mary J. (Andreas) Lutz; ed. Pa. State Coll., B.S., 1933; M.S., 1934; m. Edna F. Selleck, Apr. 30, 1937; ch.: Jonathan S. 1934-35 res. asst. Pa. State Coll.; 1935-37 chf. chem. Norma Hoffman Bearings Corp.; 1937-42 chem. Gulf Oil Corp.; 1942 to date chf. chem. The Dorr Co. Publications and patents, mostly in lubricants field; dev. "Norma Hoffman Grease Oxidation Test." Mem.: A.C.S. Hobby: yachting.

LUTZ, William Haviland, tech. dir., Pratt & Lambert, Inc., 75 Tonawanda St., Buffalo 7, N.Y.; res. 43 Wingate Ave., Buffalo 16.
Chem. engr.; b. Ilion, N.Y., Nov. 29, 1902; s. of H. William and Lette Francis (Shaw) Lutz; ed. Rensselaer Polytech. Inst., Ch.E.; mem.: Beta Psi; m. Norma Deuel, Sept. 8, 1934; ch.: Brenda Deuel. 1924-27 lab. asst. Gen. Electric Co.; 1927 chem., 1936 to date tech. dir. Pratt & Lambert, Inc. Mem.: A.C.S., A.S.T.M., A.I.C. (fellow); Fed. Paint & Varnish Prod. Clubs. Dir. Charity Eye, Nose and Throat Hospital, Buffalo (corporate name now in process of being changed to Ellicott Clinic, Inc.).

LUX, John H., mgr., new prod. dev., chem. dept., Gen. Electric Co., Pittsfield, Mass.; res. 39 Kittredge Rd., Pittsfield.
Chem. engr., org. & physical chem.; b. Logansport, Ind., Feb. 3, 1918; s. of Carl Harrison and Mary (Dunn) Lux; ed. B.S.Ch.E., Purdue U., 1939; Ph.D., 1942 with distinction; mem.: Beta Sigma Psi; m. Betty F. Passow, Aug. 27, 1940; ch.: John Ernst, Courtney Rae (dau.). Instr., Purdue, 1939-41; res. & dev. engr., Carbide & Carbon Chem. Corp., 1941-43; asst. dir. res. & dev., The Neville Co., 1943-45; chem. conslt. & bd. dirs., Atomic Basic Chem. Corp., 1946-48; mgr., asphalt & specialties div., Witco Chem. Co., 1948; dir. res., Witco, 1948-50; mgr., new prod. dev., chem. dept., Gen. Electric, 1950 to date. Methylnaphthalenes, new vinyl chem. from acetylene, new indene chem., cross linked metallic soaps, res. mgmt. Mem.: A.I. Ch.E., A.C.S., A.A.A.S. Club: Dale Carnegie Interntl. Hobbies: golf, bowling, bridge, skiing.

LUX, Russell Eugene, Jr., res. chem., Whitmoyer Labs., Myerstown, Pa.; res. 47 E. Main, Myerstown.
Chem.; b. Hopkinton, Iowa, Sept. 27, 1922; s. of Russell E. and Jean K. Lux; ed. Cornell Coll., mem. Alpha Xi Epsilon, Mt. Vernon, Iowa, B.A.; Purdue U., Lafayette, Ind., M.S., Ph.D.; m. Charlotte Ersepke, Aug. 24, 1947; ch.: Russell Emerson, Thomas Stuart. 1943-46 U.S.N.; 1946-50 Purdue U. grad. student; 1950 res. chem. Whitmoyer Labs. Sev. pub. papers on permeability studies of a natural membrane using radioactive tracers. Mem.: Kappa Mu Epsilon (math.); Sigma Xi, Phi Lambda Upsilon, etc., A.C.S., A.Ph.A. Hobbies: numismatics, guns.

LYCAN, William H., dir. res., Johnson & Johnson, New Brunswick, N.J.; res. 571 Watchung Rd., Bound Brook, N.J.
Org. chem.; b. Vermilion, Ill., July 15, 1903; s. of Dr. Harry and Coral Lycan; ed. U. of Ill., B.S., M.S., Ph.D.; mem.: Theta Xi, Alpha Chi Sigma; m. Janet Brown, 1931; ch.: William G. 1924-25 instr. in chem., Tennessee; 1929-37 res. chem., E.I. du Pont; 1937-38 indust. fellow, Mellon Inst.; 1938-40 grp. ldr.; 1940-47 dir. res.; 1947-49 exec. dir. res. Paint Div., Pittsburgh Plate Glass Co.; 1949 to date dir. of res.; mem. bd. of dirs., Johnson & Johnson, New Brunswick, N.J. Mem.: A.C.S., A.O.C.S., A.A.A.S.

LYLE, Aaron K(err), chf. chem. engr., Hartford-Empire Co., Hartford 2, Conn.; res. 21 Cumberland Rd., West Hartford, Conn.
Chem.; b. Washington, Pa., Oct. 2, 1902; s. of Aaron K. and Mary B. (Galbraith) Lyle; ed. Washington Jefferson Coll., A.B., 1926; M.A., 1928; mem.: Alpha Tau Omega; m. Eunice D. Husted, June 7, 1928; ch.: Aaron K. III, Elizabeth Ann. 1929 instr. Washington Jefferson Coll.; 1929-34 chem. Hazel Atlas Glass Co.; 1934-37 chf. chem. Bailey & Sharp Co., Hamburg, N.Y.; 1937 to date with Hartford-Empire Co. Res. in silicate anal., glass compositions, means and meths. for charging batch to melting furnaces. Mem.: A.C.S., A.I.C. (fellow); Amer. Ceramic Soc. (fellow); A.A.A.S.; trustee and v.p. Amer. Ceramic Soc., 1950. Club: Hartford Engrs.

LYMAN, Carl Morris, hd., dept. of biochem. and nutrition, A. and M. Coll. of Texas and the Tex. Agr. Exper. Station, Coll. Station, Tex.; res. 300 Kyle St., Coll. Station, Texas.
Biochem.; b. Oakland, Iowa, July 31, 1903; s. of Carl A. and Corilla Lyman; ed. U. of Oregon, B.S., 1931; Oregon State Coll., A.M., 1933; U. of Pittsburgh, Ph.D., 1937; mem.: Lambda Chi Alpha; hon.: Sigma Xi, Phi Kappa Phi, Phi Lambda Upsilon; Sigma Pi Sigma; m. Louise Skinner, 1928. 1936-40 asst. Lasker Foundation for Med. Res., U. of Chicago; 1940-47 nutritionist, Tex. Agr. Exper. Station, Agr. and Mech. Coll. of Texas; 1947 to date prof., 1949 to date hd. Dept. of Biochem. and Nutrition. Studies on pantothenic acid, vitamin C, biolog. oxidations and the nutritional requirements and metabolism of microorganisms; the dev. of microbiolog. meths. for the determ. of amino acids; the amino acid composition and nutritional evaluation of proteins and food-stuffs. Mem.: A.S.Biol.C., A.C.S., Soc. for Exper. Biol. and Med., A.A.A.S., A.O.C.S., Am. Soc. of Animal Prod., A.A.U.P.

LYMAN, John Franklin, prof. agr. biochem., Ohio State U., Columbus, Ohio; res. Westerville, Ohio, R. 2.
Teacher; b. Mesopotamia, Ohio; s. of Carlos P. and Cerinthia Bates Lyman; ed. B.S., U. Mass., 1905; Ph.D., Yale, 1909; mem.: Kappa Sigma, Alpha Zeta, Sigma Xi; m. Nella Bull, Dec. 29, 1909; ch.: Eloise G., Edith F., Russell A. Assoc. prof., agr. chem., Ohio St., 1909-15; prof. 1915 to date; chmn. dept., 1916-48. Res. in purine metabol., fat metabol., chem. milk, food values of milk. Mem.: A.C.S., Soc. Biol. Chem., Am. Inst. Nutrition, I.F.T., S.E.B.M., Am. Dairy Sc. Soc. Club: Faculty (Ohio St. U.). Hobby: farming.

LYNCH, Cecil Cameron, prof. of chem., U. of Delaware, Newark, Del.; res. 309 S. du Pont Rd., Lancaster Village, Wilmington, Del.
Tchg. and res. in chem.; b. Wilmington, Del., Feb. 2, 1904; s. of Cecil C. and Mary E. Lynch; ed. U. of Delaware, 1922-26, B.S.; 1927, M.S.; Columbia U., 1938, Ph.D.; m. Jessalyn A. Johns, Jan. 26, 1929; ch.: Royal. 1927-29, instr. in physics, U. of Del.; 1929-30, student and asst. in chem., Princeton U.; 1930-31, Marine Draftsman, Pusey and Jones Corp., Wilm., Del.; 1931-38, instr. in chem., U. of Delaware; 1938-45, asst. prof., 1945-49, assoc. prof., 1949 to date, prof. in chem. Res. in connection with tchg.; phase system studies; polarographic kinetic studies; potentiometric studies in low dielectric media. Mem.: A.C.S., Sigma Xi, Phi Lambda Upsilon.

LYNN, Eldin Verne, prof. chem., chmn. dept., Mass. Coll. of Pharmacy, 179 Longwood Ave., Boston 15, Mass.; res. 34 Kingswood Rd., Auburndale 66.
Tchr.; b. Hawarden, Iowa, Feb. 8, 1886; s. of Ellison A. and Nellie V. (Day) Lynn; ed. Tacoma, Wash., pub. schls., U. of Wash., B.A., 1909; U. of Wis., M.A., 1910, Ph.D., 1918; mem.: Alpha Chi Sigma, Phi Lambda Upsilon; m. Irma Avis Tuell, June 28, 1921; ch.: Verne Lauriston. 1907-09 instr. in phys. Adelphia Coll. (Preparatory); 1910-11 asst. in chem., U. of Wis.; 1911-13 instr. in Pharmaceutical Chem., same U.; 1913-14 res. chem. Wyoming Agr. Exp. Station; 1914-15 instr. in chem. and hd. of dept., Coll. of Pharmacy, U. of Ill.; 1915-17 asst. prof. of chem., Okla. Agr. and Mech. Coll.; 1917 phar. chem., Bur. of Chem., U.S. Dept. of Agr.; 1917-18 chem., Wis. Phar. Exper. Station; 1918-19 res. chem., Parke Davis & Co., Detroit, Mich.; 1919-20 chem. and prod. supt., Consolidated Chem. Prods. Co., Alton, Ill.; 1920-21 asst. prof. of Pharmacology and Chem., U. of Wash.; 1921-28 assoc. prof., 1928-34 prof., 1930-31 acting dean of Coll. of Pharmacy, all U. of Wash.; 1934 to date prof. of chem. and chmn. of Dept. Mass. Coll. of Pharmacy. 92 papers in pharmaceutical org. chem. and pharmacology. Author: "Lab. Guide to Pharmaceutical Technique," U. of Wis. 1912; "Pharmaceutical Therapeutics," McGraw-Hill Book Co. 1929; second edit. 1938; "Organic Chemistry," Lea & Febiger, 1941; second edit. 1945; third edit. 1948. Co-author: "Organic Chemistry in Pharmacy," J.B. Lippincott Co., 1949. Mem.: A.Phar.A., A.C.S., U.S. Pharmacopoeial Convention and Revision Comm., Sigma Xi, Rho Chi (phar. hon.), New England Assoc. of Chem. Tchrs., Central chmn. 1942-44, v.p. 1944-46, pres. 1946-48 of latter assoc. Member Corporation, Mass. Coll. of Pharmacy.

LYON, Ashton Murray, res. supvr., Air Reduction Co. Research Laboratories, Murray Hill, N.J.; res. 767 Springfield Ave., Apt. 2, Summit, N.J.
Chem.; b. New York City, Feb. 21, 1917; s. of Andrew W. and Louise Gorecki Lyon; ed. A.B., Princeton U., 1939, Phi Beta Kappa, summa cum laude; Ph.D. in chem., Yale U., 1942, Merck Fellowship; single. 1942-43, Div. of War Res., Yale U., chem.; 1943-45 S.A.M. Labs., Div. of War Res., Columbia U., section leader, N.Y.C.; 1945-46, S.A.M. Labs. of Carbide & Carbon Chem. Co., section leader; 1946-48, K-25 Labs. of Carbide & Carbon Chem. Co., Oak Ridge, Tenn., minor dept. hd.; 1948 to present, res. labs., Air Re-

duction Co., Inc., Murray Hill, N.J., res. supvr. Contributions in the fields of steroids of marine invertebrates and gaseous diffusion. Mem.: A.C.S., Sigma Xi, Acdy. of Scs. (New York). Hobbies: sound reproduction, wood-working, painting, piano.

LYON, Richard Norton, principal dev. engr., chf. engrg. res. sect., Oak Ridge Natl. Lab., P.O. Box P, Oak Ridge, Tenn.; res. 167 Outer Dr., Oak Ridge.
Chem. engr.; b. Joliet, Ill., July 10, 1916; s. of Leverett S. and Lucille (Norton) Lyon; ed. 1934-39, U. of Chicago, B.S. chem., 1938; 1940-42 and 1946-49, U. of Mich., M.S. chem. engr., 1942; Ph.D. chem. engr., 1949; mem.: Phi Kappa Psi; m. Barbara Kennedy, Sept. 24, 1939; ch.: Kennedy, Richard Payson. 1933-34 lab. tech., Natl. Bur. of Stds.; 1938 (summer) anal. chem. Dracket Co., Cincinnati; 1941-42 res. and tchg. asst. U. of Mich.; 1942-45 grp. ldr., Pile Problems Grp., Metallurg. Lab. (Manhattan Proj.) U. of Chicago; 1945-50 grp. ldr. Waste Treatment Grp.; Chem. Proc. Design Grp.; Chf. Engr. Res. Sect.; Acting Chf. Engr. Matls. Sect., Oak Ridge Natl. Lab.; 1949-50 lecturer in chem. engrg. U. of Tenn. Simplified math. anal. of certain solvent extraction calculations; dev. of simplified equation for forced convection heat transfer in liquid metals. Editor-in-Chief, "Liquid Metals Handbook—a Guide to the Use of Liq. Metals as Heat Transfer Media." 1950. Mem.: A.C.S., A.I.Ch.E., A.A.A.S., Phi Lambda Upsilon, Iota Alpha, Sigma Psi. Hobby: barbershop singing.

LYONS, Emerson James, sales mgr., Turbo-Mixer Corp., 10 E. 49th St., New York 17, N.Y.; res. 100 Rose Hill, Tarrytown, N.Y.
Chem. engr.; b. Utica, N.Y., Jan. 18, 1909; s. of James F. and Margaret B. Lyons; ed. Utica Free Academy, U. of Mich.; mem.: Alpha Chi Sigma; m. Nan MacNamee, Jan. 14, 1933; ch.: Chandler Caldwell (daughter). Held the following positions with the Skenandoa Rayon Corp., Utica, N.Y.: 1932-34, chem. (production); 1934-36, chem. engr. Held the following positions with the Turbo-Mixer Corp., N.Y.C.: 1936-45, chem. engr., 1946 to present, sales mgr. Mem.: A.I.Ch.E., A.C.S., Alpha Chi Sigma, N.Y. State Professional Engr. License (Chem.) No. 19768 (Apr., 1940). Trustee, Bd. of Education, Tarrytown, N.Y. Clubs: Utica Chemical Club, Tarrytown Speech, Chemists'. Hobbies: golf, photography, woodworking.

LYONS, Eugene James, v.p. personnel, Merck & Co., Inc., Rahway, N.J.; res. 35 Spruce St., Cranford, N.J.
Exec.; b. Colorado Springs, Colo., Oct. 22, 1904; s. of Joseph B. and Nora A. Lyons; ed. Rose Polytech. Inst. 1923-25; Purdue U., 1926; mem.: Theta Xi; m. Alice Bernice Baylis, Oct. 25, 1930; ch.: Kathleen, Jean Bernice. Reporter, telegraph ed., aviation ed., Moline Daily Dispatch, 1927-39; publ. relations mgr., St. Louis plant, Curtiss-Wright Corp. 1939-41; asst. gen. mgr., Columbus O. plant, 1942-43; dir. indust. relations. 1943-45; dir. indust. relations Merck & Co., Inc. 1946-49; v.p., personnel, 1949 to date. Mem.: A. Mgt. A., Natl. Ind. Conf. Bd.

LYONS, Frank Heydrick, res. dir., E.L. Bruce Co., Memphis, Tenn.; res. 1679 Kendale Ave., Memphis, Tenn.
Chem. engr.; b. Lansing, Mich., Mar. 24, 1904; s. of T. Rogers and Alice P. Lyons; ed. grade & grammar schls., Lansing, Mich., B.S. in chem. engrg., Michigan State Coll., 1926; mem.: Tau Beta Pi; m. Lucille C. Holden, Sept. 5, 1926; ch.: Frank H., Jr., Barbara Ann. Asst. supt., Craig Oil Co., Toledo, O., 1926-27; chf. chem., E.L. Bruce Co., Memphis, Tenn., 1927-33; res. dir. Clyde Collins, Inc., Memphis, Tenn., 1933-36; instr. Dry Cleaning Practice, McCleary Bros., Memphis, Tenn., 1936-38; res. dir., Clyde Collins, Inc., Memphis, Tenn., 1938-44; res. dir., E.L. Bruce Co., Memphis, Tenn. 1944 to date. Res. in continuous vacuum fractionation of lube oil stocks; preservation, utilization of hardwoods. Continuous prod. of factory finished flooring; dev. of prods. and methods for proper maintenance of hardwood flooring. Holds numerous U.S. pats.; 9 pat. applications now in process. Mem.: A.C.S., A.A.A.S., Amer. Assoc. of Practical Refrigeration Engineers. Hobbies: music, stamp collecting, fishing.

LYONS, Sanford Carlisle, tech. dir., Georgia Kaolin Co., Dry Branch, Ga.; res. Bennington, Vermont.
Clay tech.; b. Aug. 6, 1897, East Windsor, Mass.; s. of Samuel C. and Flora E. (Ball) Lyons; ed. Carnegie Tech. 1915, M.I.T., 1914, 1921-24; m. Adella W. McMillan, May 19, 1928; ch.: Virginia L. Res. Lab., G.E. Co., Pittsfield, Mass., 1916; engr., Bennington Scale Co., 1919-21; pres., Vt. Kaolin Corp., 1923 to date; tech. dir., Georgia Kaolin Co., 1935 to date; sales, Merrimac Chemical Co., 1928-29; pres., Twisco, Inc. Dev. processes for prod. and improvement of pigments, paper-making clays, etc.; dev. of centrifugal machinery and processes for chem. ind. Contrib. extens. to sc. and tech. journals. Mem.: T.A.P.P.I., Am. Cer. Soc., Soc. of Rheology, A.C.S., A.I.C. Clubs: A.F.&A.M. Hobby: photography.

LYTHGOE, Hermann C., conslt., 36 Fair Oaks Ave., Newtonville, Mass.
Chem.; b. Boston, Mass., May 21, 1874; s. of George Z. and Judith A. Bollmann Lythgoe; ed. M.I.T., S.B., 1896; m. Maude E. Noyes, June 11, 1901; ch.: Albert H. One yr. asst. chem. rubber factory; Nov. 1, 1897-May 31, 1946, Mass. State Bd. of Health, its successor, Mass. Dept. Public Health, asst. chem., chf. chem., dir. food, drug div. Res. on comp. of milk, foods, drugs. Meths. of anal. for milk, foods, drugs. Contrib. extens. to sc. and tech. jls. Mem.: A.O.A.C. (pres., 1920), A.C.S. (chmn. Northeastern sect. 1924), Assn. Food & Drug Off. of U.S. (pres., 1944), A.I.C. (fellow), A.A.A.S. (fellow). Club: Harvard Musical Assn. Hobbies: music (viola), photography, gardening.

M

MACALPINE, J(ohn) Kenneth W(atson), assoc. prof. of chem., Washington Square Coll., New York U., New York 3, N.Y.; res. 70 Grove St., Montclair, N.J.
Prof.; b. Port Glasgow, Scotland, Nov. 7, 1898; s. of John H(enry) and Mary J(ane) Coats Macalpine; ed. B.S., Carnegie Inst. of Tech., 1921, A.M., Columbia U., 1922; mem.: Delta Upsilon, Tau Beta Pi, Sigma Xi, Phi Lambda Upsilon; m. Florence I(sabel) Malmar, June 4, 1938. Asst. in chem., Columbia U., 1922-24, asst. in chem., N.Y.U., 1924-27, instr., 1927-30, asst. prof., 1930-50, assoc. prof., 1950 to present. Co-author: (J.A. Babor), 1939, "How to Solve Problems in Qualitative Analysis. Mem.: A.C.S., A.A.A.S., Franklin Inst. Clubs: Adirondack Mt. (pres. 1945-46), New York Delta Upsilon. Hobbies: hiking, photography.

MacCORKLE, Emmett Wallace Jr., v.p., Air Reduction Pacific Co., 430 N.W. 10th Ave., Portland 9, Ore.; res. 3005 S.E. Carlton St., Portland 2.
Exec.; b. Nicholasville, Ky., Oct. 4, 1906; s. of Emmett W. and Mamie (Bryant) MacCorkle; ed. A.B., Washington & Lee U., 1926, EE. Cornell U., 1929; mem.: Phi Kappa Psi, Omicron Delta Kappa, Eta Kappa Nu; m. Nelda B. Reymann,

May 17, 1941; ch.: Emmett W. III, b. Feb. 10, 1942, Alice Bryant, b. Dec. 9, 1947. Power sales engr., Ky. & W.Va. Power Co., Ashland, Ky., 1929-35; salesman, Air Reduction Sales Co., Wheeling, W.Va., 1935-37; asst. sales mgr., Air Reduction Sales Co., Wheeling & Cleveland, O., 1937-41; U.S. Navy (lieut. thru commander) in U.S. & aboard U.S.S. Dixie, south, central & west Pacific, 1941-46; asst. mgr. gas sales dept., Air Reduction Sales Co., N.Y., 1946-47; dist. mgr. & v.p. Air Reduction Pacific Co., Portland, Ore., 1947 to present. Pure Carbonic Co., dist. mgr. Elder, First Pres. Ch., Portland, Ore. Clubs: Arlington, Waverley Country, Multnomah Athletic, Rotary. Hobbies: fishing, hunting, golf.

MacCORQUODALE, Donald William, hd. of biochem. res., Abbott Labs., 14th St. & Sheridan Rd., N. Chicago, Ill.; res. 785 Locust St., Winnetka, Ill.
Biochem.; b. Chicago, Ill., June 30, 1898; s. of Archibald W. and Isabella (Lindsay) MacCorquodale; ed. B.S. 1924, U. of Ill., final & special hon.; M.S., U. of Wis., 1926, Ph.D. 1928; Metz Fellow, Yale, 1930; mem.: Sigma Xi, Gamma Alpha, Phi Lambda Upsilon; m. Marjorie Ruth Merry, Dec. 24, 1932; ch.: Judith Elaine, Donald Lachlan. Instr. chem., U. of Tenn., 1924; asst., Wis., 1924-28, res. assoc. 1928-29, instr. 1929-30; Metz Fellow, Yale, 1930-31; instr. biochem., St. Louis U., Schl. Med., 1931-38, asst. prof. 1938-39; hd. biochem. res., Abbott Labs. 1939 to date; civilian with Office of Sc. Res. & Dev. Isolation & identification ovarian follicular hormone; isolation, identification & syn. vitamin K1; structure of vitamin K2; chem. studies on penicillins. Contrib. The Biological Action of the Vitamins, E.A. Evans, Jr., edit., U. of Chicago Press, 1942. Mem.: A.C.S., A.A.A.S., A.S.Biol.C. Club: Chicago Chemists.

MacDONALD, John H., acting mgr., chem. engrg. dept., engineering div., Merck & Co., Rahway, N.J.; res. 617 Fairmont Ave.
Chem. engr.; b. Harrisburg, Pa., Aug. 7, 1912; s. of John B. and Edith Rakestraw MacDonald; ed. Princeton, B.S. in engrg., 1933 (high honors in engrg.); m. Helen Warga, Nov. 27, 1937; ch.: Anne L., John B. Martha J. Held following positions with Merck & Co.: 1933-35, control chem.; 1935-36, res. chem., process dev. wk.; 1936-40, pilot plant engr.; 1940-41, production dept. head; 1941-50, district supvr., in charge prodn. depts., producing synthetic org. chemicals; July, 1950 to present, acting mgr., chem. engrg. dept., engrg. div. Mem.: Princeton Engrg. Assn., A.I.Ch.E., Soc. of Am. Bacteriologists. Club: Princeton. Hobbies: photography, sports.

MacDONALD, John Whitney, plant mgr., Rumford Chemical Works, Div. of Hulman & Company, Inc., Newman Avenue, Rumford 16, R.I.; res. 283 Wayland Ave., Providence, R.I.
Attorney; b. Providence, R.I., Feb. 24, 1907; s. of John F. and Mary Catherine MacDonald; ed. B.A. Dalhousie U., M.A. George Washington, LL.B. Harvard Law Schl.; mem.: Kappa Sigma; m. Margaret (White) MacDonald, Oct. 26, 1932; ch.: J. Whitney, Jr., Margaret-Lynne. Asst. supt., Great Atlantic & Pacific Tea Co.; assoc., Henry M. Boss; private practice law; resident atty., Rumford Chemical Wks.; asst. to pres., Rumford Chem. Works; dir. of ind. relations, plant mgr., Rumford Div., Heyden Chem. Corp.; plant mgr., Rumford Chem. Wks., Div. Hulman & Co. The Rumford Co., v.p. and dir., Fulford Mfg. Co., dir. Mem.: R.I. Bar Assoc., New York State Bar Assoc., American Bar Assoc., Div. of Food, Drug and Cosmetic Law, N.Y. Bar Assoc. and American Bar Assoc. Dir. of Family Service, Inc. of Rhode Island, secy. Providence Parents' League. Providence Athaeneum. Club: Agawam Hunt. Sakonnet.

MACDONALD, Robert Jr., v.p., Gen. Abrasive Co., Inc., Niagara Falls, N.Y.; res. Lewiston, N.Y.
Exec.; b. Baird, Texas, Dec. 4, 1893; s. of Robert and Agusta Lea Macdonald; m. Miriam Harper, Oct. 23, 1930; ch.: Robert, III, Miriam. May-Aug., 1917, chem. Aluminum Co. of Am., Niagara Falls, N.Y.; Sept. 1917 to date, chem., metal., asst. gen. mgr., v.p., dir., General Abrasive Co., Inc., Niagara Falls, N.Y. Lionite Abrasives, Ltd. (Canada), v.p., dir.; Crouch Mining Co., Inc., Bauxite, Ark., v.p., dir., gen. mgr.; Harper Elec. Furnace Co., Niagara Falls, N.Y., dir. Mem.: A.C.S., A.E.S.

MACDONALD, Ronald Gordon, secy.-treas., Tech. Assoc. Pulp & Paper Indus., 122 E. 42nd St., New York 17, N.Y.; res. 8638 139th St., Jamaica 2, N.Y.
Chem. engr.; b. Berlin, N.H., Apr. 13, 1889; s. of Angus James and Janet (Gordon) Macdonald; ed. M.I.T., 1922, B.S. chem. engrg. 1922-24 engrg. Pejepscot Paper Co., Brunswick, Maine; 1924-25 res. chem. Oxford Paper Co., Bklyn., N.Y.; 1925-27 Market Res. Chem. & Metallurg. Engr.; 1927-50 secy.-treas. T.A.P.P.I.

MacDONALD, William F., pres. and treas. of E.F. Houghton & Co., 303 W. Lehigh Ave., Phila. 33, Pa.; res. 32 Benezet St., Phila. 18, Pa.
Business exec.; b. Phila., Pa., Oct. 12, 1903; s. of George F. and Mary A. Kane MacDonald; ed. B.S., Wharton Schl. of Finance, U. of Pa., 1927; mem.: Sigma Alpha Epsilon; m. Mary Ann Cassell, Oct. 29, 1938; ch.: Mary Ann, William F., Jr. Employed in Aug. of 1927 by E.F. Houghton & Co. as: cost accountant 1927-29; ind. engr., 1930-34; credit mgr., 1935-39; asst. treas., 1940-41; elected a dir. in 1940; treas. 1942-49 inclusive, pres. Feb., 1950. Clubs: Germantown Cricket, Phila. Cricket.

MacDOUGALL, Frank Henry, chf. of div. of physical chem., U. of Minn., Minneapolis, Minn.; res. 2460 W. 22nd St., Minneapolis 5.
Teacher; b. Maxville, Ontario, Oct. 24, 1883; s. of Duncan and Janet MacDougall; ed. Queen's U., Kingston, B.A. 1902, M.A. 1903; Leipzig U., Ph.D. 1907; m. Anne V. Reichmann, Nov. 23, 1932; ch.: Duncan, Janet, Anne. Instr., Texas A.&M. Coll., 1907-12; assoc. prof., Calgary Coll., 1912-15; instr., asst. prof., assoc. prof., prof., chf. of div. 1915 to date, U. of Minn. Author: "Thermodynamics & Chem." 3rd edit. 1939, Wiley & Sons; "Physical Chem.," 2nd edit. 1943, Macmillian Co. Mem.: A.C.S., A.A.A.S., Sigma Xi, Natl. Geographic Soc., 1851 Exhibition Scholar at Leipzig, 1905-07. Clubs: Campus, Automobile Club of Minneapolis. Hobbies: contract bridge, Greek, music.

MacDOWELL, Louis Gardner, res. dir., Florida Citrus Commis., Box. 1720, Lakeland, Fla.; res. Collins Rd., Lakeland.
Chem.; b. Asbury Park, N.J.; s. of Louis G. and Emma B. MacDowell; ed. U. of Fla., B.S., 1933; Ph.D., 1936; mem.: Phi Kappa Tau, Gamma Sigma Epsilon; m. Helen Gartelman, Aug. 21, 1936; ch.: Sheila, Julie, Kathleen. 1936-42, res. chem. Carbide & Carbon Chems. Corp.; 1942 to date, res. dir. Fla. Citrus Commis. Co-author of num. U.S. pats. Mem.: A.I.C. (fellow); A.A.A.S., Sigma Xi, Inst. Food Techs., A.C.S. Clubs: Lakeland Yacht and Country, Rotary, Jaycee. Hobbies: gardening, hunting, fishing.

MacGEE, Alfred Ernest, mgr. solvents div., Skelly Oil Co., 605 W. 47th St., Kans. City 10, Mo.; res. 6847 Oak St., Kans. City 5, Mo.
Indust. chem.; b. Toledo, Texas, Oct. 17, 1899; s. of Philip Winfry and Dotia Maud MacGee; ed. Southwestern La. Inst., 1915-18; La. St. U., 1920-21, B.A.; 1921-22, M.S.; Ohio St. U., 1922-25, Ph.D.; mem.: Alpha Chi Sigma, Gamma Alpha, Phi Lambda Upsilon, Sigma Xi; m. Jane L. Boggs, June 3, 1930; ch.: Edwin Ernest, Jane Elizabeth. 1923-24 chem. instr., Case Inst. Tech., Cleveland, Ohio; 1925-26 res. engr., Abrasive Res. Assn., Columbus, Ohio; 1927-29 assoc. ceramic chem., Bur. Stands, Wash., D.C.; 1929-30 plant mgr., Viking Gasoline Corp., Charleston, W.Va.; 1930 to date mgr., solvents div., Skelly Oil Co., Kans. City, Mo.; Comdr., U.S.N. Reserve, off.-in-chg., chem. sect., Bur. Ships, Wash., D.C. 1942-46 Res. in spec. hydro. fractions for mfg. fats, oils by solv. extract. proc.; compdg. quick setting rubber cements; formulating paints, lacq., varns.; formulating quick drying inks; dev. high strength-law expansion glass-type bonds for aluminous abrasives. Contrib. extens. to sc. and tech. jls. Mem.: A.I.C. (fellow); Lic. Prof. Engr. (Chem.); A.C.S.; A.O.C.S.; Natl. P.V.L.A.; Tri-States Oil Mill Supts. Assn., I.P.A.A., Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi. Club: Indian Hills Country. Hobbies: golf, photography, hunting.

MACHIN, James Stewart, chem., hd. ind. minerals div. of geochem. sec., Ill. State Geol. Survey, Urbana, Ill.; res. 908 W. William, Champaign, Ill.
Res. chem.; b. St. Louis, Mo., U.S.A., Oct. 14, 1893; s. of William and Lula (Jackson) Machin; ed. Westminster Coll., Fulton, Mo., A.B. 1921; U. of Ill., M.S. in chem., 1922; U. of Chicago, Ph.D. 1932; m. Flossie Jannett Odell 1925, Marjorie Giese Roloff 1946; ch.: Eleanor Jean. Instr., Westminster Coll., 1922-24; prof. of chem., Sioux Falls Coll., 1924-36; chem., Ill. State Geol. Survey, 1936 to date. Physical properties & chem. of silicate systems at elevated temps. Mem.: A.C.S., A.I.M.E., A.A.A.S. Hobbies: fishing, hunting, golf.

MacINNES, Duncan Arthur, mem., Rockefeller Inst. for Med. Res., 66 St. & York Ave., N.Y. 21, N.Y.; res. 10 Mitchell Pl., N.Y. 17.
Chem; b. Salt Lake City, Utah, Mar. 31, 1885; s. of Duncan and Frances (Sayres) MacInnes; ed. U. of Utah, B.S. 1907; U. of Ill. M.S. 1909, Ph.D. 1911; mem.: Gamma Alpha. Instr. in chem., Ill., 1911-14, assoc. 1914-17; asst. prof. of physical chem. res., M.I.T., 1917-21, assoc. prof. 1921-26; assoc. mem., Rockefeller Inst., 1926-40, mem. 1940 to date. Res. in theoretical electrochem. Author: "Principles of Electrochem." Reinhold, 1939. Mem.: N.A.S., A.Phil.S., Electrochem. Soc. (pres. 1935-37). Awards: Nichols M. 1942, Acheson M. 1948, Presidential Cert. of Merit 1948. Clubs: American Alpine, Appalachian Mt. Hobbies: mountaineering, outdoor activities, photography.

MacINTIRE, Walter Hoge, hd., dept. of chem., The U. of Tenn. Agr. Expt. Station, Morgan Hall, Knoxville 16, Tenn.; res. 2000 Ogden Ave., Knoxville, Tenn.
Chem. res.; b. Wilmington, N.C., May 19, 1885; s. of Robert Mortier and Sallie MacKay MacIntire; ed. B.S., North Carolina State Coll., 1905; M.S., Pa. State Coll.; Ph.D., Cornell U., 1916, D.S.C., Clemson College, 1937; mem.: Kappa Alpha, Acacia, Alpha Chi Sigma, Phi Kappa Phi, Sigma Xi; m. Edna Elizabeth Meyer, 1911, m. Alfa Helen Benson, 1945; ch.: Sarah Elizabeth, John Robert Wilson .Chem. N.C. Lab. of Hygiene, 1905-07; asst. chem., Inst. of Animal Nutrition, Pa., 1907-08; assoc. in soil chem., The Penn. State College, 1908-12; soil chem., chem. and hd. of dept., U.T. Agr. Expt. Sta., 1912-50; principal chem. and conslt., T.V.A., 1933-48. Res in lysimeter and lab res. in lime, magnesia, dolomite and silicates; phosphates; ca. Mg, S, P, SiO2, sulfur and fluorine in soil, plants, and rainwaters. Publ. some 207 papers and bulletins on lime, magnesia, fertilizers and fluorine. Mem.: Assoc. Off. Agr. Chemists (v.p., 1926, pres. 1927), Am. Soc. of Agronomy (fellow), A.A.A.S. (fellow), A.C.S. Associate Editor, "Soil Science." Herty Medalist, 1936, designation "as one of the ten best," Chicago Sec., A.C.S.; past pres. Rotary Club of Knoxville, Past Master, Past T.I.M. of Council, past commander, Knights of Templar, Past Sovereign, Red Cross of Constantine, Past Potentate, Kerbela Temple, A.A.O.N.M.S.; 32 deg. Mason, Past Director, Royal Order of Jesters, member of bds. of Salvation Army, Red Cross, Shriner's Crippled Children's Hospital, and Crop Protection Institute. Clubs: Faculty Club of U. of Tenn. Hobbies: reading, ritualistic work in Masonic bodies, sports.

MacINTOSH, Robert M., supvr. chem. dev., Tin Res. Inst. Inc., 492 W. Sixth Ave., Columbus 1, O.; res., 1285 Inglis Ave., Columbus 12.
Conslt. res. engr.; b. Glasgow, Scotland, June 8, 1905; s. of Gavin and Margaret MacIntosh; ed. Royal Tech. Coll. (Glasgow) 1925, Ch.S. diploma; Polytech. Inst. (Brooklyn, N.Y.), 1936, B.S.; mem.: Phi Lambda Upsilon; m. Helen McKellar, July 30, 1932; ch.: Robert, Jr., Gordon, Mary Ellen. 1921-25, analytical chem., Tatlock & Thomson (Glasgow, Scot.); 1925-26, analyt. chem., U. S. Smelting & Ref. Co. (Carteret, N.J.); 1926-32, chem. Guggenheim Bros. Res. Labs., N.Y.; chf. chem., 1932-36; lab. mgr. 1936-41; supvr. analyt. lab., Battelle Memorial Inst., Columbus, O., 1941-45; asst. supvr. non-ferrous div. (Battelle) 1945-49; supvr. chem. develop. Tin Res. Inst. Inc., 1949 to date. Twenty years of res. in ore dressing, non-ferrous metallur., analytical chem. Num. pubs. analyt. chem. and applications of tin. Mem.: A.I.M.E., A.C.S., Committee mem., Am. Welding Soc., Brazing & Soldering. Scout leader. Hobbies: photography, woodworking, golf.

MACK, Darrel E., dir. of curriculum in chem. engrg., Lehigh U., Bethlehem, Pa.; res. Springtown, Pa.
Coll. teacher, chem. engr.; b. Hannibal, Mo., May 2, 1912; s. of Walter E. and Elizabeth (Gardner) Mack; ed. B.S., Purdue, 1934, Ph.D. 1941; M.S., Niagara, 1939; mem.: Theta Xi; m. Frances E. Whittaker, 1942; ch.: Nancy B., Robert C., Daniel S. Chem. engr., Niacet Chem. Corp., 1934-39; asst. prof., Lehigh, 1943; asst. prof., Virginia, 1943-45; assoc. prof. 1945-46, prof. 1946-50, curriculum dir. 1950 to date, Lehigh. Papers on mixing & agitation, heat transfer, chem. education. Mem.: A.C.S., A.I.Ch.E., Am. Soc. Engrg. Ed., Pa. Soc. Prof. Engrs., Sigma Xi.

MACK, Edward Lawrence, pres., Graphic Arts. Res. Corp., 420 Lexington Ave., N.Y. 17, N.Y., res. 143-07 Sanford Ave., Flushing, N.Y.
Conslt.; b. Vergennes, Vt., Aug. 27, 1890; s. of Thomas and Mary A. (McMahon) Mack; ed. Union (N.Y.) B.S. 1916; Cornell Ph.D. 1916; mem.: Sigma Xi, Phi Delta Theta; m. Ella G. Toth, Apr. 7, 1945. Asst. chem., Cornell 1912-16; asst. alloy chem., Bur. of Mines, 1916-24; v.p. Douglaston Labs., Inc., 1924-29; chf. tech., Reynolds Metals Co., 1929-40; pres. Graphic Arts. Res. Corp., 1940 to date. Co-Author: "Molybdenum Cerium and Related Alloy Steels," 1925. Mem.: A.C.S., A.A.A.S. (fellow), E.S., Sigma Xi. Club: Chem. (N.Y.). Hobby: statistics.

MACK, Harry, dir. of chem. control, Natl. Drug Co., Phila., Pa.; res. 6735 Limekiln Pike, Phila. Chem.; b. Phila., Pa., Apr. 3, 1911; s. of Samuel Joseph and Anna Mack; ed. McIntyre Public Schl. 1916-24; Central H.S. 1925-27; Simon Gratz H. S. 1927-29; Phila. Coll. Phar. & Sc. 1930-34 B. Sc., Alumni Assn. Gold M. for attain. highest scholastic average 4 yrs. leading to B.Sc. in sc. & co-recipient of Maisch Botany Prize; Phila. Coll. Phar. & Sc., 1934-35, M.Sc.; m. Meta Sharp, May 31, 1936; ch.: Ellen Myra. Phila Coll. of Pharmacy & Sc., grad. asst. in org. chem., fellowship, 1934-35; Merck & Co., Inc., Rahway, N.J., anal. chem., 1935-46; Natl. Drug Co., chf. chem. advanced to dir. of chem. control, 1946 to date. Res. in plant glucósides; inorg. & org. fld. with relation to wk. for U.S. Pharmacopoeia. Co-author of sev. pubs. (papers). Mem.: Am. Phar. Assn., A.I.C. (fellow), A.C.S. Club: Knights of Pythias. Hobbies: glassblowing, stamp collecting, sports.

MACK, Pauline Beery, dir. of the Ellen H. Richards Inst., prof. of household chem., Schl. of Chem. and Phys., Penn. State Coll., State College, Pa.; res. 245 E. Hamilton Ave., State College, Pa.
Res. dir. and univ. tchr.; b. Norborne, Mo., Dec. 19, 1891; d. of John Perry Beery and Dora (Woodford) Beery; ed. Mo. State U., A.B., 1913; Columbia, A.M., 1919; Penn. State Coll., Ph.D., 1932; m. Warren B. Mack, Dec. 27, 1923. 1913-15 sc. tchr., Norborne H.S.; 1915-18 Webb City (Mo.) H.S.; 1918-19 Springfield (Mo.) H.S.; since 1919 mem. faculty Penn. State Coll.; dir. Ellen H. Richards Inst. (res. in food, clothing, shelter), since 1940; dir. Penn. Mass Studies in Human Nutrition under the sponsorship of the Dept. of Health, 1935 to date; dir., Phila. Mass Studies in Human Nutrition, 1940 to 1946. Author: "Chemistry Applied to Home and Community"; "Stuff—The Science of Materials in the Service of Man." Fellow: A.I.C.; A.A.A.S.; Soc. for Res. in Child Development; Amer. Pub. Health Assoc. Mem.: Amer. Acad. of Polit. and Social Science; Amer. Assoc. for Adult Education; Amer. Assoc. of Phys. Anthropologists; A.A.T.C.C.; Amer. Assoc. of Textile Technologists; A.A.U.P.; Amer. Assoc. of Univ. Women; A.C.S.; Amer. Congress on Obstetrics and Gynecology; Amer. Dietetics Assoc.; Amer. Home Economics Assoc.; A.S.T.M.; Faraday Soc. (England); Natl. Education Assoc.; Penn. Acdy. of Sc.; Pub. Charities Assoc. of Pa.; Textile Res. Inst. Also mem.: Phi Beta Kappa; Phi Beta Kappa Associates; Sigma Xi; Phi Kappa Phi; Iota Sigma Pi (Natl. pres. 1945-48); Sigma Delta Epsilon; Omicron Nu; Awards: Recipient of the Disting. Daughters of Penn. M. 1949; the Francis P. Garvan M. of the Amer. Chem. Soc. 1950.

MACKALL, Colin Mackenzie, prof. emer. of chem. in residence, George Washington U., Wash. 6, D.C.; res. 3700 Mass. Ave., N.W., Wash. 16, D.C.
Teaching chem.; b. Baltimore, Md., Dec. 26, 1884; s. of Charles and Eliza Bowie (Mackenzie) Mackall; ed. U. of Va., B.A. 1909, B.S. chem. 1910; George Washington U., M.S. 1913; Johns Hopkins U., Ph.D. 1920; U. of Paris, 1919; U. of Toulouse, 1920; Coll. of France, 1921-22; mem.: Delta Tau Delta, Phi Beta Kappa, Alpha Chi Sigma, Sigma Xi; ch.: Marie-Antoinette C. de M. Asst. chem., U.S.D.A., 1910-11; prof. of chem., U. of the South, 1911-16; chem., Edgewood Arsenal, 1922-23, summer 1924; prof. of chem., St. Johns Coll., 1923-25; prof. of chem., George Washington U., 1925-50, prof. emer. of chem. in residence, 1950 to date; visiting prof. of chem., U. of N.C., summer 1937; visiting prof. of chem., U. of Southern Calif., summer 1938. Capt. C.A.C., Capt. C.W.S., Major C.W.S. 1917-19; Major A.U.S.-Ret. 1950; Div. Gas Officer, 2nd Div.; asst. chf. & chf. C.W.S. 2nd Army, A.E.F. res. in org. chem. Mem.: A.C.S., Fourragere (Croix de Guerre).

MACKAY, William J., treas., Mutual Chem. Co. of America, 270 Madison Ave., New York 16, N.Y.; res. 200 Townsend Ave., Pelham Manor, N.Y.
Exec.; b. New York, N.Y., Sept. 19, 1892; s. of Frank and Margaret Mackay; ed. B.C.S., N.Y.U., M.C.S., N.Y.C., New York, C.P.A.; mem.: Zeta Psi; m. Leila M. Guinand, Dec. 10, 1919; ch.: William R., Marjory M. Adams.

MACKENZIE, Kenneth Gerard, asst. to v.p., chf. technologist, Texas Co., 135 E. 42nd St., N.Y. 17, N.Y.; res. Old Hill Farms Rd., Westport, Conn.
Pet. & its prods.; b. N.Y.C., Feb. 4, 1887; s. of Kenneth and Caroline Maria (Weeks) Mackenzie; ed. Yale, Ph.B. 1907, M.S. 1909, Belnap Prize in Geol., Rogers Scholarship in Chem.; mem.: Sigma Xi; m. Margerie Mitchill, June 29, 1910; ch.: Neil Mitchill, Kenneth Donald, Jean M. Scully. Yale U., asst. instr. chem., 1907-08; N.Y. Testing Lab. res. chem., 1908-10; Nairn Linoleum Co., chem., 1910-11; Texas Co., consltg. chem. 1911-33, asst. to v.p. & chf. technologist 1933 to date. Texaco Dev. Corp. (v.p. and dir.); Process Management, Inc. (dir.); Cortland Welding Cmpd. Co. (dir.); Coordinating Res. Council (dir., chmn. of finance comm.). Mem.: A.S.T.M. (past pres.), A.A.A.S., Franklin Inst., Inst. of Pet., A.P.I. (Certificate of Appreciation, 1949), A.C.S., S.A.E., Sigma Xi, Chem. Soc. (London). Clubs: Yale, Cloud, Chemists' (past pres.).

MacKENZIE, Wallace Bentley, chf. chem., Phelps Dodge Copper Products Corp., Point Street, Yonkers 2, N.Y.; res. 17 Riverdale Avenue, Yonkers 1, N.Y.
Chem.; b. Malagash, Cumberland County, Nova Scotia, Canada, Sept. 11, 1903; s. of John Thomas and Georgia Elizabeth Lang; ed. B.Sc., Acadia U., Nova Scotia, cum laude, chem. instr., Chem. Dept., Yale, U., 1924-26; chem., Ford Motor Co., Detroit, 1926-29; civil engr. asst., Indian Territory Illuminating Oil Co., Oklahoma City, 1929-30; Petroleum Chem., Socony-Vacuum Oil Co., Paulsboro Refinery, 1930-32; elec. insulation chem., Habirshaw Div., Phelps Dodge Copper Products Corp., 1932 to date. Res. in dev. heat, water and oil resistant grade of electrical insulation; dev. insulation suitable ultra high frequency transmission. Mem.: A.C.S., N.Y. Rubber Group, Rubber Div. of A.C.S. Paint, Varnish and Plastics Div. A.C.S. Hobby: touring.

MACKEY, B(ill) H., mgr., tech. div., explosives dept., E.I. du Pont de Nemours & Co., Wilmington, Del.; res. 500 W. Ashbridge St., West Chester, Pa.
Chem. engr.; b. Denver, Colo., May 8, 1906; s. of Harry A. and Mary K. Mackey; ed. U. Denver, B.S., Chem. Engrg., 1927; U. Ill., Ph.D., Chem. Engrg., 1930; mem.: Gamma Alpha; m. Virginia Wharton, Apr. 29, 1933. E.I. du Pont de Nemours & Co., July, 1930 to date; Belle, W.Va. chem. engr., 1930-32; Carneys Pt., N.J., res. chem. engr.,; 1932-41 Ind. Ord. Wks., Charlestown, Ind., asst. tech. supt.; 1941-42 Ala. Ord. Wks., Childersburg, Ala., tech. supt., prod. supt., asst. mgr., 1942-43; Chickasaw Ord. Wks., Millington, Tenn., mgr., 1943-44; Hanford Engrg. Wks. Richland, Wash., tech. spec., asst. mgr., mgr., 1944-46; mgr. tech. div., expl. dept., Wilmington, Del., Jan., 1946 to date. Res. in design of smokeless powder test. & mfg. equip. Mem.: A.C.S., A.I.Ch.E., Sigma Xi, Gamma Pi Upsilon. Club: W. Chester, Pa. C.C.

MACKEY, James Fields, chf. chem., Continental Carbon Company, Sunray, Texas; res. same.
Chem. and chemical engr.; b. Chicago, Ill., Feb. 5, 1917; s. of C.H. and Jean Fields Mackey; ed. B.S. Northwestern U., Evanston, Ill., 1939; m. Virginia Faye Elliott, Aug. 20, 1943; ch.: James Elliott. Control chem., Dryden Rubber Co., Chicago, Ill., 1939; res. chem., Printing Arts Res. Labs., Chicago, Ill., 1939-41; res. chem., Continental Carbon Co., 1941-45; chf. chem., Continental Carbon Co., 1945 to date. Res. in carbon black, production and utilization. Mem.: A.C.S., A.A.A.S., A.G.A. Hobbies: music, art, literature.

MACKINNEY, Herbert William, res. chem., Bakelite Division, Union Carbide & Carbon Corp., 230 Grove St., Bloomfield, N.J.; res. Spruce Rd., Pines Lake, R.D.1, Paterson, N.J.
Res. chem.; b. London, England, Feb. 22, 1907; s. of Herbert Wood and Charlotte Mary (Swan) Mackinney; ed. Swiss Inst. of Tech., Zurich, Dip. Ing.-Chem. 1928; M.Sc., 1933, Ph.D., 1935, McGill U.; m. Alice B. Xylander, 1944; ch.: George Lawrence. Chem., Lever Bros., Ltd., Cheshire, England, 1928-31; res. chem., Can. Internat. Paper Co., Hawkesbury, Ont., 1931-32; res. assoc., MacDonald Coll., McGill, 1936; res. chem., Kendall Co., Boston, Mass., 1936-39; res. chem., Sylvania Industrial Corp., New York 1939-40; res. chem., Bakelite Corp., now Bakelite Div. U.C. & C., 1941 to date. Res. in new method mfg. resin impregnated compressed wood; application of synthetic resins to paper (pats.) and textiles. Mem.: A.I.C. (fellow), Sigma Xi, A.C.S., Tech. Assoc. Pulp & Paper Ind.

MacKUSICK, Byron Leroy, chem. engr., The Pure Oil Company, Crystal Lake, Ill.; res. 19 Elmhurst Ave., Crystal Lake, Ill.
Chem. engr.; b. Mishawaka, Ind., Jan. 14, 1909; s. of Meredith H. and Mary Prall MacKusick; ed. S.B., M.I.T., 1930 and S.M. 1931; mem.: Delta Upsilon; m. Ruth M. Barrett, Aug. 17, 1935; ch.: Byron K., Sara P., Meredith H. Res. engr., Socony-Vacuum Oil Company, Paulsboro, N.J., Sept., 1931 to Mar., 1936; res. engr., Pure Oil Company, Chicago, Ill., Mar., 1936 to date. Mem.: A.C.S., A.I.Ch.E.

MACLEOD, Annie Louise, retired dean, Syracuse U., Syracuse, N.Y.; res. Old Oak Drive, Sarasota, Fla.
Tchr., admin. (retd.); b. Economy, Nova Scotia, Feb. 7, 1883; d. of Malcolm C. and Adelaide M. (Mackeen) Macleod; ed. McGill U., B.A., 1904, M. Sc., 1905, Ph.D., 1910. Bryn Mawr Coll. fellow in chem., 1909-10; res. fellow, 1910-12; reader in chem., 1912-14; Vassar College, chem. staff, 1914-24; prof. of chem. and dir. of euthenics, 1924-28; Syracuse U., dean, 1928-48; retired. Author: "Chemistry for Nurses," 1920; "Vital Factors of Foods" (with Carlton Ellis), 1922; "Chemistry and Cookery" (with Edith H. Nason), 1930. Mem.: A.A.A.S., A.A.U.W., A.A.U.P., Am. Soc. Prevent. Cruelty Animals (life mem.). Hobby: English bulldogs

MacMULLEN, Dr. Clinton W., tech. dir., Cowles Chem. Co., 105 S. Townsend St., Syracuse 2, N.Y.; res. Salt Springs Rd., Fayetteville, N.Y.
Chem., res. dir.; b. St. Cloud, Minn., May 16, 1909; s. of William (deceased) and Pearle MacMullen; ed. U. of Minn., 1930, B.Ch.E.; Ph.D., 1935; mem.: Alpha Chi Sigma, Gamma Alpha; m. Beatrice McCrae, August 14, 1933; ch.: Kathryn L.; 1935-43, res. chem. Rohm & Haas Co. (Phila., Pa.); 1943 to date, tech. dir. Cowles Chem. Co. (Cleveland). Dev. synth. organ. surface active agents—i.e., detergents, wetting agents, etc. Bactericides, fungicides, silicate res., mfg. of detergents, industrial cleaners. Pub. jl. articles, U.S. patents. Mem.: Sigma Xi, Phi Lamda Upsilon, A.C.S. (fellow), A.I.C., A.A.A.S., A.S.T.M., A. A.T.C.C., T.A.P.P.I., A.O.C.S. Dir. of Fayetteville Civic Club; mem. U. Club of Syracuse. Hobbies: color photography, travel.

MacMULLIN, Robert Burns, owner prop., R.B. MacMullin Assoc., 610 Niagara Bldg., Niagara Falls, N.Y.; res. 8249 Troy Ave., Niagara Falls, N.Y.
Conslt. chem., electrochem. engr.; b. Sept. 18, 1898, Germantown, Pa.; s. of Robert and Isabell (Stockham) MacMullin (both dec.); ed. Bowdoin Coll., Sept., 1914-June, 1916 (sc.); M.I.T., Sept. 1916-June, 1917, Mar., 1919-June, 1920, B.S. (chem. engrg.); mem.: Psi Upsilon (since 1914); m. Olive B. Kunkel, Sept. 3, 1923; ch.: Bethea Jeanne (Mrs. Jorma Hyypia, N.Y.C.), Constance Anne (Mrs. J. Bradley Aust, Minneapolis), Robert Bruce (Niagara Falls, N.Y.). June-Sept., 1916, hydrogr., U.S.C. & G. Survey; June-Sept., 1917, res. asst. Gen. Elec. Co. (Harrison, N.J. Lamp Wks.); 1917-18, supvg. shift chem., E.I. du Pont de Nemours (Deepwater Point, N.J., Dye Wks.); 1918-19, Co.E., 1st Gas Regt., C.W.S., U.S.A. (A.E.F., St. Mihiel, Meuse-Argonne, Verdun); 1920-45, res. chem., chem. engr., asst. dir. res. and devel., mgr. devel., Mathieson Alkali Wks. (Niagara Falls); 1945-46, admin. off. Tech. Indus. Intelligence Comm., Foreign Econ. Admin. and U.S. Dept. Com.; Apr. 1, 1946 to date, conslt. chem. engr. own practice (Niagara Falls). Extensive wk. in basic chem. and electrochem. res.; design, construc., operation pilot & full scale plants; num. articles in sc. and tech. jls., over 50 pats. applied chem. Author: "Natural Salts and By-products" (Chap. 9), "Chlorine Products" (Chap. 11), "Rogers Manual of Indus. Chem." (6 ed. 1942). Mem.: A.C.S. (since 1920; chmn. Western N.Y. sec. 1930); A.I.Ch.E. (since 1935; chmn. Western N.Y. sec. 1939; pub. comm. 1940-45; Walker Award comm. 1941-45); E.S. (since 1939; chmn. electrolyt. div. 1949); Assoc. Conslt. Chems. & Chem. Engrs.; A.A.A.S.; T.A.P.P.I.; Psi Upsilon; Prof. Engrs.; Armed Forces Chem. Assoc. Club: Chemists' (N.Y.). Hobbies: geology, hiking and climbing (mem. Appalachain Trail Conf.), puzzles (ed. of puzzle page "Double Bond"), poetry (unpub.), cartography, meteorology. Lic. Prof. Engr. (N.Y. No. 21297).

MacNAIR, Ira Preston, pres. MacNair-Dorland Co., 254 W. 31st St., N.Y. 1; res. Rockville Centre, N.Y., Rhinebeck, N.Y.
Publisher; b. Bklyn., N.Y., May 26, 1893; s. of John G. and Mary E. MacNair; ed. Columbia U., B.S. 1915; mem.: Phi Gamma Delta; m. Alice V. Whelpley, Oct. 22, 1919; ch.: James Duncan III, John Preston. 1916-17 sales, N.Y. Quinine & Chem. Wks.; 1917-25 edit., "Drug & Chem. Markets"; 1925 to date with MacNair-Dorland Co. Founder, "Chemical Peddler," 1925. V.p. and treas., Industry Publications, Inc. (N.Y.); dir. Trade Magazines, Inc. (Cleveland); v.p. Powell Magazines, Inc. (N. Y.). Clubs: Chemists'; Garden City Country. Hobbies: golf, farming.

MacNEVIN, William Marshall, prof. of chem., Ohio State U., Columbus, Ohio.; res. 308 Clinton Heights Ave., Columbus.
Prof. of chem.; b. Chelsea, Mass., Sept. 20, 1906; s. of William Frederick and Eleanor (Marshall) MacNevin; ed. Mt. Allison U., B.S. 1927; Harvard, A.M. 1930; U. Minn., Ph.D. 1936; m. Jean Hamilton Philip, June 23, 1934. 1936-38 instr., 1938-41 asst. prof., 1941-49 assoc. prof., 1949 to date prof., Ohio State U.; res. in microchem., anal. chem., radioactivity, atomic weight determs., electrochem. V.chmn. and chmn. of Div. of Anal. Chem. of the A.C.S.; chem. edit. for Harper Brothers,

1950. Author: "Quantitative Chem. Anal." 1941; "Lab. Procedures in Quantitative Chem. Anal." 1948; "The Anal. Balance, Its Care and Use," 1950. Mem.: A.C.S., Sigma Xi, Phi Lambda Upsilon, A.A.U.P. Hobby: ancient musical instruments.

MacRAE, Duncan, chf. conslt., Tech. Command, Bldg. 330, Army Chem. Center, Md.; res. R.F. D. 2, Bel Air, Md.
Chem.; b. Fayetteville, N.C., Mar. 7, 1891; s. of James Cameron and Frances (Hinsdale) MacRae; ed. U. of N.C., Chapel Hill, N.C., 1904-09, B.S.; U. of N.C. 1909-10, no deg.; Summer Schl. of the South, Knoxville, Tenn., 1910, no deg.; Columbia U., N.Y.C., summer of 1911, no deg.; M.I.T., Cambridge, Mass., 1912-17, Ph.D.; mem.: Alpha Tau Omega. Savage Fellow, M.I.T. 1916-17; m. Rebecca Devereux Kyle, June 23, 1920; ch.: Duncan, Jr., Mrs. E. Harry Bouton. 1910-12, Acdy. of Richmond Co., Augusta, Ga., sc. teacher (taught geography, biol., chem. & physics); 1912-16, M.I. T., Cambridge, Mass., asst. in theoretical chem. & instr. in inorg. chem. (set up experiments in phys. chem., conducted quiz sections); 1917-18, Westinghouse Lamp Co., Bloomfield, N.J., chf. chem. (supervised anal. lab., small mfg. lab., several people in res.); 1918-19, C.W.S., U.S.A., Nela Park, Cleveland, Ohio, Capt. in chg. of spec. investigations (supervised contract for making glass-lined shell & spec. corrosion problems); 1919-25, Westinghouse Lamp Co., Bloomfield, N.J., res. phys. chem. (res. on high vacuum processes in vacuum lamps & tubes); 1925-29, Guggenheim Bros., N.Y.C., lab. mgr. (dir. res. on flotation, electro-metallurgy & elec. furnaces); 1929-43, Chem. Corps, Army Chem. Center, Md., chf. chem. (advise chf., CmlC & his Tech. Dir. on C.W. problems); 1943-45, Chem. Corps, Army Chem. Center, Md., liaison asst. (conslt. to Div. 9, 10 & 11 NDRC); 1945 to date, Chem. Corps, Army Chem. Center, Md., chf. conslt. (adviser Commanding Officer, Tech. Command, on C.W. problems). Pats. on radio tubes & incandescent elec. lamps. Co-author with J.E. Mills papers on specific heats of org. liquids & surface energy & surface tension; with C.C. Van Voorhis on vapor pressure of white phosphorus; author paper "The Introduction to Thermodynamics" & "Chem. Warfare." Mem.: A. C.S. (chmn. Md. Sec. 1934, councilor 1945), Electrochem. Soc. (Comm. on Electrochem. of Gaseous Conduction 1922-24, mgr. 1924-27, v.p. 1927-29, 1935-37, chmn. of N.Y. Sec. 1926). Club: Chem. Corps Assn. (1946-pres.). Hobby: golf.

MACY, John Winchester, exec. v.p., sales mgr., Arapahoe Chemicals, Inc., 2800 Pearl St., Boulder, Colo.; res. Boulder, Colo.
Chem. mfgr.; b. Alva, Okla., Nov. 28, 1914; s. of S.S. and Mrs. C.M. Macy; ed. B.S. Business Adm., U. of Okla., 1936; mem.: Kappa Sigma, Tau Omega; m. Elen V. Aurell, Nov. 21, 1940; ch.: Sally E., Susan M. Clubs: Lions, Boulder Fish & Game. Hobbies: hunting, fishing, climbing, politics.

MACY, Rudolph, chf., Chem. Div., Tech. Command, Army Chem. Center, Maryland; res. Mayfair Hotel, Baltimore 1, Md.
Chem.; b. N.Y.C., Apr. 20, 1898; s. of Harry and Rose (Feder) Macy; ed. N.Y.U., B.S., 1920; M. S., 1921, and Ph.D., 1923; Inman Fellow, 1921. Instr., Summer Schl., N.Y.U., 1922; instr. in chem., U. of Maine, 1923-25; asst. prof. in chem., same U., 1925-26; chem., Chem. Corps, Army Center, since 1927; chf., Chem. Div. since 1946; pubs. in phase rule, charcoal adsorption, surface tension, chem. warfare agents. Author: "Org. Chem. Simplified," Chem. Pub. Co., Bklyn., N.Y., 1943. Mem.: A.C.S., A.A.A.S., Iota Alpha, Tau Beta Pi.

MACY-HOOBLER, Icie G., dir. Res. Lab., Children's Fund of Mich., 660 Fredrick St., Detroit 2, Mich.; res. 805 Three Mile Dr., Grosse Pointe Park, Mich.
Med. and chem. res.; b. Gallatin, Mo., July 23, 1892; d. of Perry and Ollie (Critten) Macy; ed. Central Coll. for Women, A.B. 1914; U. of Chicago, B.S., 1916; U. of Colorado, M.S. 1918; Yale U., Ph.D., 1920; Wayne U. (hon.) Sc.D., 1945; mem.: Beta Sigma Omicron, Pi Beta Phi; m. B. Raymond Hoobler, M.D. June 11, 1938, (dec. June 11, 1943); ch.: Sibley W. Hoobler, M.D. Asst. in chem., U. of Colo., 1916-17; asst. physiolog. chem., U. of Colo., 1917-18; asst. biochem., Western Penn. Hosp., 1920-21; instr., U. of Calif., 1921-23; dir., Nutrition Res. Labs., Merrill Palmer Schl. and Children's Hosp. of Mich., 1923-30; dir. Res. Lab., Children's Fund of Mich., 1930 to date; res. in flds. of metabolism of women dur. reproduction; human milk studies; nutrition and chem. growth in childhood; growth and dev. of infants; chem. of red blood cell. Author: "Nutrition and Chem. Growth in Childhood," I, Evaluation, 1942; II, Original Data, 1946; III, Interpretation, 1950; "Hidden Hunger," 1945; also over 200 sc. papers all pub. under maiden name of Icie G. Macy. Trustee, Woman Hosp. of Detroit; Detroit Inst. of Cancer Res., Detroit; mem. of Food and Nutrition Bd., Natl. Res. Council; mem: Sci Adv. Comm., Nutrition Found. Inc., N.Y. Clubs: Woman's City Club of Detroit; Detroit Athletic (Detroit); Detroit Yacht; Engrg. Soc. of Detroit, Mullet Lake Country. Hobby: music.

MADER, William John, asst. mgr. anal. res., Merck & Co., Inc., Rahway, N.J.; res. Cooper Road, Scotch Plains, N.J.
Anal. res. chem.; b. Martins Ferry, Ohio, June 6, 1911; s. of John J. and Blanche (Lee) Mader; ed. Greenbriar Military Schl. 1928; Western Res. U., B.A. 1932; Ohio State U., M.Sc. 1934; m. Dorothy K. Cummings, Mar. 9, 1942; ch.: Judith Eleanor, John William. Res. chem., Calco Chem. Div., Amer. Cyanamid, 1934-42; prod. off., U.S. A., Huntsville Arsenal, Ala., 1942-44; chf. chem., Govt. Evaluation Labs., U.S.A., Akron, O., 1944-46; chf. Anal. Res., Merck & Co., Inc., Rahway, N.J., 1946-50; asst. mgr. anal. res., Merck & Co., Inc., 1950 to date; anal. procedures for the determ. of antibiotics, steroids, pharmaceuticals and other fine chems. Mem.: A.C.S., A.A.A.S., A.Phar.A., Am. Soc. of Applied Spectroscopy, Chem. Warfare Assoc. Hobbies: hunting, fishing, woodworking.

MADORSKY, Samuel Leo, sr. chem., Natl. Bur. Stds., Washington, D.C.; res. 4830 Brandywine St., N.W., Washington, D.C.
Chem.; b. Russia, Feb. 28, 1891; s. of Leo and Bessie (Galutzin) Madorsky; ed. U. of Chicago, B.S., 1919; Ph.D. (chem.), 1923; m. Rose Norinsky, 1917; ch.: Dr. Irving Mador, Mrs. Annabelle Katz. 1923-28 dir. of res., Gathmys Res. Corp., Chicago; 1928-29 du Pont Fellow, U. of Chicago; 1929-42 assoc. chem. Fixed Nitrogen Res. Lab., U.S. Dept. of Agric.; 1942 to date chem., sr. chem. Bur. of Stds.; with Atomic Energy Commis. and Off. of Sc. Res. & Dev.; res. in metallurgy of iron and magnesium; potash phosphate fertilizers; separation natural isotopes by countercurrent electromigration and molecular distil.; mechanism and kinetics of thermal degradation of polymers. Mem.: A.C.S., Wash. Acdy. of Scs., Sigma Xi.

MAERCKY, Pierre George, v.p., Texas Gulf Sulphur Co., 1005 Second National Bank Bldg., Houston 2, Texas; res. 2319 Shakespeare Rd., Houston 5, Texas.
Exec.; b. Beaver Falls, Pennsylvania, Feb. 3,

1884; s. of Conrad and Barbara Ann Maercky; m. Lottie Margaret Burlingame, June 20, 1909; sh.: Mrs. John D. Belton, Mrs. Albert P. Tyler. Office mgr., Bryanmound Mine Freeport Sulphur Co., May, 1913 thru Dec. 31, 1912; asst. gen. mgr., Freeport Sulphur Co., Jan. 1, 1914 to Dec., 1927; v.p. and gen. mgr., Freeport Sulphur Co. to Dec., 1930; conslt. on sulphur matters to June 1, 1931; asst. to v.p., Texas Gulf Sulphur Co., June, 1931 to June, 1948, v.p., Texas Gulf Sulphur Co., to present date. The Second Natl. Bank of Houston, dir.; Houston Lighting and Power Co., dir. Mem.: A.I.M.E., Houston Geological Soc. Club: Houston Club (Houston, Texas).

MAGISTAD, Oscar Conrad, dir. res., Pineapple Div., Libby McNeill & Libby, P.O. Box 1140, Honolulu 7, T.H.; res. 2721 Puuhonua, Honolulu.
Dir. res., in chg. quality control; b. Forestville, Wis., Sept. 8, 1900; s. of Gilbert and Marie (Hovi) Magistad; ed. U. of Wis., B.S. 1922 hon., M.S. 1923, Ph.D. 1924; mem.: Alpha Zeta, Phi Lambda Upsilon, Phi Kappa Phi, Sigma Xi; m. Lila Simon, Aug. 4, 1926; ch.: John G. 1924-27, soil chem., United Fruit Co., Central Am.; 1927-30, assoc. prof. agric. chem., U. of Ariz.; 1930-35, chem., Expt. Sta., Hawaiian Pineapple Canners now Pineapple Res. Inst.; 1935-38, dir., Hawaii Agric. Expt. Sta.; 1938-40, 1942-45, dir., U.S. Regional Salinity Lab., Riverside, Calif.; 1940-42, asst. chf., U.S. Bur. Plant Ind.; Aug., 1945 to date, dir. res., Pineapple Div., Libby McNeill & Libby. Base exchange—nature & reclamation of alkali soils, tropical crops, especially bananas & pineapples; prod. & canning of pineapples. Mem.: A.A.A.S., A.C.S., Am. Soc. Agronomy, Inst. Soc. Soil Sc., Am. Soc. Plant Physiologists, I.F.T., Assn. of Food Ind. Sanitarians, Engrg. Assn. of Hawaii, Hawaiian Bot. Soc., Hawaii Acdy. of Sc., consltg. edit. Soil Sc. Club: Representatives. Hobby: orchids.

MAGLIO, M. Martin, chem. dir., Vestal Labs., Inc., 4963 Manchester Ave., St. Louis, 10, Mo.; res. 2315 Bellevue Ave., Maplewood, Mo.
Chem.; b. Bklyn., N.Y., July 1, 1914; s. of Phyllis Maglio; ed. B.S., Manhattan Coll., 1937; (4 yr. scholarship); M.S. Catholic U., 1939, fellowship; doctoral stud., N.Y. & St. Louis Us.; mem.: Epsilon Sigma Pi; m. Margaret Mary Probst, May 30, 1942. Chem. dir., Vestal Labs., Inc., St. Louis, 1947 to date; dir. J.C. labs., Advance Solvents & Chem. Corp., J.C., N.J., 1944-47; asst. prof. chem., St. John's U., Bklyn., N.Y., 1941-44; res. chem., Calco Chem. Div., Am. Cyan. Co., Bound Brook, N.J., 1939-41; grad. stud., Catholic U., Wash., D.C., 1937-39; Contrib. to sc. and tech. jls. Mem.: A.C.S., A.S.T.M., Drug, Chem. & Allied Trades Assn.; A.A.A.S.; Alpha Chi Sigma, Epsilon Sigma Pi, U.S. Public Health Serv. Club: Wydown. Hobbies: orchid raising, handball, stamp collecting.

MAGNUS, Joseph Baird, v.p., Magnus, Mabee & Reynard, Inc., 16 Desbrosses St., New York, 13, N.Y.; res. 68 Bush Ave., Belle Haven, Greenwich, Conn.
Exec.; b. New York City, May 5, 1896; s. of Percy Cecil, Sr., and Lucy (Gartrell) Magnus; ed. Staunton Military Acad., 4 yrs. high school, 1 yr. Junior Coll.; m. Norma Inez Werner, June 9, 1923; ch.: Norma Werner Magnus. Jr. clerk, August Belmont Co., 1914-16; factory hand, jr. clerk and purch. dir., Magnus, Mabee and Reynard, Inc., 1916-20; treas. M.M. & R., 1921-27; exec. v.p., M.M. & R., 1927 to present. T.E. Conklin Brass and Copper Co., dir. Military decorations. Clubs: Greenwich Country, Beach, Inc. (Greenwich), Chemists' (New York), Wool (New York), Veteran Corps of Artillery, Soc. of War of 1812, St. George Soc., American Legion, v.p. & dir. Animal Health Inst. Hobbies: philately, travel, ranching.

MAGNUS, Percy Cecil, pres. Magnus, Mabee & Reynard, Inc., 16 Desbrosses St., New York 13, N.Y.; res. 19 E. 72nd St., New York 21.
Exec.; b. New York City, Oct. 22, 1893; s. of Percy Cecil and Lucy (Gartrell) Magnus; ed. pub. and priv. schls. in Bklyn., N.Y.; m. Margaret Ames, May 22, 1918. V.p. and dir., N.Y. Eye & Ear Infirmary; v. chmn. Beekman-Downtown Hosp.; trustee Phila. Coll. of Phar.. Dir. Underwriters Trust Co.; dir. N.Y. Casualty Co.; dir. Surety Fire Ins. Co.; trustee East River Savings Bank. Clubs: Drug & Chemical, Wool, Manhattan, India House, Lotos, Montauk, Canadian, City Mid-Day, Thames (New London, Conn.).

MAGNUS, Robert Burke, exec. v.p., Magnus, Mabee & Raynard, Inc., 16 Desbrosses St., N.Y. 13, N.Y.; res. 850 Carroll St., Bklyn. 15, N.Y.
Exec.; b. N.Y.C., May 11, 1901; s. of Percy Cecil and Lucy (Gartrell) Magnus; ed. 1906-14, N.Y.C. pub. schls.; 1914-18 State Coll. (Pa.) publ. schl.; m. Doris Stanley Mellon, Apr. 30, 1927; ch.: Robert Burke, Jr., Isabelle Gartrell. Entire career 1918 to date, serv. in var. capac. employment and officeship and exec. positions with Magnus, Mabee & Reynard, Inc. Drug. Chem. & Allied Trades Sec. of N.Y. Bd. of Trade, Inc., (sec. rep. & dir.), N.Y. Bd. of Trade, Inc. (asst. treas., dir.). Dir., Flatbush Boys' Club, Bklyn., N.Y. Clubs: Montauk (Brooklyn, N.Y.), Drug & Chem. (N.Y.C.). Hobbies: swimming, tennis, horesback riding, hunting, fishing.

MAGOFFIN, James Edward, mgr. chem. sales dev., Tenn. Eastman Corp.; res. 1524 Watauga St., Kingsport, Tenn.
Ph.D.; b. Buffalo, N.Y., Dec. 31, 1910; s. of James A. and May Belle (Miller) Magoffin; ed. Cornell U., Ithaca, N.Y., B.C. 1932, Ph.D. 1936; mem.: Sigma Xi, Tau Beta Pi, Phi Kappa Phi; m. Dorothy Seay, Sept. 9, 1937; ch.: Elizabeth. Asst. prof. for ind. res., U. of N.C. 1936-38, assoc. prof. ind. res. 1938-40, sr. investigator for Textile Foundation, 1936-40; Thompson & Co., Oakmont, Pa., mfrs. of ind. finishes, dir. of res., 1940-42; Tenn. Eastman Corp., chem. mfrs., chf. chem., hydroquinone div., 1942-45, mgr. chem. sales dev. 1945 to date. Num. publ. in tech. journals. Mem.: A.C.S., A.I.Ch.E., A.I.C., Chem. Market Res. Assn., A.O.C.S., A.F.&A.M.

MAGRANE, John K., Jr., chf. chem., New England Tape Co. Inc., Hudson, Mass.; res. 59 Warner St., Hudson.
Chem.; b. Holyoke, Mass., Apr. 5, 1913; s. of John K. and Catherine (Lynch) Magrane; ed. Amherst Coll., 1934, A.B. cum laude; Rutgers U., M.Sc. 1936, Ph.D. 1939; mem.: Theta Xi; m. Elizabeth Regan, Sept. 5, 1938; ch.: John K., III, Michaelanne. Asst. in chem., Rutgers U., 1934-37, instr. in chem. 1937-40; res. chem., Catalin Corp. of Am., 1940-42, dir. of res. 1942-44; chf. chem., New England Tape Co. Inc., 1944 to date. Mem.: Sigma Xi, A.C.S., A.S.T.M. Club: Rotary. Hobby: golf.

MAGUIRE, John J., dir., tech. div., W.H. and L.D. Betz, Gillingham and Worth Sts., Phila. 24, Pa.; res. 8234 Brookside Rd., Elkins Pk. 17, Pa.
Chem. engr.; b. Phila., Pa., Dec. 23, 1912; s. of John J. and Elizabeth Maguire; ed. B.S. in Ch.E., U. of Pa., 1934; mem.: Sigma Tau (honorary), m. Dorothy E. Towne, Oct. 15, 1938. Chem. engr., W.H. and L.D. Betz, 1934; asst. tech. dir., approx. 1938; dir., tech. div., 1941 to date. Res. and pat. on silica removal from water by mag-

nesium oxide; twelve tech. arts., pub. on var. phases of indus. water condit. Mem.: A.W.W.A., A.C.S., A.I.Ch.E., and A.S.T.M.

MAHANEY, C. Russell, v.p., St. Regis Paper Co., 230 Park Ave., New York, N.Y.; res. 15 Taunton Rd., Scarsdale, N.Y.
Exec.; b. Cumberland, Md., Aug. 3, 1898; s. of John T. and Genetta (Owens) Mahaney; ed. B.S. in chem. engrg., West Va. U., June, 1923; M.S., chem. engrg., West Va. U., June, 1924; mem.: Phi Lambda Upsilon, hon. chem. frat.; m. Berte F. Zierick, June 2, 1925; ch.: Donald Russell. Process engr., Westinghouse Elec. & Mfg. Co., East Pittsburgh, Pa., 1924; spent yr. in Europe investigating mfg. of insulating mtls. used on elec. railways, also studied manuf. of laminated plastics in Italy, Switzerland, Germany, France and England and assoc. in early dev. of laminated plastics, designed and installed first equipment for recovery of solvent used in mfg. processes of this type of plastics, 1928-29; engr. in chg., Westinghouse, Trafford Micarta Plastics Plant, 1929-34; gen. mgr. of Gatke Corp., Winona Lake, Ind. and Chicago, 1934-37; Ind. Sales Mgr., Panelyte Corp., New York City, 1937-38; v.p. in chg. of sales, Panelyte Corp., N.Y.C., 1938-39; gen. mgr., Panelyte Div., St. Regis Paper Co., New York City and Trenton, N.J. Since 1943, v.p. St. Regis Paper Co. 1943, elected dir. of St. Regis Paper Company; 1945-46, exec. v.p. and dir. of St. Regis Sales Corp.; 1950, v.p. and dir. of St. Regis Paper Co. of Canada Ltd. Mem.: Soc. of Automotive Engrs. Clubs: Chemists', Union League, Republican, Mason (Shriner).

MAHAR, Lyle J., chf. chem., Coke Ovens, Bethlehem Steel Co., Lackawanna, N.Y.; res. 3480 Seneca St., Ebenezer, N.Y.
Chf. chem.; b. Ironton, Ohio; s. of John and Laura Mahar; m. Eleanor Cleary, 1923; ch.: William, James. Mem.: A.I.C. Club: Buffalo Athletic.

MAHLE, Louis William, dir. of prod. res., Frank H. Fleer Corp., 10th & Somerville Ave., Phila. 41, Pa.; res. 215 Jericho Rd., Abington, Pa.
Chem., chewing gum mfr.; b. Phila., Pa., July 15, 1896; s. of Fred and Louise Mahle; ed. 1918, U. of Pa., B.S. in Ch.E.; m. Pauline Blinn, June 16, 1923; ch.: Gwendolyn Anne, Ellen Lou. 1918-20, res. chem., Barrett Div. of Allied Chem. & Dye Co., Phila.; 1920-28, res. chem., Ohio Boxboard Co., Rittman, Ohio; 1928-30, shift supvr., spinning room, rayon div., E.I. du Pont de Nemours & Co., Old Hickory, Tenn.; 1930 to date, chem., dir. of res., Frank H. Fleer Corp. 5 pats., 2 on boxboard, 3 on chewing gum. Mem.: A.C.S., I.F.T., Franklin Inst., Sigma Xi, Sigma Tau. Dir., Germantown Youth Orchestra, Phila. Hobbies: photography, music.

MAHNCKE, Henry E., sect. mgr., Phys. Chem. Sect., Westinghouse Res. Labs., E. Pittsburgh, Pa.; res. Box 633, R.F.D. 2, Turtle Creek, Penn.
Res. chem., phys. chem.; b. Puyallup, Wash., Jan. 9, 1911; s. of Frank and Carolina (Schuh) Mahncke; ed. Washington State Coll., B.S. (honors) 1931; M.S. 1932; Brown U., Ph.D. 1936; mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon; m. Mildred L. Campbell, July 18, 1936; ch.: Frank, Christina. 1936-37 chem. Calco Chem. Co.; 1937-38 engr. Birdseye Electric Co.; 1938-39 chem. Woods Hole Oceanographic Inst.; 1939-43 res. chem. Gen. Chem. Co.; 1943 to date res. chem. Westinghouse Electric Corp.; res. in photochem. and spectroscopy, pigments, silverplating, fine chem. prod., lubrication. Mem.: A.C.S., A.S. Lub. Engrs., A.A.A.S., Pittsburgh Phys. Soc., Pittsburgh Chem Club. Trustee First Unitarian Ch. of Pittsburgh.

MAHONEY, John Francis, hd., tech. service sec., Merck & Co. Inc., Rahway, N.J.; res. 1000 Woodmere Dr., Westfield, N.J.
Chem.; b. Lynn, Mass.; s. of John F. and Mary A. (Murray) Mahoney; ed. M.I.T. S.B. 1938, Ph.D. 1941; mem.: Alpha Chi Sigma; m. Rita I. Mahoney, July 11, 1945; ch.: John F., Kathleen, Brian. M.I.T., teaching fellow, 1938-40, spec. fellowship 1940-41; Merck & Co. Inc., sr. chem. 1941-43, hd. prod. res. sec. 1943-47, hd. tech. service sec. 1947 to date. Gen. wk. in flds. of carbohydrates, ascorbic acid, misc. syn. medicinal & food chems. Mem.: A.C.S., A.A.A.S. (fellow), A.I.C. (fellow), Sigma Xi, Alpha Chi Sigma, M.I.T. Alumni Assn. Club: M.I.T. of Northern N.J.

MAHONY, Harold Emerson, plt. mgr., Stonewall Plant, Merck & Co. Inc., Elkton, Va.; res. R.F.D. No. 2, Elkton, Va.
Chem. engr.; b. Fostoria, Ohio, May 16, 1912; s. of John F. and Gertrude P. Mahony; ed. U. of Pittsburgh, B.S. Ch.E. 1934; m. Margaret B. Smith, June 26, 1937; ch.: Lorinda Gardner, Lucille Lloyd. 1932, res. anal. Atlantic Refin. Co., Phila.; 1934-40 By-prod. Coke Plant chem., Carnegie-Ill. Steel Corp.; 1940-41 shift supvr., Merck & Co., Rahway, N.J.; 1941-42 shift supvr. with Merck & Co. at Elkton, Va.; 1942-45 mfg. dept. hd. Merck & Co., Elkton, Va.; 1945-48 asst. plant mgr. same co.; 1948 to date plant mgr. same co. Mem.: A.I.Ch.E., A.C.S., Va. Sect.; Va. Acdy. of Sc.; Central Va. Chem. Engrs. Club. Trustee: Rockingham Memorial Hosp., Harrisonburg, Va.; secy. Stonewall Memorial Assoc., Elkton, Va. Club: Elkton Lions. Hobbies: golf, music, woodworking, bridge.

MAHR, Hermann William, conslt. on chemicals, Natl. Security Resources Bd., Exec. Office Bldg., Washington, D.C.; res. Hotel Congressional, Washington 3.
Chem. engr.; b. Cleveland, O., May 22, 1885; s. of Rudolf O. and Elizabeth Mahr; ed. M.I.T., B.S., 1907; mem.: Theta Chi; m. Jessie Helen Fisher, Oct. 2, 1912. 1943-48, prod. mgr., Fine Chemicals Div., E.I. du Pont de Nemours & Co., (retired 1949); 1929-43, gen. supt., du Pont Dye Works; 1923-29, supt., Indigo Heavy Chemicals, etc., du Pont Dye Works; 1918-23, supvr. du Pont Dye Works; 1907, M.I.T., res. asst.; 1908-11, chem., Hafferneffer & Co.; 1911-16, City N.Y., chf. engrg. chem.; 1916-18, supt., Monsanto Chem. Wks. Author of various arts. in Industrial Engineering Chemistry and Transactions, American Institute of Chemical Engineers. Mem.: As in Chemical Who's Who, Vol. II, plus Chemical Engineers Club of Washington. Club: Dennis, Cape Cod, Mass., Yacht Club. Hobby: history.

MAIDER, Joseph P., prodn. mgr., chem. prodn., Goodyear Tire & Rubber Co., 1144 E. Market St., Akron 16, Ohio; res. Akron City Club, Akron.
Chem. engr.; b. Clay, N.Y., 1886; s. of Henry W. and Melissa Maider; ed. Cornell U., B.Chem. 1911; mem.: Sigma Xi; m. Olive S. Goble, 1914. 1911-17 City Chemist, Spokane, Wash.; 1917 to date with Goodyear Tire & Rubber Co., Akron, Ohio. Mem.: A.C.S., A.I.Ch.E. Clubs: Akron City, Torch.

MAIER, Augustus Andrew, prof. of pharmacy, U. of Conn., 150 York St., New Haven 11, Conn.; res. 33 Parker Ave., West Haven, Conn.
Teacher; b. Middletown, N.Y., Mar. 14, 1900; s. of William and Lavina (Clendennen) Maier; ed. Ph.G. Coll. of Pharmacy of City of N.Y., 1922; Ph.C., Columbia U., 1923, B.S. 1925, winner of

Seabury Scholarship; mem.: Kappa Psi, Rho Pi Phi (hon.); m. Thelma Aida Rolfe, July 4, 1941. Instr. in chem., Columbia U. 1923-28; chem. & pharmaceut. res. wk., McKesson & Robbins, Bridgeport, Conn. 1928-29; prof. of pharmacy, U. of Conn. 1929 to date. Anthraquinone drugs. Mem.: Pharmaceut. Assn., A. Phar. A.

MAIER, Curtis Eugene, gen. mgr. of res., Continental Can Co., Inc., 4645 W. Grand Ave., Chicago 39, Ill.; res. 575 Selbourne Rd., Riverside, Ill.
Res. exec.; b. Allentown, Pa., June 10, 1906; s. of George R. and Buhleau M. Maier; ed. Lehigh U., Ch.E., 1928; m. Rosalia L. Hartung, June, 1929; ch.: Curtis E., Jr., Joanne L., Rosalie H., Carol E. Chem. engr., Hazel Atlas Glass Co., Wheeling, W.Va., 1928-31; asst. dir. res., 1931-35; dir. res., 1935-37; mgr. mfg. res., Continental Can Co., Chicago, 1937-43; dir. container res., 1943-45; asst. to v.p. res. & engrg., 1945-49; gen. mgr. res., 1949 to date. Articles in tech. jls. & papers before tech. & trade assns. on containers, protective coatings & corrosion; "A Survey of the German Can Industry During the Second World War," a report on behalf of the U.S. Tech. Indus. Intelligence Sub-Comm., 1945; 5 U.S. pats. on protective coatings & facing material. Mem.: A.C.S., I.F.T., A.A.A.S., Indus. Res. Inst. (rep. of Continental Can), Food & Container Inst. Assocs. (rep. of Continental Can).

MAIN, Merrill M., res. dir., Crane Packing Co., 1800 Cuyler Ave., Chicago 13, Ill.; res. 751 N. Washington St., Park Ridge, Ill.
Chem.; b. Indianola, Ill., Jan. 2, 1906; s. of Martin D. and Maude Pugh Main; ed. B.S., U. of Ill., 1928; mem.: Tau Delta Tau; m. Frances McKee, Sept. 9, 1931; ch.: Merrill McKee. Chem., Corn Stalk Prods. Inc., Danville, Ill., 1928-29; chem., Economy Fuse & Mfg. Co., Chicago, Ill., 1929-32; chem., Crane Packing Co., Chicago, Ill., 1933-42; captain, Signal Corps, A.U.S., 1942-44; res. dir., Crane Packing Co., Chicago, Ill., 1944 to present. Mem.: A.C.S., N.A.C.E. Hobbies: home workshop, fishing.

MAISNER, Herman, chem. engr., Douglas Aircraft Co., 5159 Vincent Ave., Los Angeles 41, Calif.
Chem. engr.; b. San Francisco, Calif.; s. of Sam and Rosa Maisner; ed. B.A. and B.Sc. U. of Calif., 1917-21; M.Sc., Columbia U. 1932-33; New York U., 1933-34; D.Ch.E. Polyt. Inst., 1934-36; m. Christine Odenthal, Oct., 1930. Douglas Aircraft Co.; Southw. Eng. Co.; Aerojet Eng. Corp.; Plastics Inst.; Stone & Webster Eng. Corp.; Badger & Sons Co.; The M.W. Kellogg Co.; The Ft. Worth Labs.; Natur. Soda Prod. Co.; Burnham Chem. Co.; West. Sugar Ref. Co.; Pac. Gas & Elec. Co. Author: "Industrial & Engineering Chem.," v. 29, No. 3, 1937; "Vanadium Catalysts, Performance & Poisoning by Arsenic in Sulfuric Acid Manufacture." Mem.: A.I.Ch.E., A.I.C., A.C.S., Natl. Soc. of Professional Engrs., Calif. Soc. of Prof. Engrs. Clubs: Columbia Alumni, Sierra Club. Hobbies: hiking, swimming, tennis, music.

MAIZEL, Benjamin Leo, v.p., treas., Vico Prods. Co., 2817 N. Oakley Blvd., Chicago, Ill.; res. 5434 Ridgewood Court, Chicago 15.
Chem.; b. Riga, Latvia, Dec. 21, 1907; s. of Leo and Elizabeth Maizel; ed. U. of Chicago, Ph.D. 1932; mem.: Sigma Xi.; m. Hilda Joseph, Sept. 3, 1936. 192-30, res. chem. Kimberley Clark; 1932-34, conslt. chem., org. res. Pacini Labs.; 1934-36, in chg. of dev. Milbrew Prods. Co.; 1936 to date, tech. dir. Vico Prods. Co. Secy. Pacific Yeast, Wasco, Calif. Res. in chem. of proteins; enzymatic hydrolysis; vitamins and nutrition; sterols. Mem.: A.C.S., Chem. Arts Forum, Inst. of Food Techs., Assoc. of Vitamin Chems., N.Y. Acdy. of Sc.

MAJOR, Coleman J(oseph), assoc. prof. of chem. engrs., State Univ. of Iowa, Iowa City, Iowa; res. P.O. Box 743, Iowa City, Iowa.
Chem. engr.; b. Detroit, Mich., Sept. 7, 1915; s. of Coleman and Anna Major; ed. U. of Ill., B.S. (high honors); Cornell U., Ph.D.; mem.: Alpha Chi Sigma; m. Marjorie L. Shenk, Nov., 1941; ch.: Roy C., Marilyn A. 1937-38, tchg. asst. Cornell U. Chem. Dept.; 1939-40, tchg. asst. Cornell U. Chem. Engrg. Dept.; 1941 to 1950, chem. engrg. sect. hd., chf. prod. engr., supt. Service Dept., Sharples Chems. Inc.; 1950 to date assoc. prof. of chem. engrg., State U. of Iowa, Iowa City. Work incl. "Liquid Flow Slide Rule" on market; also eight tech. publications. Mem.: Sigma Xi, Omega Chi Epsilon, A.I.Ch.E., A.C.S. Club: Wyandotte Kiwanis No. 1000. Hobbies: nomography, electronics, home workshop.

MAJOR, Randolph Thomas, v.p. and scientific dir., Merck & Co., Inc., Rahway, N.J.; res. Coles Avenue, Mountainside, N.J.
Chem.; b. Columbus, O., Dec. 23, 1901; s. of David R. and Mary Campbell Major; ed. Lincoln High School, Lincoln, Neb., B.A. U. of Neb., 1922, M.S., U. of Neb., 1924, Ph.D., Princeton U., 1926; honorary D.Sc., U. of Neb., 1949; mem.: Alpha Chi Sigma; m. Grace E. Lowe, July 7, 1928; ch.: Randolph, Jr., Mary, Anne, and Jane. High schl. sc. teacher, Albion, Neb., 1922-23; res. assoc., Princeton U., 1927-30; dir. of pure res., Merck & Co., Inc., Rahway, N.J., 1930-36; dir. of res. and dev. 1936-47; v.p. and scientific dir., Merck & Co., 1947 to date. Holder or co-holder of several pats. Author or co-author of about 50 arts. or papers relating to chem. Mem.: Phi Beta Kappa, Phi Lambda Upsilon, Sigma Xi, A.A.A.S., A.C.S., Soc. of Chem. Ind., Acdy. of Sciences (New York), Amer. Soc. of Biological Chemists. Club: Chemists'. Hobbies: skiing and music.

MAKENS, Royal F., prof. chem., Mich. Coll. Mining & Tech., Houghton, Mich.; res. 209 Blanche St.
Physical chem.; b. Minneapolis, Minn.; s. of Joseph A. and Sarah Ann (McGinty) Makens; ed. U. Minnesota, B.S. 1926; Mich. Coll. Min. & Tech., M.S., 1930; U. of Ia., Ph.D., 1938; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi; m. Gladys M. Larson, Sept. 4, 1930; ch.: Hugh Harvey, Neal Richard. Minn. High schls., 1926-29; fellowship, Mich. Coll. Min. & Tech. 1929-30; instr., 1930-37; leave of absence for Ph.D., 1937-38; asst. prof. chem., Mich. Coll. Min. & Tech. 1938-42; assoc. prof. chem., 1942-47; prof. chem., Texas Coll. Arts & Ind. 1947-48; prof. chem., Mich. Coll. Min. & Tech. 1948 to date. Publications on surf. chem., kinetics, publ. jl. A.C.S. Mem.: A.C.S. (local sect. chmn.), Am. Soc. Engrg. Ed. (local sect., chmn.), Phi Lambda Upsilon (councillor); trustee, First Presby. Ch. (Houghton). Hobbies: gardening, hiking.

MAKOWER, Benjamin, hd., raw matls. sec., Fruit Processing Div., Western Regional Res. Lab., U.S.D.A., Albany, Calif.; res. 1096 Keith Ave., Berkeley 8, Calif.
Chem.; b. Poland, Oct. 15, 1906; s. of Joseph and Gustava Makower; ed. B.S. 1928, Ph.D. 1932, U. of Calif., Chem. Dept., Berkeley, Calif.; mem.: Chi Pi Sigma; m. Rachel Uhvits, 1949. 1928-31, teaching fellow in chem., U. of Calif., Berkeley, Calif., 1931-35 instr. in chem.; 1935-37, jr. chem., Natl. Bur. of Stands., Wash., D.C.; 1937-38, jr. physicist, U.S. Dept. of Agr., Wash., D.C., 1938-40 jr. chem.; 1940 to date, U.S. Dept. of Agr.,

Western Regional Res. Lab., Albany, Calif., 1940-44 assoc. chem., 1944-48 chem., 1948 to date sr. chem. & hd. of a sec. in Fruit Processing Div. Rates. of chem. reactions, syn. of alkyd resins, adsorption of gases on solids, anal. meths. for moisture in plant tissues, dehydration of vegetables, res. on fruit processing. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S., I.F.T. Hobbies: hiking, photography.

MALAKOFF, Howard Louis, asst. to mgr. of res., Cities Serv. Res. & Dev. Co., 54 Wall St., N.Y. 5; res. 407 Everson Pl., Westfield, N.J.
Chem. engr.; b. Pittsburgh, Pa., Dec. 4, 1915; s. of Joseph and Alice Malakoff; ed. Carnegie Inst. of Tech., B.Sc., 1937; M.Sc., 1939; D.Sc., 1942; mem.: Beta Sigma Rho (social); Sigma Xi; m. Dorothy Zelinski, Mar. 28, 1948. 1940-41 instr., chem. engrg., Carnegie Inst. of Tech.; 1941-43 asst. prof., chem. engrg., Oklahoma A.&M. Coll.; 1943-45 chem. engr. nat. gasoline & chem. div., Cities Serv. Oil Co., Bartlesville, Okla.; 1945-48 engr. dev. hd. res. div. same co.; 1948 to date asst. to mgr. of res., Cities Serv. Res. and Dev. Co., N.Y.; res. direct oxidation of natural gas hydrocarbons to oxygenated chems.; Fischer-Tropsch synth. of synthetic fuels and chems. Mem.: Phi Lambda Upsilon, A.C.S., A.I.Ch.E. (former pres. of Okla. Sect., presently secy. N.Y. sect.). Hobbies: stamp collecting, gardening, golf, bowling.

MALICK, Richard Wesley, exec. v.p., Cole Chem. Co., 3727 Laclede Ave.; res. 700 Fairview, Webster Groves, Mo.
Exec., v.p.; b. Celina, Ohio, May 17, 1899; s. of Isma Harrison and Janet Copeland Malick; ed. Celina, Ohio, High Schl., Ohio St. U., Phila. Coll. Phar. & Sc.; mem.: Kappa Psi; m. (2nd) Irene Tayman, Mar. 20, 1950; ch.: Betty, Elaine, Marjorie. Sharp & Dohme, 1923-26; Cole Chem. Co., 1926 to date. Clubs: Engrs. (St. Louis), Westborough Country, Shriner, Moolah Temple. Hobby: fishing.

MALLEY, Henry A., Jr., pres., Deady Chem. Co., 1315 St. Louis Ave., Kansas City, Mo.; res. 5540 Chadwick Rd., Kansas City.
Exec.; b. Kansas City, Mo., Mar. 24, 1915; s. of Henry A. and Dora F. (Grogman) Malley; ed. Rockhurst H.S., and Rockhurst Coll., Kansas City, Mo.; m. Kathleen Leary, Oct. 14, 1939; ch.: Thomas H., Robert C., John P., Michael J. Lab. tech., Deady Chem. Co., 1934-35; field serv. engr., 1936-40; dir. of service, 1940-43; asst. to gen. mgr., 1943-46; pres. since 1946. Mem.: Chamber of Commerce (Kansas City), Engineers Society (Kansas City), A.S.M.E., A.C.S. Club: Serra. Hobby: travel.

MALLINCKRODT, Edward, chmn. of bd., Mallinckrodt Chem. Wks., 3600 N. 2nd St., St. Louis 7, Mo.; res. 16 Westmoreland Pl., St. Louis 8.
Exec.; b. St. Louis, Mo., Nov. 17, 1878; s. of Edward and Jennie (Anderson) Mallinckrodt; ed. Harvard, A.B., 1900; A.M., 1901; Washington (St. Louis), LL.D. (hon.) 1948; m. Elizabeth Baker Elliot, June 3, 1911; ch.: George E. 1901-05, chem., 1905-28, v.p., 1928 to date, chmn. of bd. Mallinckrodt Chem. Wks. Mem.: A.C.S., Franklin Inst., A.A.A.S. Overseer, Harvard, 1927-33; trustee, Washington (St. Louis), 1928-42; Barnard Skin and Cancer Hosp., St. Louis, 1909-43. Clubs: Amer. Alpine, University, Century Assoc. (N.Y.).

MALM, Carl Johan, supt., Kodak Park Wks., Eastman Kodak Co., Rochester 4, N.Y.; res. 222 Shoreham Dr., Rochester 18.
Chem.; b. Willmanstrand, Finland, Apr. 14, 1899; s. of Carl Wilhelm and Gundel Malm; ed. Abo Akademie, Abo, Finland, Diplom Chem. Engrg. 1923; m. Marjorie Kolstad, May 8, 1993; ch.: Carl Eric, Carl Michael, Carl Richard. Chem., Eastman Kodak Co., 1923-35; asst. supt. of chem. plant, E. K. Co., 1935-47; supt. of cellulose acetate dev. dept., E. K. Co., 1947 to date. Inventor & co-inventor of 15 U.S. pats. Author & co-author of 22 papers. Mem.: A.C.S., A.A.A.S. Clubs: University of Rochester, Country of Rochester. Hobby: fishing.

MALM, Lloyd E., prof. chem., U. Utah, Salt Lake City, Utah; res. 938 Greenwood Terrace, Salt Lake City, Utah.
Prof. chem.; b. Lindsborg, Kan., May 8, 1906; s. of E.E. and Lillian A. Malm; ed. A.B., 1928 Bethany Coll.; M.S., 1930, U. Kans.; Ph.D. 1932; mem.: Sigma Xi, Phi Beta Kappa, Alpha Chi Sigma, Kappa Chapt.; m. Frances L. Dester, Dec. 29, 1932; ch.: Sonja Louise, Kirsten Lillian, Ingrid Maria. 1932-37, Okmulgee Jr. Coll., Okmulgee, Okla., chem. dept.; 1937-42, Utah St. Agr. Coll., Logan, Utah, chem. dept.; 1942 to date, U. Utah, Salt Lake City, Utah, chem. dept. Res. in non-aqueous dispersion media; gel struct.; chem. ed. Co-author: "A Lab. Course for Pauling's Gen. Chem." 1948; "Coll. Chem. in Lab." 1950. Mem.: A.C.S., Alpha Chi Sigma, prof. chem. frat., Sigma Xi, Phi Beta Kappa, Phi Kappa Phi. Hobby: photography.

MALONEY, James O'Hara, chmn. of dept. of chem. engrg. and exec.-dir. of Res. Foundation, U. of Kansas, Lawrence, Kans.; res. 830 Missouri St., Lawrence.
Prof. of chem. engrg.; b. St. Joseph, Mo., Apr. 29, 1915; s. of John C. and Jeanette (Clay) Maloney; ed. U. of Ill., B.S.; Penn. State Coll., M.S. and Ph.D.; mem.: Theta Tau; m. Dorothyy Burkholder, Sept. 10, 1940; ch.: John C., II, Nancy Jean, Kathleen Sue. 1941-43, chem. engr. du Pont Exper. Sta., Wilmington, Del.; 1943-45, sect. chf., U. of Chicago; then chem. engr. with du Pont Exper. Sta.; 1945, chem. engr. Manhattan Distr., War Dept., Columbia Univ.; 1945 to date, prof. of chem. engrg. U. of Kansas, Lawrence, Kans. Author of art. "Centrifugation" appearing in the Indus. and Engr. Chem., yrs. 1946, 1947, 1948, 1949, 1950. Mem.: A.I.Ch.E., A.C.S., Sigma Xi, Phi Lambda Upsilon, A.A.U.P., Kansas Engrg. Soc. Clubs: Williston Sc., Fortnightly. Hobby: tennis.

MANCHESTER, Frank H., plant mgr., Pathfinder Chem. Corp., 5408 Baker Ave., Niagara Falls, N.Y.; res. Hillside Dr., Lewiston, N.Y.
Chem. engr.; b. Perry, Ohio, Nov. 28, 1902; s. of Frank E. and Jessie (Wood) Manchester; ed. Ohio State, B.S. chem. engrg., 1925; mem.: Tau Kappa Epsilon; m. Ethel Roloff, June 17, 1927; ch.: Richard W., Kathryn A. 1925-46, with The Goodyear Tire & Rubber Co., Akron, Ohio; 1925-31, mech. goods compdr.; 1931-36, res. compdr.; 1936-46, chem. prod. foreman and div. foreman; 1946 to date, with Pathfinder Chem. Corp. (subsid. of Goodyear); 1946 to date, plant mgr. Mem.: A.C.S., A.I.Ch.E., Prof. Engr. (Ohio). Hobbies: golf, gardening.

MANCHEY, L. Lavan, dir. res., Henry K. Wampole & Co., Inc., 440 Fairmount Ave., Phila., Pa.; res. 7606 Front St., Cheltenham, Pa.
Phar. chem., phar.; b. Glen Rock, Pa., Feb. 25, 1906; s. of Maurice and Matilda Kirchner Manchey; ed. U. Md., B.S. (phar.), 1929; Ph.D. 1935; Simon M. (chem.); mem.: Sigma Xi, Rho Chi; m. Bertha Joseph, July 23, 1940; ch.: Gwendolyn Edith. Asst. chem., U. Md., 1929-36; chf. chem. tech. dev. div., Vick Chem. Co., N.Y., 1936-45; dir. res., Henry K. Wampole & Co., Inc. 1946 to date. Res. in chemoth., cardio. drugs,

iodine therapy germicides, anthelmintics. Mem.: A.C.S., A.Phar.A. Hobbies: apiculture, gardening, home crafts, golf, music.

MANGELSDORF, Harold Gustav, asst. gen. mgr., Esso Stand. Oil Co., La. Div., P.O. Box 551, Baton Rouge 1, La.; res. 707 Moore St., Baton Rouge 12.
Chem. engr., adm.; b. Atchison, Kans., May 31, 1907; s. of August and Mary Mangelsdorf; ed. Kans. State Coll., B.S. in E.E., 1930; M.I.T., S.M. in fuel & gas engrg. 1932; mem.: Phi Delta Theta, Sigma Tau, Scabbard & Blade; m. Carol Elizabeth Moore, 1932; ch.: David Harold, Jane Elizabeth, Ann Marie. Res. asst., M.I.T., 1932-34; combustion engr., Esso Stand. Oil Co., La. Div., 1934-35, hd. process engrg. dept. 1935-39, asst. hd. tech. div. 1939-44, hd. tech. div. 1944-46, mgr. chem. prods. div. 1946-47, gen. supt. pet. prods. div. 1947-48, asst. to gen. mgr. 1948-49, asst. gen. mgr. 1949 to date. Author: "Heat Transmission by Radiation from Non-Luminous Gases"; excptl. study of carbon dioxide & water vapor. Dir., Baton Rouge Community Chest. Hobbies: hunting, fishing.

MANGELSDORFF, Arthur Fred, asst. medical dir., Am. Cyanamid Co., Calco Chem. Div., Bound Brook, N.J.; res. 707 W. 8th St., Plainfield, N.J.
Indus. medicine; b. N.J., Aug. 15, 1904; s. of Max and Antonia Mangelsdorff; ed. Rutgers U., B.Sc., 1924; Cornell Medical Coll., 1928, M.D.; mem.: Alpha Chi Rho, Phi Chi; m. Maesie Rowland, Nov. 11, 1944; ch.: Arthur David. Surgical internship, Lenox Hill Hosp., N.Y.C., 1928-30; private practice, 1930-34; part time indus. medicine, Clark Thread Mills, Newark, N.J. & du Pont Viscoloid Co., Arlington, N.J., 1930-34; full time indus. med., Am. Cyanamid Co., 1934 to date; asst. med. dir., 1946 to date. Recording spectroplotometric meth. for measurement of methemoglobin in cases of nitro & amine poisoning. Mem.: Am. Acdy. of Occupational Medicine (treas.), Acdy. of North N.J. (secy. sec. on occupational medicine), Somerset Co. Med. Soc. (past pres.), N.J. Assn. of Indus. Phys. & Surg. (past pres., dir.), N.J. Med. Soc., A.M.A., Am. Assn. of Indus. Phys. & Surg., Sigma Xi. Hobbies: golf, gardening.

MANLEY, Ralph Hogan, dir. of res., Gen. Mills, Inc., res. labs., 2010 E. Hennepin Avenue, Minneapolis 13, Minn.; res. 2181 Dudley Ave., St. Paul 8, Minn.
Chem.; b. Harvard, Ill., Nov. 16, 1903; s. of George and Mabel Manley; ed. B.S., Beloit Coll., 1926; M.S., U. of Ill., 1928, Ph.D., U. of Ia., 1935; mem.: Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma; m. Jeannette Herrick, Aug. 1, 1928; ch.: Rhoda, Janet. Chem. instr., U. of Ill., 1926; assoc. prof. of org. chem. at Armour Inst. of Tech., also asst. exec. dir., and dir. of chem. res., Armour Res. Foundation, 1938; chf. of oil and protein div., Northern Regional Res. Lab., U.S. Dept. of Agr., Peoria, Ill., 1941; hd. of protein division Gen. Mills. Res. Labs., 1943; asst. dir. of res., 1944-46; dir. of res., General Mills Res. Labs., Minneapolis, Minn., 1946 to date. Mem.: A.C.S., A.A.A.S., A.O.C.S. Club: Minneapolis.

MANN, Billings Leland, v.p. and sales mgr., George Mann & Co., Inc., 251 Fox Point Blvd., Providence, R.I.; res. Rehoboth, Mass.
Exec.; b. Leicester, Mass., Oct. 11, 1914; s. of George and Edna S. (Leland) Mann; ed. Worcester Polytech. Inst.; Lowell Textile Inst.; mem.: Alpha Tau Omega, Phi Psi; m. Barbara Batchelder, Mar. 10, 1938; ch.: Billings L., Jr., John Batchelder.

MANN, Harvey Blount, pres., Amer. Potash Inst., 1155 16th St., N.W., Washington, D.C.; res. 3601 Connecticut Ave., Washington.
Agronomist; b. Lake Landing, N.C., Aug. 29, 1898; s. of T.J. and Ella M. (Gibbs) Mann; ed. North Carolina State Coll. of Agr. and Mech. Arts, B.S. (Agr.) 1920; M.S. 1925; N.Y. State Coll. of Agr., Cornell U., Ph.D. 1929; mem.: Alpha Zeta, Sigma Pi, Sigma Xi; m. Margaret E., Dec. 28, 1922; ch.: Harvey B., Jr. 1920-29 asst. agron., N.C. Coll.; agron. 1929-36; 1936 asst. Southern mgr.; 1936-48 Southern mgr.; 1948-49 v.p.; 1949 to date pres., all of American Potash Inst., Inc. Secy.-treas., East Carolina Green's Fuel Gas, Inc., Bellhaven, N.C. Author of 35 sc. papers and official agr. bulletins on soil fertility problems. Mem.: A.S.A., Internat. Soil Sc., A.A.A.S. (fellow), Third Internat. Soil Congress, Oxford, Eng., 1935, Soil Sc. Soc. of Amer. Clubs: Cosmos, Kenwood Golf and Country, Atlanta Athletic, Chemists' (N.Y.), Mallamuskeet, Chamberlain.

MANNHEIM, Louis Robert, N.E. sales mgr., Nickel Cadmium Battery Corp., Easthampton, Mass.; res. 77 E. Pleasant St., Amherst, Mass.
Sales exec., sales, dev., engr.; b. Bklyn., N.Y., Oct. 10, 1907; s. of J. Richard and Elsa K. (Gravenhorst) Mannheim; ed. Bklyn. Tech. H.S., 1924; Columbia Col., Class of 1928, A.B.; Columbia Schl. of Engrg. (Elec.), 1929-30; mem.: Phi Gamma Delta; m. Eunice E. Lundbeck, Oct. 10, 1930; ch.: John Richard, Charles Jon, Paul Alfred Louis. 1930-31, fld. clk. on underground construc., Bklyn. Edison Co.; 1931-33, handled bids and sales contracts, Mathieson Alkali Wks., Inc., N.Y.C.; 1933-37, sales rep., Mathieson's (Northern N.J. and Staten Island); 1937-46, New Eng. sales mgr. for Mathieson; resigned June 1, 1946; 1946-47 introd. sales and engr. of new stge. battery, Nickel Cadmium Battery Corp.; 1947-49, sales mgr. newly formed Nickel Cadmium Battery Div., C. Tennant, Sons & Co.; 1949 to date, N.E. sales mgr., Nickel Cadmium Battery Corp. V.p. and dir. Chem.-Feeds, Inc., Providence, R.I. 1943. For Mathieson, 1938-46, dev. proc. for treating caustic soda drums to prevent discoloration of caustic; sales dev. and promotion wk. with sodium chlorite and chlorine dioxide; handled liquid chlorine allocations for Mathieson in 1942. Mem.: A.C.S., E.S., T.A.P.P.I. Dir. Rhodes "Y" Boys Club, Cranston, R.I., 1944-46. Club: Chemists'. Hobbies: golf, sailing, swimming, tennis, gardening.

MANNINEN, Thomas Herman, mgr., engrg. dev. div., U.S. Indus. Chems., Inc., P.O. Box 1956, Baltimore 3, Md.; res. 2527 Guilford Ave., Baltimore 18.
Chem. engr.; b. Suomusalmi, Finland, May 13, 1906; s. of Thomas and Anna (Seppanen) Manninen; ed. Antioch Coll., B.S. 1928; Columbia U., Ph.D. 1938; m. Priscilla Weir, May 17, 1933; ch.: Jean Weir. 1928-33 anal. chem. with Solvay Process Co.; 1936-45 res. chem., 1945 to date mgr., engrg. dev. div., U.S. Industrial Chems. Inc. Mem.: A.C.S., A.I.Ch.E. Club: Chemists' (NY.C.). Hobbies: photography, books.

MANNING, Paul De Vries, v.p. (research), Internatl. Minerals and Chem. Corp., 20 N. Wacker Dr., Chicago, Ill.; res. 874 Bluff St., Glencoe, Ill.
Chem. engr.; res. admin.; b. Omaha, Nebr., May 4, 1893; s. of A.P. and Mary J. Manning; ed. A.B. in chem., Stanford U., 1916; M.S. in chem., Calif. Inst. of Tech., 1917; Ph.D. in chem. engrg., Columbia U., 1927 (Bridgam Fellow); mem.: Tau Beta Pi, Sigma Xi, Epsilon Chi, Phi Lambda Upsilon, Alpha Chi Sigma (past natl. pres.); m. Hortense L. Ingalls, May 22, 1918; ch.: Paul D.V., Jr., William K.I., Alston P. 1917-18, res.

chem., nitrate div., Ordn. Dept., U.S.A., Wash., D.C.; 1919, res. chem., U.S. Nitrate Plant No. 1, Sheffield, Ala. and U.S. Fixed Nitrogen Res. Lab., Arlington, Va.; 1919-20, res. engr., Chile Exploration Co., N.Y.; 1920-23, res. engr., Internatl. Coal Prods. Corp. and Bregeat Corp. (Blair Banking Interests); 1924-25, asst. in courses on electrochem., assisting Dr. Colin G. Fink and courses in chem. engrg. and dye intermediates, assisting Dr. A.W. Hixson, Columbia U., and conslt. engr., N.Y.; 1925-26; in chg. of res. and dev., and asst. plant mgr., Inyo Chem. Co., Owens Lake, Calif.; 1927-39, conslt. engr., San Francisco, Calif., at which time estab. a res. dept. for Marine Chem. Co., South San Francisco (now known as Marine Magnesium Prods. Corp.), v.p. and mem. of bd. of dirs. of this co.; 1927-41, Pacific Coast Editor of "Chemical and Metallurgical Engineering"; 1934-41, v.p., Western Condensing Co., San Francisco; 1939-41, lecturer in chem. engrg., Stanford U.; 1940, lecturer in dairy science, U. of Calif., Coll. of Agr., Davis, Calif.; 1939-41, dir. of res., Golden State Co., Ltd., San Francisco; 1941-43, dir. of res., Internatl. Minerals & Chem. Corp., Chicago; dev. res. div. of corp.; 1943 to date, v.p. in chg. of research, Internatl. Minerals & Chem. Corp., Chicago (mem. bd., dirs.); respons. for pat. structure and all tech. and res. wk. of corp.; res. in nutrition, evaporation, spray drying. Author of chapters in "Mineral Industry," "Industrial Research" and "Chem. Engrg. Economics." Mem.: A.C.S. (past off. of Calif. & Southern Calif. Sects.), A.I.Ch.E., A.I.M.M.E., I.F.T., N.Y. Acdy. of Sc. (fellow), Poultry Sc. Assoc., A.A.A.S. (fellow), A.I.C. (fellow), reg. prof. engr., N.Y.S., Ill., and Calif., Indust. Res. Inst., mem. of Adv. Bd. of Western Regional Res. Labs., U.S. Dept. of Agr. Trustee, Glencoe Union Ch., Glencoe, Ill. Clubs: Engineers (San Francisco), Chemists' (N.Y.C.), Engineers (N.Y.), University (Chicago), Electric (Chicago) and Skokie Country (Glencoe, Ill.). Hobbies: photography, fishing, shopwork.

MANNING, Winston M., dir. chem. div., Argonne Natl. Lab., Chicago, Ill.; res. 10051 Paxton Ave., Chicago, Ill.
Chem.; b. Washington, D.C., Mar. 26, 1909; s. of William Ray and Mabel Marvel Manning. B.A., American U., Washington, D.C. 1930, magna cum laude, M.S., Brown U., Providence R.I., 1931; Ph.D. 1933; m. Dorothy Bauch, 1935; ch.: Stephen Dorwin, Joan Elaine. Res. fellow, Brown U., 1933-34; res. asst. to res. assoc., chem. and biol., U. of Wis., 1934-41; physical chem., div. of plant biology, Carnegie Institution of Washington, Stanford U., Calif., 1941-43; staff member, chem. div. metallurgical lab., U. of Chicago, 1943-46; dir., chem. div., Argonne Natl. Lab., Chicago, 1946 to date. Res. in photochemistry, photosynthesis, chlorophyll and carotenoid pigments; chem. of transuranium elements; plutonium separation processes, nuclear chemistry. Author: "The Transuranium Elements" (National Nuclear Energy Series), 1949 (co-editor). Mem.: A.C.S., Am. Physical Soc., A.A.A.S., Botanical Soc. of America, American Soc. of Limnology and Oceanography, Sigma Xi.

MANOV, George Gregory, chf. adv. fld. serv. br., isotopes div., U.S.A.E.C., P.O. Box E, Oak Ridge, Tenn.; res. 109 Olney Lane, Oak Ridge.
Physical sc.; b. Apr. 13, 1909, San Fran., Calif.; s. of Mateo and Ida Manov; ed. U. Calif., Dept. Chem., B.S. 1933; M.S. 1934; Ph.D. 1937; mem.: Gamma Alpha; m. Grace M. Hamilton, Dec. 20, 1941; ch.: Michael. Tchg. asst. chem., U. Calif. Aug., 1934-May, 1937; Natl. Bur. Stds., July, 1937-Mar., 1949, as gen. chem., assoc. chem., physical chem., sr. chem.; chf., adv. fld. ser. br., isotopes div., U.S.A.E.C., to date. Orig. wk. standztn. of pH measurements by potentiometric and glass electrode methods; responsible for present series of N.B.S. Stand. Buffer Samples, and A.S.T.M. method E 70-46T determin. pH solutions with glass electrode; responsible for several natl. stands. of radioactivity and expert in that fld. Author num. pubs. in official, tech. and sc. jls. on pH, radioactivity and radiochem.; contrib. Chapt. V, Vol. VII, "N.B.S. Handbook of Physical Measurements." Mem.: A.C.S. (divs. physical & inorg. chem., petrol. chem.), A.S.T.M. (comms. determ. hydrog. ions, water anal., electromet. methods anal., radioactivity), Wash. Acdy. Sc.

MANTELL, Charles L., consltg. chem. engr., 457 Washington St., N.Y. 13, N.Y.; res. 447 Ryder Rd., Munsey Park, Manhasset, N.Y.
Consltg. chem. engr.; b. Bklyn., N.Y., Dec. 9, 1897; s. of John Henry and Emma (Smith) Mantell; ed. Ph.D. chem. engrg., Columbia U. 1927; mem.: Delta Kappa Epsilon, Phi Lambda Upsilon, Sigma Xi, Alpha Chi Sigma, Epsilon Chi; m. Adelaide M. Schmitthenner, 1926; ch.: Cynthia A., Keith C. Chem. engr., Al. Co. of Am., 1918-21; Celluloid Corp. 1921-22, prof. chem. engrg., Pratt Inst., Bklyn., N.Y., 1922-37; consltg. engr., 1924 to date; dir. res., Am. Gum Importers Assn. 1934-49; tech. adviser, Netherlands Indies Govt. 1934-49; tech. dir., W.B. Driver Co., Newark, 1934-39; tech. dir., United Merchants & Mfrs. Management Corp. 1940-47; v.p., United Merchants Labs., Inc., 1945-47; prof. chem. engrg., chmn. of dept. chem. engrg., Newark Coll. of Engrg., Newark, N.J., 1948 to date. Author: "Ind. Carbon," 1928, 1946; "Tin," 1929, 1949; "Ind. Electrochem.," 1931, 1940, 1950; "Sparks from the Electrode," 1932; "Tech. of Natural Resins," 1942; "Adsorption," 1945, 1951; "Calcium Metallurgy & Tech." 1945; "Water-Soluble Gums" 1947; contrib. to Chem. Engrs. Hdbk. 1935, 1940, 1950. Mem.: A.I.Ch.E., A.I.M.M.E., A.C.S., A.S.M., Electrochem. Soc.

MANUEL, William Asbury, prof. of chem., hd. of chem. dept., Ohio Wesleyan U., Delaware, Ohio; res. 50 Forest Ave., Delaware.
Chem. prof., consltg. chem.; b. Freetown, Ind., Jan. 18, 1891; s. of Asbury H. and Sarah Jane (Brown) Manuel; ed. A.B. DePauw U. 1912; M.S. U. of Ill. 1915; Sc.D., Colo. Schl. Mines 1928; mem.: Phi Gamma Delta; m. Lola Warfel 1919; ch.: Elizabeth Lee, Suzanne. Asst. in math., DePauw U., 1911-12; asst. prin., Bicknell H.S. (Ind.), 1912-13; grad. asst. chem, U. of Ill., 1913-15; instr. in chem., Northwestern U., 1915; res. fellow in chem. engrg., Exp. Station, U. of Ill., 1915; prof. chem., hd. of dept., Western State Coll. of Colo., 1921-29; prof. chem., Ohio Wesleyan U., 1929 to date, hd. dept. chem. 1930 to date; town chemist, Gunnison, Colo., 1923-29; res. chem., Inst. Paper Chem., summers 1939 and 1940. Mem.: Phi Beta Kappa, Phi Lambda Upsilon, Sigma Xi, Omicron Delta Kappa, A.C.S. (chmn. Columbus Sec. 1934, councillor, Cols. Sec. 1940, 1941), A.A.A.S. (fellow), Ohio Acdy. of Sc. (fellow), A.A.U.P. Hobby: fishing.

MAPES, Daniel, v.p., engrg. and dev., Walter Kidde Co., 675 Main St., Belleville, N.J.; res. 60 Coolidge Ave., West Caldwell, N.J.
Exec. and engr.; b. New York City, Sept. 21, 1901; s. of Ernest S. and Jennie L. Wheaton Mapes; ed. M.E. Stevens Inst. of Tech., 1924, varsity baseball and swimming; mem.: Sigma Nu, Tau Beta Pi; m. Florence Elizabeth Noetling, June 16, 1934; ch.: Marilyn Elizabeth. Test engr., United Electric Light and Power Co., 1924; chf. dev. engr., engr. and dev. engr., 1924-30; sales engr., asst. mgr. export sales, Canadian, Sales mgr., Walter Kidde & Co., Inc., 1931-39; v.p. engr. and dev., Walter Kidde & Co., 1940-43; v.p.

and dir. of Specialties Dev. Corp., 1940; dir. and v.p. engr. and dev. Walter Kidde Co., to date. Continuous res. wk. for 25 yrs. in field fire extinguishers and controls. Contrib. extens. many arts. in tech. mags. Papers before var. soc., etc. in field fire protection, aviation, accessories, deep drawing of metals, res. and dev. in general, high pressure cylinders, etc. Mem.: Am. Ordnance Assoc., Am. Soc. of Metals, Natl. Fire Protection Assoc. (member of 5 committees), Compressed Gas Assoc. (v.p.), member exec. comm. and exec. bd., member of numerous tech. comm., Professional Engr. New York State, inventor of over 60 U.S. pats. Club: Essex Fells Country. Hobbies: golf, woodworking, gardening.

MARBAKER, Edward Ellsworth, sr. fellow, Mellon Inst., 4400 Fifth Ave., Pittsburgh 13, Pa.; res. 5562 Hobart St., Pittsburgh 12.
Chem. engr.; b. Trenton, N.J., June 28, 1888; s. of William Ellsworth and Rose Mary (Douglass) Marbaker; ed. B.S. Central H.S. of Phila., 1906; U. of Pa., B.S. in Chem. 1910; Assayers and Miners Gangue Prize Harrison Scholar, Univ. Scholar, Harrison Fellow, Ph.D., 1914; Ch.E., 1930; m. Mabel Price, Oct. 22, 1914; ch.: William Ellsworth, II, Ethel Price. Westinghouse Lamp Co., asst. chem. 1910-11; chf. chem. 1914-17; Alexander Bros., chf. chem. 1917-18; chf. engr. 1918-20; Natl. Lamp Wks., Cleveland Wire Div., chf. chem., 1920; Mellon Inst., indust. fellow, 1921-28; Indus. Res. & Engrg. Co., v.p. 1929-34; Mellon Inst., indus. fellow 1935; sr. fellow to date. Civilian investigator, Off. Prod. Res. and Dev. W.P.B., 1943-45; res. on wire-wound resistors. Editor, "Handbook of Cupola Operation," Amer. Foundrymen's Assoc., 1946. Ed. "Mellon Institute News," 1940 to date. Mem.: A.C.S. (chmn. Leather Sect., 1920; v. chmn. Phila. Sect. 1920; chmn. Pittsburgh Sect. 1929), A.I.Ch.E. (chmn. Pitts. Sect. 1936-38), Amer. Ceramic Soc. (chmn. Pitts. Sect. 1943, fellow, Editor Jl. 1947 to date), Franklin Inst., Prof. Engrg., Penn., Sigma Xi, Phi Lambda Upsilon. Hobby: philately.

MARBERG, Carl Mauritz, asst. to v.p. in chg. of res., Gustin-Bacon Mfg. Co., 1412 W. 12th St., Kansas City 7, Mo.; res. 235 Ward Parkway, Kansas City 2.
Res. chem.; b. Chicago, Ill., Jan. 7, 1902; s. of Carl G. and Louisa (Carlson) Marberg (dec.); ed. U. of Chicago, B.S. 1927, Ph.D. 1930; mem.: Kappa Sigma. U. of Chicago & Sprague Inst., 1929-39; biochem. res., Interchem. Corp., N.Y.C., org. & biochem. res. 1939-45; Midwest Res. Inst., Kansas City, chmn. org. chem. 1945-47; Stand. Oil Co. (Ind.), res. assoc. 1947-49; Gustin-Bacon Mfg. Co., Kansas City, res. & prod. dev. 1949 to date. Mem.: Sigma Xi, Phi Beta Kappa, A.A.A.S. (fellow), A.A.T.C.C., A.C.S., A.I.C. (fellow). Club: Chemists' (N.Y.). Hobby: photography.

MARBLE, John Putnam, res. geochem., Div. of Geol. & Geog., Natl. Res. Council, 321 U.S. Natl. Museum, Wash. 25, D.C.; res. 3221 Macomb. St., Washington 8, D.C.
Res. geochem.; b. Worcester, Mass., May 30, 1897; s. of J. Russel and Emily Greene (Chase) Marble; ed. Williams Coll., B.A. 1918, final honors in chem., cum laude; Clark, 1919 (spec. student); Harvard, M.A. 1928, Ph.D. 1932; mem.: Phi Beta Kappa, Alpha Chi Sigma, Gamma Alpha; m. Adelaide Holme Maghee, May 21, 1921; ch.: Katharine Chase (Marble) Bejnar, Richard Almy, Rosamond Holme, John Putnam, Jr. Private, C.W.S., U.S.A., 1918-19; in drysaltery business, Marble-Nye Co., Worcester, Mass., 1919-26; grad. student in chem., Harvard, 1927-31; with Comm. on Measurement of Geologic Time, Div. of Geol. & Geog., Natl. Res. Council since 1931, chmn. of this comm. since 1946; (Tech. Aide & Spec. Asst., O.S.R.D., 1942-46); res. in: measurement of geologic time, mineral anal., atomic weights, analytical meths., meteorites; contrib. num. arts. to sc. jls. and the Natl. Res. Council Reports. Mem.: A.A.A.S., A.C.S., E.S., Geol. Soc. of Amer., Mineralog. Soc. of Amer., A. Geophys. Union, Meteoritical Soc., Geolog. Soc. of Wash., Wash. Acdy. of Sc. Trustee, Sidwell Friends School, Wash., D.C. Clubs: Cosmos, Chevy Chase (Wash., D.C.), Williams, (N.Y.C.), University (Boston), Harvard Faculty (Cambridge), Worcester (Worcester, Mass.), Nantucket Yacht (Nantucket, Mass.). Hobby: mild mountaineering.

MARCEAU, Eugene Theodore, consltg. engr., 12 Manchester Rd., Winchester, Mass.
Consltg. chem. engr.; b. Grande Ligne, Prov. of Quebec, Can., Jan. 16, 1890 (naturalized 1916); s. of Prof. James H. and Mary G. (Jourbert) Marceau; ed. M.I.T., B.Sc. in Ch.E., 1912; m. Sadie I. Ingram, Oct. 16, 1922; ch.: Mary J., Nancy L., Jeanne E. Mem. of instructing staff, M.I.T., 1913; control chem., 1914; factory mgr. 1918, chem. dir., N.K. Fairbank Co., 1918-23; mgr. mfg. dept., Gold Dust Corp., 1925-37; (subsid. cos., 2-in-1, Shinola, Bixby Co., Stand. Milling Co. & Best Foods, Inc.); dir. of res. & dev., Hecker Prods. Corp. (successor to Gold Dust Corp. & now Best Foods, Inc.), 1937-39; supvr. of res., Lever Bros. Co., soaps, salad oils & shortening, 1939-46; consltg. chem. engr. & const. on pet. litigation, 1946 to date. Inventor: 'Soap Prod. & Mfr." by spraying U.S. pat. 2,152,788, Apr. 4, 1939, jointly with W.H. Burkhart. Mem.: A.C.S., A.O.C.S., A.I.Ch.E., Reg. Prof. Engr. Commonwealth of Mass. Club: Chemists' (N.Y.).

MARCY, Lawson Francis, assoc. prof. of chem., E. Ill. State Coll., Charleston, Ill.; res. 820 Tenth St., Charleston, Ill.
Chem., coll. tchr.; b. Mandan, N.Dak.; s. of Francis F. and Flora Ellen Marcy; ed. Evansville Coll., 1924, A.B.; Columbia U., 1926 M.A.; Ohio State U., 1943, Ph.D.; mem.: Phi Beta Chi; m. Bessie Irene Lewis, 1924. Instr. chem., Kans. State Coll., 1924-25; chem. and phys., Nelsonville H.S. (Ohio), 1926-27; instr. chem. Kans. State Coll., 1927-29; asst. prof. chem., Parsons Coll., 1929-31; instr. chem., N.Dak. Agr. Coll., 1931-36; instr. in animal nutrition, Agr. Expt. Sta., Penn. State, 1937-49; assoc. prof. chem., E. Ill. State Coll. since 1944; also asst. agr. chem., Ohio State U., 1936-37 and 1940-41; res. in animal nutrition at "Inst. of Animal Nutrition," Penn. State Agr. Expt. Sta.; energy metabolism; mineral metabolism. Mem.: Sigma Xi, A.C.S., A.A.A.S.

MAREK, Leroy Frank, v.p., Arthur D. Little, Inc., 30 Memorial Dr., Cambridge, Mass.
Exec.; b. Brenham, Tex., Jan. 18, 1901; ed. U. of Tex., B.A., B.S., 1925; M.I.T., S.M. 1930; m. Mildred Beal, Aug. 31, 1926. U. of Tex., tutor anal. chem., 1923-25; Miller Rub. Co., comp. fctry. control, 1925-27; M.I.T., Res. Lab. Appl. Chem., res. asst. to dir., 1927-34; asst. prof. chem. engr., 1929-34; with Arthur D. Little, Inc. 1934 to date, first at chem. engr., now v.p. Author of arts. in sc. chem. jls. Mem.: Phi Beta Kappa, Tau Beta Pi, Phi Lambda Upsilon, Sigma Xi, A.C.S., A.I.Ch.E. Club: Engineers (Boston). Hobbies: photography, horticulture.

MARES, Ernest W., asst. wks. mgr., Monsanto Chems. Ltd., Newport, Mon., England; res. 7358 Colgate, University City 5, Mo., U.S.A.
Chem. engr.; b. Helena, Mont., Feb. 4, 1907; s. of Joseph and Antonette Mares; ed. 1930, Mont. State Coll., B.S. in indus. chem.; mem.: Sigma Chi; m. Dolores Blomberg, Sept. 24, 1938; ch.: Martha, Kenneth. Monsanto Chem. Co. 1931-50, asst. supvr., supvr., night supt., operating supt.,

all in prod. wk.; May, 1950 to date, asst. wks. mgr., Monsanto Chems. Ltd., Newport, Mon., England. Mem.: A.C.S., A.I.Ch.E., Chem. Warfare Assn., Reg. Prof Engr. Mo.

MARES, Joseph R., v.p., gen. mgr. of Texas Div., Monsanto Chem. Co., Texas City, Texas; res. Dickinson, Texas.
Chem. engr.; b. Helena, Mont., Apr. 13, 1903; s. of Joseph and Antonette Mares; ed. Mont. State Coll., M.I.T., Akron Law Schl., N.Y.U.; mem.: Sigma Chi; m. Delia Nichols Smith, Aug. 3, 1935; ch.: Jan, Thomas, William. Goodyear Tire & Rubber Co., 1924-26; Braselton, Whitcomb & Davies, 1926-28; Monsanto Chem. Co., dir. of pat. dept., dir. of dev. & pat. dept., v.p., gen. mgr. Texas div., 1929 to date. Mem.: Am. Pat. Law Assn., Soc. of Chem. Ind., A.C.S., Am. Bar Assn. Mem of Bd. of Regents, Lamar State Coll. of Tech. Clubs: Mo. Athletic (Mo.), Houston (Texas), Ramada (Texas).

MARGESON, James P., Jr., exec. v.p., International Minerals & Chem. Corp., 20 North Wacker Dr., Chicago 6, Ill.; res. 2425 Lincoln St., Evanston, Ill.
Exec.; b. Brookline, Mass., Oct. 2, 1892; s. of James P. and Mary Young (Morrison) Margeson; ed. B.S., Dartmouth Coll., 1914, magna cum laude, C.E., Thayer Engrg. Schl., 1915, with honors; mem.: Kappa Sigma; m. Annie J. Flieger, June 23, 1917; ch.: Jean M. (Mrs. Arthur F. Fenner, Jr.). V.p., Simmons Hardware Co., St. Louis, 1919-28; gen. mgr., Sulloway Mills, Franklin, N.H., 1928-31; v.p., gen. mgr. and dir., Phoenix Hosiery Co., Milwaukee, Wis., 1931-35; part., J.O. McKinsey Co., management engrs., Chicago, 1933-34; v.p. and gen. mgr., mfg. div., Marshall Field & Co., Chicago, 1935-38; temporary assoc., Booz, Fry, Allen & Hamilton, Chicago, 1938; v.p., Megowen Educator Co., Lowell, Mass., 1938-40; v.p., International Minerals & Chemical Corp., Chicago, 1940-47; exec. v.p., International Minerals & Chem. Corp., Chicago, 1947-50; dir., same co. 1950 to present. Mem.: A.I.M.E.

MARK, Herman Francis, prof. org. chem., Div. Inst. of Pol. Res. at the Polytech. Inst., 99 Livingston St., Bklyn., N.Y.; res. 325 Ocean Ave., Bklyn. 26, N.Y.
Prof.; b. Vienna, May 3, 1895; s. of Herman and Lily Mark; ed. 1905-21 Vienna, Ph.D. (summa cum laude), U. Vienna; mem.: Phi Lambda Upsilon, Sigma Xi; m. Mary Schramek, Aug. 19, 1922; ch.: Hans Michel, Peter Herman. Res. assoc., K.W.I., Berlin, 1921-26; res. assoc., dir. I.G. Farben, 1927-32; prof., U. Vienna, 1932-38; res. mgr., C.I.P.C.O., Canada, 1938-40; prof., Polytech. Inst. Bklyn., 1940 to date. Res. in rubbers, fibers, plastics, physical. Author sev. pubs. Mem.: A.C.S., A.P.S., A.A.A.S., Faraday Soc., mem. of Academies of New York, Vienna, Gottingen, Madrid, Budapest, Amsterdam, Bucharest, hon. Ph.D. U. Liege, several medals and awards. Hobbies: skiing, fishing, tennis.

MARK, Jacob Greenwood, asst. dir. of res., Dewey and Almy Chem. Co., Cambridge 40, Mass.; res. 111 Walnut Hill Rd., Chestnut Hill 67, Mass.
Chem.; b. Springfield, Mass., Mar. 24, 1908; s. of Jacob and Mabel Grace (Greenwood) Mark; ed. B.S., 1929, Ph.D. 1934, M.I.T.; m. Hazel Lillian Pickering, Sept. 27, 1935; ch.: Roger Greenwood, Beverly Hazel, Roberta Grace, Daryl Lillian. Chem., synthetic resin div., John D. Lewis, Inc., Providence, R.I., 1929-31; mgr., same div., same co., 1931-32; exec. res. chem., Dewey and Almy Chemical Co., Cambridge, Mass, 1934-39; asst. dir. of res., same co., 1939 to present; consultant office rubber dir., 1943-45; 1947 field investigator, U.S. Dept. of Commerce. G.W. Pierce Associates, Inc., Bethlehem, Pa., dir., Pierce Res. Associates, Inc., Bethlehem, Pa. dir. Res.: high molecular weight polymers, surface active agents, rubber technology, concrete, adhesive, synthetic rubber, plasticizers, colloidal and synthetic org. compounds, pats. and tech. arts. Mem.: A.C.S. Dir. Brookline Schl. of Music, dir. and v.p. Calvary Rescue Mission, Inc., dir. and pres. Emmanuel Gospel Center, Inc.

MARKLE, Gordon M., mgr. textile section, dyestuffs sales div., org. chem. dept., E.I. du Pont de Nemours & Co., Inc., Wilmington, Del.; res. 312 W. 38th St., Wilmington, Del.
Chem. sales; b. New Haven, Conn., Nov. 24, 1900; s. of Frank J. and Josephine E. Mears Markle; ed. Yale U., 1922, B.S., summa cum laude; mem.: Alpha Chi Sigma, Sigma Xi; m. Jean A. Schwartzenberg, Nov. 23, 1940; ch.: Patricia Jean, Linda Ann. Held following positions with E.I. du Pont de Nemours & Co.: 1922, Tech. Lab., Chambers Works, Carney's Point, N.J.; 1923, transferred to dyestuffs lab., Chicago office; 1924, promoted to salesman in Chicago district office; 1944, appointed asst. mgr., Chicago dyestuffs sales office; 1949, transferred to main off., Wilmington, Del. as mgr. of paper, lakes, and leather section, dyestuffs sales div.; Mar. 28, 1950, appointed mgr. of the textile section, dyestuffs sales div. Mem.: Am. Assoc. of Textile Chemists. Club: du Pont Country.

MARKLEY, Alton LeFevre, prof. of chem., chmn. of dept., Skidmore Coll., Saratoga Springs, N.Y.; res. 180 Circular St., Saratoga Springs.
Prof. of chem.; b. Bellingham, Wash., July 19, 1896; s. of Dr. L.R. Markley and Mary J. LeFevre Markley; ed. 1919, B.S., Wash. State Coll., M.S., Cornell U., 1923, Ph.D., Cornell U.; mem.: Lambda Chi Alpha; m. Lois A. Watkins, June, 1931; ch.: Reed W., Linda J., Cyrus L. Prof. of chem., Skidmore Coll., since Sept., 1923. Res. in physicochem. com. milk, preservation of cider, purification phenol by formation of a hydrate, lecture demonstration of cooling by evaporation. Mem.: A.A.A.S., A.C.S., A.A.U.P., Sigma Xi, Gamma Alpha.

MARKLEY, Klare S., hd. of oil & oilseed div., Southern Regional Res. Lab., U.S. Dept. of Agr., 2100 Robert E. Lee Blvd., New Orleans 19, La.; res. 2310 Calhoun St., New Orleans 18.
Chem.; b. Phila., Pa., Dec. 16, 1895; s. of Jonah J. and Mabel E. (Montague) Markley; ed. B.S. in chem. engrg., 1924, Geo. Washington U., M.S., 1925; Ph.D., 1929, Johns Hopkins U.; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi; m. Melba I. Stanton, Feb. 17, 1947. Bethlehem Steel Co., Bethlehem, Pa., 1916-17; Wharton Steel Co., Wharton, N.J., 1917-19; Valley Mould & Iron Corp., 1920-21; Bur. of Plant Ind., U.S. Dept. of Agr., Wash., D.C., 1921-27; Natl. Bur. of Stands., Dept. of Com., Wash., D.C., 1927-28; Bur. Agric. & Ind. Chem., 1928 to date (Wash., D.C. 1928-37; Urbana, Ill., 1937-39; New Orleans, La. 1939 to date). 70 publ. incl. 3 books, principally on oils, fats, & waxes survey of fat & oil ind. of Germany & Northwest Europe for Joint Chfs. of Staff; survey of fat & oil ind. & resources of Venezuela; survey of fat & oil ind. & resources of Guatemala, the latter 2 for Food & Agri. Organization of the United Nations. Author: "Soybean Chem. & Tech." Chem. Publ. Co., 1944; "Fatty Acids, Their Chem. & Tech.," Intersc., 1947; "Soybeans & Soybean Prods." 2 vols., Intersc. 1950. Mem.: A.C.S., A.A.A.S., A.O.C.S. (pres. 1944-45), New Orleans Acdy. Sc. Award: Superior Serv. Award, U.S Dept. of Agr., 1950. Club: Cosmos (Wash., D.C.). Hobbies: gardening, bridge, travel.

MARKLEY, Max C., dir., The Markley Labs., 418 Corn Exch. Bldg., Minneapolis 15, Minn.; res. 1486 Hythe St., St. Paul 8, Minn.
Conslt. chem.; b. Chadwick, Ill., June 24, 1900; s. of Wm. S. Markley and Mary (Casselberry) Markley; ed. B.S. in Chem. Engrg., U. Kansas, 1922, chem. engr., U. of Kansas, 1929, Ph.D., U. of Minnesota, 1934; mem.: Gamma Alpha, Sigma Xi; m. Gladys Fitz Gerald, Nov. 3, 1925; ch.: Harry S., Geraldine, Mary Louise. Shift chem., Aunt Jemima Mill, St. Joseph, Mo., 1922; shift chem. Larabee Flour Mills, St. Joseph, Mo., 1922-23; anal. chem., Ismert-Hincke Milling Co., Kansas City, Kansas, 1923-24 & 1925-28; chf. chem., Keystone Milling Co., Larned, Kansas, 1924-25; chf. chem., Slater Mill & Elevator Co., Slater, Mo., 1928-29; chf. chem., Page Milling Co., Topeka, Kans., 1929; assoc. chem., Minnesota Agr. Experiment Sta., St. Paul, 1929-37; chf. chem., Cargill, Inc., Minneapolis, Minn., 1937-48; dir. and owner Markley Labs., Minneapolis, Omaha, and Lexington, Nebr., 1949 to date. Res. in flds. of cereal chem., alfalfa dehydration and vegetable oils. Contrib. extens. to sc. and tech. journals. Mem.: A.A.A.S., A.C.S., A.A.C.C., A.O.C.S., Archaeological Soc. (Minnesota). Mem. official bd., St. Anthony Pk. Methodist Church, St. Paul, Minn. Hobby: Operates The Markley Farms, a cattle & lamb feeding bus.

MARKS, Henry Clay, dir. of chem. res., Wallace & Tiernan Co., Newark, N.J.; res. 2 Mitchell Pl., Glen Ridge, N.J.
Chem.; b. Phila., Pa., Mar. 24, 1909; s. of Charles B. and Elsie Pywell Marks; ed. A.B., U. of Pa., 1930, Ph.D., Columbia U., 1940; mem.: Sigma Xi, Phi Lambda Upsilon, Phi Kappa Tau; m. Frances Svoboda Marks, June 27, 1931; ch.: Timothy Charles Marks. Res. chem., Radio Corporation of America, Victor Company, N.J., 1930-31; Wallace & Tiernan Company, Inc., 1931 to present; dir. of chem. res., 1942 to present. U.S. pats. on process of mfg. N-chloro-azo-dicarbonamidines, solutions of organic chlorine cmpds., chlorine detection by electrode depolarization; electrical determination or control of chlorine in liquids; procedure for disinfecting aqueous liquids; electrical cell apparatus. Mem.: A.A.A.S., A.C.S., A.W.W.A., Acdy. of Sc. (New York), Sigma Xi, Phi Lambda Upsilon. Hobbies: music, photography.

MARKS, Madison Edward, res. engr., Pure Oil Co., Crystal Lake, Ill.; res. Gate 18 Lakewood, Crystal Lake, Ill.
Chem. engrg.; b. Bonner Springs, Kans., Apr. 7, 1911; s. of E.H. and Myrtle Marks; ed. Oct. 1936, U. of Kan., B.S. in chem. engrg.; mem.: Beta Theta Pi, Alpha Chi Sigma; m. Catherine M. Kalteux, June 17, 1944; ch.: James Madison, Terrance Edward. Phillips Pet. Co., Borger, Texas, Refinery, Oct., 1936-Aug., 1940, expt. still operator & temporary frmn., process engr., res. chem.; Pure Oil Co., res. & dev. dept., Sept., 1940 to date, jr. & sr. res. engr. Wk. on dev. & com. application of Mercapsol gasoline treating process; reports & correlation of data in catalytic cracking, principally hydroforming during war. Mem.: A.I.Ch.E. (active), A.C.S. (active). Hobby: photography.

MARKUNAS, Peter Charles, res. chem., Commercial Solvents Corp., Terre Haute, Ind.; res 1026 Monterey Ave., Terre Haute.
Chem.; b. Chicago, Ill., Nov. 5, 1911; s. of Peter and Elizabeth Markunas; ed. B.S., 1934, Shurtleff Coll., Alton, Ill., M.S. 1936, Ph.D., 1940, U. of Ill., Urbana, Ill.; m. Gretchen Mae Miller, Apr. 19, 1941; ch.: Charlene Ellen, Patricia Gayle, Marilyn Elizabeth. National Distillers Products Corp., July, 1940, Aug., 1941; Commercial Solvents Corp., Aug., 1941 to present. Res. in titrimetry in non-aqueous solvents, instrumental methods of anal., chromatography, complex cations in micro analysis, dev. of methods for anal. of nitroparaffins and derivatives, penicillin, bacitracin and hexachlorocyclohexane. Mem.: A.C.S. Hobbies: fishing, hunting, swimming.

MARKUSH, Eugene Armand, pres., Phar. Chem. Corp., 169 W. 52nd. St., Bayonne, N.J.; res. 77 Gifford Ave., Jersey City, N.J.
Exec.; b. Hungary, Oct. 18, 1887; s. of Jeno and Mary (Trabit) Markush; ed. Royal U. of Budapest; Royal Tech. U. of Budapest, chem. engr. Dr.; m. Stella Maria Johnson 1919; ch.: Patricia. Hanau Engrg. Co., Lederle Labs., Natl. Color & Chem. Co., Pharma Chem. Corp. Mem. N.Y. Bd. of Trade, Soc. of Dyers & Colourists, A.C.S., Res. Inst. of Am. Inc., Sociètè Suisse de Chimie, A.A.T.C.C., Syn. Org. Chem. Mfrs. Assn., S.C.I. Clubs: Chemists', Bergen-Carteret, University.

MARKWOOD, Louis N., chf., ind. chem. sec., chem. div., Office of Industry & Commerce, U.S. Dept. of Com., Wash. 25, D.C.; res. 5420 Connecticut Ave., Wash. 15.
Chem. economist; b. N.Y.C., Feb. 7, 1896; s. of Julius G. and Marie Markwood; ed. Case Inst. of Tech., Cleveland, Ohio, 1917 B.S. in chem. engrg.; m. Shirley Mandell, Dec. 22, 1929; ch.: Juliet, Isabel. 1917-19, U.S.A., C.W.S., Sgt. 1st class; 1919-27, U.S. Dept. Agric., Wash., D.C., jr. chem.-insecticides; 1927-29, U.S. Dept. Agric., N.Y.C., asst. chem.-insecticides; 1929-31 chem. conslt., Wash., D.C.; 1931-33, U.S. Tariff Com., N.Y.C., spec. expert.-chem.; 1934-42, U.S. Dept. Agric., Wash., D.C., res. chem.-insecticides; 1942 to date, U.S. Dept. Com., chem. economist. Considerable res. on tobacco alkaloids, discovered nornicotine in Am. tobacco. Mem.: A.I.C., A.C.S. Hobby: music.

MARLING, Paul E., grp. ldr., res. chem., Monsanto Chem. Co., Nicholas Rd., Dayton, O.; res. 1250 Wilson Dr., Dayton.
Chem.; b. Newcomerstown, Ohio, Sept. 5, 1887; s. of John H. and Ella N. (Weeden) Marling; ed. Ohio Wesleyan U., Delaware, O., 1915, B.A.; post grad. instr. chem., Ohio State U., 1918-19; m. Ethel M. Stiles, May 31, 1916; ch.: John H., Dorothy F. (Marling) Jamison. H.S. instr., Uhrichsville, O. (sci.), 1915-16; h.s. instr. London, Ohio (chem.), 1916-18; freshman chem. instr. Ohio State U., Columbus, O., 1918-19; Lowe Bros. Co., Dayton, O., chf. chem., 1919-30; Thomas and Hochwalt Lab., res., Dayton, O., 1930-36; Monsanto Chem. Co., res., Dayton, O., 1936 to date. Author: ten papers on protective coatings; holds 5 pats.; also author of "Fundamental Studies-Alkyd Resins," 1947. Mem.: paint, varnish div., A.C.S. (secy., v.chmn., chmn.); Dayton Section, A.C.S. (secy., v.chmn. and chmn.). Clubs: Engineers (Dayton); F. and A.M., West Lafayette, O.; mem. Methodist Ch. Hobbies: gardening, fishing, traveling.

MARON, Samuel Herbert, prof. of phys. chem., Case Inst. of Tech., University Circle, Cleveland 6, Ohio; res. 2632 Milton Rd., University Heights 18, Ohio.
Phys. chem. and prof.; b. Warsaw, Poland, May 28, 1908; s. of Harry and Bertha (Zellin) Maron; ed. B.S. in Chem. Engrg., Case Inst., 1931; M.S., 1933; Ph.D. in phys. chem., Columbia U., 1938; mem.: Sigma Alpha Mu, Tau Beta Pi, Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi; m. Pearl Weinstein, 1936; ch.: Linda Anne. Instr. in chem., Case Inst., 1931-37; asst. prof., 1937-42; assoc. prof., 1942-45; prof. of phys. chem., Case Inst., 1945 to date; dir. of res. proj. on rubber and latex for Off. of Rubber Reserve, RFC.,

1943 to date; res. in chem. kinetics, thermodynamics of gases at high pressures, polymerization, properties of high polymers and their solutions, phys. chem. of synthetic and natural rubber latex, light scattering, rheology of non-Newtonian systems; mem. of Latex Advisory Comm., Off. of Rubber Res.; mem. Sub-comm. on Latex Specs. and Test Meths., A.S.T.M.; conslt. to priv. companies. Co-author (with C.F. Prutton), "Fundamental Principles of Phys. Chem.," 1944. Mem.: A.C.S., A.A.A.S., A.I.Ch.E., A.A.U.P.

MARONEY, William, chmn., chem. dept., U. of San Francisco, San Francisco 17, Calif.; res. 273 Green Street, San Francisco 11, Calif.
Prof. of chem.; b. Fargo, N.Dak., June 9, 1908; s. of Michael C. and Eleanor F. Maroney; ed. B.S., N.Dak. Agri. Coll., 1929, Ph.D., U. of Calif., 1934. Chem., Commercial Solvents Corp., Terre Haute, Ind., 1929; teaching asst., U. of Calif., 1930-34; chmn., chem. dept., Coll. of St. Teresa, 1935; prof. of chem. U. of San Francisco, 1936, chmn. since 1939. Res. in lacquer technology, photochemistry. Mem.: A.C.S. Hobby: skiing.

MARPLE, Howard A, dir. of adv., Monsanto Chem. Co., 1700 S. 2nd. St., St. Louis, Mo.; res. 47 Joy Ave., Webster Groves, Mo.
Advertising; b. Boston, Mass., May 24, 1899; s. of I. Theo and Helen S. (Howard) Marple; ed. Tufts Coll., B.S.; grad. work Boston U. and Carnegie Tech.; m. Mary B. Demms, May 23, 1933; ch.: David, Joan. 1922 res. chem. Merrimac Chem. Co., Everett; 1929, adv. mgr., Fisher Sc. Co., Pittsburgh; with Monsanto Chem. Co. in following positions: tech. serv. writer, 1937; editor, Monsanto Magazine, 1938; trade adv. mgr. 1944; dir. of adv., 1948 to date. Author var. papers in tech. pubs. Mem.: A.C.S., St. Louis Advertising Club, Industrial Marketing Council of St. Louis, Assoc. of Natl. Advertisers, Inc. Clubs: University; Greenbriar Hills Country. Hobbies: photography, golf, painting with water colors.

MARQUART, Vernon L., chem. engr., Curtis Pub. Co., Phila., Pa.; res. 119 Linden Ave., Rutledge, Pa.
Chem. engr.; b. Des Moines, Iowa, May 6, 1913; s. of John M. and Austa L. Marquart; ed. Iowa State Coll., B.Ch.E., 1936; mem.: Theta Delta Chi; m. Naomi Ellis, June 14, 1936; ch.: Amanda Ann. 1936-38, res. chem. engr., Glidden Co.; 1938 43, chf. chem., Gen. Chem. Co.; 1943-47, tech. supvr. same co.; 1947 to date, chem. engr., Curtis Pub. Co. Mem.: A.I.Ch.E., A.I.C., A.C.S. Franklin Inst. Hobbies: photography, sketching.

MARRON, Thomas Urban, res. supvr., A.B. Dick Co., 5700 W. Touhy Ave., Chicago 31, Ill.; res. 1441 West Highland Ave., Chicago 26.
Chem.; b. Pueblo, Colo., Sept. 6, 1914; s. of Thomas and Stasia Marron; ed. St. Ambrose Coll., B.S., 1936; State U. of Iowa, M.S., 1937; Ph.D., 1942; U. of Mich., post doct., 1944; mem.: Alpha Chi Sigma, Sigma Xi; m. Alberta Bloom, 1939; ch.: Michael, Anne, Eileen. 1934-36, lab. asst., St. Ambrose Coll.; 1935-36, conslt.; 1936-38, res. asst., State U., Iowa; 1938, supvr. Parenteral Solutions Labs., S.U.I. Hospitals; 1938-41 chem., dept. pathology, Iowa Lutheran Hosp.; 1942-45 supvr. anal. res., Natl. Aniline Div., Allied Chem. & Dye Corp.; 1946 to date, res. supvr., A.B. Dick Co. Pubs. in biochem., org. and anal. chem., spectroscopy and proc. control; process dev. wk. Mem.: A.C.S., Optical Soc.

MARSH, Clarence Wallace, consltg. chem. engr., 2 Chapel Lane, Riverside, Conn.; res. same.
Consltg. chem. engr.; b. Bklyn., N.Y., June 3, 1873; s. of Wallace T. and Julia (Madora) Marsh; ed. Cornell, 1894, C.E.; mem.: Delta Phi; m. Florence Cannon Morgan, Nov. 20, 1901; ch.: Katharine Nichols, Julia Lawder, Wallace Tyler. Civil engrg., Municipal R.R. Mining, Steel Constrn., N.Y. subway (asst. engr.), designing engr. & chg. constrn. for architects, consltg. engr., U.S. Bur. of Mines; consltg. chem. & indus. engr. Designed & constructed Hooker Elec. Chem. Co. plant (original plant & subesequent enlargements). Many inventions in chlorine indus.; chg. of design of sodium cyanide plant (Bucher Process) for U.S. govt. during war. Author tech. papers appearing in tech. jls. Pres., Marsh Electro Chlorination Co. Inc. Mem.: A.I.Ch.E., A.C.S. Clubs: University (N.Y.C.), Chemists'. Rep. Cong.

MARSH, David Fielding, prof. and hd. of the dept. of Pharmacology, The School of Medicine, West Virginia U., Morgantown, W.Va.; res. 704 Fairlawns Ave., Suncrest, Morgantown.
Pharmacologist; b. Kokomo, Ind., June 8, 1919; s. of Ray Stanley and Ruth Moon Marsh; ed. honors, U. of Ill., 1937, West Virginia U., 1937-39, A.B. 1939; Purdue U. 1940 M.S. (in chem.) 1940; U. of Calif. 1940-42, Ph.D., 1942; mem.: Acacia (Ill. & Purdue); m. Audrey Simmons, Feb. 12, 1941; ch.: Michael Lee Marsh (girl), Charles Fielding Marsh. Commercial Solvents Fellowship, 1938, Purdue U., 1940; Merck Fellow, U. of Calif., 1941; Shell Dev. Fellow, U. of Calif., 1942; asst., dept. of pharmacology, U. of Calif., 1942; asst. prof., dept. of pharmacol., U. of Georgia, School of Medicine, 1942-44; assoc. prof., dept. of pharmacol., West Va. U. School of Medicine, 1944-46; prof. dept. of pharmacol., West Virginia U., 1946 to present. Minor res. in preparation of sympathomimetic amines for pharmacological investigation. Author: "Outline of Fundamental Pharmacology," published by C.C. Thomas, Springfield, Ill., 1950. Mem.: A.C.S., Am. Soc. for Pharmacology and Experimental Therapeutics, Sigma Xi. Hobby: automobile racing.

MARSH, Frank L., dir. of res., Natl. Gypsum Co., 325 Delaware Ave., Buffalo 2, N.Y.; res. 245 Hartford Ave., Kenmore 23, N.Y.
Chem. engr. res.; b. Rapid City, S. Dak., May 16, 1905; s. of Wilson and Laura (Allison) Marsh; ed. S. Dak. Schl. of Mines, B.S. Chem. Engrg., 1927; m. Dorothy Fullerton, June 14, 1930. Fellow in chem., S. Dak. Schl. of Mines, 1927-28; jr. scientist, Natl. Bur. of Stds., 1928-29; dir. of res., Best Bros. Keene's Cement Co., 1929-38; res. engr., Natl. Gypsum Co., 1938-40; asst. dir of res., Natl. Gypsum Co., 1940-43; dir. of res. same co., 1943 to date. Mem.: A.C.S., Amer. Ceramic Soc., A.S.T.M.

MARSH, Henry Neal, sales res. div., Hercules Powder Co., Wilmington, Del.; res. Ramsey Rd., R.D., 2, Wilmington, Del.
Chem. engr.; b. Maysville, Ky., May 6, 1893; s. of Millard F. and Mary D. (Toup) Marsh; ed. B.S. in Ind. Chem., U. of Ky., 1914, cum laude; m. Mary G. Hunter in 1927; ch.: Mary Marsh Davis, Henry N. Marsh, Jr., Eleanor Hunter Marsh, Jane Kennan Marsh. Asst. metallurgist, Andrews Steel Co., Newport, Ky., 1914; chem., Penn. R.R., Altoona, Pa. 1915; chem., Aluminum Ore Co., E. St. Louis, Ill. 1915-17; chem., Hercules Powder Co., Kenvil, N.J., 1917-18; asst. to chem. dir., Hercules Powder Co., Wilmington, Del., 1919-30; asst. to dir. of operation, explosive dept., Hercules Powder Co., Wilmington, Del., 1930-39; mgr., smokeless operations, Hercules Powder Co., Wilmington, Del., 1939-46; mgr., smokeless powder div., Hercules Powder Co., Wilmington, Del., 1946-50; sales res. div., Hercules Powder Co., Wilmington, Del., May, 1950. Conslt. to O.S.R.D. on propellants; seven or eight propellant pats. Mem.: A.I.Ch.E., Sporting Arms & Ammunition Mfrs. Inst., Wildlife Management Inst. (dir.),

Am. Ordnance Assn. Dir., Wildlife Management Inst. Club: Hercules Country. Hobbies: trapshooting, woodworking.

MARSH, William Porter, Jr., pres., U.S. Ind. Chem., Inc., 60 E. 42nd St., N.Y. 17, N.Y.; res. 965 Esplanade, Pelham Manor, New York 65, N.Y.
Exec.; b. Ridgefield Park, N.J., Sept. 6, 1907; s. of William Porter and Charlotte (Millard) Marsh; ed. Mercersburg Acdy. (Pa.), grad. 1926; Ph.B., Yale 1930; grad. wk. Columbia U., 1930-32; C.P.A., U. of N.Y., 1937; mem.: Beta Theta Pi; m. Charlotte Jones, June 17, 1931; ch.: Charlotte Cothran, William Porter, III. 1930-37, jr. accountant, Haskins & Sells, N.Y.C.; U.S. Ind. Chem., Inc., N.Y.C.: 1941, controller; 1943, v.p., controller; 1947, dir.; Jan. 1, 1948, exec. v.p.; July, 1948, to date, pres. Cuba Distilling Co. (dir.), Dodge & Olcott, Inc. (dir.), Sterno Corp. (dir.), Walker Vitamin Prods. Inc. (dir.), U.S. Ind. Alcohol Co. (dir.). Mem.: Controllers' Inst. of Am.; N.Y. State Soc. of Cert. Public Accountants. Mem. bd. of trustees, Huguenot Memorial Church of Pelham; bd. of governors, Pelham Country Club; mem. bd. of dir. Pelham Branch Am. Red Cross; planning bd., Village of Pelham Manor. Clubs: Pelham Country, Men's of the Town of Pelham, Uptown, Cloud (N.Y.), Skytop (Skytop, Pa.). Hobbies: golf, philately.

MARSHALL, Albert Edward, consltg. chem. engr., 603 Industrial Trust Bldg., Prov., R.I.; res. 730 Elmgrove Ave., Providence, R.I.
Chem. engr.; b. Liverpool, England, May 18, 1884; s. of Edward and Marie (Sheppard) Marshall; ed. Liverpool Inst.; 1896-1900; U. Coll. Liverpool, 1900-04 Inter. B.Sc.; So. Kensington, London, 1905-06; honors in chem., Guild M. in chem. tech.; R.I. State Coll., honorary D.Sc., 1942; m. Ruth Marriott Hildebrandt, Nov. 29, 1919; ch.: Albert E., Jr., Richard Sheppard. Asst. mgr., Fleetwood Wks., United Alkali Co., England, 1907; asst. mgr., Thermal Syndicate, Newcastle-on-Tyne, 1920; mgr., Thermal Syndicate, N.Y., 1912; wks. mgr., Davison Chem. Co., Baltimore, 1916-21; consltg. chem. engr., Baltimore & N.Y., 1921-38; v.p., Amino Prods. Co., Detroit, 1932-42 (now owned by Internatl. Mins. & Chem. Co.; pres., Rumford Chem. Wks., Rumford, R.I., 1938-48; v.p., Heyden Chem. Corp., Rumford, R.I., 1948-50. Design of indus. plants for mfr. of heavy chems., amino acids, etc.; economic studies of chem. processes & chem. plant locations; dev. of prod. control devices. Investors Trust Co., Providence (dir.); R.I. Hospital Trust Co., Providence (dir.); James Hanley Co., Providence (dir.); Am. Potash & Chem. Corp., Trona, Calif. (dir.); Niro Corp., New York, N.Y. (dir.). Mem.: A.I.Ch.E. (pres. 1934-35), S.C.I (chmn 1933-34), Prov. Engrg. Soc. (dir. 1941-43), A.C.S. (chmn. R.I. Sec. 1946-47), I.F.T., I.M.M.E., Photographic Soc. of Am., Royal Photographic Soc. (London). N.E. Council, v.p., R.I. Div. 1945 & 1946; Princeton U., chmn. Advisory Council, Dept. of Chem. Engrg. 1941-46; R.I. State Coll., Advisory Council, Engrg. Expt. Station; N.E. Interstate Water Pollution Control Commis., chmn. Clubs: Chemists' (N.Y.), Turks Head (Prov.), Hope (Prov.), Squantum Assn. (Barrington, R.I.), Nantucket Yacht (Nantucket, Mass.), Toledo (Toledo, Ohio). Hobbies: study of early history of glass & chem. mfr.; collecting alchemical & early chemical works, particularly Boyle & Priestley; study beginnings of photography; collecting works on photography & examples of photographic processes, 1838-70.

MARSHALL, Clair Addison, supvr., acid div. process improvement, Tennessee Eastman Corp., Kingsport, Tenn.; res. 1525 Fairidge Dr., Kingsport, Tenn.
Chem. engr.; b. Bluffton, O., Jan. 20, 1911; ed. B.S. chem. engrg. 1934, U. of Michigan; m. Georgia Durham, June 8, 1935; ch.: Sharon Ann. Chem. engr., in chg. of improvements and devs., also production asst., 1934-42; asst. supt., acetic acid dept., 1942-43; conslt. on chem. recovery problems Clinton Engineer. Wks., Oak Ridge, Tenn.; supvr. acid division process improvement, Tennessee Eastman Corp., 1944 to date. Res. two joint pats. concerning a process and apparatus for mfr. of org. acid anhydrides. Mem.: Phi Eta Sigma, Tau Beta Pi, A.I.Ch.E. Clubs: Camera, Tennessee Eastman Recreation Club.

MARSHALL, Harry B., pres. Ciba Company, Inc., 627 Greenwich Street, New York 14, N.Y.; res. New Canaan, Conn.
Exec.; b. North Adams, Mass., May 12, 1904; s. of Harry F. and Elizabeth Boyd Marshall; ed. Williams, 1925, D.Sc., E.T.H., Zurich, 1928; mem.: Psi Upsilon; m. Julie Smidt, Oct. 4, 1930; ch.: Julie, Anne, Helene, Harry. Chem., Windsor Print Works, 1929-30; Ciba Company, Inc., 1930 to date, pres., 1947 to date. Clubs: Williams, Downtown Assoc., Merchants Club, Chemists', Woodway Country. Hobbies: music, golf.

MARSHALL, Hugh A., asst. v.p., Natl. Aluminate Corp., 155 E. 44th St., New York, N.Y.; res. 4209 Howard Ave., Western Springs, Ill.
Exec.; b. Pueblo, Colo., July 25, 1895; s. of M. Frank and Emily Ellen (Rodgers) Marshall; ed. Pueblo pub. schls.; Coffeyville (Kans.) H.S.; U. of Kansas, B.S. in chem. engrg., 1917; mem.: Pi Upsilon, Sigma Tau. Chem., successively with Kans. State Water and Sewage Lab., and M.P. R.R.; 1917-19, military serv. as priv., U.S. Artillery, priv. and 2nd Lt., U.S.A. Ord. Corps; 1919-23, chem., successively with M.P.R.R., Seaboard By-product Coke Co., U.S. Rubber Co. and M.P.R.R.; 1923-24, chf. chem., C.&O. Railway Co.; 1924-25, serv. engr., Chicago Chem. Co.; 1925-28, chem. engr., Aluminate Sales Corp.; 1928-36, Eastern Repr., Natl. Aluminate Corp.; 1936-46, asst. to v.p., same corp.; 1946, asst. v.p., same corp. Mem.: New York Men, New York RR. Club, Southern and Southwestern Railway Club, Master Boilermakers Assoc., A.S.M.E., A.R.E.A., Presbyterian clubs and fraternities, Ponte Verra, Roanoke Country, Newcomen Soc. of England.

MARSHALL, Madison L(incoln), prof. of chem., Texas State Coll. for Women, Denton, Texas; res. same.
Teaching; b. Dayton, Pa., Feb. 18, 1906; s. of Harvey A. and Emma R. (Jewart) Marshall; ed. B.S. in chem. engineering, Grove City College, M.S., and Washington and Jefferson Coll., Ph.D., The Ohio State U.; m. Irene Van Eman, Sept. 18, 1929; ch.: Wm. R., Ernest C., James L., Madilyn M. Asst. prof., Texas State Coll. for Women, 1937-42; assoc. prof., 1942-46; prof., 1946 to present. Fellow, Texas Acdy. of Sc., A.C.S., chmn., Dallas, Ft. Worth Section. Hobby: photography.

MARSHALL, Maud Alice, prof., Wheaton Coll., Norton, Mass.; res. Wheaton Coll., Norton.
Prof. of chem.; b. East Lansing, Mich., July 15, 1907; d. of Charles Edward and Maud (Skidmore) Marshall; ed. Radcliffe Coll., B.A., 1928; Oxford U., D.Phil., 1933. 1928-30 res. asst., Boston City Hosp.; 1930-31, chem., Robert Brigham Hosp., Boston; 1931-33, Oxford U.; 1933-34, res. asst. Mass. Exper. Station; 1934 to date instr., asst. prof., assoc. prof., prof., Wheaton College. Mem.: A.C.S., A.A.U.P., New Eng. Assoc. of Chem. Tchrs., A.A.A.S.

MARSHALL, Richard Mather, pres., Pitts. Coke & Chem. Co., P.O. Box 1645, Pitts. 30, Pa.;

res. Schenley Apartments, 4000 Fifth Ave., Pitts. 13.
Bus. exec.; b. Langhorne, Pa., Nov. 13, 1890; s. of Alfred and Florence Virginia (Mather) Marshall; ed. U. of Pa., Wharton Schl., bus. adm. 1910-14, "Spade" Man; mem.: Phi Kappa Psi; m. Elizabeth C. Taylor, Sept. 1, 1915; ch.: Richard Mather, Jr. (Major, U.S.A., killed May, 1943); John Ashby (Major U.S.A., killed in action, Apr., 1945); C. Taylor; Jacquelin (Mrs. W.W. Hazzard, Jr.). Gen. mgr., Am. Manganese Mfg. Co., Dunbar, Pa., 1921-32; chmn., Kerchner Marshall & Co., 1923-47, v.p. 1947 to date; v.p., gen. mgr., Sloss-Sheffield Steel & Iron Co., Birmingham, Ala., 1932-34; v.p., secy., Woodward (Ala.) Iron Co. 1935-41; v.p., Pitts. (Pa.) Coke & Chem. Co., 1941-47, pres. 1947 to date; pres., Struthers (Ohio) Iron & Steel Co. 1945 to date. Pitts. Coke & Chem. Co., Pitts. Pa. (dir.); Pitts. Steel Co., Pitts., Pa. (dir., mem. exec. comm.); Struthers Iron & Steel Co., Struthers, Ohio (dir.); Kerchner, Marshall & Co., Pitts., Pa. (dir.); Pa. Industries, Inc., Wilmington, Del. (dir.); Empire Chem. Co., Pitts., Pa. (pres., dir.); Great Lakes Steamship Co. Inc., Cleveland, Ohio (dir.); Neville Concrete Pipe Co. (pres., dir.); Neville Island Land Co., Pitts., Pa. (v.p., dir.); Pitts. Agr. Chem. Co., Pitts., Pa. (dir.); Am. Coke & Coal Chem. Assn., Wash., D.C. (dir.); Armed Forces Chem. Assn., Wash., D.C. (dir.). Clubs: Duquesne, Fox Chapel Golf (Pitts., Pa.), Racquet (Phila.), Union (Cleveland, Ohio), Farmington Country (Charlottesville, Va.), Mountain Brook (Ala.), Chemists', U. of Pa. (N.Y.).

MARSHALL, William Davies, distr. sales mgr., Mathieson Chem. Corp., 1221 Widener Bldg., Phila., Pa.; res. 117 Edgewood Rd., Ardmore, Pa.
Sales mgr.; b. St. Johns, Mich., Jan. 11, 1891; ed. U. of Mich., Chem. Engr. 1913; U. of Idaho, res. fellow; m. Frances Reed, Sept. 25, 1918; ch.: Christopher V., Angela. U.S. Bur. Chem., res.; Electro Bleaching Gas Co.; Jardine Matheson Co., Ltd.; Mathieson Alkali Wks., now Mathieson Chem. Corp., dist. sales mgr. 1st Lt. Ordn. Dept., C.W.S., Capt., res. Club: St. Davids' Golf. Hobbies: golf, fishing.

MARSHALL, William Robert, Jr., assoc. prof. in chem. engrg., U. of Wis., Madison, Wis.; res. 3628 Tonyawatha Trail, Madison 4.
Chem. engrg., prof. & conslt.; b. Calgary, Alberta, Canada, May 19, 1916; s. of William Robert & May (Barnum) Marshall; ed. B.S., Chem. Engrg., Ill. Inst. of Tech., 1938; Ph.D. Chem. Engrg., U. of Wis., 1941; mem.: Alpha Chi Sigma; m. Dorothy Robbins, Jan., 1943; ch.: Margaret Odell, Mary Jill, William Robert, III; 1941-47, chem. engr., E.I. du Pont de Nemours & Co., Expt. Station, Wilmington, Del.; Dec., 1947 to date, assoc. prof. in chem. engrg., U. of Wis., Madison; 1947 to date, conslt. on drying problems. Num. pubs. in sc. jls. Mem.: Tau Beta Pi, Sigma Xi, Phi Lambda Upsilon, A.A.A.S., A.I.Ch.E. Hobbies: photography, boating, golf.

MARTIN, Arthur Herbert, pres., dir., Dominion Tar & Chem. Co., Ltd., Rm. 2240 Sun Life Bldg., Montreal 2, Quebec, Canada; res. Chateau Apts., 1321 Sherbrooke St. W., Montreal 25, Que.
Exec.; b. London, Eng., Nov. 14, 1900; s. of Arthur John and Beatrice (Handson) Martin; ed. pub. and priv. schls., Toronto, Ont.; Detroit Business Inst.; Walhenius Inst., Chicago, Ill.; m. Adeline Elanor Handson, Oct. 20, 1928; ch.: Ross Allan, Dennis Handson. Salesman, Canadian Ammonia Co., Toronto, Ont. 1920; sales mgr., Mich. Ammonia Wks., Detroit, Mich., 1923; in chg. of ammonia sales, Canadian Indust. Ltd., Toronto, Ont., 1928; div. mgr., Gen. Chems., C-I-L, Montreal, Que. 1938; asst. gen. mgr., Chem. Grp., 1940; gen. mgr., Agr. Chems. & Salt Grp., 1944; pres. and mng. dir., Std. Chem. Co., Ltd., Toronto, Ont., 1948; pres., Chem. Dev. of Canada, Ltd., 1949; pres., Irwin Dyestuff Corp., 1949; exec. v.p., Dominion Tar & Chem. Co. Ltd., Montreal, 1950; pres. and dir., Dominion Tar & Chem. Co. Ltd. and subsid. cos., Montreal, 1950 to date. Pres. and mng. dir., Std. Chem. Co. Ltd., Toronto, Ont.; pres. and dir., Chem. Dev. of Canada, Ltd., Toronto; pres. and dir., Irwin Dyestuff Corp., Montreal, Que.; pres. and dir., Dominion Tar & Chem. Co., Ltd., Montreal, Que.; pres. and dir., Dalglish Prods. Ltd., Toronto, Ont.; pres. and dir., Schofield-Donald Ltd., Toronto; chmn. of bd. and dir. Dalglish Chems. Ltd., Toronto; chmn. of bd. and dir., Dalglish (Quebec) Ltd., Montreal; chmn. of bd. and dir., Goderich Salt Co. Ltd., Goderich, Ont.; chmn. of bd. and dir., Maritime Indust. Ltd., Nappan, N.S.; dir., Commercial Chems. Ltd., Vancouver, B.C.; pres. and dir., Canada Creosoting Co. Ltd.; pres. and dir., Alexander Murray & Co., Ltd.; pres. and dir., Canada Roof Prds. Ltd.; pres. and dir., Dominion Salt Co. Ltd.; pres. and dir., American Tar & Chem. Co.; pres. and dir., Indust. Minerals Ltd.; pres. and dir., Prairie Salt Co., Ltd.; pres. and dir., Dominion Alkali & Chem. Co. Ltd.; pres. and dir., Alberta Wood Preserving Co. Ltd.; pres. and dir., Vancouver Creosoting Co. Ltd.; pres. and dir., Sifto Salt Co., Ltd. Clubs: Engrs. (Montreal), Mount Stephen (Montreal), Chemists' (N.Y.), Seigniory (Montebello, Que.), Morton's Point Limited (Magnetawan, Ont.), Scarboro Golf & Country (Scarboro, Ont.). Hobbies: fishing, hunting.

MARTIN, Clare S., prof. of chem., Bowling Green State U., Bowling Green, Ohio; res. 331 North Church St., Bowling Green, Ohio.
Chem., tchr.; b. Loogootee, Ind.; s. of Harry A. and Laura (Brittain) Martin; ed. H.S., New Castle, Indiana, Ohio State U.; mem.: A.T.O.; m. Hazel Elisabeth Breese, June 14, 1913; ch.: Dorothy Phyllis (Mrs. R.B. Potts). Tchr. in high schls. of W.Va. and Ohio, 1911-18; with Bowling Green State U., 1923 to date. Mem.: A.C.S., A.A.A.S., O.A.C., A.A.U.P., Sigma Xi, Phi Lambda Upsilon. Club: Kiwanis.

MARTIN, Frank Dayton, prof. of gen. chem., Purdue U., W. Lafayette, Ind.; res. 722 Vine St., W. Lafayette, Ind.
U. prof.; b. South Bend, Ind., May 4, 1901; s. of Will U. and Lillian (Harper) Martin; ed. Purdue U., B.S. Ch.E. 1923, M.S. 1925, Ph.D. 1931; m. Alice S. Patt, Aug. 15, 1925; Studebaker Corp., spring shop, instr. 1918-19; Purdue U., asst. in chem. 1923-25, instr. 1925-31, asst. prof. 1931-38, assoc. prof. 1938-42, prof. of gen. chem. 1942 to date. Res. on spectrophotometry of sols.; E.M.F. of cells with moving boundaries; application of dimensional anal. to chem. calculations; chem. control of precipitation static. Author: "Gen. Chem. for Engrs."; "Lab. Workbook" 1948; "Lecture Notebook & Questions," 1949. Mem.: Div. of Chem. Education of A.C.S. (Comm. on Tests & Examinations 1941 to date, edit. 1942, 1944, "Cooperative Gen. Chem. Test"; mem.-at-large, Exec. Comm., Div. of Chem. Educ. 1947; treas., Div. of Chem. Educ. 1950-52); Sigma Xi, Phi Lambda Upsilon, Tau Beta Pi. Hobbies: sailing, tennis, chess, music.

MARTIN, Frederick H., div. supt., Hood Rubber Co., Watertown, Mass.; res. 285 Payson Rd., Belmont, Mass.
Div. supt.; b. York, Maine, Jan. 29, 1887; ed. Bates, A.B. 1910; Princeton, A.M. 1916, Ph.D. 1917; m. Lucy Johnson, June 10, 1911; ch.: 2 sons, 1 daughter. B.F. Goodrich Co., res. chem.

1916-18; footwear devel. mgr., 1918-22; asst. supt. footwear div., 1922-27; supt. footwear div., 1927-30; since 1930 divisional supt., Hood Rubber Co., a subsid. of B.F. Goodrich Co.; development wk. in use of rubber latex and synth. rubber latex. Mem.: Rubber Div. of A.C.S., A.A.A.S. Hobbies: economics, welfare of boys.

MARTIN, George Read, v.p. and hd., legal dept., American Cyanamid Co., 30 Rockefeller Plaza, New York 20, N.Y.; res. 1333 Manor Circle, Pelham Manor 65, N.Y.
Attorney; b. Norfolk, Va., Dec. 21, 1897; s. of William Bruce and Elizabeth Marchant Starke Martin; ed. B.A., U. of Va., 1918, LL.B. 1921; mem.: Phi Beta Kappa, Delta Phi, Phi Delta Phi; m. Katharine Mott, June 14, 1921; ch.: George Read Martin, Jr., William Mott Martin. Army of the U.S.: June to Dec., 1918, discharged as 2nd Lt.; 1921-26, practice of law in Norfolk, Va., with his brother, James Green Martin; 1926-27, asst. city attorney for City of Norfolk, Va.; 1927 to date, with Am. Cyanamid Company, starting as atty., later organiz. legal dept. and becoming hd. thereof and at present dir., a v.p., and hd. of legal dept. Mem. N.Y. State Bar Assoc. Clubs: Pelham Country (Pelham, N.Y.), The University (New York City).

MARTIN, Gustav J., res. dir., Natl. Drug Co., Phila., Pa.; res. 372 W. Johnson St., Phila.
Res.; b. Dec. 5, 1910; s. of Charles and Pauline Christine Martin; ed. B.S. in chem., U. of Wash., cum laude, 1932; Sc.D. in biochem., Johns Hopkins U., 1935; medicine, U. of Chicago, 1936, 1938; mem.: Pi Kappa Alpha; m. Dorothy Patricia Rogers, 1936. Asst. res. dir., Warner Inst., N.Y., 1939-44; res. dir., Natl. Drug Co., Phila., 1944 to date. Resins in medicine, metabolite analogues, detoxication mechanisms, nutrition. Author: "Metabolite Analogues" in press. Mem.: A.C.S., Soc. for Investigative Dermatology, S.E.B.M., N.Y. Acdy. of Sc., Soc. for Study of Internal Secretions, A.A.A.S., Physiological Soc. Club: Chemists'. Hobby: wood carvings.

MARTIN, Harry Coakley, tech. dir., Brown Paper Mill Co. Inc., Box 1472, Monroe, La.; res. Box 59, R. 1, West Monroe, La.
Chem. engr.; b. S. Orange, N.J., May 19, 1911; s. of Harry F. and Anna (Coakley) Martin; ed. Lehigh U., B.S. in Ch.E., 1934; mem.: Pi Kappa Alpha; m. Estelle McKinney, July 21, 1939; ch.: Nancy Ann, Mary Jean, Helen, Catherine. Raybestos-Manhattan, Inc., 1934-36, asst. to factory mgr. Raybestos Div.; Willson Prods. Inc., 1936-37, chem.; Brown Paper Mill Co. Inc., 1937-39 chem. engr., 1939-41 asst. tech. dir., 1945 to date, tech. dir.; Ordnance Dept., U.S.A., 1941-45, Lt.-Major. Mem.: A.C.S. (sr. mem.), A.I.Ch.E. (active), T.A.P.P.I. (active), Soc. Am. Foresters (assoc.), A.A.A.S.

MARTIN, James Wellford, conslt. engr., 405 Lexington Ave., New York 17, N.Y.; res. 126 Brookdale Dr., Tuckahoe, N.Y.
Conslt. engr.; b. Richmond, Va., Dec. 1, 1891; s. of James Wellford and Jessie D. (Crenshaw) Martin; ed. U. of Va., 1911; m. Martha H. Carroll, Nov. 20, 1917; ch.: James Wellford, Martha Carroll, Thomas Clarke. Supvr. chem., du Pont Co., 1911-15; asst. supt., of T.N.T. plant, Tenn. Copper Co., 1915-17; captain, liaison officer with British in manuf. of chems., in U.S. Army, 1917-19; res. engr., Union Carbide & Carbon Corp., 1919-23; hd. of indus. dept. at Alliquippa Wks., Jones & Laughlin Steel Co., 1923-25; chf. engr. in chg. of prod. and sales, Dry Ice Corp., 1925-28; design and construction of carbon dioxide and dry ice plants, dry ice refrigeration, capacity of conslt. engr., 1928-42; engr. mgr. of construc. at Pine Bluff Chem. Warfare Arsenal, Ark., Sanderson & Porter, 1942-44. Inventor, improv. in manuf. of carbon blacks also num. pats. on mfr. and use of carbon dioxide. Author: "Chemistry in Warfare 1939. Mem.: A.I.Ch.E., A.I.C. (fellow), Am. Soc. of Refrigerating Engrs.

MARTIN, John Cochrane, dir., Evaluation Div., res. & dev. dept., Atlantic Refining Co., 2700 Passyunk Ave., Phila. 1, Pa.; res. Rose Tree Rd., R.D. 1, Media, Pa.
Chem. engr.; b. Phila., Pa., Oct. 5, 1911; s. of John and Mary Martin; ed. Lafayette Coll., 1933, B.S. Ch.E.; mem.: Sigma Chi, Alpha Chi Sigma; m. Barbara Grandlienard, Dec. 23, 1939; ch.: John C., Jr., Martha, Kathleen, Priscilla. 1933, Gulf Oil Corp., mech. dept.; 1933-34, Barrett Co., chem.; 1934, Atlantic Refining Co., jr. engr., 1941 sr. chem. engr., 1944 to date, divisional dir., res. & dev. dept. Mem.: A.C.S., A.I.Ch.E., Franklin Inst. Clubs: Tri-State Yacht, Engineers (Phila.). Hobbies: gardening, sailing.

MARTIN, John Rogers, res. prof., Okla. A.&M. Coll., C.E. Dept. Room E-313, Stillwater, Okla.; res. 11 College Circle, Stillwater.
Res. in highway matls. and constr.; b. Hillsboro, Tex., Feb. 13, 1909; s. of R.B. and Lara Martin; ed. Texas U., B.S. Ch.E., 1935; prof. degree in Civil Engrg. Okla. A.&M., 1949; m. Avlon Ruth. Dec. 24, 1935; ch.: Charles Rogers, Mary Suzanne. 1935-39, asst. paint chem., Texas Hwy. Dept.; 1939-42, jr. chem. engr., 1942-46, asst. matls. and tests engr., 1946-47, chf. lab. engr., all Texas Hwy. Dept.; 1947 to date, res. prof., C.E., Okla. A.&M. Coll. Dev. the curing index for control in mfr. of cut-back asphalts. Contrib. sev. arts. to sc. jls. Mem.: Sigma Xi, Soc. of Rheology, Highway Res. Bd., Asphalt Paving Techs., Soc. of Prof. Engrs., reg. prof. engr. Club: Isaak Walton. Hobby: fishing.

MARTIN, Lena, chem., U.S. Rubber Co., Hogansville, Ga.; res. Roanoke Rd., La Grange, Ga.
Chem.; b. Newnan, Ga., July 11, 1899; d. of William Bowen and Eunice (Davis) Martin; ed. Tenn. Coll., A.B. 1921; Emory U., M.S. 1925. Teacher sc., Lucy Cobb Inst., Athens, Ga., 1921-24; tchr, sc., La Grange High Schl., La Grange, Ga., 1924-26; tchr., physical sc., Columbia Coll., Columbia, S.C., 1926-29; assoc. prof. chem., Ga. St. Coll., Milledgeville, Ga., 1929-42; sr. chem., Davison Chem. Co., Balt., Md., 1942-45; chem. U.S. Rubber Co., 1945 to date. Mem.: A.C.S., A.I.C., A.A.T.C.C., Ga. Acdy. Sc., S.A.S.I., Sigma Delta Epsilon.

MARTIN, Ray Charles, conslt., Office Quartermaster Gen., Res. & Dev. Branch, Wash. 25, D.C.; res. 915 N. Wayne St., Arlington, Va.
Conslt.: paper, plastics, coatings; b. Sayreville, N.J., Mar. 12, 1903; s. of Charles and Katherine Martin; ed. U. of So. Calif., 1924-25, left because of father's death; m. Bertha M. McDavid. du Pont Co., Parlin, N.J. coatings; Glidden, Cleveland, Ohio & San Francisco, supt. laquer mfg.; Gen. Paint Corp., Los Angeles, Calif., tech. dir.; private conslt. in above flds. War Prod. Bd., Wash., D.C. administrator of vinyl acetate & all polymers produced therefrom; presently consltg., Quartermaster Corp, Wash., D.C., dev. of improved papers & paper bd. Res. & dev. involving use of resin latices in papermaking. Author: "Glossary of Paint, Varn., Lacquer & Allied Terms" 1937, "Lacquer & Syn. Enamel Finishes" 1940. Club: Chemists' (N.Y.). Hobbies: fishing, philately.

MARTIN, Samuel William, assoc. dir. of res., Great Lakes Carbon Corp., 8210 Austin Ave., Morton Grove, Ill.; res. 165 N. Pine Ave., Chicago, Ill.

Res. and dev.; b. Pittsfield, Mass.; s. of David and Rose Martin; ed. B.A. Williams Coll., 1932, Phi Beta Kappa, Ph.D., Yale U., 1935, Sigma Xi; m. Beverly Breslove, Sept., 1941; ch.: John David. Natl. Lead Co., Titanium Div., 1935-42; Inst. of Gas Technology, 1942-46; Portland Gas & Coke Co., 1946-49; Great Lakes Carbon Corp., 1945 to date. Res. in Titanium pigments, gas mfr., electrode pitches, coke, aromatic chems., wood preservatives, etc. Mem.: A.C.S., A.I.C., Am. Wood Preservers Assoc. Club: Williams (N.Y.C.). Hobby: photography.

MARTIN, Trueman Million, pres. Lion Oil Co., Lion Oil Bldg., Eldorado, Ark.
Exec.; b. near Roodhouse, Ill., Aug. 29, 1895; s. of George Washington and Tempie Lenora (Million) Martin; ed. Roodhouse, Ill. H.S., 1912; Brown's College-bus. admin., 1913-14; Armour's Tech. Inst., Chicago, night course in combustion engrg., one yr.; m. Helen Thisted, June 25, 1924; ch.: Shirley Helen (Martin) Garrison, Marilyn Mae, Patty Lou, T.M., Jr. 1914-15, Crane Co., Chicago, stenog.; 1916, Stromberg Motor Devices Co., Chicago (now Bendix); 1917-18, U.S.A.; 1919-late 1922, var. employed in selling cars, oil and gas leases, elec. clothes-washers and life ins.; 1922, Advanced Petroleum Corp., Chicago; 1923, Diamond Petroleum Co., of Louisville, Ky., which became Mid-Continent Petroleum Corp. of Ky., 100% owned by Tulsa (Delaware) Mid-Continent Pet. Corp.; emp. there until 1929; on Jan. 15, 1929 started with Lion Oil Co., elected dir. and v.p.; in 1939 elected exec. v.p.; elected pres. in 1947. With 343rd Inf., Oct., 1917 as enlisted man; acting duty sergeant; entered 3rd Inf. Off. Trg. Camp, Rockford, Ill., Jan., 1918; 2nd Lt. in 3 mos. then assigned to Inf. Replacement Camp, Camp MacArthur, Waco, Tex. in June, 1918; advanced 1st Lt. in Aug., 1918; at Camp MacArthur at signing of Armistce. Dir., Indep. Petrol. Assoc. of Amer.; v. chmn. of I.P.A.A.'s Interstate Oil Compact Commis. Comm.; apptd. by Army-Navy Munitions Bd. mem. of the Rubber Indust. Adv. Comm.; v.p., dir. and mem. of Exec. Comm. of the Western Petrol. Refin. Assoc.; mem. of Ark. Petrol. Indust. Comm.; dir. of Ark. Pub. Expenditures Council; mem. of Bd. of Councillors of A.P.I.; mem. of Bd. of Dirs. of Assoc. Indust. of Ark., Inc.; mem. of Ark. Oil Indus. Information Comm.; mem. of Ark. Econ. Council—State Chamber of Commerce; apptd. mem. of Resolutions Comm. of I.P.A.A. for 1950.

MARTIN, Wilfred Samuel, mgr. of drug products manufacture, Procter and Gamble Co., Ivorydale, O.; res. 735 Stout Ave., Wyoming, O.
Exec.; b. Adamsville, Pa., June 11, 1910; s. of Albert W. and Elizabeth (Porter) Martin; ed. B.S. in chem. engrg., Iowa State Coll., 1930; M.E.Sc., U. of Cincinnati, 1938; mem.: Adelante, Phi Kappa Phi, Tau Beta Pi, Phi Lambda Upsilon, Pi Mu Epsilon, Sigma Upsilon; m. Elizabeth Myers, 1938; ch.: Peter William, Judith Arline, Nancy Elizabeth, Paula Jane. Chem. div., Procter & Gamble Co., 1930-50; var. assign. in connect. with devs. in field of soap, synthetic detergents, perfume materials, cosmetic prods., raw material specifications, etc.; dev. soap, synthetic detergents, 1930-36; U. of Cincinnati, 1936-37; dev. perfumes and cosmetic products, 1937-43; hd. of soap products dev., 1943-47; buying dept. service, Drug Products Dev., 1948-50; mgr. drug products mfr., 1950 to date. Mem.: A.C.S., A.I.Ch.E., Engineering Soc. (Cincinnati), Am. Oil Chemists Soc., A.A.A.S. Trustee: Wyoming Presbyterian Church, elder. Club: Wyoming Golf. Hobbies: music, gardening, sports.

MARVEL, Carl Shipp, prof. of org. chem., 107a Noyes Lab., U. of Ill., Urbana.; res. 404 Pennsylvania Ave., Urbana.
Prof. of org. chem.; b. Waynesville, Ill., Sept. 11, 1894; s. of John T. and Mary Lucy (Wasson) Marvel (dec.); ed. 1907-11, Waynesville Acdy.; 1911-15, A.B. & M.S., Ill. Wesleyan U.; 1915-16, M.S., U. of Ill., 1916-20 Ph.D.; mem.: Gamma Alpha, Alpha Chi Sigma, Phi Kappa Phi, Omega Beta Pi, Phi Beta Kappa, Phi Lambda Upsilon, Sigma Xi, Tau Kappa Epsilon; m. Alberta Hughes, Dec. 26, 1933; ch.: Mary Catherine, John Thomas. Instr. in chem., U. of Ill., 1920-21, assoc. 1921-23, asst. prof. 1923-27, assoc. prof. 1927-30, prof. of org. chem. 1930 to date. Chem. of vinyl polymers; synth. rubber; sulfur dioxide-olefin polymers; hydrogen bonding & its relation to solubility; reactions of acetylenic cmpds., hexaarylethanes; organo-metallic cmpds. etc. Author: "Org. Syntheses" Vol. V, 1925, Vol. XI, 1931. D.Sc., Ill. Wesleyan U., 1946; Natl. Acdy. of Sc. (1938); chmn. of Sec. on Chem. 1944-47; Am. Philosophical Soc. (1945); A.C.S. (pres. 1945, dir. 1944-46, councilor-at-large 1939-41, chmn. Div. of Org. Chem. 1932-33, Council Policy Comm. 1944-46, chmn. High Polymer Division, 1950); Soc. Suisse de Chimie; A.A.A.S.; Nichols M., N.Y. Sec., A.C.S. 1944; Julius Stieglitz Memorial Lecturer, Chicago Sec., A.C.S., 1943; Edgar Fahs Smith Memorial Lecturer, Phila. Sec., A.C.S. 1948; Foster Lecturer, U. of Buffalo, Buffalo, N.Y., 1937; Frank Burnett Dains Memorial Lecturer, U. of Kans., Lawrence, Kans., May 5, 1945; Willard Gibbs Award, Chicago Sec. A.C.S., May 19, 1950. Club: Chaos. Hobbies: bird watching, fishing.

MARX, Walter, pres., Max Marx Color & Chem. Co., 188-194 Coit St., Irvington 11, N.J.; res. 106 Harrison St., E. Orange, N.J.
Pres.; b. Jersey City, N.J., Dec. 4, 1897; s. of Max and Flora Kuhn Marx; ed. Cornell U., A.B. 1920; mem.: Zeta Beta Tau. 1920-21 testing labs., Calco Chem. Co.; 1921 to date, Max Marx Color & Chem. Co. Mem.: Natl. Dry Color Mfg. Assn. (past pres.), A.C.S., A.L.C.A., Mountain Ridge Country Club. Hobby: golf.

MARX, Walter S., Jr., v.p. in chg. of res., Printing Arts Res. Labs., Inc., La Arcada Bldg., Santa Barbara, Calif.; res. 480 Hot Springs Rd., Santa Barbara.
Exec., res. in appl. chem.; b. St. Louis, Mo., Sept. 10, 1905; s. of Walter S. and Leda (Kuhn) Marx; ed. Dartmouth Coll., U. of Penn., Columbia U., U. of Southern Calif.; mem.: S.A.E.; m. Mary McArthur Gibson, Oct. 12, 1946; ch.: Diana B., Walter S., III (by prev. m. to Charlotte Bohn); Anne L. Graham (present step-d.). 1929-33, owner and operator, Metropolitan Studios, St. Louis; 1933-38 pat. leases and employment contracts with N.Y. Daily News, Chicago Trib., and other pub. firms to install new photo-mech. equip. and meths. for prod. of photo-engrav. and offset printing plates; dir. of res. and v.p. of Printing Arts Res. Labs., Inc. since 1938 (chmn. of bd.). Inventor of internationally used fluorographic proc. (ultraviolet light mechs. for prod. of highlight halftone printing plates), and dev. of new ultraviolet light absorbing cmpds. for var. screening purposes; holds 29 pats. in this fld. Contrib. num. arts. to sc. jls., and lectures before tech. soc. and indus. conventions. Fellow, A.I.Ch.E., Royal Photographic Soc. (London). Mem.: A.C.S., A.A.A.S., Biographee in Amer. Men of Sc. and Who Knows—And What. Dir. Santa Barbara Community Chest; Santa Barbara Art Museum. Clubs: Montecito Country, Beverly Hills, Coral Casino (Santa Barbara), Channel City. Hobbies: portrait painting, tennis, fishing.

MASON, Carle Woodruff, supt. Amer. Cyanamid Co., 3333 Wilkinson Blvd., Charlotte, N.C.; res. 1412 Kenilworth Ave., Charlotte 3.
Chem.; b. Raleigh, N.C., Aug. 1, 1904; s. of

Charles Winder and Marion (Haywood) Mason; ed. N.C. State Coll., Raleigh, B.S. chem. & dyeing, 1926; mem.: Sigma Pi, Phi Psi; m. Ruth Niven, Nov. 30, 1931; ch.: Carle Woodruff, Jr. 1926-27, chem., Buckeye Cotton Oil Co.; 1927-28, chem. Eagle & Phoenix Mills; 1928-30, supvr. Buckeye Cotton Oil Co.; 1931-37, chem. Charles H. Stone Chem. Wks.; 1937 to date, supt. Amer. Cyanamid Co. Mem.: A.C.S., A.A.T.C.C., Charlotte Engrs. Club. Hobby: fishing.

MASON, Clarence Tyler, dir of res., G.W. Carver Foundation, Tuskegee Inst., Ala.; res. Tuskegee Inst., Ala.
Chem.; b. Chicago, Apr. 21, 1908; s. of Clarence L. and Louise T. Mason; ed. B.S. Northwestern, M.Sc., Ph.D., McGill U.; mem.: Alpha Phi Alpha; m. Lois L. Lucas, June 12, 1936; ch.: Clarence L., Karen E. Assoc. prof., to prof. of chem. and hd. dept. of sc., Dillard U., 1935-42; institutional representative, E.S.M.W.T., 1942-44; res. assoc. to dir. of res. and prof. of chem., Tuskegee Inst., 1944 to date. Res. exper. in following: halogenated ethers, writing inks, inhibitors of corrosion, dialysis membranes and others. Author, syllabus, "The Scientific Aspect of Knowledge," last ed. 1941. Mem.: Sigma Xi, Beta Kappa Chi, A.I.C. (fellow), A.C.S., Natl. Inst. of Sc.

MASON, Donald Bentley, tech. dir., Freeport Sulphur Co., 122 E. 42nd St., New York 17, N.Y.; res. Morningside Dr., Green Farms, Conn.
Chem. engr.; b. May 9, 1898; s. of Charles Henry and Grace Howard Mason; ed. B.S. chem. engrg., U. of Rochester, 1922, M.S. chem. engrg. practice, M.I.T., 1924; mem.: Phi Beta Kappa, Alpha Delta Phi; m. Hildegarde Eldridge (deceased) Oct. 2, 1923; ch.: Jocelyn (Mrs. C.J. Cain) b. 1924, Jeremy, b. 1926. Jr. chem. engr., Procter & Gamble, 1923-24; res. & dev. engr., U.S. Ind. Alcohol Co., 1924-31; asst., R.E. Marshall, 1931-32; tech. dir., Freeport Sulphur Co., 1932 to present. Mem.: A.I.Ch.E., F.A.I.C., A.C.S., S.C.I., Chem. Markets Res. Assn. Club: Chemists'. Hobbies: gardening, sailing.

MASON, Harold Lawrence, prof. of physiologic chem., U. of Minn. (Mayo Foundation) and assoc. in division of biochem. Mayo Foundation, Mayo Clinic, Rochester, Minn.; res. 1428 First St., S.W., Rochester.
Biochem.; b. Compton, Calif., Apr. 17, 1901; s. of Charles Isaac and Mary Street (Whaley) Mason; ed. B.A., magna cum laude, U. of Southern Calif., M.A., same., Ph.D., U. of Chicago, 1923, 1924 and 1927; m. Maude McKenzie, Sept. 7, 1927; ch.: Lawrence Harold, Norman Ronald, Kathleen Helen. Instr. in chem., Northwestern U., 1927-28; div. of biochem., Mayo Foundation, 1928 to date. Res. estalishment of structure of glutathione, isolation and wk. on structure of adrenal cortical hormones; studies on metabolism of steroids, relation of urinary steroids to adrenal cortical tumors and hyperplasia; asst. editor of "Chemical Abstracts" in chg. of Sec. 11 G., Edit. Bd., Journal Clinical Endocrinology. Mem.: A.C.S., Assoc. for Study of Internal Secretions, Am. Assoc. for Cancer Res., Am. Soc. of Biological Chemists, A.A. A.S., Amer. Assn. Clinical Chemists.

MASON, Herbert W., Jr., v.p. Reichhold Chemicals Inc., 707 Woodward Hgts. Blvd., Detroit 20, Mich.; res. Applewood, Franklin Rd., R.F.D. 3, Pontiac, Mich.
Exec.; b. Montpelier, Ohio, July 28, 1913; s. of H.W. and Harriet (Van Hyning) Mason; ed. U. of Va.; U. of Mich., B.S., 1935; mem.: Sigma Chi; m. Joy Sibley, Oct. 11, 1947; ch.: d. Merrill. 1936 to date with Reichhold Chems. Inc. Dir. Reichhold Chems. (Canada) Ltd. U.S. Naval Res.; v.p. Detroit Symphony Orch.; Founders Soc., Detroit Inst. of Arts. Clubs: Pine Lake Country.

MASON, J. Philip, prof. of chem., Boston U., 725 Commonwealth Ave., Boston 15, Mass.; res. 68 Sterling Rd., Westwood, Mass.
Chem.; b. South Hadley Falls, Mass., Jan. 3, 1901; s. of John and Arabelle (Fletcher) Mason; ed. Boston U., B.S., 1922; Princeton U., A.M., 1923; Ph.D., 1927; mem.: Lambda (social frat.); m. Ruth Edwards, Jan. 18, 1933; ch.: Marilyn Edwards, John Fletcher. 1925-28, instr. Geo. Washington U.; 1928-31, instr., 1931-36 asst. prof., 1936 to date prof., Boston U.; dir. of res. proj. sponsored by Armstrong Cork Co. at Boston U.; conslt. for Robert T. Pollock Res. Co. Co-author of sev. pubs. in sc. jls. Co-author with J.F. Manning, of "The Tech. of Plastics and Resins," D. Van Nostrand Co. 1945. Mem.: Phi Beta Kappa, A.C.S., N.E. Assoc. of Chem. Tchrs. Hobbies: fishing, gardening, sports.

MASON, Jesse Wilford, dean of engrg., Georgia Inst. of Tech., Atlanta, Ga.; res. 320 Lamont Dr., Decatur, Ga.
Chem. engr.; b. Apr. 16, 1909, Louisville, Ky.; s. of Alfred J. and Nettie P. Mason; ed. B.S., Ch.E., U. of Louisville, 1930; Ph.D., Yale, 1935; doctor of engrg., U. of Louisville, 1950; m. Camille Fanelli, Dec. 26, 1935; ch.: Francis Alfred. Cooperative student employee, Ky. Oxygen-Hydrogen Company, 1927-29; grad. asst. Yale, 1930-33; chem. engr., Palmer Asbestos & Rubber Company, 1933-35; asst. prof., chemical engineering, U. of Florida, 1935-38; Georgia Inst. of Tech., asst. prof., chem. engrg., 1938-40; assoc. prof., 1940-41, prof. and dept. head, 1941-48; dean of engrg, 1948 to date. Mem.: A.I.Ch.E., Am. Soc. of Engrg. Ed., Sigma Xi, Tau Beta Pi, Alpha Chi Sigma, Sigma Tau.

MASON, Leslie Wilson, asst. treas., Hercules Powder Co., Wilmington, Del.; res. 1020 N. Jackson St., Wilmington.
Exec.; b. Franklin City, Va., Mar. 24, 1893; s. of Hillary W. and Mollie A. Mason; ed. 8 yrs. Greenbackville, Va. H.S.; 3 yrs. Stockton, Md. H.S.; 1 yr. Goldey Coll. accounting; m. Carrie Todd Barrett, Mar. 4, 1915; ch.: Charlotte R. Moore, Leslie W., Jr., Dora Mae, Anna M. Lessey. 1913, clerk, cost & gen. div., treas. dept., Wilmington; 1923, chf. clerk, disbursement div., treas. dept., Wilmington; 1926, secy., treas. of Va. Cell. Co. (a susidiary) Hopewell, Va.; 1929, asst. comptroller, treas. dept., Wilmington; 1931-36, asst. treas., Paper Makers Chem. Corp., Wilmington; 1940, comptroller, Radford Ordnance Wks., Radford, Va.; 1941 asst. comptroller, 1941 comptroller, 1943 to date asst. treas., Hercules Powder Co., Wilmington. Clubs: Hercules Men's, Hercules Country. Hobbies: bowling, baseball, football.

MASON, William Allen, chem. engr., The Dow Chem. Co., Midland, Mich.; res. 10 Lexington Ct., Midland, Mich.
Chem. engr.; b. Ft. Wayne, Ind., Mar. 22, 1907; s. of William Spencer and Lela Virginia Mason; ed. B.S., in chem. engrg., Purdue U., 1930; mem.: Alpha Beta Alpha; m. Eva Pauline Harrison, June 4, 1934; ch.: Connie Louise, Robert Allen. Control chem., Atmospheric Nitrogen Corp., 1930-31; supt., Midland Ammonia Co., 1931-40; chem. engr. The Dow Chem. Co., 1941 to date. Res. design and dev. of ammonia prod. plants and equipment. Mem.: A.C.S., A.I.Ch.E., Electrochem. Soc., Eng. Soc. of Midland, bd. of dir. Clubs: Midland Camera, pres., Purdue Club, F.&A.M. Center Lodge. Hobbies: photography, music, refrigeration, tinkering.

MASS, Henry, v.p., treas., Ampion Corp., 4-88 47th Ave., Long Island City 1, N.Y.; res. 1864 61st St., Bklyn. 4, N.Y.
Mgr.; b. Bklyn., N.Y., Jan. 14, 1914; s. of Isaac and Yetta Mass; ed. St. John's U., Schl. Accounting, Bklyn., N.Y., B.B.A., 1936; mem.: Delta Mu Delta; m. Sylvia Friedman, July 30, 1938. 1932-43, Clifton Chem. Co., Inc., N.Y.C., mgr.; 1943-46, U.S. Naval Constr. Battalions—served overseas on Guam; yeoman, first class—legal adv. to battalion, battalion photographer; 1946 to date Ampion Corp., 4-88 47th Ave., L.I.C., mgr. Dir., v.p., treas., Ampion Corp., Temp Chem. Co., Inc., Nelard Corp. Co-author: "Sanitary Prods." 1942; 2nd ed. now in compilation; Scoutmaster, Troop 500, Boy Scouts of Am., Bklyn. Hobbies: photography, stamps, homecraft work, gourmetry, hiking, sports.

MASSON, Henry James, asst. dean, prof., Coll. of Engrg., N.Y.U., Bronx, N.Y.C.; res. 294 Bronxville Rd., Bronxville, N.Y.
Educator, consltg. chem. engr.; b. N.Y.C., Dec. 24, 1891; s. of Henry James and Sarah (Pancoast) Masson; ed. Ch.E., 1914, A.M., 1916 Columbia; M.S., 1915, Ph.D., 1918, N.Y.U., Tau Beta Pi, Sigma Xi, Phi Lambda Upsilon; mem.: Phi Sigma Kappa; m. Edith Virginia Hewitt, Nov. 28, 1917; ch.: Robert Hewitt, Helen Virginia. Instr., chem. engrg., Columbia 1915-17; N.Y.U., instr. 1917-18, asst. prof. 1918-28, assoc. prof. 1928-32, prof. 1932 to date, asst. dean 1941 to date. Pet., carbon blade. Mem.: A.C.S., A.I.Ch.E., Licensed Prof. Engr. N.Y. State. Club: Faculty, N.Y.U. Hobbies: golf, fishing.

MATEJCZYK, John F., coordinator of res., O. Hommel Co., Pittsburgh, Pa.; res. 7506 Trevanion Ave., Pittsburgh 18.
Chem.; b. Hastings, Pa., Apr. 4, 1906; s. of Andrew and Mary Matejczyk; ed. Kanty Prep., 1920-25; Duquesne U., B.S., 1928; M.S., 1932; U. of Pittsburgh, spec. courses, 1933; m. Marjina B. Miller, 1936; ch.: J. Philip, Marjina B. Instr. chem. Duquesne U., 1928-32; asst. prof. chem., same U., 1932-41; C.W.S., U.S.A., Major, 1942-46; adjunct prof. chem., Duquesne U., 1946 to date; chf. chem., Carbon Div., Pitts. Coke & Chem. Co., 1946-48; coordinator res., O. Hommel Co., 1948 to date; res. in study of flowing mercury electrodes; determ. of halogens using pot. iodide and ceric sulfate; activated carbon-mfr. and testing for adsorption of toxic gases; solvent recovery by activated carbon; catalysis; ceramics. Mem.: A.C.S., Penn. Chem. Soc., Chemists' Club (Pgh.), Amer. Ceramic Soc., Armed Forces Chem. Assoc., A.S.T.M. Hobbies: sports, gardening.

MATHERS, Frank (Curry), prof. chem., retired, chem. dept., Ind. U.; res. 503 Ballantine Rd., Bloomington, Ind.
Chem. prof.; b. Feb. 11, 1881; s. of J(ohn) Thomas and Elizabeth Bunsall Mathers; ed. A.B., 1903; A.M., 1905; Ind. U.; Ph.D., Cornell U., 1907; m. Maud Bowser, July 10, 1911; ch.: Thomas N., William H., dec. Spec. res. chem., Roessler & Hasslacher Chem. Co., summer, 1917; expert electrochem., Chem. Warfare Serv., Wash., D.C. summer, 1918; instr., Ind. U., 1903-05; asst. prof. 1907-13; assoc. prof. 1913-23; prof. 1923-50; interim chrmn., dept. chem., 1946-47; pres., Am. Electrochem. Soc. 1940. Res. in preparation of fluorine by electroly. of melted potassium fluoride, many res. on electroplating of metals, res. on less well known elements, espec. selenium, tellurium, electr. tin refining, preparation of magnesium fluoride for filming lenses. Mem.: A.E.S., Alpha Chi Sigma, Sigma Xi.

MATHESON, Arthur Marshall, chf. chem., Niacet Chems. Div., U.S. Vanadium Corp., Niagara Falls, N.Y.; res. 4627 Terrace Dr.
Chem.; b. Ottawa, Canada, Aug. 26, 1898; s. of Roderick B. and Harriet A. Matheson; ed. McGill U., B.Sc., 1923; mem.: Kappa Alpha; m. Helen C. Whitney, June 18, 1927. Canadian Elec. Prods. Ltd., chem.; Niacet Chems. Corp., chf. chem. Mem.: A.C.S., A.A.A.S. Hobbies: photography, gardening.

MATHEWS, Joseph Howard, dir. course in chem., U. of Wis., Madison, Wis.; res. Lathrop St., Madison.
Prof. of chem.; b. Auroraville, Wis., Oct. 15, 1881; s. of Joseph and Lydia Mathews; ed. U. of Wis., B.S., 1903; M.A., 1905; Harvard U., M.A., 1906; Ph.D., 1908; mem.: Alpha Chi Sigma; Phi Lambda Upsilon; Phi Kappa Phi; Sigma Xi; Alpha Kappa Lambda; m. Ella Gilfillan, June 26, 1909; ch.: Marion, Jean. 1905, asst. phys. chem., U. Wis.; 1906-07, instr. phys. and indus. chem., Case Schl. Appl. Sc.; 1908-11, instr. phys. chem., 1911-17, asst. prof. of chem., 1917-19, assoc. prof. of chem., 1919 to date prof. of chem. and dir. and chmn., U. of Wis. Author of 60 sc. papers; co-author "Experimental Phys. Chem.," 1st ed. 1929, 2nd ed. 1934, 3rd ed. 1941, 4th ed. 1949. Mem.: A.A.A.S. (fellow); A.C.S.; Wis. Acdy. Arts, Letters and Scs. Clubs: Rotary, Madison Prof. Mens; University (Madison). Hobbies: color movies of wild life, crime detection by sc. meths.

MATHEWSON, Champion Herbert, emeritus prof. of metallurgy, Hammond Lab., 14 Mansfield St., New Haven, Conn.; res. 316 Ogden St., New Haven.
Metallurgist; b. Essex, Conn., Oct. 7, 1881; s. of Herbert Israel and Nettie (Bulkeley) Mathewson; ed. Ph.B. Yale (Sheff.) 1902; Ph.D. (magna cum laude) Göttingen; mem.: Sigma Xi, Tau Beta Pi, Alpha Chi Sigma; m. Irene Hazen Young, June 19, 1912; ch.: Janet Irene, Hazen Young. 1902-04, asst. in chem., M.I.T.; 1906-07, instr. in chem., same Inst.; 1907 to date, instr., asst. prof. and prof., Yale U.; has written about 50 sc. papers in fld. of constitution, structure and properties of metals and alloys; pub. mostly by A.I.M.M.E. Pub.: Translation, Ruer, Elements of Metallography, 1909; First Principles of Chem. Theory, 1908. Mem.: A.A.A.S., A.C.S., A.I.M.E. (pres. 1943), Am. Soc. Engrg. Ed., Inst. of Metals (London), Soc. for Metals, Conn. Acdy. Arts & Scs., James Douglas M., A.I.M.E., 1932, Gold M., A.S.M., 1947. Mathewson Gold Medal established 1950 by A.I.M.E. Clubs: Graduates and Faculty (New Haven); Chemists' (N.Y.). Hobbies: gardening, travel.

MATHEWSON, Walter Eldridge, 330 Clay St., Topeka, Kans.
Chem., conslt.; b. Massillon, Ohio, Apr. 20, 1880; s. of Marcellus and Belle Conrad Mathewson; ed. Kans. St. Coll., B.S.; M.S., U. Goettingen, Germany; m. Jane L. Jones, Oct. 15, 1920; ch.: Hugh S. Asst. chem., assoc. chem., Federal Dept. Serv., 1908-22, N.Y., Wash.; U.S.A. Ord. Dept., capt., 1918; chem., A.T. & S.F. Ry., 1923-50. Twenty res. papers in sc. periodicals, relating to wheat proteins, spectrophotometry; dye, org. anal. Author: chap. on "Colouring Subs. in Foods" in Allen's Comm. Org. Anal., 5th ed., vol. 5. Mem.: A.C.S., A.A.T.C.C.

MATHIES, James C., assoc. in biochem., Edsel B. Ford Inst. for Med. Res., Henry Ford Hosp., Detroit 2, Mich.; res. 14577 Whitcomb, Detroit 27.
Biochem. res.; b. Seattle, Wash., July 20, 1919; s. of Alfred G. and Ethel C. Mathies; ed. U. of Wash., B.S. in chem., 1942 (magna cum laude); Wayne U., M.S. 1946; U. of Wash., Ph.D. 1948; m. Liuba I., 1942; ch.: Mark, Richard. 1942-45

res. and dev. U.S. Rubber Co., Detroit; 1945-46 tchg. fellow, U. of Wash., Chem. Dept., Seattle; 1946-48 assoc. U. of Wash. Med. Schl.; 1948 to date assoc. in biochem., Edsel B. Ford Inst., Detroit. Contrib. sev. arts. to sc. jls. Mem.: A.A.A.S., Sigma Xi, A.C.S.

MATLACK, Marion Brooks, food tech., Food Distrib. Programs Br., P. & M.A., U.S. Dept. Agr., Wash. 25, D.C.; res. 2700 N. 25th St., Arlington 7, Va.
Chem.; b. Sorrento, Fla., Apr. 2, 1898; s. of Albert Sharp and Anna May (Brooks) Matlack; ed. B.S., U. of Fla., 1921; M.S., Geo. Wash. U., 1923; Ph.D., U. of Wis., 1928; also attended Carnegie Tech. and U. of Chicago for short periods; m. June Royal, June 13, 1922; ch.: Albert Shelton, James Marion, Donald Edwin, Philip Royal. Asst. chem., U.S. Bur. of Stds., 1921-24; instr., Ga. Tech., 1924-25; res. chem., Gen. Foods Corp., 1928-30; assoc. chem., chem., nutritionist, food tech., U.S. Dept. of Agr. 1930 to date; res. in plant constituents, citrus, pigments, enzymes, wood turpentine, fats. Mem.: A.C.S., A.A.A.S., Wash. Acdy. of Sc., Phi Kappa Phi, Gamma Sigma Epsilon, Phi Sigma, Sigma Xi. Hobby: plant breeding.

MATSON, Edward J(ohn), asst. to exec. dir. of res., Abbott Labs., North Chicago, Ill.; res. 2100 S. Green Bay Rd., Waukegan, Ill.
Org. chem.; b. Chicago, Ill., Nov. 16, 1911; s. of Edward and Florence Christine (Smith) Matson; ed. Wheaton Coll., Wheaton, Ill., B.S., A.B. 1933; U. of Ill., M.S. 1936; Ph.D. 1939; m. Virginia Mae Freeberg, Oct. 18, 1941; ch.: Karin Elizabeth, Sara Margaret, Edward Robert, Laurence Dalrymple. 1933-34, instr. Columbian Prep. School, Washington, D.C.; 1934-35, asst. chem. Pfanstiehl Chem. Co., Waukegan, Ill.; 1935-38, grad. asst., 1938-39, grad. fellow U. of Ill.; 1939-45, res. chem. Abbott Labs., North Chicago, Ill.; 1945 to date asst. to exec. dir. res., same co.; res. in synth. estrogens, antimalarials. Mem.: A.C.S.; Sigma Xi; Phi Lambda Upsilon; Phi Kapa Phi; Sigma Pi Sigma.

MATTHEWS, Frederic Lawrence, dir. of res., Monsanto Chemical Company, Merrimac Div., Everett, Mass.; res. 26 Lawson Rd., Winchester, Mass.
Dir. of res.; b. Apr. 5, 1915 in N.Y.C.; s. of Frederic Lawrence and Mary Agnes Clark Matthews; ed. Columbia U., Ph.D.; m. Mary Louise Kelley, Feb. 10, 1939; ch.: Frederic Lawrence, Patricia Louise, Mary Ann. Held the following positions with the Monsanto Chem. Co. since July 5, 1939; St. Louis oil additives group, Chemical Warfare Service Plant, Aug., 1942; Dec., 1943, coordinator sales, production, research on oil additives to Apr., 1947; transferred to Merrimac Division May, 1947, as assoc. dir. of res.; Mar., 1948, dir. of res.

MATTHEWS, Glenn Earl, tech. res. editor, Eastman Kodak Co., Rochester, N.Y.; res. 55 Stoneham Rd., Rochester 10, N.Y.
Tech. editor; b. Ortonville, Minn., Aug. 22, 1897; s. of William Henry and Orlett F. Matthews; ed. B.Sc. in chem., U. of Minn., 1920, M.Sc., 1921; mem.: Alpha Chi Sigma; m. Marion Harding, June 30, 1921; ch.: Margaret E. Res. chem., Kodak Res. Laboratory, 1921-26; tech. editor, 1926 to date. Pub. tech. papers on photographic chem., corrosion of mtls. in photo solutions. Pub. reviews on photoprogress in "New International Year Book," Funk & Wagnalls, since 1928; Natl. Year Book, 1938-47; Americana Yr. Book, 1941. Asst. editor Webster's International Unabridged Dictionary, 2nd edition 1934. Co-author with J.I. Crabtree, "Photographic Chemicals & Solutions," American Photographic Pub. Co., Boston, 1939. Mem.: A.C.S. (since 1918), Soc. of Motion Picture & Television Engineers (fellow), Royal Photographic Soc. of Gr. Britain, (fellow), Photographic Soc. of Am. (fellow). V.p., N.Y. School Bds. Assoc., 1937-40. Hobbies: photography, golf.

MATTHEWS, Leslie Goddard, sales mgr. by-prods., Am. Smelting & Refining Co., 120 Broadway, N.Y. 5, N.Y.; res. Morristown, N.J.
Chem. engr.; b. Bklyn., N.Y., Oct. 26, 1890; s. of Geo. H. and Eva J. Matthews; ed. Lehigh U., 1913; mem.: Sigma Chi; m. Helen Swedes, Feb. 1, 1919. Stand. Oil Co. of N.Y., 1913-19, marketing exec.; E.I. du Pont de Nemours & Co., 1919-22, sales mgr.; Am. Smelting & Refining Co., 1922 to date, sales mgr. Mem.: Am. Ceramic Soc., Natl. Agr. Chem. Assn., Assn. Electroplaters Soc. Club: Bankers Club of N.Y.

MATTIN, Harry Edward, pres., Mearl Corp., 153 Waverly Pl., New York 14, N.Y.; res. 822 The Parkway, Mamaroneck, N.Y.
Chem.; b. Port Chester, N.Y., Feb. 27, 1896; s. of Bernard and Anna Mattin; ed. Cornell U.; m. Edith, June 26, 1923; ch.: Helen Ann, Lewis Henry. C.W.S., private, 1918; Lambeck Chem. Co., 1919-24; Zinsser & Co., 1921-23; Dyes & Chemicals, Inc., 1923-28; Mearl Corp., 1928 to present. Mearl Manufacturing Co., pres., Earle & Mattin, pres. Mem.: A.C.S., A.I.C., S.C.I., A.A.A.S. Clubs: Chemists', Cornell. Hobby: boating.

MATUSZAK, Maryan P(iotr), res. chem., Phillips Pet. Co., Bartlesville, Okla.; res. 307 W. 6 St., Bartlesville.
Physical chem.; b. Pitts., Pa., Oct. 19, 1902; s. of Martin and Mary A. Matuszak; ed. Lebanon Valley Coll., A.B., 1924; Ohio State U., A.M., 1927, Ph.D., 1929; m. Francesca Hockett, Nov. 28, 1928; ch.: Charles Alan, David Robert. Instr. in chem., Carleton Coll., 1929; asst. prof., Wittenberg Coll., 1929-30; assoc. physical chem., U.S. Bur. of Mines, 1930-33; dir. of dev., Fisher Sc. Co., 1933-34; res. chem., Phillips Pet. Co., 1934 to date. Decomposition of tetra-alkyls; determination of carbon disulfide; composition of copper xanthate; determination of phosgene; gas & olefin anal.; azeotropic mixtures; catalytic alkylation. Author: "Fisher Gas-Anal. Manual," Fisher Sc. Co., 1934. Mem.: A.C.S., Sigma Xi.

MAUDE, Aylmer Henry, res. engr., Hooker Electro-Chem. Co., Niagara Falls, N.Y.; res. 9349 Rivershore Dr.
Chem. engr.; b. Moscow, Russia, Aug. 8, 1890; s. of Aylmer and Louise Maude; ed. Finsbury Tech. Coll., London, Eng., fellow, Royal Inst. Chem.; m. Winifred E. Hanson, 1931; ch.: David Lowell. 1914-19, Canadian Explosives Ltd., chem.; 1920-23, Shawingan Chems., Ltd., res. chem.; 1923-25, Westinghouse Elec. & Mfg. Co., Inc., res. engr.; 1925-32, Rubber Serv. Labs., Inc., chem. engr.; 1932-36, Atmospheric Nitrogen Corp., res. chem.; 1935 to date, Hooker Electrochem. Co., res. engr. Invention, dev. of "Hooker Anh. Hydro. Chloride Burner"; invention, dev. of proc. for anhydrous Al. chloride. Mem.: Royal Inst. Chem. of Great Brit., (fellow); A.C.S., A.I.Ch.E., Prof. Engrs. (N.Y.). Club: Appalachian Mt. Hobby: mountaineering.

MAXWELL, E. Mackenzie, Pres., Natl. Aniline Div., of Allied Chem. & Dye Corp., 40 Rector St., N.Y. 6; res. 49 Henhawk Rd., Great Neck, Long Island, N.Y.
Exec.; b. Bklyn., N.Y., Oct. 9, 1901; ed. Bklyn. Poly. Inst.; m. Lydia Green, Dec. 12, 1936; ch.: Winslow. With Am. Cyanamid Co., mfg.

and pur. divs., 1919; Natl. Aniline & Chem. Co., mfg., pur., sales divs. from 1920; to date, pres. same co. Mem.: A.C.S., N.Y. Acdy. of Scs. Clubs: Ely Parker Lodge, F. & A.M. (Buffalo); Kismet Temple (Bklyn., N.Y.), 32nd deg. A.A.O. N.M.S.; Downtown Athletic Club; Manhasset Bay Yacht Club; The Creek Club. Hobbies: golf, sailing.

MAXWELL, Loyal C., div. supt., Armour Labs., Chicago, Ill.; res. 1369 E. Hyde Park Blvd., Chicago 15, Ill.
Chem. engr., biochem.; b. Aug. 9, 1893; s. of A.M. and Evalyn (Clark) Maxwell; ed. U. of Ill., B.S.; mem.: Alpha Chi Sigma, Phi Lambda Upsilon; m. Maude E. Witmer, Jan., 1927. U.S. Bur. of Stand., chem., 1917-18; Santa Barbara Cottage Hosp., res. biochem., 1923-27; Stand. Oil Co. of Calif., chem., 1928-29; Santa Barbara Cottage Hosp., biochem., 1929-35; Frederick Stearns & Co., biochem., 1935-43; Schenley Corp., dir. penicillin plant, 1943-45; Armour Labs., div. supt., 1945 to date. Insulin, chemotherapy, cancer, pituitary hormones. Mem.: A.C.S. Hobbies: hunting, fishing.

MAY, Clarence Earl, prof. chem., Ind. U.; res. R.R. 5, Bloomington, Ind.
Univ. prof.; b. Bloomington, Ind., Mar. 3, 1884; s. of John L. and Estella May; ed. Ind. U. A.B. 1904; A.M. 1905; m. Frederica Kirby, Sept. 3, 1914; ch.: Charles Frederic, Mrs. Margaret L. Forster, Mrs. Elizabeth Clare Boardman. Ind. U., instr. 1905-08; asst. prof. 1908-12; assoc. prof. 1912-26; prof. 1926-50. Res. in org. chem. Author: "System of Org. Chem.," 2nd ed. 1941. Mem.: A.C.S., Sigma Xi, Phi Upsilon, Alpha Chi Sigma.

MAY, Ernest M., gen. mgr., secy., Otto B. May, Inc., 198 Niagara St., Newark 5, N.J.; res. 57 Colt Rd., Summit, N.J.
Chem.; b. Newark, N.J., July 24, 1913; s. of Otto B. and Eugenie May; ed. Princeton U., A.B. 1934; U. of Chicago, Ph.D., 1938; m. Harriet E. Dewey, Oct. 12, 1940; ch.: Ernest, James. 1938 to date with Otto B. May, Inc.

MAY, Oliver, financial adviser, Merck & Co. Inc., Rahway, N.J.; res. Southport, Conn.
C.P.A.; b. N.Y.C., May 15, 1908; s. of George O. and Edith Mary (Slocombe) May; ed. Pomfret Schl., Pomfret, Conn.; Sheffield Scientific Schl., Yale U., B.S.; mem.: St. Elmo (Yale U.); m. Elizabeth M. Newman, Apr., 1936; ch.: Elizabeth A., Pamela, John Oliver. Price Waterhouse & Co., (N.Y., Phila., London), 1930-42; Army Air Force, 1942-45; Penick & Ford, asst. treas., 1945-46; Textron Inc., treas., 1946-49; Merck & Co. Inc., financial advisor, 1950 to date. Dir., Spiral Fastener Corp. Mem.: Am. Inst. of Accountants; N.Y.S. Soc. C.P.A.; Natl. Assoc. Cost Accountants. Clubs: N.Y. Yacht; Country (Fairfield, Conn.); Pequot Yacht (Southport, Conn.).

MAY, Orville Edward, v.p., Coca Cola Co., 310 North Ave. N.W., Atlanta, Ga.; res. 3449 Peachtree Rd. N.E., Atlanta.
Chem.; b. New Albin, Iowa, Aug. 22, 1901; s. of George B. and Frances M. (Dailey) May; ed. Loras Coll., 1918-20; U. of Minn., 1920-23; George Washington U., A.B., 1924, M.S., 1926, Ph.D., 1929; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi; m. Katherine Marie Barrett, Oct. 27, 1926; ch.: Elaine Marie, George Barrett. Chem., Bur. Chem., U.S. Dept. Agr., Wash., D.C., 1923-26; dir., U.S. Regional Soybean Lab., U. of Ill., Urbana, Ill., 1936-39; dir., U.S. Northern Regional Lab., Peoria, Ill., 1939-42; coordinator of chem. & chem. engrg. res., U.S. Dept. Agr., Wash., D.C., 1942-44; chf., Bur. Agr. & Ind. Chem., U.S. Dept. Agr., Wash., D.C., 1944-46; 1946 to date, tech. exec., v.p., Coca Cola Co., Atlanta, Ga. Mold fermentations, biochem. of molds; submerged mold fermentations; processing & utilization of agr. prods.; organization, direction & adm. of chem. & chem. engrg. res., dev. & control. Mem.: A.C.S., A.I.C. (fellow), A.O.C.S., I.F.T., A.P.H.A., A.A.A.S. Clubs: Cosmos (Wash., D.C.), Capital City (Atlanta, Ga.).

MAYER, Joseph Edward, prof. of chem., Kent Chem. Lab., U. of Chicago, Chicago 37, Ill.; res. 4923 S. Greenwood Ave., Chicago 15.
Prof.; b. N.Y.C., Feb. 5, 1904; s. of Joseph and Catherine Mayer; ed. Calif. Inst. of Tech., Pasadena, B.S.; U. of Calif., Berkeley, Ph.D.; mem.: Alpha Chi Sigma, Tau Beta Pi, Sigma Alpha Pi, Phi Lambda Upsilon, Sigma Xi, Gamma Alpha; m. Maria Goeppert, Jan. 18, 1930; ch.: Marianne, Peter. 1927-28, asst., U. of Calif.; 1929-30, fellow, Internat. Educ. Bd., Göttingen, Germany; 1930-39, assoc. and assoc. prof., Johns Hopkins U.; 1939-45, assoc. prof., Columbia U.; 1945 to date, prof. U. of Chicago; 1941 to date editor, Jr. Chem., Phys.; res. in statistical mechanics. Author: "Statistical Mechanics," 1940, (John Wiley & Sons). Mem.: A.Phys.S., A.C.S., Nat. Acdy. of Sc., N.Y. Acdy. of Sc., A.A.U.P., Atomic Scientists of Chicago, Emergency Comm. of Atomic Scientists. Clubs: Men's Faculty, Columbia U.; Faculty Club, Johns Hopkins U.; Quadrangle Club, University of Chicago, X-Club, Chicago. Hobbies: gardening, astronomy.

MAYER, Malvin J., treas., Schwarz Labs. Inc., 202 E. 44th St., N.Y. 17, N.Y.; res. 14 Schuyler St., New Rochelle, N.Y.
Engr.; b. Brookline, Mass., Apr. 20, 1911; s. of Joseph and Ruth R. Mayer; ed. Phillips Andover, 1929; M.I.T., 1933, B.S.; mem.: Sigma Alpha Mu; m. Eleanor S. Schwarz, June 30, 1939; ch.: Sylvia Ruth, Donald Joseph, Barbara Eleanor. 1935-36, Wolverine Tube Co., Detroit, Mich.; 1936-37, Hodgman Rubber Co., Framingham, Mass.; 1937 to date, Schwarz Labs. Inc., N.Y.C.; 1943-45, Lt., U.S.N.R. Schwarz Labs. Inc., dir.; Am. Brewer Publ. Co., asst. treas., dir. Mem.: A.A.A.S., A.S.M.E., Am. Soc. of Refrig. Engrs., A.S. Brew.C. (assoc.), Master Brewers Assn. of Am. (assoc.), I.F.T., N.Y. Soc. of Prof. Engrs.

MAYERS, John Wheaton, chf. engr., Sharples Chemicals Inc., Wyandotte, Mich.; res. 9135 Dallas Dr., Grosse Ile, Mich.
Engr.; b. Detroit, Mich., Mar. 6, 1918; s. of John Mickle and Helen Ganley Mayers; ed. Princeton U., 1939, B.S. in Ch.E.; mem.: Phi Beta Kappa, Tower Club; m. Barbara Hamilton Brodhead, Apr. 29, 1941; ch.: Marie Mimika, Janet Phillips, Henry Lewis, II, Helen Ganley. 1939-45, Monsanto Chemical Co., gen. engrg. dept., asst. proc. engr. Texas City, Styrene Plant; 1945-46, Commonwealth Engrg. Co., Dayton, O., res. engr., consulting res. for surface finishes; 1946-47, Boeckler Associates, Inc., Trenton, Mich., chf. chem. engr. prod. of alcohol, malt syrup and gluten from wheat; 1947 to present, Sharples Chemicals Inc., chf. engr., org. chem. prodn. Mem.: A.I.Ch.E. Club: Grosse Ile Yacht. Hobbies: golf, sailing, architecture.

MAYFIELD, Franklin Drew, hd. of process engrg. dept., chem. plant, Celanese Corp. of Am., Bishop, Texas; res. 1149 W. Richard, Kingsville, Texas.
Chem. engr.; b. El Campo, Texas, May 21, 1915; s. of George Franklin and Grace Irene Johnson Mayfield; ed. Texas Coll. Arts & Ind., B.S. Chem. 1935; U. Texas, B.S., Chem. Engrg.,

1936; M.S., Chem. Engrg., 1937; Ph.D. Chem. Engrg. 1940; mem.: Tau Beta Pi, Phi Lambda Upsilon, Sigma Xi; m. Mary Jane Field, 1942; ch.: Mary Jo. 1940-41, Phillips Pet. Co., res. dept., chem. engr.; 1941-43, The Dow Chem. Co., Midland, Mich., physical res. lab., chem. engr.; 1943-46, The Dow Chem. Co., Styrene plant, Freeport, Texas, dept. hd.; 1946 to date, Celanese Corp. of Am., Bishop, Texas, dept. hd. Res. in phase equilibria of hydrocarbons at high pressure, heat capacities of vapors, distillation calculations, equip. design, plant proc. engr. design. Mem.: Tau Beta Pi, Phi Lambda Upsilon, Sigma Xi, A.C.S., A.I.Ch.E., Reg. prof. engr. (Texas). Club: Kiwanis (Kingsvillle, Texas).

MAYFIELD, Paul, asst. gen. mgr., naval stores dept., Hercules Powder Co., Wilmington, Del.; res. 4606 Beechwold Ave., Beechwold, Wilmington.
Exec.; b. Little York, Ind., Oct. 24, 1902; s. of Joseph W. and Anna Mayfield; ed. Ind. U., A.B., 1925; mem.: Theta Chi, Alpha Chi Sigma, Sigma Rho Tau; m. Isabelle Gibson, Feb. 29, 1932; ch.: Julia, Ann. Res. chem., Hercules Powder Co., 1925; plant chem., 1925-26, salesman, 1926-39, dir. of sales, 1939-43, asst. gen. mgr. 1943 to date. Mem.: A.C.S. Clubs: Wilmington Country, Hercules Country. Hobbies: golf, fishing, painting.

MAYNARD, Edward Washburn, dir., Atlas Powder Co., Delaware Trust Bldg., Wilmington 99, Del.; res. 2300 W. 17th St., Wilmington.
Exec.; b. Newport, R.I., Sept. 13, 1875; s. of Washburn and Elizabeth (Brooks) Maynard; ed. grad. Worcester, Mass. Poly. Inst. 1901 B.S.; mem.: Phi Gamma Delta; m. Harriet Harrington, Oct. 4, 1907; ch.: Robert H., Mrs. W.A. Henry. Gen. Elec., 1901-03; asst. supt., Marquette Wks., du Pont Co. 1904-07, Louviers Wks., 1908-10, Senter Wks., 1910-11; supt., Senter, Mich. plant, Atlas Powder, 1911-16, supt. Giant, Calif. plant 1916-20, gen. supt. high explosives dept., 1920-27, v.p., 1930-45, dir., 1927 to date. Dir. of Del. Trust Co., Wilmington Savings Fund, Wilmington Y.M.C.A., Trustee New Castle County Workhouse. Clubs: Chemists' (N.Y.), Wilmington Country, Whist, Rotary, Wilmington Club. Hobby: photography.

MAYNARD, Leonard Amby, prof. of biochem. and nutrition and dir., School of Nutrition, Savage Hall, Cornell U., Ithaca, N.Y.; res. 201 Cayuga Heights Rd., Ithaca.
Tchr.; b. Hartford, N.Y., Nov. 8, 1887; s. of Edward and Frances (Cotton) Maynard; ed. Wesleyan U., Middletown, Conn., A.B., 1911; Cornell U., Ithaca, N.Y., Ph.D., 1915; Ecole Veterinaire, Lyon, France, 1928; mem.: Phi Beta Kappa, Sigma Xi, Phi Kappa Phi; m. Helen Hunt Jackson, June 3, 1919; ch.: Mrs. Patricia Downing, Mrs. Nancy Harlan. Apptd. asst. prof. Animal Nutrition, Cornell U., 1915 and has served on its faculty since that time, at present full prof.; dir., U.S. Plant Soil & Nutrition Lab., Ithaca, N.Y., 1939-45; apptd. dir. Schl. of Nutrition, Cornell U., 1941. Author: "Animal Nutrition," 1937. Awarded honorary degree, D.Sc., Wesleyan U., 1945; mem. Natl. Acdy. of Sc.; awarded Borden prize for res. in nutrition, 1947; past pres. of Amer. Inst. of Nutrition and of Amer. Soc. of Animal Production. Mem. Food and Nutrition Bd. and Agricultural Bd., Natl. Research Council.

McADAMS, William Henry, prof. of chem. engrg., M.I.T., Cambridge 39, Mass.; res. 31 Claremont St., Newton 58.
Chem. engr. (tchr., author, conslt.); b. Cynthiana, Harrison Co., Kentucky, Mar. 15, 1892; s. of Harry K. and Martha E. (Wilson) McAdams; ed. Transylvania U., 1908-10; U. of Ky., B.S. (ind. chem.) 1913; M.S., 1914; M.I.T., M.S. (chem. engrg.), 1917; U. of Ky., D.Sc. (hon.) 1945; mem.: Kappa Sigma, Phi Beta Kappa, Sigma Xi; m. Jean Dubbs, Dec. 28, 1926; ch.: Barbara Jean, Nancy Ann, Katherine Patricia. 1916-17, chem. engr. Goodyear Tire & Rubber Co.; 1918, 1st. Lt. C.S.S. N.A.; 1918-19, Capt., C.W.S. U.S.A.; 1919-23, asst. prof. chem. engrg. M.I.T.; 1927 assoc. prof.; 1927 to date, prof. M.I.T.; 1925 to date, lecturer in chem. at Harvard U. Author of num. papers. Co-author with W.H. Walker and W.K. Lewis of "Principles of Chem. Engrg.," 1923, 1927; co-author with W.H. Walker, W.K. Lewis and E.R. Gilliland, 1937. Author: "Heat Transmission," 1933; 1942. Mem.: A.C.S., A.S.M.E., A.I.Ch.E., Presidential Cert. of Merit; Walker Award from A.I.Ch.E. 1949. Club: Braeburn Country. Hobby: gardening.

McAFEE, Almer McDuffie, res. chem., Gulf Oil Corp., Port Arthur, Tex.; res. Port Arthur, Tex.
Chem.; b. Naverro County, Tex., Sept. 24, 1886; s. of Cicero and Margaret (Terry) McAfee; ed. U. of Tex., B.A. 1908; Columbia U., Ph.D. 1911; m. Marguerite Calfee, Jan. 11, 1916; ch.: Jerry, Jack, Marguerite. With Gulf Oil Corp. as res. chem. since 1913. Wk. in mfg. of anhydrous aluminum chloride and its uses in the petroleum industry. Mem.: Sigma Xi, Phi Lambda Upsilon, A.I.Ch.E., A.C.S. Chmn., Bd. of Regents, Lamar State Coll. of Tech., Beaumont, Tex. Club: Rotary. Other occupation: farming.

McAFEE, Jerry, dir., chem. div., Gulf Res. & Dev. Co., P.O. Drawer 2038, Pittsburgh 30, Pa.; res. 828 Twelfth St., Oakmont, Pa.
Chem. engr.; b. Port Arthur, Texas, Nov. 3, 1916; s. of A.M. and Marguerite C. McAfee; ed. The U. of Texas, B.S. in Ch.E., 1937, M.I.T., Sc.D. in Ch.E., 1940; mem.: Tejas Club; m. Geraldine Smith, June 21, 1940; ch.: Joe Robert, William McDuffie, Loretta Marguerite, Thomas Rolland. 1940-45, Universal Oil Products Co., Riverside and Chicago, Ill., chem. engr.; 1945-50, Gulf Oil Corp., Port Arthur, Texas; chem. engr., in charge of pilot plant and operations; 1950 to date, Gulf Research and Development Co., dir., chemistry div. Mem.: A.I.Ch.E., A.C.S. Clubs: Rotary Club of Verona-Oakmont, Pennsylvania.

McALISTER, Lawrence Clayton, Jr., hd., entomolog. fld. res., U.S. Indust. Chems., Inc., Baltimore 3, Md.; res. 504 Forest View Rd., Linthicum Hghts., Md.
Entomologist; b. Pendleton, S.C., May 31, 1905; s. of Lawrence C. and Minnie Kay McAlister; ed. Clemson Coll. (South Carolina), B.S. 1926; m. Maurie Stewart, Nov. 4, 1929; ch.: Ray Lawrence, Mary Elizabeth. 1926-27, asst. entomologist, S.C. Agr. Exp. Sta.; 1927-29, U.S. Dept. Agr., Bur. of Entomology and Plant Quarantine, entomologist (P-1); entomologist (P-2), 1929-34; entomologist (P-4), 1935-45; assignments in N.J., Maine, Fla., Puerto Rico, Texas; 1945 to date, U.S. Indus. Chems. Inc., present position, hd., entomolog. fld. res. Asst. dir. Orlando, Fla. Lab. during W.W. II. Citations from the Army, the Navy, and the U.S. Dept. of Agr. for exceptionally meritorious service. Mem.: A.A.A.S. (fellow); Amer. Assoc. Econ. Ent. Club: Lions Internat.

McALLISTER, Sumner Hatch, assoc. dir. res., Shell Dev. Co., 4560 Horton St., Emeryville, Calif.; res. Las Huertas Rd., Lafayette, Calif.
Chem.; b. Salt Lake City, Utah, May 23, 1907; s. of Duncan William and Mary Ann Hatch McAllister; ed. Stanford U., A.B. Chem. 1929; M.A. Chem. 1930; mem.: Alpha Chi Sigma,

Phi Lambda Upsilon; m. Marjorie Laws, Oct. 3, 1932; ch.: Ann Laws, Duncan Thomas, Vermont Hatch, Alan Pierce. 1930-34 Shell Dev. Co., Emeryville, asst. chem., res. on chems. from pet., particularly ketones, alcohols; isoctane; 1934-37, Shell Dev. Co., chem., res. on chems., fuels from pet., alkylation of isoparaffins, isomerization of paraffins. naphthenes; 1937-40, Shell Dev. Co., dept. hd. applications, chg. wk. on 100 ON fuels, res. on proc. for diacetone, ketones; 1940-42 Shell Dev. Co., dept. hd., proc. dev. dept., chg. wk. on 100 ON fuels, misc. chems., from pet.; 1942-46 Shell Dev. Co., assoc. dir. res., chg. pilot plant, proc. dev. wk., appl. chem. engr.; 1946 to date Shell Dev. Co., assoc. dir. res., chg. pet. tech., res. on lubes, fuels, greases, waxes, in ref. proc. relating to prod. of pet. prod. Res. in synthetic fuels, petrochem. Mem.: A.I.Ch.E., A.C.S., Am. Pet. Inst.-Ref. Div., S.A.E., Sigma Xi. Club: Lafayette Improvement (pres.). Hobbies: growing pears and walnuts.

McALPINE, Roy Kenneth, assoc. prof. chem., U. of Mich., Ann Arbor, Mich.; res. 926 Sylvan Ave., Ann Arbor, Mich.
Chem. prof.; b. Princeton, Ind., Aug. 12, 1884; s. of Gideon Frank and Ida Chaplin McAlpine; ed. Lombard Coll., 1902-04, U. of Mich., 1904-06; A.B. 1906, Ph.D. 1921; mem.: Gamma Alpha, Alpha Chi Sigma, Phi Lambda Upsilon; m. Ruby Howard in 1912. Instr., asst. prof., assoc. prof. in chem. at U. of Mich., 1911 to date. Work in At. wts. of Sb. K, and Ag. Rewriting of Prescott, Johnson, "Quantitative Analysis," 1933, "Fundamentals of Qualitative C Chemical Analysis" 1936; "Introduction to Qualitative Analysis," 1939. Mem.: A.C.S., Sigma Xi, A.A.A.S. Club: Exchange Club. Hobbies: camping, fishing, golf.

McANULTY, John F., chem. engr., H.K. Porter Co., Inc.; res. 920 Maryland Ave., Oakmont, Pa.
Chem. engr.; b. Pittsburgh, Pa.; s. of William J. and Catherine C. McAnulty; ed. B.S., chem. engrg., U. of Pittsburgh 1935; m. Veronica Fisher, Feb. 3, 1940; ch.: Jane, Barbara, Mary. Chem. engr., Calco Chemical Co., Bound Brook, N.J., 1935-37; chem. engr., Standard Oil Co. of N.J., 1937-39; E.I. du Pont Co., chem. engr., 1939-46; chem. engr., Blaw-Knox Co., 1946-50; chem. engr., H.K. Porter Co., 1950 to present. Res. on formaldehyde & sodium cmpds. Mem.: A.I.Ch.E., Licensed professional engr. (Pa.), Sigma Tau, Phi Lambda Upsilon. Hobbies: golf, music, gardening.

McAULIFFE, Anthony Clement, Major General, Chf., Chem. Corps, Dept. of the Army, Wash. 25, D.C.; res. 3600 Porter St., Washington.
Army Officer; b. Washington, D.C., July 2, 1898; s. of John Joseph and Alice Kathrine (Gannon) McAuliffe; ed. U.S. Military Acdy., West Point, N.Y.; m. Helen Willet Whitman, Aug. 23, 1920; ch.: Patricia, John. Regular army career-commanded 101st Airborne Div. in defense of Bastogne dur. Battle of the Bulge. Commanded glider echelons in the airborne invasion of Holland. Ground Forces advisor to Adm. Blandy in Operation Crossroads, serving at Bikini throughout the atomic bomb tests. Served as deputy dir. for res. and dev. of the Logistics Div., Gen. Staff, U.S.A.

McBAIN, James William, prof. emeritus, Stanford U., & dir., Natl. Chem. Lab. of India, Poona 7, India; res. Box 1408 Stanford U., Calif.
Prof. of chemistry; b. Mar. 22, 1882; s. of James A.F., D.D. and Mary Morrison (Quin) McBain; ed. Toronto U., B.A. and M.A.; U. of Heidelberg, Ph.D.; U. of Leipsig; m. Evelyn Laing, Jan. 1, 1929; ch.: Janet Quin, John Keith. U. of Bristol, lect. 1906; Leverhulme, prof. of physical chemistry, 1919-26; U. of Calif. at Berkeley, visiting prof. 1926; Stanford U., prof. of chemistry 1927-47; now prof. emeritus. Awards: World War I, mentioned for valuable serv.; certificate of merit from U.S.N., also from O.S.R.D. and N.A.C.A., World War II. Internatly. known for wk. on soaps and colloidal electrolytes; for wk. on adhesives, sorption and surface phenomena; contrib. extens. to sc. and tech. journals. Author: "Sorption of Gases and Vapors by Solids," 1931; "Colloid Science," 1950. Mem.: Royal Soc. of Gr. Britain (fellow) and Davy Gold Medallist, Phi Lambda Upsilon, Alpha Chi Sigma, Sigma Xi. Holds hon. doctorates from Bristol U. & Brown U. (Providence, R.I.). Dir. of Natl. Chem. Lab. at direct request of Prime Minister Nehru of India. Clubs: Bohemian (San Francisco), Commonwealth (San Francisco), Rotary (pres., Palo Alto Club, 1933). Hobbies: gardening, swimming, travel.

McBEE, Earl Thurston, hd. dept. of chem., Purdue U., Lafayette, Ind.; res. 420 Forest Hill Dr., West Lafayette, Ind.
Chem.; b. Braymer, Carrol County, Mo., July 6, 1906; s. of William and Lydia (Post) McBee; ed. A.B., William Jewell Coll., 1929, M.S., Purdue U., 1931, Ph.D., Purdue U., 1936; m. Thelma Hightower, Sept. 3, 1927; ch.: Beverly Ann, and Robert Earl. Asst. in chem., William Jewell Coll., 1927-29; asst. in chem., Purdue U., 1929-30; res. fellow in chem., Purdue U., 1930-35; instr. in chem., Purdue U., 1935-37; asst. prof. in chem. Purdue U., 1937-40; assoc. prof. in chem., Purdue U., 1940-43; prof. of org. chem., Purdue, 1943 to date; hd. dept. of chem., Purdue, 1949 to date. Res. in synthesis from natural gas hydrocarbons, org. fluorides and chlorides, preparation of pharmaceuticals and synthetic fibers. Mem.: A.C.S., 1930, Sigma Xi (assoc.), Phi Lambda Upsilon, Chemical Soc. (Indiana), A.A.A.S. Clubs: Alpha Kappa Lambda, Lions Intl. (Lafayette Club), Master Mason of West Lafayette Lodge, 32nd degree Mason, Benevolent and Protective Order of Elks. Hobbies: golf, fishing.

McBRIDE, Gordon W(illiams), consltg. chem. engr., 1518 K St. N.W., Wash. 5, D.C.; res. 3323 Stuyvesant Pl. N.W., Wash. 15.
Consltg. chem. engr.; b. Wash., D.C., Nov. 24, 1910; ed. Yale U., B.S. 1931, Ch.E. 1934; mem.: Phi Eta Sigma, Alpha Chi Sigma, Book & Bond, Gamma Alpha, Sigma Xi; m. Martha Evans, June 11, 1938; ch.: Barbara Carol, Jonathan Evans. 1934-38, chem. engr. Procter & Gamble Co., Cincinnati, Ohio. 1939 to date: consltg. chem. engr., Wash., D.C.; except 1942-45: principal chem. engr., Office of Administrator, Agr. Res. Administration, U.S. Dept. of Agr., Wash., D.C. Mem.: A.C.S., A.I.Ch.E., A.A.A.S., A.O.C.S., Chem. Engrs. Club of Wash., Wash. Acdy. of Scs. Clubs: Natl. Press, (Wash., D.C.); Kenwood Golf & Country (Bethesda, Md.); Chemists' (N.Y.); Yale (N.Y.).

McBRIDE, Guy T(hornton), Jr., asst. prof. chem. engrg., Rice Inst., Houston, Texas; res. 1123 Banks, Houston 6, Texas.
Prof. of chem. engrg.; b. Austin, Travis Co., Texas, Dec. 12, 1919; s. of Guy T. and Imogene (Thrasher) McBride; ed. U. of Texas, B.S. in Ch.E. 1940; M.I.T., Sc.D. chem. engrg. 1948; m. Rebekah Jane Bush, Sept. 2, 1942; ch.: Rebekah Ann, William Howard. 1942-44, instr. chem. engrg. M.I.T.; 1944-46 refin. engr. Std. Oil Co. of Calif., San Francisco; 1946-48, res. assoc. chem. engr., M.I.T.; 1948 to date, asst.

prof. chem. engrg. Rice Inst. Mem.: A.I.Ch.E., A.C.S., Sigma Xi, Tau Beta Pi, reg. Prof. Engr. (Texas). Hobby: woodworking.

McBRIDE, Russell S(mith), consltg. chem. engr., 1518 K St. N.W., Wash. 5, D.C.
Consltg. chem. engr.; b. Minneapolis, Minn., May 5, 1887; ed. U. of Minn., B.S., 1908; U. of Wis., M.A., 1909; m. Gertrude Williams; ch.: Gordon W(illiams). Natl. Bur. of Stand., engr., chem. 1909-20; McGraw-Hill Pub. Co., engrg. edit. rep. 1920; consltg. chem. engr. 1921 to date.

McBURNEY, Lane Fordyce, mgr. basic res. div., Hercules Powder Co., Wilmington 99, Del.; res. 218 Marshall St., Kennett Sq., Pa.
Chem.; b. Pittsburgh, Pa., July 26, 1913; s. of Merle F. and Letah S. McBurney; ed. B. S., Ch.E., Drexel Institute of Tech., Phila., Pa., 1936, M.S., chem., and Ph.D., chem. U. of Pa., 1940 and 1942; mem.: Pi Kappa Phi, Sigma Xi; m. J. Ruth Stevenson, June 29, 1940; ch.: Mary Lane, Bradford. Asst. mgr., glandular prod. dept., Sharp & Dohme; mgr. synthetic chem. dept., Sharp & Dohme; inst. org. chem. U. of Pa.; res. div., Hercules Powder Co. Res. in sulfa drug, cellulose chem., and resin acids, publications in all three fields. Mem.: A.C.S., A.A.A.S. Clubs: Rotary, Kennett Square, Pa. Hobby: sports.

McCABE, James Edward, asst. secy., Merck & Co. Inc., Rahway, N.J.; res. 296 Glen Ave., Short Hills, N.J.
Admin., organization; b. Middletown, Conn., Apr. 8, 1917; s. of Harry J. and Anna D. McCabe; ed. Wesleyan U., 1939, B.A. (Phi Beta Kappa); Syracuse U., 1941, M.S.; mem.: Phi Nu Theta, Theta Nu Epsilon; m. Elisabeth Rhoades, Jan. 9, 1943; ch.: Jean Woodford, Douglas Rhoades. 1940, Dun & Bradstreet, Inc., N.Y.C., municipal anal.; 1941-43, W.P.B., Washington, D.C. and N.Y., admin. officer; 1943-45, Fairchild Engine & Airplane Corp., management engr.; 1945 to date, asst. secy. Merck & Co. Inc. Author of Chapter on Procedures, "Handbook for Controllers and Treasurers," Prentice-Hall, 1950; article entitled "A Municipal Credit Rating Scale," 1940, in The Bond Buyer and American City. Mem.: Soc. for Advancement of Management; Amer. Soc. for Pub. Administration; Amer. Management Assoc.

McCABE, Louis Cordell, chf., office of air & stream pollution, Dept. of the Interior, Bur. of Mines, Wash., D.C.; res. 6515 Brennon Lane, Chevy Chase, Md.
Mining engr.; b. Graphic, Ark., Feb. 5, 1904; s. of M.L. and Hattie (Stokes) McCabe; ed. U. of Ill., B.S., M.S., Ph.D.; mem.: Sigma Xi, Phi Eta; m. Catherine H. McCabe, Dec. 20, 1936; ch.: Michael, Dorothy, John, Jean. Geologist, Miss. Coal Corp., 1927-30; geologist, Ill. Geol. Survey, 1930-41; Capt. to Col., Corps of Engrs., 1941-46; chf. coal div., U.S. Bur. Mines, 1946-47; dir., Los Angeles Co. Air Pollution Control Dist. 1947-49; chf., off. air & stream pollution, U.S. Bur. Mines, 1947 to date. Utilization of coal & atmospheric pollution. Num. papers publ. in sc. jls. Ind. & Engrg. Chem. (contrib. editor). Mem.: Sigma Xi, A.A.A.S., Geol. Soc. Am. (fellow), Soc. Econ. Geologists, A.I.M.M.E., Wash. Acdy. Sc. Awards: Legion of Merit, U.S.; Order Brit. Empire; Order Crown Belgium. Club: Cosmos (Wash., D.C.). Hobbies: fishing, photograhy.

McCABE, Warren Lee, v.p., dir. res., Flintkote Co., Whippany, N.J.; res. 45 Oakland Pl., Summit, N.J.
Chem. engr.; b. Bay City, Mich., Aug. 7, 1899; s. of James C. and Frances Cooke McCabe; ed. B.S., 1922; M.S., 1923; Ph.D., 1928; U. Mich.; mem.: Tau Beta Pi; m. Lillian Frances Hoag, July 29, 1925; ch.: Warren Lee, Jr., Barbara Louise. 1923-25, asst., instr. chem. engrg., M.I.T.; instr., 1925-28; asst. prof., 1928-33; assoc. prof., 1933-36; U. Mich. prof. chem. engrg. 1936-47; hd., dept. chem. engrg., 1937-47, Carnegie Inst. Tech.; dir. res., 1937 to date, v.p. 1949 to date, Flintkote Co. Rec'd. Wm. H. Walker Award, A.I.Ch.E. 1937, pres. cert. of merit, 1949. Co-author: "Elements of Chem. Engrg." 1930-36. Mem.: A.I.Ch.E., (pres. 1950); A.C.S.; A.S.M.E. Clubs: Chem. (N.Y.), Canoe Brook Country (Summit, N.J.).

McCALLAN, Samuel Eugene Alan, hd. pathologist, fungicide proj., Boyce Thompson Inst. for Plant Res., Inc., 1086 N. Broadway, Yonkers 3, N.Y.; res. 47 Fernwick Rd., Hastings-on-Hudson, N.Y.
Plant pathol.; b. St. Georges, Bermuda, Apr. 22, 1902; s. of E.A. and Nea (Smith) McCallan; ed. St. Georges Grammar Schl. and Warwick Acdy., Bermuda; Ontario Agr. Coll. (U. Toronto), B.S.A., 1923; Cornell U., Ph.D., 1929; mem.: Gamma Alpha; m. Hazel Tuson, Feb. 11, 1929; ch.: Norma Jean, Alan Claude. 1923-27, asst. in plant pathol., 1928-29, instr., Cornell U.; 1929-39 plant patholog., fungicide proj., Boyce Thompson Inst.; plant patholog. 1942-42, hd. plant patholog., fungicide proj., 1943 to date; res. in fungicidal action of sulfur and copper; dev. of lab. and greenhouse meths. of eval. chems. as fungicides; dev. of new fungicides. Author of approx. 40 arts., chfly. on fungicides. On bd. of govs. 1939 to date, and v. chmn. 1943-44, Crop Protection Inst. Mem.: A.A.A.S.; Am. Phytopathological Soc.; (chmn. comm. on standardization of fungicidal tests, 1937-46, chmn. gen. fungicide comm. 1947, pres. Northeastern Div. 1947); Amer. Statistical Assoc.; Sigma Xi, Phi Kappa Phi. Hobby. gardening.

McCARTHY, Joseph L., assoc. prof. of chem. engrg., U. of Wash., in chg. chem. engrg. div., pulp mills res., U. of Wash., dept. of chem. and chem. engrg., U. of Wash., Seattle, Wash.; res. 3965 Union Bay Circle, Seattle 5, Wash.
Res. and tchg., chem. and chem. engr.; b. Spokane, Wash., Oct. 19, 1913; s. of Joseph and Marguerite (LePage) McCarthy; ed. B.S. in Chem. Engrg., U. of Wash., 1934; M.S. in Chem., U. of Idaho, 1936; Ph.D., Org. Chem., McGill U., Montreal, 1938; mem.: Alpha Delta Phi; m. Janey Cadman Matthews, Apr. 6, 1945; ch.: Joseph M., Peter C. 1934-36, res. fellow, Potlatch Forests Inc., U. of Idaho; summer, 1936, dev. chem., Potlatch Forests Inc., Lewiston, Idaho; 1936-39, res. fellow, Kendall Co., Howard Smith Chems. Ltd., Canadian P. & P. Assoc., McGill U., Montreal; 1939-40, lecturer, McGill U.; 1940-42, dir. of res., Fraser Cos. Ltd., New Brunswick, Canada; 1942-43, res. assoc., U. of Wash., Seattle; 1943-44, instr. in chem. engrg., same U.; 1944-47, asst. prof. in chem. engrg., same U. (half time); 1947 to date, assoc. prof. chem. engrg., same U.; 1944 to date, in chg. chem. engrg. div., pulp mills res., U. of Wash., Seattle; 1943 to date, conslt. and expert witness for var. clients; pub. 40 or 50 papers and pats. mostly relat. to chem. and chem. engrg. aspects of wood chem. and pulp and paper proc.; recent res. on structure and utiliz. of lignin and sulfite waste liquor; also on separation proc. Mem.: A.C.S. (chmn. of Puget Sound Sect. 1946); A.I.Ch.E.; T.A.P.P.I. (chmn. of Pacific Sect. 1947); Sigma Xi; Phi Lambda Upsilon; Xi Sigma Pi; Alpha Chi Sigma; Phi Delta Phi; Canadian Pulp and Paper Assoc.

McCARTT, Kenneth Cory, chf. chem., Universal Rundle Corp., New Castle, Pa.; res. 1408 Delaware Ave., New Castle.
Chem.; b. Lexington, Ky., July 26, 1912; s. of J.B. and Bertha S. McCartt; ed. U. of Kentucky, B.S., 1933; M.S., 1936; mem.: Alpha Chi Sigma; m. Roseltha Hartstuff, June 26, 1940; ch.: Robert Kenneth, Barbara Ellen. 1935-36, anal., Ky. State Agr. Exper. Sta., Lexington, Ky.; 1937 to date, res. chem., chf. chem., Universal Rundle Corp. (previously Universal Sanitary Mfg. Co. until merger with Rundle Corp., Feb., 1949); res. work on soluble salts in clays. Mem.: A.C.S., Am. Ceramic Soc., A.S.T.M. Hobby: electronics.

McCARTY, George Weyman, pres., Ashcraft-Wilkinson Co., 601 Trust Co. of Georgia Bldg., Atlanta 3, Georgia; res. 2939 Habersham Rd., N.W., Atlanta.
Exec.; b. Atlanta, Georgia, June 27, 1887; s. of George W. and Sarah Elizabeth (Rucker) McCarty; ed. Atlanta pub. and high schls.; attended Culver Military Acdy. and Georgia Schl. of Tech., M.E., 1908; mem.: Kappa Alpha Southern—hon. O.D.K.—ANAK.; m. Passie May Ottley, July 9, 1916; ch.: George W., Jr., John Ottley. 1908, began business career, salesman with A.D. Adair & McCarty Bros.; 1911-15, owner brokerage firm Fertilizer Matls. Co.; 1916, joined Ashcraft-Wilkinson Co., since been an officer and dir.; dur. 1920's also pres. of Empire Cotton Oil Mills, of Atlanta, prior to sale to Southern Cotton Oil Co. Dir. Seaboard Air Line R.R. Co., Norfolk, Va.; pres. Interstate Fertilizer Co., Cairo, Ill.; dir. Interstate Mills, Cairo, Ill.; dir. Flag Sulphur & Chem. Co., Tampa, Fla.; dir. A.D. Adair & McCarty Bros., Atlanta, Ga. W.W. II asst. chf. nitrogen unit, War Prod. Bd., Wash., D.C. 1942-43. Trustee and pres. Georgia Tech. Alumni Foundation. Clubs: Capital City; Piedmont Driving. Hobbies: horticulture, photography, hunting.

McCHESNEY, Evan William, mem. of biol. div., Sterling-Winthrop Res. Inst., Rensselaer, N.Y.; res. 14 Alden Ct., Delmar, N.Y.
Biochemist; b. Oconto Falls, Wis., Dec. 11, 1904; s. of William H. and Lydia G. McChesney; ed. B.S. 1926, M.S. 1928 U. of Chicago; Ph.D. 1931 Northwestern U.; m. Arline M. Feltham, Mar. 26, 1933; ch.: Richard W., Ruth E., Margaret E. Assoc. prof. of biochem., U. of North Carolina 1931-37; assoc. prof. of biochem., Baylor U. Med. Coll., 1937-38; sr. biochemist, Winthrop Chem. Co., 1938-45; this became the res. inst. in 1945. Author of abt. 30 papers in the flds. of vitamin physiol., mineral metabolism, pharmacol., metabolism of drugs, etc. Mem.: A.C.S., Am. Physiolog. Soc., S.E.B.M., Sigma Xi.

McCLELLAN, Paul P(endleton), asst. mgr., tech. & res. dept., Jefferson Chem. Co. Inc., 711 Fifth Ave., N.Y. 22, N.Y.; res. 12 Highview Ave., Old Greenwich, Conn.
Res. chem.; b. Youngstown, Ohio, Feb. 12, 1905; s. of Emmett H. and Sara (Pendleton) McClellan; ed. U. of Dayton, 1927, B.Sc. in chem. engrg.; Cornell U., 1933, Ph.D.; mem.: Sigma Xi, Phi Kappa Phi; m. Marion F. Whipple 1930; ch.: John Emmett, Joyce. Firestone Tire & Rubber Co., microscopist, spectroscopist 1933-37; Am. Cyanamid Co., res. chem., group leader, gen. org. syn., process dev. 1937-46; Jefferson Chem. Co. Inc., dir. of res. & process dev. in petrochem. 1946 to date. Mem.: A.I.C. (fellow); A.C.S., A.A.A.S. Pres., mem. of bd., Old Greenwich-Riverside-Community Center; clerk, First Cong. Church of Greenwich. Hobbies: fire-fighting, mem. of Sound Beach (Old Greenwich) fire police, amateur dramatics, mem. of Connecticut Playmakers.

McCLELLAN, Robert S., v.p., Gouverneur Talc Co., Inc., Gouverneur, N.Y.; res. Hailesboro Rd.
Mining engr.; b. Springfield, O., Sept. 5, 1901; s. of George A. and May S. McClellan; ed. Pawling Schl., Yale U., B.S. Mining, 1924; mem.: Chi Phi; m. Maxine Sibley, Apr. 28, 1924; ch.: Gay M., Robert S. 1924-36 mine operating, conslt. exp. in Africa, S.Am., U.S.A., Canada, Mexico for English, Am. mining interests; 1937-47 v.p., Stand. Mineral Co., Robbins, N.C. (subs. R.T. Vanderbilt Co., N.Y.C.); 1943-45 Major, U.S. A. Air Corps; 1947 to date, v.p., & dir. Gouverneur Talc Co., (subs. R.T. Vanderbilt Co., N. Y.C.). Assisted in disc., initial dev. of large copper deposits in Northern Rhodesia, Africa; exp. wk. in fine grinding of industrial minerals. Mem.: A.I.M.E. Clubs: Chem. (N.Y.C.), Adirondack Mining (Gouverneur, N.Y.), Pinehurst Country (Pinehurst, N.C.), Gouverneur Country. Hobbies: golf, gardening.

McCLELLAND, Frederick O., chf. chem., plant mgr., Dolphin Paint & Varnish, 922 Locust St., Toledo, Ohio; res. 5843 Jackman Rd.
Chem.; b. Cincinnati, Ohio, July 11, 1905; s. of William H. and Anna McClelland; ed. U. Cincinnati, 1929-34. 1929-34, Cook Paint & Varn. Co., prod., chem.; 1934-35, Reliance Varn. Co., chem.; 1935-36, Ault & Wiborg, chem.; 1937-44, Akron Paint & Varn. Co., chem.; 1944 to date, Dolphin Paint & Varn., chem., plant mgr.

McCLOSKEY, Robert James, office mgr., synthetics dept., Hercules Powder Co., 900 Market St., Wilmington, Delaware; res. 1 Lincoln Ave., Tuxedo Park, Newport, Del.
Accounting; b. Landenburg, Pa., Jan 24, 1913; s. of William and Emma McCloskey; ed. Beacon Coll., Wilmington, Del., 1932; Wharton School of Finance, U. of Pa., Phila., Pa., 1936-39; m. Mary E. Marshall, Nov. 27, 1935; ch.: Margo E., Roberta E. Accounting dept., Hercules Powder Co., Wilmington, Del., 1934-40; accounting dept., Hercules Powder Company, Radford, Va., 1940-42; accounting dept., Hercules Powder Company, Louisiana, Mo., 1942; accounting dept., Hercules Powder Company, Lawrence, Kansas, 1942-45; accounting dept., Hercules Powder Company, New York, N.Y., 1945-46; synthetics dept., Hercules Powder Co., Wilmington, Delaware 1946 to present. Central Tire Co., Inc., Wilmington, Del., secy and dir. Mem.: Natl. Office Management Assoc.

McCLOSKEY, William Bertine, controller, The Davison Chem. Corp., P.O. Box 2117, Baltimore 3, Md.; res. 1706 Lincoln Dr., Baltimore 27.
Cert. pub. acct.; b. Baltimore Co., Md., Nov. 18, 1902; s. of James C. and Mary Catherine (Litsinger) McCloskey; ed. element. and high schls., Baltimore Co., Md.; Baltimore Pace Inst. (acctg.), 1922; m. Evelyn Marie Kamberger, Oct. 15, 1927; ch.: William Bertine, Jr., Patricia Jo. 1922-26, pub. acctg.; 1926-30, cost acctnt., The Natl. Fertilizer Assoc. (Washington, D.C.); 1930 to date The Davison Chem. Corp. (and predecessor), having served as asst. controller and asst. secy., asst. to the pres., controller since 1946. Mem.: Natl. Assoc. of Cost Accountants (pres. 1950); Controllers Inst.; Maryland Assoc. of C.P.A's. Clubs: The Grachur (Baltimore); The Merchants (Baltimore City); Kiwanis Internat.

McCLUER, Wilbert Brooks, plant mgr., Rohm and Haas Co., Bristol, Pa.; res. Belle Meade Farm, R.D. No. 2, Bristol, Pa.
Chem. engr.; b. Marshall, Ind., July 12, 1904; s. of Jesse A. and Effie (Hutson) McCluer; ed. A.B. DePauw U., Greencastle, Ind., 1926; M.S., M.I.T., Cambridge, Mass., 1930; m. Lois Christopher, Sept. 12, 1947. Instr. gen. chem., DePauw U., 1927-28; res. asst., M.I.T., 1928-31; res. asst., Penn. State Coll., 1931-34; chf. chem. (and later) refinery supt., Kendall Refining Co., Bradford, Pa., 1935-43; asst. plant mgr., Rohm and Haas Co., Bristol, Pa., 1944-46; plant mgr., Rohm and Haas Co., Bristol, Pa., 1946 to date. Mem.: A.C.S., A.I.Ch.E., S.A.E., A.P.I., A.A.A.S. Clubs: Rotary, Masonic.

McCLURE, Frank Trelford, chmn., Res. Center, Applied Physics Laboratory, The Johns Hopkins University, 8621 Georgia Ave., Silver Spring, Md.; res. 9502 Riley Rd., Silver Spring.
Chemical physicist; b. Edmonton, Alberta, Canada, Aug. 21, 1916; s. of Frank Austin and Mary (Chapman) McClure; ed. B.Sc. U. of Alberta, Canada 1938; Ph.D. U. of Wis. 1942; mem.: Sigma Xi, Phi Lambda Upsilon; m. Mary Soffa, Dec. 22, 1939; ch.: Charles Frederick, Michael David. U. of Alberta, part-time asst., chem. dept. 1934-38; U. of Wis., grad. asst. chem. 1938-42; George Washington U. in chg. of computing lab., Wis. Sec. June, 1942-Sept., 1942; U. of Rochester, instr. in phys. chem. 1942-43; George Washington U., chf. ballistics design div., Allegany Ballistics Lab. 1943-45; Applied Physics Lab., Johns Hopkins U., physicist Feb., 1946; acting chmn. of Res. Center Apr., 1948; chmn. of Res. Center May, 1949 to date. Mem.: A.C.S., A.Phys.S., Am. Inst. of Physics, Philosoph. Soc. of Wash., Wash. Chem. Soc.

McCLURE, Harry Bell, v.p., Carbide & Carbon Chem. Div., Union Carbide & Carbon Corp., 30 E. 42nd St., N.Y. 17, N.Y.; res. 9 South Court, Pt. Washington, L.I.
Chem. dev.; b. Phila., Pa., Apr. 6, 1903; s. of Joseph and Maria McClure; ed. U. of Pa., B.S. in Ch.E. 1924, M.S., 1928; Morris Harvey Coll., D.Sc., 1949; mem.: Sigma Phi Epsilon, Sigma Tau, Alpha Chi Sigma; m. Olive Wahl, 1929; ch.: Cherry, James. Instr., U. of Pa., 1924-28; tech. div. 1928-36, mgr. fine chem. div. 1936-44, v.p. 1944 to date, Carbide & Carbon Chem. Corp. Dev. wk. on syn. org. chem. & vinyl plastics. Mem.: A.C.S., S.C.I., A.I.C., A.A.T.C.C., A.A.A.S., N.Y. Acdy. of Sc., A.I.Ch.E., Chem Market Res Assn., Com. Chem. Dev. Assn., Hon. Award 1950. Clubs: Chemists' (N.Y.), Mask & Wig (Phila.), Manhasset Bay Yacht. Hobbies: tennis, golf, sailing.

McCOLLEY, Earl Stanley, chf. chem., Celanese Corp. of America, Box 1001, Rock Hill, S.C.; res. 1035 Bose Ave., Rock Hill.
Chem.; b. Central City, Iowa, Aug. 16, 1900; s. of Charles E. and Addie B. McColley; ed. Ph.B., Brown, 1921, A.M. 1922, Ph.D. (anal. chem.), Boston, 1941; m. Ruth Wescott in 1923; ch.: Robert, Charles, Jane. Teacher, high school, Mass., 1922-26; Rhode Island, 1926-46, prin., 1935-42; instr. chem., exten. div., Boston, 1938-42; group ldr., Celanese Corp. of America, 1942-48; chf. chem., 1948 to present; instructor extension div., Maryland, 1943-44; Penn. State Coll., 1946-48. Author: "An Elementary Course In Chemistry," 1941. Mem.: A.C.S., New England Assoc. Chem. Teachers, A.I.C. (fellow). Hobby: photography.

McCOLM, Eugene Miller, tech. dir., plantation div., U.S. Rubber Co., 1230 Ave. of the Americas, N.Y.C.; res. Bayberry Lane, R.F.D. 4, Westport, Conn.
Chem.; b. Bloomington, Ill., Aug. 28, 1900; s. of Eugene H. and Ellen Katherine (Miller) McColm; ed. B.S., M.S., U. of Ill. 1922 & 1923; Ph.D., Columbia, 1927; mem.: Beta Theta Pi, Phi Lambda Upsilon, Sigma Xi; m. Marian Jean Crawford, Dec. 24, 1929; ch.: Douglas Woodruff. Chem. subsequently chf. chem., U.S. Rubber Plantations, Sumatra, 1927-38; chem. plantation div., U.S. Rubber Co., N.Y. 1938-41; chem. subsequently mgr., org. res., Naugatuck Chem. Div., U.S. Rubber Co., 1941-43 & 1945-47; Lt. U.S. Naval Reserve, Military Govt. Officer, Staff Commander, So. Pacific 1943-45; tech. dir., plantation div. U.S. Rubber Co., 1947 to date. Mem.: A.C.S.

McCONNAUGHEY, James B., owner, Ky. Fertilizer Wks., P.O. Box 22, Winchester, Ky.; res. P.O. Box 22, Boonesboro Rd.
Fertilizer mfgr., auto. finance agency; b. Highland Co., Ohio, Jan. 7, 1895; s. of E.H. and Myra Hunter McConnaughey; ed. Highland & Hamilton Cos., Ohio (accountancy & law, Cincinnati, Ohio); m. Mary Adcock, Mar. 25, 1924; ch.: Mary Katherine Ecton. 1912-15 bookkeeper, Buhr-Pfaff & Co., Cincinnati, Ohio, candy mfgrs.; 1915-18 cost accountant, Cincinnati Ball Crank Co. (war contr. & etc); 1919-28 salesman, self employed, pianos, phonographs, Winchester, Ky.; 1929-33 tax assessor, City of Winchester, Ky; & self employed; 1934-37 tax assessor, collection agency; 1938-45 auto finance & ins. agency, self & partnership (1938-41); 1945 to date auto finance & mfgr. fertilizers. Owner, McConnaughey Finance Agency and Ky. Fertilizer Wks. Res. in serv., bulk fertilizer spreading of spec. anal. of fertilizers made according to soil tests furnished dealers by farmers. Clubs: Winchester (Ky.) Rotary (past pres., past secy.), Winchester Country (past dir.).

McCONNELL, Charles William, pat. engr., Linde Air Prods. Co., Tonawanda, N.Y.; res. 86 North End Ave., Kenmore 17, N.Y.
Chem. engr.; b. Salem, Ohio, July 24, 1912; s. of David J. and Mary B. McConnell; ed. Carnegie Inst. of Tech., B.S. in Ch.E., 1934; Ch.E., 1938; mem.: Tau Beta Pi; m. Helen Johnson, June 24, 1937; ch.: David J., Helen Anne. 1934-36, res. chem. engr., Conewango Refin. Co., Warren, Pa.; 1936-39, chf. chem. same co.; 1939-44, res. engr., Linde Air Prods. Co., Tonawanda, N.Y.; 1944 to date, pat. engr., same co. Mem.: A.I.Ch.E. Hobbies: woodworking, reading, amateur dramatics.

McCONNELL, Elliott B., v.p. of manufacturing dept., Standard Oil Co. (Ohio), 1755 Midland Bldg., Cleveland, O.; res. 2726 Belvoir Blvd., Snakes Hts., O.
Dir. exec.; b. Oil City, Pa., Feb. 6, 1901; s. of Henry H. and Gertrude B. McConnell; ed. B. Chem., Cornell U., 1923; mem.: Kappa Sigma; m. Mildred A. Snibbe, June 11, 1927; ch.: Elliott B., Jr., Richard M., James H. Engr., Standard Oil Co. of N.J., 1923-28, asst. to v.p., Standard Oil Co. (Ohio), 1928-45; gen. mgr. mfg. dept., 1945-45; v.p. and dir., 1946 to present. Res.: 15 pats. in pet. field. Mem.: secy., gen. comm. on refining of Am. Pet. Inst. Clubs: Country, Union.

McCONNELL, J. H. Tyler, asst. gen. counsel, Hercules Powder Co., Delaware Trust Bldg., Wilmington, Del.; res. "Crooked Billet," Greenville, Del.
Atty. at law; b. Richmond, Va., Nov. 23, 1914; s. of Frank Percy and Belle (Tyler) McConnell; ed. Va. Military Inst., Lexington, Va., A.B., 1936; U. of Va. Schl. of Law, Charlottesville, Va., LL.B., 1939; Dean's List student for entire period of law schl.; mem.: Raven Soc. & business mgr. of Law Review, U. of Va., Kappa Alpha (Southern), Phi

Alpha Delta Law Frat.; m. Jean Ellen du Pont, Sept. 23, 1944; ch.: Marion du Pont. 1939-41 mem. of firm of Tyler & McConnell, lawyers and counselors at law, Radford, Va.; 1941-42, counsel, Hercules Powder Co., Missouri Ord. Wks., Louisiana, Mo.; 1942, acting plant mgr., Hercules Powder Co., same wks.; 1943-44, asst. gen. counsel, Hercules Powder Co., Wilmington, Del.; 1944-46 admin. asst. to gen. mgr. explosives dept. same co.; 1946 to date asst. gen. counsel, same co. Dir., mem. of exec. comm. and trust comm., Del. Trust Co., Wilmington, Del.; dir. Garrett, Miller & Co., Wilmington; dir. Del. Chapt., Amer. Red Cross, Wilmington; dir. Del. Steeplechase & Race Assoc. (Delaware Pk.), Wilm.; dir. Del. Council of Social Agencies, Wilmington; dir. and asst. secy. Wilmington Country Club, Wilmington. Mem. Highway Commis. State of Del., appointed May, 1949; Delaware State Bar Assoc.; Va. State Bar Assoc.; Am. Bar Assoc.; Am. Judicature Soc. Clubs: Wilmington, Wilmington Country (dir. & asst. sec.), Vicmead Hunt. (mem. bd. govs. & secy.), Delaware Turf, Hercules Country. Hobbies: racing, tennis.

McCONNELL, William Holmes, dir. of sales, Diamond Alkali Co., 300 Union Com. Bldg., Cleveland 14, Ohio; res. 401 N. Main St., Hudson, Ohio.
Exec.; b. Springdale, Pa., Mar. 4, 1907; s. of John W. and Clara G. McConnell; ed. Pa. State Coll., B.S.; mem.: Chi Phi; m. Helen Hoffman, Aug. 12, 1931; ch.: Mary Ann. 1928-29, Columbia Gas & Elec. Corp., Pitts., Pa., sales dept.; 1929, Diamond Alkali Co., Pitts., Pa., sales dept.; 1931, salesman, 1944 v.p., sales mgr., Benner Chem. Co., Chicago, Ill.; 1945 asst. dir. of sales, 1946 to date, dir. of sales, Diamond Alkali Co. Hydrogenation, fld. res. in chem. peeling of root vegetables, chem. pacification of steel. Clubs: Duquesne (Pitts.), University (Cleveland). Hobby: golf.

McCONNON, James, v.p., gen. mgr. McConnon & Co., Winona, Minn.; res. 252 W. Broadway, Winona.
Exec.; b. Winona, Minn., May 27, 1906; s. of J.R. and Jeanette (Morey) McConnon; ed. Dartmouth, B.S. 1928; mem.: Chi Phi, Alpha Chi Sigma; m. Cynthia Murdoch, Oct. 5, 1929; ch.: Ann, Thomas James. 1928-29 asst. chem., 1929-35 chem., 1935-42 v.p. in chg. of prod., 1942 to date v.p. and gen. mgr. McConnon & Co. Vice-pres. Gamehaven Area Council, Boy Scouts. Hobbies: fishing, hunting.

McCOOLE, Robert Francis, tech. personnel mgr., Monsanto Chem. Co., 1700 S. Second St., St. Louis 4, Mo.; res. 2817 Manderly Dr., Brentwood 17, Mo.
Personnel; b. Okla. City, Okla., May 8, 1911; s. of Michael F. and Anna (Mullery) McCoole; ed. St. Louis U., LL.B., 1934; mem.: Alpha Delta Gamma; m. Evelyn Mulroy, Oct. 18, 1947; ch.: Ann Elizabeth, Robert Francis. 1942 to date with Monsanto Chem. Co.; 1937 to 1942, priv. pract. of law.

McCORD, William Mellen, prof. chem., Med. Coll. of State of So. Carolina; res. 719 St. James Dr., Riverland Ter., Charleston 43, S.C.
Teacher; b. Durban, Natal, Union of S.A.; s. of James B. and Margret (Mellen) McCord; ed. Oberlin Coll., A.B., 1928 cum laude; Yale U., Ph.D., 1931, Louisiana State Med. Schl., M.D., 1939; mem.: Alpha Chi Sigma; m. Evangeline S. Andrews 1930; ch.: James A., Marilyn A. Instr., assoc. prof., La. State Med. Schl. 1931-42; U.S.A. Med. Corps 1942-45; prof. chem., Med. Coll. of S.C. 1945 to date. Mem.: A.C.S., A.M.A., A.A.A.S., S.E.B.M., Am. Fed. Clin. Res., S.C. Acdy.

McCORMACK, John Henry, pres. Newport Indus., Inc., P.O. Drawer 911, Pensacola, Fla.; res. 1121 N. Barcelona St., Pensacola, Fla.
Exec.; b. West Bend, Wis., Oct. 5, 1889; s. of Charles A. and Anna (Hanrahan) McCormack; ed. West Bend H.S., 1902-06; Armour Inst. of Tech. of Chicago, 1910-14; mem.: Phi Kappa Sigma; m. Lillian Toner, Aug. 23, 1916; ch.: Marianna, John H., Jr. 1914-15, asst. chf. chem. Internatl. Harvester Co., Chicago; 1915-16, chem. and supt. Chattanooga Chem. Co., Chattanooga, Tenn.; 1916-19, foreman, Newport Hydrocarbon Co., Carrollville, Wis.; 1919-23, mgr. Newport Turpentine & Rosin Co., Pensacola, Fla.; 1923-31, v.p., The Newport Co., Pensacola; 1931-43, v.p. Newport Industries, Inc., Pensacola; 1943 to date pres. same co. Mem.: A.C.S., Pensacola Chamber of Commerce, Pensacola Port Authority, Assoc. Industries of Fla., Natl. Assoc. of Mfrs., dir. The Citizens & Peoples Natl. Bank, Pensacola, dir. Louisiana Tung Corp. Clubs: Rotary, Pensacola Country, Pensacola Yacht, Navy League. Hobbies: golf, hunting.

McCORMACK, Thomas H., dir. of sales, E.I. du Pont de Nemours & Co., Grasselli Chems. Dept., Wilmington, Del.; res. Moylan-Rose Valley, Penn.
Dir. of sales; b. LaSalle, Ill., Feb. 18, 1897; s. of Thomas J. and Nancy (Hume) McCormack; ed. U. of Ill., Class of 1920, B.S. in chem.; mem.: Delta Upsilon—2 honorary; m. Pauline B. Hottenstein, 1922; ch: Thomas H., Jr., Mary Patricia. Chemist, Grasselli Chem. Co.; plant mgr. Cleveland, Ohio, plant, Grasselli, N.J. plant; asst. dir. of sales; dir. of sales. Clubs: Union League (N.Y.C.), golf clubs, etc.

McCOY, John Spalding, dir. of res., Kermac Chem. Co., Inc., Ellicott City, Md.; res. 1041 Maiden Choice Rd., Baltimore 29, Md.
Org. chem.; b. Kansas City, Mo., Oct. 5, 1916; s. of Charles E. and Mary Elizabeth McCoy; ed. Loyola Coll., Baltimore, Md., B.S., 1938; N.Y.U., M.S., 1940; Ph.D., 1942; m. Anne Elizabeth Conlon, Nov. 15, 1947. 1942-43, res. chem. Evans Res. and Dev. Corp.; 1943-44, res. Heyden Chem. Corp., Garfield, N.J.; 1944-46, Ringwood Chem. Co., Ringwood, Ill. dev. chem.; 1946-48, grp. ldr. Evans Res. and Dev. Corp., N.Y.C.; 1948 to date, v.p. Kermac Chem. Co., Inc., Ellicott City, Md.; res. in quantitative micro org. anal., phenol-aldehyde condensations, org. synth., mercurial diuretics. Mem.: A.C.S., A.A.A.S., Phi Lambda Upsilon, Sigma Xi. Club: Chemists' (N.Y.C.).

McCOY, John T., gen. supvr. of res. & dev., Tide Water Associated Oil Co., Bayonne, N.J.; res. 1000 Wychwood Rd., Westfield, N.J.
Chem. engr.; b. Spokane, Wash., Jan. 22, 1902; s. of Marion P. and Frances E. McCoy; ed. M.I.T., S.B., S.M.; mem.: Alpha Chi Sigma, Tau Beta Pi; m. Margaret L. McMahon, June 30, 1928; ch.: Margaret Joan, Sarah Jane, Elizabeth Ann. M.I.T., instr., 1925-27; Tide Water Associated Oil Co., asst. technologist 1927-32, chf. dev. engr. 1933, gen. supvr. of res. & dev. 1934 to date. Mem.: A.C.S., A.I.Ch.E., S.A.E., A.S.T.M., Inst. Pet. (London), Am. Pet. Inst., A.A.A.S. Club: Echo Lake Country.

McCOY, Paul Edward, res. engr. in chg. phys. res. lab., Amer. Bitumuls Co. and Stancal Asphalt & Bitumuls Co., 40 Arkansas St., San Francisco 7, Calif.; res. 2624 24th Ave., San Francisco 16, Calif.
Lab. dir.; b. Frederick, Md., July 22, 1907; s. of John Robert and Hyla (Tunis) McCoy; ed. Johns Hopkins U., Baltimore, Md., B.S. in Chem. Engrg.; grad. 1932; m. Alice Elizabeth Baldwin, May 16, 1936; ch.: Marie Alice. 1932, plant chem.,

Amer. Bitumuls Co., Balt., Md.; 1934 asst. in res. lab., same co., in San Francisco; 1938, asst. res. engr. same co.; 1943, res. engr., 1949, res. engr. in chg. of phys. res. lab. same co. and also in Stancal Asphalt & Bitumuls Co.; holds num. pats.; contrib. arts. to sc. jls. Mem.: A.C.S., Assoc. of Asphalt Paving Techs., A.S.T.M., Calif. Soc. for Prof. Engrs., Amer. Concrete Inst., T.A.P.P.I. Current nominee for directorship of Assoc. of Asphalt Paving Techs. Club: San Francisco Radio. Hobbies: radio, woodworking.

McCOY, Walter J., dir. of res., Lehigh Portland Cement Co., Young Bldg., Allentown, Pa.; res. 534 Fourth St., Catasauqua, Pa.
Chem.; b. Deerwood, Minn., June 17, 1915; s. of Walter C. and Ella F. McCoy; ed. Eau Claire State Coll., 1932-36, B.A.; U. of Minn. 1936-38, M.S.; m. Mary F. Robinson, June 26, 1938; ch.: Joanne Florence, Jean Marie. Lehigh Portland Cement Co.: lab. asst. 1938-40, res. chem. 1940-45, mgr. of res. lab. 1945-47, dir. of res. 1947 to date; instr. in evening war training classes for Penn. State Coll. in math., chem., engrg., & instrumentation 1942-45; admin. hd. of Penn. State Coll. evening Tech. Inst. in Allentown, Pa. 1946-47. Abstractor cement & concrete papers for Chem. Abstracts, 1945; chmn. of edit. comm. of A.S.T.M. stand. & test. meths. for cement; several papers pub. regard. anal. chem., Portland cement & concrete. Mem.: A.C.S. (chmn. of Lehigh Valley Sec.), A.S.T.M. (mem. of comm. C-1 on cement, C-9 on concrete & C-12 on mortars for unit masonry), Am. Concrete Inst., Highway Res. Bd., Am. Stand. Assn. Clubs: Lehigh Valley Engrs., Exchange, Catasauqua (bd. of governors). Hobbies: fishing, hunting, bowling, philately.

McCRACKAN, Robert Franklin, emeritus prof. of biochem., Med. Coll. of Va., Richmond, Va.; res. 2021 Broad St., Augusta, Ga.
Retired tchr.; b. Butler's Post Office, So. Carolina, Apr. 30, 1882; s. of Wm. A. and Frances Jane (Boone) McCrackan; ed. B.S., Military Coll. of S.C., 1903; A.M., Columbia U., 1910; mem.: Phi Lambda Upsilon; m. Ottolee Gunter, June 30, 1909 (first wife); m. 2nd Alice V. Alexander, Sept. 5, 1925; ch.: (by first wife), Mary Lee. Prof. of sc. and math., Leesville Coll., 1903-05; prof. math., Rhodes Mil. Inst., 1906; Bur. of Ed., P.I., 1906-09; asst. in quant. anal., Columbia U., 1910-12; asst. in chem., N.Y.U. and Bellevue Med. Coll., 1912; tchr. of chem., Med. Coll. of Va., 1912-50, being assoc. prof. of biochem. when retired as emeritus prof. of biochem., July 1, 1950. Author of abt. 12 papers mentioned in Chem. Abstracts or in Va. Acdy. of Sc. Reports. Mem.: A.C.S., A.A.U.P., A.A.A.S. (fellow), A.I.C. (fellow) Hobby: collecting books.

McCRACKEN, Roy, tech. specialist, E.I. du Pont de Nemours & Co., Waynesboro, Va.; res. 377 Maple Ave., Waynesboro.
Chem.; b. Kentucky, Aug. 19, 1896; s. of L.C. and Ollie (Moore) McCracken; ed. B.S., U. of Ky., 1921; Iowa State Coll., M.S., 1923, Ph.D., 1926; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi, Phi Kappa Phi; m. Laura Hoke, June 21, 1927; ch.: Nancy, Ann. Res. chem., E.I. du Pont de Nemours & Co., Buffalo, N.Y., 1927-28, chf. chem. acetate dept. 1929-35, control supvr. 1935-45, asst. tech. supt. 1945-47, tech. spec. pollution 1947 to date. Grignard reagent, acetate rayon, stream pollution abatement.

McCREADY, Newton W., res. mgr., Phila. Quartz Co., Primos, Pa.; res. 24 S. 4th St., Darby, Pa.
Chem.; b. Monterery, Calif., Feb. 2, 1916; s. of Harry L. and Bessie W. McCready; ed. B.S. (highest honors), U. of Calif., 1938, Ph.D., 1941; mem.: Chi Pi Sigma, Pi Mu Epsilon, Sigma Xi, Phi Beta Kapa; m. Thelma R. Packard, Mar. 9, 1946; ch.: Douglas W. and Nancy L. Teaching asst., U. of Calif., 1938-40; res. chem., Phila. Quartz Co.; 1941-49; asst. res. mgr., 1949; res. mgr. 1950. Drexel Inst. of Tech. evening schl., instr., 1946-48. Mem., A.C.S., Franklin Inst. Club: Batona Hiking. Hobbies: hiking and camping, gardening, birds, music.

McCRUMB, Fred R(odgers), chf. chem., W.A. Taylor & Co., 7300 York Rd., Baltimore 4, Md.; res. South Rolling Rd., Catonsville 28, Md.
Chem.; b. Pittsburgh, Pa., Nov. 15, 1893; s. of Guy W. (deceased) and Sarah Rodgers (deceased); ed. Westminster, Pa., B.S., 1917, U. of Ill., M.S., 1920; mem.: Phi Lambda Upsilon (honorary chemical); m. Phebe Riley, Apr. 24, 1918; ch.: Mariet (Mrs. Charles W. Devier), Fred R., Jr., James R. Anal. chem., Jones & Laughlin Steel Co., 1917; Chemical Warfare Service, 1917-19; asst. in chem. U. of Ill., 1919-20; assoc. chem., War Dept., Edgewood Arsenal, 1920-25; chf. chem., LaMotte Chem. Products Co., 1925-30; chf. chem., W.A. Taylor & Co., 1930. Res. in experimental war gases, studies in toxicity of war gases; dev. of colorimetric methods for determin. of pH, chlorine, phosphate and for anal. of water, soils, etc.; dev. simplified clinical tests for blood and urine. Mem.: Phi Lambda Upsilon (hon. chem.), A.A.A.S. Hobbies: gardening, reading.

McCUBBIN, Keator, mgr., fats and oils dept., chemical plants div. of Blaw Knox Construction Co., 321 Penn Ave., Pittsburgh, Pa.; res. 4824 Glenallen Dr., Pittsburgh.
Chem. engr.; b. Pottersburg, O., Mar. 11, 1913; s. of Robert Jeanie McCubbin; ed. B.Ch.E., Ohio State U., 1938; m. Mary E. Sensenbaugh, Mar. 19, 1938; ch.: Kathryn Louise, Donald Keator, Barbara Jean. Chem. engr., A.E. Staley Mfg. Co., 1938-44; asst. supt., oils div., A.E. Staley Mfg. Co., 1944-47; mgr., fats and oils dept., chemical plants div., Blaw Knox Construction Co., June, 1947, to present. Mem.: A.C.S., A.I.Ch.E., A.O.C.S. Club: Sales Executives (Pittsburgh).

McCULLOUGH, C(ampbell) Rogers, mem. of gen. dev. dept., Monsanto Chem. Co., 140 Gray Ave., St. Louis, Mo.
Chem. engr.; b. Washington, D.C., Apr. 12, 1900; s. of Charles E. and Emma R. McCullough; ed. Swarthmore Coll., A.B. (1921); M.I.T., M.S. (1922), Ph.D. (1928); du Pont Fellow at M.I.T. 1926; mem.: Phi Beta Kappa, Sigma Xi; m. Exia Drummond, 1936; ch.: David Rogers, Dianne Exia. 1922-26, Hygrade Lamp Co., Salem, Mass., chem.; 1926-28, Fed. Phosphorus Co., Anniston, Ala., chem.; 1928-35, succeeded by Swann Res., Anniston, chem. engr.; 1935-41, succeeded by Monsanto Chem. Co., Anniston, chem. engr.; 1941-44, Monsanto Chem., Dayton, Ohio, chem. engr.; 1944-45, same co., proj. mgr.; 1945-48, Clinton Labs., Oak Ridge, Tenn., dir. Power Pile Div.; 1948 to date, Monsanto Chem., St. Louis, Mo., mem. Gen. Dev. Dept.; 1948-49, conslt. to Oak Ridge, Tenn. Clinton Labs.; 1949 to date, conslt. to Argonne Natl. Labs., Chicago, Ill.; res. in phosphorus and phosphates; N.D.R.C. Div. VIII, Rocket Propellants; application of nuclear energy to powder. Holds num. pats. Co-author of, "Syntheses in the Diphenyl Series I," "A Pilot Plant Fractionating Column," "The Action of Sulfuric Acid in the Prep. of Certain Alkyl Halides" and "Purification and Physical Properties of Org. Cmpds. XII Lower Aliphatic Bromides"; also chapt. on "Phosphates in Water-Softening and Cleansing" for Waggamann's Book on Phosphates. Mem.: A.C.S., A.I.Ch.E., E.S., A.I.M.M.E., Amer. Ordn. Assoc., conslt. editor, Nucleonics (1948); awarded President's Cert. of Merit Apr. 4, 1949; mem. Powder & Explosives Comm.

(A.O.A.), 1948 to date. Hobbies: rifle and pistol shooting, scouting.

McCULLOUGH, Gerald Waldo, v.p., gen. mgr., Phillips Chem. Co., Bartlesville, Okla.; res. 1815 S. Johnstone Ave.
Engr.; b. Lynville, Gibson Co., Ind., Apr. 1, 1904; s. of Francis Clarence and Bertha Thompson McCullough; ed. Okla. A.&M. Coll., Stillwater, Okla., B.S. Mech. Engrg. 1925; mem.: Sigma Chi; m. Opal Hope Mason, Jan. 16, 1925; ch.: Gerald William, Kenneth Waldo, Barbara Hope, Linda Louise, Patricia Ann. Phillips Pet. Co., draftsman, des. engr. 1925-26; field construction inspector, 1926-28; plant chem., dev. engr. 1928-30; chf. proc. engr., 1930-37; chf. engr. (natural gasoline & gas dept.) 1937-43; asst. mgr., defense plant div., supt. Plains Butadiene Plant, Borger, Texas, 1943-44; mgr. defense plant div., asst. to mgr. natural gasoline, gas dept., 1944-48; Phillips Chem. Co. (wholly owned subsidiary Phillips Pet. Co.), v.p., gen. mgr., 1948 to date (mem. bd. dirs.). Phillips Terminal Co., dir., v.p., gen. mgr. Res. in dev. many light hydrocarbon proc., contrib. several patents, tech. papers in this field. Early proponent use of white protective coatings to storage tanks, thereby, increasing heat reflectivity in storage of light hydrocarbon, chem. matls., with reduction of vapor losses, steel tonnage required for tankage, used widely in W.W. II. Mem.: gen. & execs. comms. Southwestern Gas Measurement Short Course, 1932 to date; Natural Gasoline Assn. Am. (serv. many tech. & publications comms.); mem. Information Panel, 1947 Session Natural Gasoline Assn. Am., Phillips mem. Govt. Tech. Comm. re. mfgr. synthetic rubber ingredients, butadiene, styrene, W.W.II, Okla. Soc., Natl. Soc. Prof. Engrs. Club: Rotary. Hobbies: hunting of all kinds but especially big game, fishing.

McCULLOUGH, James Caldwell, emer. prof. of chem., Oberlin Coll., Severance Chem. Lab., Oberlin, Ohio; res. 153 S. Cedar St., Oberlin.
Ret.; b. Mansfield, Ohio, Aug. 15, 1884; s. of Dr. A.H. and Alice Carey (Caldwell) McCullough; ed. Case Schl. of Applied Sc., Cleveland, Ohio (now Case Tech.), S.B. 1906, S.M. 1910; U. of Chicago, summers 1913 & 1914; mem.: Tau Beta Pi, Sigma Xi; m. Mary Uel Parsons, Sept. 9, 1907; ch.: Katharine Caldwell, Uel Parsons. Dow Chem. Co., Midland, Mich., chem., 1906-07; Oberlin Coll., instr. 1907-11, asoc. prof. of chem. 1911-26, prof. of chem. 1926-49, emer. prof. 1949 to date. Mem.: A.A.A.S. (fellow), A.A.U.P., A.C.S. Mem. Oberlin Village Council, 1934-46 (v.chmn., chmn., mayor). Club: Oberlin Exchange. Hobbies: travel, photography.

McCULLOUGH, Kenneth Vernon, group leader, dev. dept., Bakelite Div. of Union Carbide & Carbon Corp., 230 Grove St., Bloomfield, N.J.; res. 775 Woodland Ave., Plainfield, N.J.
Chem.; b. Fargo, North Dak., Dec. 22, 1908; s. of J.V. and Constance (Grondahl) McCullough; ed. B.S., North Dakota State Coll., 1930; advanced courses at Stevens Inst. of Tech.; mem.: Alpha Sigma Tau, Blue Key, Phi Kappa Phi, Scabbard & Blade; m. Carolyn Shepherd, Aug. 8, 1936; ch.: Jane, Sue. Tech. sales, Aluminum Co. of America, 1930-31; chem., American Marietta, 1931-33; chem. Illinois Paint Wks., 1933; chem. Certain-teed Prods. Corp., 1933-36; chem., Bakelite Div. of U.C.C., 1936-44; group leader, Bakelite Div. of U.C.C. Oct., 1944 to present. Res.: protective coatings. Mem.: A.C.S., A.I.C. Club: New York Paint & Varnish Production. Hobbies: bowling, gardening.

McCURDY, Ralph Edwin, chem. engr., Hood Rubber Co., Watertown, Mass.; res. 15 Sagamore Rd., Wellesley Hills 82, Mass.
Tech. supvr.; b. Gardiner, Maine, June 14, 1906; s. of Calvin and Olive McCurdy; ed. Bates Coll., B.S. 1928; m. Sylvia Meehan, July 6, 1928; ch.: Joan Elizabeth, Elizabeth Ann. Tech. supvr., flooring and asphalt container div., Hood Rubber Co., Watertown, Mass. Holds sev. pats. in asphalt fld. Mem.: Rubber Division-A.C.S.; Asphalt Tile Inst.; Rubber Mfrs. Assoc.; A.S.T.M. Treasurer, Wellesley Community Chest; salary and wage adjustment committee, Town of Wellesley; trustee, Wellesley Congregational Ch. Clubs: Wellesley Club, A.F.&A.M., Eastern Star. Hobbies: golf, tennis.

McCUTCHEON, John Welland, consltg. chem., 475 Fifth Ave., N.Y. 17, N.Y.; res. 2277 Andrews Ave., N.Y. 53, N.Y.
Chem.; b. Ontario, Canada, Dec. 1, 1904; s. of Harry and Carrie McCutcheon; ed. B.A. hon., Queens U., Kingston, Canada; M.A., U. of Toronto, Toronto, Canada; m. Ila May Quinn, Aug. 2, 1930; ch.: Donald Harry, John Murray. 1930-34, plant chem., Procter & Gamble Co., Hamilton, Canada; 1934-39, chf. chem. in chg. of glyc. mfg., Lever Bros., Toronto, Canada; 1939-41, plant supt., Lightfoot Schultz Co., Hoboken, N.J.; 1941-43, tech. expert, explosives div., British Purch. Commis.; 1943-44, mgr. of glycerin dept., E.F. Drew Co., Boonton, N.J.; 1945 to date, consltg. chem. in above fld. Num. publ. papers in fld. Coauthor: "Soaps & Detergents," (MacNair-Dorland Co., N.Y.) 1949; author: "Syn. Detergents," (MacNair-Dorland Co., N.Y., 1950), in press. Mem.: Chem. Inst. of Canada (fellow), A.O.C.S., A.C.S., Assn. of Cons. Chem. & Chem. Eng.

McCUTCHEON, Thomas Potter, prof. inorg. chem., U. Pa., Phila. 4, Pa.; res. Downingtown, Pa.
Prof. chem.; b. July 27, 1881; s. of Thomas P. and Minnie (Napheys) McCutcheon; ed. U. Pa., A.B., 1903, Ph.D., 1907; mem.: Delta Tau Delta; m. Margaret E. Wilson, June 29, 1929; ch.: Christopher, Dorigen. U. Pa., instr., asst. prof., prof., 1906 to date; U. Zurich, 1911 (student of Prof. A. Werner). Cobaltammines, complex compds. of Mo. & W., pub. in sc. jl. Author (with Seltz and Warner), "General Chemistry," 1927, 3 editions. Mem.: A.C.S.

McDANIEL, Alonzo Simpson, consulting chem. and pat. attorney, Washington Bldg., Washington 5, D.C.; res. 4000 Cathedral Avenue, N.W., Washington, D.C.
Consulting chem. and pat. attorney; b. White Lick, Ind., May 27, 1882; s. of John Stanley and Jemina Jane Howard McDaniel; ed. B.A., Wabash Coll., 1904, M.A., U. of Wis., 1905, Ph.D., U. of Wis., 1909; mem.: Phi Delta Theta; m. Harriet Cochran, Aug. 9, 1905. Fellow in phys. chem., U. of Wis., 1904-05; asst. prof. of chem. and physics, Bellevue Coll., Neb., 1905-06; instr. of gen. chem., U. of Wis., 1906-09; asst. chem., Natl. Bur. of Standards, 1909-13; res. chem. Eastman Kodak Co., 1913-18; civilian tech. dir., C.W.S., U.S.A., 1918-19; chem., Pennie, Davis, Marvin and Edmonds, N.Y., 1919-25; dir. of res. Niagara Sprayer and Chem. Co., Inc., 1925-45. Res. in absorption coefficients of hydrocarbon gases in non-aqueous liqs., chem. of silver voltameter, inventor of antistatic photographic film, inventor of phytographic developer for under-exposed negatives, electrolytic manuf. of Para-aminophenolsulfate (Metol) and Ammonium persulfate. Mem.: A.A.A.S., Phi Beta Kappa, Sigma Xi, Alpha Chi Sigma. Clubs: former mem. Cosmos, Chemists' (N.Y.), Tuscarora of Lockport, N.Y. Hobbies: bowling, golf, birds.

McDANIEL, George Ridgley, res. chem., Diamond Alkali Co., 4701 Paddock Rd., Cincinnati 29, O.; res. 1344 Joseph St., Cincinnati 37, O.

Chem.; b. Mt. Olivet, Ky., Aug. 10, 1900; s. of Charles M. and Anna May McDaniel; ed. B.S. in Industrial Chem., U. of Ky., 1923, M.S., M.I.T., 1929; mem.: Alpha Chi Sigma; m. Louella Brady, June 6, 1934; ch.: Betty G. McDaniel. Chem., Natl. Aniline and Chem. Co., 1923-24; chem., Penn. Railroad Co., 1925-26; res. asst., M.I.T., 1926-27, res. assoc. 1927-28; res. chem., Standard Silicate Co., 1928-37; res. chem., Diamond Alkali Co., 1937 to date. Res. and dev. on sodium silicate cmpds. and their uses. Mem.: A.C.S. Hobby: music.

McDANIEL, Paul William, exec. off., div. of res., Atomic Energy Commis., 1901 Constitution Ave., Washington, D.C.; res. 929 N. Kenmore St., Arlington, Va.
Physicist; b. Jan. 1, 1916, Robards, Kentucky; s. of Leslie and Lillie (Ligon) McDaniel; ed. Western Kentucky Tchrs. Coll., B.S.Chem. 1936; Indiana U., M.A. phys., Ph.D. phys.; m. Loreen Webb, June 4, 1937. 1941-42, phys. instr., Alabama Polytech. Inst., prof. 1946; 1945-47, chf., Tech. Brch., Manhattan Engr. Distr.; 1947-48, chf., matls. and info. brch., U.S. Atomic Energy Commis.; 1948 to date, exec. off., div. of res., U.S. Atomic Energy Commis.; Major, C.W.S. 1942-45; res. in nuclear energy levels. Mem.: A.Phys.S., A.A.Phys.Tchrs., A.A.A.S., Sigma Xi.

McDERMOTT, Frank Alexander, retired; res. 815 W. 32nd St., Wilmington, Del.
Chem., zymotechnologist; b. Wash., D.C., Aug. 3, 1885; s. of Frank Paine and Anna Virginia (McKeever) McDermott; ed. U. of Pitts., B.S. 1913, M.S. 1914; m. Mary E. Tallentire, Oct. 20, 1909; ch.: Frances Virginia (McDermott) Krapf, Margaret (McDermott) Eaton. Hygienic Lab., U.S. Pub. Health Serv., 1905-11; res. fellow, Mellon Inst., 1911-15; res. chem., Corby Co., 1915-18; res. chem., du Pont Expt. Station, 1918-26; E.I. du Pont de Nemours & Co., 1926 to Sept. 1, 1950, sr. supvr. assigned to labs., Deepwater Alcohol Plant, Chambers Wks. Mem.: A.A.A.S. (fellow), A.C.S., S.A.B., Soc. of Natural History of Del. (secy. 1944). Hobby: fireflies.

McDONALD, Hugh Joseph, prof. physical & biochem., chmn. dept. biochem., Stritch Schl. of Medicine, Loyola U., Chicago 12, Ill.; res. 8030 Lockwood Ave., Skokie, Ill.
Physical Chem., biochem.; b. Glen Nevis, Ontario, Can., July 27, 1913; s. of Roderick J. and Annie Sarah McDonell McDonald; ed. Queen's U., 1930-32; McGill U., 1932-35 (B.Sc., with 1st class hons., 1935); Carnegie Inst. Tech., 1935-39; M.S. 1936; D.Sc. 1939; mem.: Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma; m. Margaret Bilsland Taylor, Feb. 14, 1942; ch.: George Gordon, Jean Margaret. Res. asst., Carnegie Inst. Tech., 1935-36; teach. asst. & part-time instr. 1936-39; instr. chem. Ill. Inst. Tech. 1939-41; asst. prof. 1941-43; assoc. prof. 1943-46; prof. 1946-48; prof. physical & biochem., chmn. dept. biochem., Stritch Schl. of Medicine, Loyola U., Chicago, 1948 to date. Conslt. Argonne Natl. Lab., Chicago, 1946 to date; conducted res., Manhattan Proj., Columbia U., 1943; prof. engr. (Ill.). Contrib. extens. to sc. and tech. jls. on chem. thermodynamics, liq.-vapor equilibria, kinetics of reactions in solution, electrochem., solution prop., surface reactions. Mem.: A.A.A.S. (fellow, 1946), A.C.S., A.A.C.C., A.A.U.P., E.S., N.A.C.E., Sc. Res. Soc. Am., Soc. Freedom Sc., Sigma Xi, res. award 1944, res. grant, A.A.A.S., 1945.

McDONALD, Tillman Snow, chem. supvr., Procter & Gamble, Box 5118, Dallas, Texas; res. 4021 Windsor Ave.
Chem. supvr.; b. Okla., Mar. 20, 1902; s. of C.W. and Carrie McDonald; ed. B.A., Okla. A.&M., 1924; M.S., Pa. St., 1926; mem.: Lambda Chi Alpha, Pi Kappa Delta, Phi Lambda Upsilon; m. Martha Jean McFaddin, June 21, 1930. Procter & Gamble, 1926 to date; cotton oil mill chem., 1926-27; jr. chem. soap dev. 1927-28; stands., spec. auditor 1928-32; group leader, soap dev. 1932-35; plant chem. supvr., 4 plants, 1935 to date. Mem.: A.C.S. (secy. 1947-50, chmn. elect. 1950-51) (Dallas, Ft. Worth sect.), A.O.C., winner Smalley Found. Award, 1949-50. Hobbies: fishing, hunting, bridge, poker.

McDONNELL, John Neumann, v.p., Schering Corp., Bloomfield, N.J.; asst. prof. phar., Phila. Coll. of Pharmacy and Sc., Phila., Pa.; res. Lindsay Lane, Meadowbrook, Pa.
Pharmacist, bacteriol.; b. Jenkintown, Pa., Mar. 23, 1910; s. of Dr. Joseph F., Sr., and Elizabeth (Moran) McDonnell; ed. Phila. Coll. of Phar. and Sc., B.Sc. (phar.), 1932; M.Sc. (bact.), 1933; D.Sc. (bact. and pub. h.) 1936; U. Penn. Grad. Schl., 1934-36 (econ. and finance); m. Dr. Madeline Oxford Holland, Aug. 9, 1941. McDonnells' Inc., Pharmacists and Chems., Jenkintown, sales mgr., 1932-41; Phila. Coll. of Phar. & Sc., Phila., asst. in bus. admin., 1930-32; asst. prof. phar., 1932 to date; editor, "Amer. Prof. Pharmacist," Romaine Pierson Publ. Inc., N.Y., 1935-47; "Medical Times," Romaine Pierson, 1935-47; "El Farmaceutico," 1941-47, McGraw-Hill Internatl. Inc., N.Y. Co-author: "Remington's Practice of Pharmacy," 1949. W.P.B., Wash., D.C., chf., Drug Res. Sec., 1941-45; dir. Off. Civ. Penicillin Distrib., 1944-45; Schering Corp., Bloomfield, N.J., v.p., 1945 to date. Literature pub. in fld. of pharmaceutical practice, economics, mfg. Mem.: A.C.S., A.A.A.S. (fellow), Soc. Amer. Bact., A.P.H.A., A.I.C. (fellow), A.Phar.A., Soc. Amer. Hosp. Phar., Phila. Coll. Phar. & Sc., Alumni Assoc. Phila. Coll. (dir.), Old York Rd. Hist. Soc., Amer. Acdy. Polit. Sc. (Pa.), Acdy. Polit. Sc. (Columbia). Club: Huntingdon Valley Country (Abington, Pa.). Hobbies: travel, literature, art.

McDONOUGH, Everett Goodrich, v.p., Evans Chemetics, Inc., 250 E. 43rd St., New York, N.Y.; res. 109 Kingston Ave., Yonkers, N.Y.
Exec. chem.; b. Birmingham, Ala., Feb. 22, 1905; s. of Robert Newton and Sarah Alice McDonough; ed. A.B., Howard Coll., 1926; Ph.D., Columbia U., 1932; mem.: Lambda Chi Alpha, Phi Lambda Upsilon, Sigma Xi; m. Marjorie E. Hudson, Apr. 28, 1932; ch.: Everett Goodrich, Jr., Robert Hudson, Ann Keith. Faculty Howard Coll., 1926-27; chf. chem., Marinello Corp., 1928-33; asst. tech. dir., Inecto, 1933-40; gen. mgr., Ralph L. Evans Associates since 1941; tech. dir., Sales Affiliates, since 1941; v.p. Evans Res. and Dev. Corp., since 1946; v.p. Evans Chemetics, Inc., 1940 to present. Developments leading to machineless permanent waving, cold permanent waving, odorless depilatories, and mercaptan res. Author: "Truth About Cosmetics," 1937. Mem.: A.C.S., A.C.C.C.E., S.C.C., Acdy. of Sc. (N.Y.), A.A.A.S., A.I.C., Toilet Goods Assoc. Mem. Advisory Bd. to Bd. of Ed., Yonkers, 1944-45, pres., 1945-46. Club: Chemists'. Hobbies: golf, swimming, horseback riding, tennis, badminton, and all active sports.

McELHINNEY, Thomas Robert, v.p., res. and prod., Valite Corp., P.O. Box 8177, New Orleans 22, La.; res., New Orleans.
Chem. engr.; b. Dysart, Iowa, Feb. 10, 1909; s. of Roscoe C. and Pansy O. (Mitchell) McElhinney; ed. U. Iowa, 1927-29; Iowa State Coll., 1929-31; B.S. in Chem. Engrg.; m. Mary F. Starr, Oct. 7, 1932; ch.: Thomas Kenneth, Patrick James. Jr. chem. engr., Agr. By-Products Lab., U.S.D.A., Ames, Ia.; res. dir., Valentine Sugars, Inc., Lockport, La., 1939-46; v.p. & tech. dir., Valite Corp.,

1946 to present. Res. in and pats. on thermosetting and thermoplastic resins from agr. byproducts, pulping processes, articles on pulping, destructive distillation, anal. methods. Mem.: A.C.S., A.I.Ch.E., A.I.C. (fellow). Hobbies: golf, fishing.

McELROY, Wilbur Renfrew, dir.-owner, The Wayne Labs., 17 E. Main St., Waynesboro, Pa.; res. 255 W. Main St., Waynesboro.
Chem., engrg. conslt.; b. Fayetteville, Pa., Aug. 20, 1914; s. of F.W. and Beulah R. McElroy; ed. A.B., Gettysburg Coll., 1936; one yr. Grad. Schl., Johns Hopkins U., 1937; M.S., Penn. State Coll., 1938; Ph.D., Purdue U., 1943; mem.: Sigma Alpha Epsilon; m. Helen B. Benedict, Sept. 2, 1939; ch.: Benedict R. Res. chem., The Texas Co., 1939-40; Purdue Res. Foundation, Res. Fellow, 1940-43; res. chem., The Texas Co., 1943-45; project leader, res. & pilot plant dev., 1945-49; res. chem., The Texas Co., 1949-50; owner-dir., chem. and engrg. conslt., The Wayne Labs., 1950 to present. Res. in pet. tech., petrochem., N-cmpds., explosives and intermediates, catalytic processes. Mem.: A.I.C. (fellow), Sigma Xi, Phi Lambda Upsilon, A.C.S., A.S.T.M., A.C.C.C.E., Am. Council of Commercial Labs., Res. & Dev. Corp. of Ill. (staff conslt.), Penn. Municipal Authorities Assn., Water Works Operators Assn. (Pa.). Club: Torch. Hobbies: collecting antiques, outdoor sports.

McELROY, William Dale, gas engr., operating dept., United Gas Improvement Co., Phila., Pa.
Chem. engr.; b. Morgantown, W.Va., May 30, 1906; s. of William A. and Belle J. McElroy; ed. W.Va. U., B.S. Ch.E., 1927; M.S., 1928; mem.: Tau Kappa Epsilon, Tau Beta Pi, Phi Lambda Upsilon; m. Katherine Feaster, 1926; ch.: Robert D., Alan G. 1928-35, tech., United Gas Improv. Co., Phila.; 1935-40, mgr., Engr. Labs.; 1940-47, plant supt., Ugite Sales Corp., Chester, Pa.; 1947-50, mgr., dev. dept., res. & dev. div., Pittsburgh Consolidation Coal Co., Library, Pa.; 1950 to date, gas engr., operating dept., United Gas Improv. Co., Phila. Lic. Prof. Engr., Pa. Mem.: A.C.S., A.I.Ch.E., A.G.A.

McEWEN, John Mitchell, tech. dir. Everett Mill, assoc. res. dir. Pulp Div., Weyerhaeuser Pulp Div., Everett, Wash.; res. 1132 Wetmore Ave., Everett.
Chem. engr.; b. Homer, Ill., May 4, 1917; s. of Rev. John A. and Helen (Mitchell) McEwen; ed. Ohio State U., B.Ch.E., 1939; Inst. of Paper Chem., M.S., 1941; Ph.D., 1947; m. Isabel Ruble, Feb. 21, 1942; ch.: Irene Ruble, Marie Ann, Judy Lynn. 1941-46, Corps of Engrs., U.S.A., 2nd Lt. to Major; 1947-49, res. grp. ldr., res. dept., Weyerhaeuser Pulp Div.; 1949 to date, assoc. res. dir., Weyerhaeuser Pulp Div.; at present, tech. dir., Everett Mill, Weyerhaeuser Pulp Div. Dev. of specialized dissolving pulps. Mem.: T.A.P.P.I., Amer. Pulp & Paper Mill Supts. Assoc., Tau Beta Pi, Sigma Xi, Phi Lambda Upsilon, Phi Eta Sigma.

McFARLAND, Rolland, Jr., tech. dir., Hills McCanna Co., 3025 N. Western Ave., Chicago 18, Ill.; res. 316 Ash St., Crystal Lake, Ill.
Chem. engr.; b. St. Louis, Mo., Sept. 28, 1911; s. of Rolland and Jessie McFarland; ed. Armour Inst. of Tech., B.S. Ch.E., 1934; U. Chicago Coll., M.S., 1937; mem.: Alpha Chi Sigma; m. Catherine C. Pond, Oct. 9, 1937; ch.: Rolland, III, John Patrick. Chem. sec., A Century of Progress, 1934; Natl. Aluminate, res. chem., 1935-37; Hills McCanna Co., tech. dir., 1938 to date. McFarland Associates (Ch.E.). Ion exchange resins syn. elastomers, corrosion engrg. Mem.: A.C.S., A.I.Ch.E., A.S.M., N.A.C.E. Hobby: photography.

McFEE, Earl Puette, chf. chem., Gorton-Pew Fisheries Co., Ltd., Gloucester, Mass.; res. 207 Essex Ave., Gloucester.
Chem.; b. Tryon, N.C., Mar. 8, 1903; s. of C.B. and Emma (Puette) McFee; ed. Duke U., A.B. (physical chem.), 1926 (magna cum laude); grad. wk. in phys. chem., 1927-28; mem.: Phi Beta Kappa, Omicron Delta Kappa, Chi Tau, Iota Gamma Pi; m. Kathleen A. Swain, June 19, 1929. 1928-33, res. chem., Atlantic Coast Fisheries Co.; 1934-38, chem. in chg. fish liver oils prod., same co.; 1938 to date, chf. chem., Gorton-Pew Fisheries Co., Ltd. Res. on vitamins A and D from fish liver oils—fishery by-prods.; res. and dev. frozen and canned fishery prods. Mem.: A.C.S., A.O.C.S., Inst. of Food Techs., Natl. Fisheries Inst. Hobby: gardening.

McGARRY, John F., supvg. engr., Bechtel Corp., 62 First St., San Francisco, Calif.
Chem. engr.; b. Los Angeles, Calif., Sept. 27, 1910; s. of John A. and Christine (Kurtz) McGarry; ed. Calif. Inst. of Tech., B.S., 1931; M.S., 1932; mem.: Kappa Gamma; m. Enid Hendricks, Aug. 18, 1934; ch.: Kathleen, Michael. Shell Oil Co., Martinez Refin., Calif., 1933-35, res. engr., tech. supvr., tech. asst. to refin. mgr.; hd. off. mfg., San Francisco, 1935-38, tech. asst. to mfgr. v.p.; Martinez Refin., 1938-42, asst. mgr. tech. dept. & supvr. in chg. of alkylation proc.; hd. off., San Francisco, 1942-43, sr. proc. design engr.; Shell Chem. Corp., hd. off., San Francisco, 1943-48, sr. proc. engr., proc. design, dev. dept.; hd. off., N.Y., 1948, chf. proc. design engr.; Synthetic Glycerine and Petro-Chems. Plant, Houston, Tex., 1948-49, asst. supt. all mfg. operations of new synth. chems. plant; U. of Calif., Berkeley, Calif., 1949-50, assoc. prof., chmn. Proc. Engrg. Subdiv.; conslt. engr., 1950 and subseq.; chmn., bd. dirs., and pres. Calif. Proc. Consultants Service, Inc., Berkeley. Res. and dev. wk. particularly in petroleum & lubricants fld. Mem.: A.I.Ch.E., A.S.M.E. (chmn. of San Francisco Proc. Indust. Div.), A.A.A.S., A.S. Engrg. Educ., Sigma Xi, Pi Tau Sigma. Hobbies: sailing, skiing.

McGARVEY, Alan R., chem. engr., Armstrong Cork Co., Lancaster, Pa.; res. 34 Cottage Ave., Lancaster.
Chem. engr.; b. Phila., Pa., May 11, 1914; s. of John L. and Lillian S. McGarvey; ed. U. of Pa., B.S. in Ch.E., 1936; prof. degree, Chem. Engrg., 1943; mem.: Alpha Chi Sigma; m. Louise S. Houser 1940. 1936 to date, Armstrong Cork Co., jr. chem. to chem. engr. in chg. of res. & dev. for low temp. insulation, asphalt prods. & cork processing. Patents laminated matls. & low temp. insulation fld. Mem.: A.I.Ch.E. (active). Hobbies: color photography, cabinent making.

McGAVACK, John, dept. hd., crude rubber & latex dept., U.S. Rubber Co., Gen. Labs., Passaic, N.J.; res. 144 Ames Ave., Leonia, N.J.
Res. chem.; b. Waterford, Va.; s. of John Thomas and Esther (Hodge) McGavack; ed. A.B., Hampden-Sydney Col., 1913 (Third Honor); Ph.D., Johns Hopkins U., 1920; mem.: Theta Chi, Gamma Alpha, Phi Beta Kappa; m. Anne Elizabeth Hill, June 30, 1923; ch.: John, Jr., Virginia Hill. Asst. principal, Charles Town, W.Va., H.S., 1913-16; student, 1916-17; 2nd Lt., C.W.S., U.S.A., 1917-19; Johns Hopkins U., 1919-20, asst. chem. dept., grad. wk.; 1920 to date, U.S. Rubber Co., Gen. Labs., Passaic, N.J.; res. chem., 1920-30; group leader, 1930-35; dept. hd., 1935 to date; W.P.B., 1943-45, chmn. natural rubber group. Approx. 100 U.S. pats. in fld. of rubber & latex chem.; jl. articles on silica gel, rubber chlorine chem., latex purification, latex concentration, latex insulated wire, latex particle size, new crude rubbers, correlation of nitrogen with total solids.

Trustee, Leonia Bd. of Ed., 1939 to date (pres., 1947 to date); trustee, Leonia Presbyterian Church, 1934 to date. Mem.: A.C.S. Hobbies: gardening, improvements in schools.

McGIFFIN, James Quail, tech. supt., Gen. Tire & Rubber Co., Box 4021, Baytown, Texas; res. 1612 Florida St., Baytown.
Chem. engr.; b. E. Cleveland, Ohio, Feb. 21, 1914; s. of Norton and Celestine B. (Rader) McGiffin; ed. Case Inst. of Tech., Cleveland, Ohio; B.S., chem. engrg., 1934; M.S., chem. engrg., 1936; prof. deg. Chem. Engrg., 1939; mem.: Sigma Chi, Alpha Chi Sigma; m. Isabella May Peirson, Apr. 7, 1933; ch.: Sarah Louise, 1935. Tchg. fellowship, Case Inst. of Tech., 1934-35; chem. engr., mfg. dept., Stand. Oil Co. (Ohio), 1935-41; process engr., Latonia Refining Corp., Latonia, Ky., 1941-43; sr. process engr., 1943-46, acting tech. supt. 1946-48, tech. supt. 1948 to date, Gen. Tire & Rubber Co., Syn. Div., Baytown, Tex. Reg. Prof. Engr., State of Texas. Papers: "E.P.C. Channel Blacks Modulus Study." "Crude Naphtha Stabilizer Performance," Trans. A.I.Ch.E. Mem.: Natl. Soc. Prof. Engrs. (Texas State Soc; San Jacinto Chapt.); A.I.Ch.E. (active, S. Tex. sec.); A.C.S. (Southeastern Tex. sec., sr. grade, div. Rubber Chem. & div. chem. lit.). Advisory Council, Lee Jr. Coll., (Baytown). Club: Baytown Bowling Assn. (v.p.). Hobbies: geneology, bowling, movies.

McGINNIS, John C(lark), assoc. prof. chem., Ark. A.&M. Coll., College Heights, Ark.; res. College Heights.
Tchg.; b. LaRue, Ark., Oct. 13, 1905; s. of Albert Sidney and Ethel (Bland) McGinnis; ed. Ark. Tchrs. Coll., 1927-31, B.S.E., U. of Ark., 1931-32; M.S., 1938; U. of Ill., summer, 1937; m. Lois Duff, Apr. 28, 1934; ch.: John Michael, Patrick Edward, Thomas Bryan, Susan. Wabbaseka, Ark. H.S. tchr., 1932-37; Jr. Agric. Coll., Beebe, Ark., 1937-42, instr.; Cities Serv. Defense Corp., Little Rock, Ark., 1942-43, asst. chem.; Ark. A.&M. Coll., 1943-50, assoc. prof.; hd. chem. dept since 1945. Mem.: A.C.S. Hobbies: gardening, poultry, fishing.

McGINNIS, Richard Adams, hd. res. chem., Spreckels Sugar Co., Box 240, Woodland, Calif.; res. 815 Beamer St., Woodland.
Res. chem.; b. Douglas, Ariz., Dec. 20, 1903; s. of R.B. and A.A. McGinnis; ed. U. of Calif., Ph.D.; m. Olive P. McGinnis, 1933; ch.: Helen J., Richard P., Theresa C., James A. Spreckels Sugar Co., 1935 to date. Wk. in chem. of Carbonation & color in beet sugar processing. Edit. of wk. on beet sugar technology to be publ. 1951, Reinhold. Mem.: A.C.S., Sigma Xi, Am. Soc. Sugar Beet Technologists. Mem. Council, Boy Scouts of Am., Golden Empire Council. Hobbies: photography, music, model railroading.

McGLYNN, George Henry, v.p., treas., Magnus, Mabee & Reynard, Inc., 16 Debrosses St., New York 13, N.Y.; res. 24 St. James St., South, Garden City, L.I.
Exec.; b. N.Y.C., Sept. 22, 1896; s. of George and Anna (Manners) McGlynn; ed. pub. schls. of Bklyn., N.Y., and N.Y.U.; m. Florence Strong, Feb. 6, 1924; ch.: Florence Jean. Club: Montauk (Bklyn.), Cherry Valley (Garden City).

McGRATH, Joseph (Sarto), C.S.C., dir. grad. studies, dean Coll. of Sc., dir. foreign students, U. of Portland, Portland 3, Ore.; res. U. of Portland.
Priest, educat., chem.; b. Hubbard, Ore., Sept. 28, 1903; s. of John (dec.) and Barbara (Stirber) McGrath; ed. A.B., U. Notre Dame, 1932; Ph.D., 1939; grad. student, Catholic U. Amer., Wash., D.C., 1932-36; mem.: Sigma Xi, Delta Epsilon Sigma. Instr. chem., U. Notre Dame, 1937; asst. superior, Community House, U. Notre Dame, 1937-39; organized the Coll. of Sc., U. Portland; dean of Coll. of Sc., 1940-44 (resigned); acting dean, Coll. of Sc., 1947; dean, 1948 to date; hd. dept. chem., 1939-48; dir. grad. studies, 1946 to date; dir. foreign students, 1947 to date; mem. Univ. Council, 1939-44, 1947 to date; chmn., scholarship comm., 1949 to date; v.chmn., Educational Conf., Priests of Holy Cross, 1948. Mem.: A.C.S. (council standing comm. local sectional activities, 1948-50; secy., 1948, chmn., 1949-50; chmn. Oregon Sect., 1943; councilor, 1944-50; div. chem. education; div. chem. literature); A.A.A.S.; A.S.M. (education comm., 1940; chmn., library comm., 1944-45; chmn. education comm., 1946-47); Deutsche Chemische Gesellschaft; Indiana Chem. Soc.; Chem. Soc. (London, fellow); S.C.I. (Brit.); A.I.C. (fellow); Oregon Acdy. of Sc. (fellow, pres. 1944); Nederlandsche Chemische Vereeniging; Portland Americanization Council (bd. dirs.); Natl. Assoc. of Foreign Student Advisors; N.E.A. (dept. higher ed.); Farm Chemurgic Council (chmn. Oregon Comm. 1947 to date); Natl. Conf. of Christians and Jews (comm. on educational organizations); Raw Matls. Survey, Portland Chamber of Commerce (tech. advisor). Roman Cath. Priest, Cong. of Holy Cross.

McGRAW, John, Jr., asst. prof., dept. chem., Lafayette Coll., Easton, Pa.; res. 630 Lafayette St., Easton.
Teaching; b. Point Pleasant, W.Va., Sept. 3, 1901; s. of John, Sr., and Blanche (Cable) McGraw; ed. 1926, B.S., W.Va. Wesleyan Coll.; 1930, Ph.D., Johns Hopkins U.; mem.: Alpha Chi Sigma; m. Madge Abigail Smith, Dec. 20, 1930; ch.: Marjorie Cable, Mary Elizabeth. 1927-28, mech. engrg. dept., E.I. du Pont de Nemours Co., Belle, W.Va.; 1930-33, instr., dept. of chem., U. Tenn., Knoxville; 1934-47, hd. dept. chem., Concord Coll., Athens, W.Va.; 1947 to date, asst. prof. chem., Lafayette Coll., Easton, Pa. Heat capacity of nitrogen pentoxide at low temps. Mem.: Sigma Xi, A.C.S., A.A.A.S. Hobby: oil painting.

McGREGOR, Rob Roy, admin. fellow, Mellon Inst., Pittsburgh, Pa.; res. 1509 Riverside Heights, Verona, Pa.
Chem.; b. Ottawa, Canada, July 10, 1892; s. of Robert and Julia (Neill) McGregor; ed. McMaster U., B.A., 1916; M.A., 1923; U. Ill., Ph.D., 1926; mem.: Gamma Alpha, Alpha Chi Sigma; m. Eva Goff, June 28, 1932; ch.: Anne C., Julia N., Rob Roy. 1920-23, dominion analyst, Dept. of Health, Ottawa; 1927 to date, chem., Mellon Inst., Pittsburgh, Pa. Res. in fur felting; organo-silicon chemistry. Mem.: A.C.S., A.A.A.S., Phi Lambda Upsilon, Sigma Xi.

McHARGUE, James Spencer, retired chem., farmer, Ky. Agr. Exper. Sta., Lexington, Ky.; res. R.F.D. 6, Lexington, Ky.
Chem., farmer; b. Boreing, Ky., Jan. 29, 1878; s. of James M. and Nancy (Norville) McHargue; ed. common schls. of Laurel County, Ky.; Cumberland Coll., U. of Ky., B.S. and M.S.; Cornell U., Ph.D.; m. Minnie Lee Faley, Dec. 24, 1913. 1906, asst. chem., Ky. Agr. Exper. Sta., U. of Ky.; 1906-07, U.S. Bur. of Stds., Wash., D.C., asst. chem.; 1907-08, Hygienic Lab., U.S. M.S., asst. res. chem.; 1908-1912, chem., Ky. Geol. Survey, U. Ky.; 1912 to retirement, 1948, res. chem.; hd. of Dept. Chem., U. Ky. Agr. Exper. Sta., 1927 to retirement; since retirement supvrg. operation of two farms. Pioneer in res. to demonstrate the essential role of manganese, copper, zinc, nickel, cobalt, barium, iodine, bromine, fluorine, chlorine, strontium, lithium and other minor elements in soils and plants. Contrib. 125 arts. to std. res. jls.; mss. in prep. for a

book on "The Role of the Major and Minor Chem. Elements in Soils, Plants and Animals." Mem.: A.C.S., Phi Beta Kappa, Sigma Xi, Amer. Soc. Agronomy, Royal Soc. of Arts, Ky. Acdy. of Sc., A.A.A.S., Natl. Geographic Soc., Alpha Chi Sigma, A.C.S. Clubs: Research (U. Ky.), Ky. Historical Soc., Golf (Lexington). Hobbies: hunting, fishing, golf, etc.

McHENRY, Carl H., partner, law firm of McHenry, Lamkin & Snellings, 603 Bernhardt Bldg., Monroe, La.; res. 1203 Fairview Ave., Monroe.
Lawyer; b. Union County, Ark., July 5, 1887; s. of Martin A. and Wilton (Holbrook) McHenry; ed. Vanderbilt U., M.A.; mem.: S.A.E.; m. Frances Major, Dec. 1, 1921; ch.: Mrs. Cornelia McHenry Thomas, Mary Wilton. Partner, law firm of McHenry, Lamkin & Snellings; dir. and secy., United Carbon Co.; dir. and secy., Delta Air Lines, Inc.; dir., Central Savings Bank & Trust Co. Mem.: La. State Bar Assoc., Amer. Bar Assoc. Trustee, Centenary Coll.

McHENRY, Martin Josiah, prof. chem., Hendrix Coll., Conway, Ark.; res. 1130 Clifton St., Conway.
Tchr.; b. Jacksonville, Ark., Oct. 13, 1888; s. of Martin Josiah and Minnie Estelle Teague McHenry; ed. A.B., Hendrix Coll.; S.M., U. Chicago; Ph.D., St. U. Ia.; m. Beulah Ellen Denison, Sept. 6, 1911; ch.: William Paul, Nan Estelle, Winnie Genevieve, Gordon Denison. Prof. sc. Scarritt-Morrisville Coll., Morrisville, Mo., 1909-11; asst. prof. sc., Hendrix Coll., Conway, Ark., 1911-17; prof. chem., 1918 to date. Mem.: Sigma Xi, Ark. Acdy. Sc. Hobbies: gardening, fishing.

McINDOE, William Cavanaugh, consltg. indust. chem., 119 N.W. 21st Ave., Portland 10, Ore.
Indust. and res. chem. engrg.; b. Florence, Ala., Dec. 24, 1894; s. of Brig. Gen. James Francis and Irena (Cavanaugh) McIndoe; ed. Harvard U., S.B. (chem.), 1918; U. Wash., M.S. (chem.), 1922; m. Capt. Elizabeth Holman, W.A.C., A.U.S., Nov. 3, 1945; ch.: Grace I. and Jean R. (both by former m.), Brenda and Ben Holman. 1918-20, W.W.I, priv., Nitrate Div., Ord. Dept., and 2nd Lt., F.A.; 1920-21, topograph. draftsman, Corps Engrs., U.S.A.; 1921-22, grad. student, U. Wash., grad. instr., Physics Dept. and E.I. du Pont de Nemours Fellow in Chem.; 1922-24, gas engr. & res. chem., Portland Gas & Coke Co., Portland, Ore.; 1924-28, res. chem., Res. Labs., Richmond Refinery, Std. Oil Co. of Calif.; 1928-29, prod. chem., Celanese Corp. of Amer., Cumberland, Md.; 1929-32, res. chem. engr., Res. Labs., Std. Oil Dev. Co., (N.J.), Elizabeth, N.J.; 1932-36, conslt. chem. engr., Elizabeth, N.J., included 1 yr. as prof. of chem., Union County Jr. Coll., Roselle, N.J.; 10 mos. res. and sales, Sperry Prods., Inc., Manhattan Bridge Plaza, Bklyn., N.Y.; photomicrographic res. for Gray Labs., Newark, N.J.; petroleum res. for Sinclair and Pure Oil Cos.; 1936-37, asst. chem., P-2, War Dept., Corps of Engrs., U.S.A., Off. of Div. Engrs., North Pacific Div., Pittock Block, Portland, Ore.; 1937-38, indust. chem., Port of Portland, Ore.; 1938-39, sr. indust. chem., The Industrial West, Inc., San Francisco, Calif.; 1939-42, indust. chem., P-4 and chem. engr., P-5, Market Dev. Sect., System Planning & Marketing Branch, Bonneville Power Admin., U.S. Dept. of Interior, Portland, Ore.; also Pacific Northwest corresp. editor for "Chem. & Met. Engrg.," McGraw-Hill Pubs.; 1942-46, W.W.II, Major and Lt. Col., F.A., Ninth Serv. Command; 1946-47, chem. engr., P-5 Industrial Anal. Sect., Div. of Industrial & Resources Dev., Bonneville Power Admin., U.S. Dept. of Interior, Portland 8, Ore.; 1947 to date, consltg. indust. chem.; 1949, chem. engr., P-6 (temporary), Div. of Power Mgmt., Bonneville Power Admin., U.S. Dept. of Interior, Portland 8, Ore.; 1949 to date, acting asst. dir. and Industrial Hygiene Engr. II, Industrial Hygiene Sect., Oregon State Board of Health (conslt.). Petroleum res. leading to 11 pat. applications, feasibilty studies of potential chem. and electrochem. industries for 11 Western States; made the Natl. Defense Survey of Western requirements for aluminum and light metal alloys prelim. to estab. of A.L.C.O.A., Reynolds and Kaiser aluminum plants. Contrib. num. arts. to sc. jls. Inst. of Aeronautical Scs. (assoc. fellow, 1935); Army Commendation Ribbon and Meritorious Service Unit Plaque. Mem.: A.C.S. (Oregon sect.), Harvard Assoc. of Chemists, Western Chemical Markets Res. Grp., Armed Forces Chem. Assoc. Clubs: Reserve Off. Assoc.; Amer. Legion; Portland Lodge No. 55, A.F. & A.M.; Berkeley Chapt. No. 92, R.A.M. (Berkeley, Calif.); 32nd deg. Mason, Scottish Rite, Portland Consistory (Portland, Ore.); Natl. Sojourners, Ft. Lewis Chapter No. 89 (Ft. Lewis, Wash.); University Club. Hobbies: photography, B.S. of A. (troop committeeman), carpentry, leather craft.

McINNES, James, Jr., asst. distr. sales mgr., Commercial Solvents Corp., 745 5th Ave., N.Y. 22, N.Y.; res. Berry Hill Rd., Syosset, L.I.
Sales; b. Apr. 28, 1901; 1921-28, Seaboard Chem. Co., N.Y.C., secy., sales mgr.; 1928-30, Rossville Comm. Alcohol Corp., N.Y.C., sales dept.; 1930-32, Rossville Comm. Alcohol div., Am. Solvents & Chem. Corp., mgr. chem. sales; 1933 to date, Comm. Solvents Corp., N.Y.C. Mem.: Salesmen's Assn., Am. Chem. Indust., Inc. (pres. 1946). Clubs: Chemists' (N.Y.C.), Bims. Inc. (N.Y.C.). Hobbies: fire fighting prevention (Nassau Co. Fire Prevention Comm., chmn. 1943-47).

McINTIRE, William Cornelius, mgr., central pilot plant, Calco Chem. Div., Am. Cyanamid Co., Bound Brook, N.J.; res. Highway 30, R.F.D., Lebanon, N.J.
Chem. engr.; b. Cincinnati, Ohio, Apr. 8, 1898; s. of W.W. and Nettie E. McIntire; ed. B.A., U. Cincinnati, 1919; extension courses in chem. engrg., Princeton U., 1947-48; mem.: Pi Kappa Alpha, Alpha Chi Sigma; m. Jeannette W. Hance, Nov. 25, 1925. Contrl. chem., night supvr., Cincinnati Chem. Wks., Inc., 1919-21; contrl. chem., Dyes & Intermediates, Sherwin Williams Co., Chicago, Ill., 1921-23; chf. chem., Natl. Ultramarine Co., Cincinnati, Ohio, 1923-27; res. chem., White Pigments, N.J. Zinc Co., Palmerton, Pa., 1927-32; Lithopone dept. hd., United Color & Pigment Co., Newark, N.J., 1932-44; chem. engr., pilot plant mgr., Calco Chem. Div., 1944 to date. Res. and dev. of plant proc. for precip. filtering, classifying, drying & grinding of white & colored pigments; also pilot plant installations for unit proc. & unit operations studies. Mem.: A.C.S., A.I.C. (fellow), A.I.Ch.E., A.A.A.S. (fellow). Hobbies: fishing, gardening, landscaping.

McINTYRE, Glenn Hazel, Sr., v.p., res., Ferro Enamel Corp., 4150 E. 56th St., Cleveland 5, Ohio; res. 1350 Inglewood Dr., Cleveland Hgts. 21.
Chem. & ceramic engr.; b. San Francisco, Calif., Oct. 10, 1902; s. of Cyrus Albert and Leona Edna McIntyre; ed. Leland Stanford U., A.B. (chem.), 1924; M.A. and Ph.D. (chem.) Western Res. U., Cleveland, Ohio, 1926 and 1939; mem.: Alpha Kappa Lambda, Alpha Chi Sigma, Sigma Xi; m. Elizabeth Lucille Huggins, Mar. 24, 1926; ch.: Glenn Hazel, Jr., Roger Alan, Leslie Lucille. 1924-25, chem. engr. Pike & West, San Francisco; 1925-28, Cushman Res. Fellow, Western Res. U.; 1927-33, chf. chem., Ferro Enameling Co., Cleveland, Ohio; 1933-47, dir. of res.; 1947 to date, v.p. and dir. of res.; chmn. of bd. Natl. Spectrographic Labs., Inc. Mem.: A.C.S., Amer. Ceramic Soc., Natl. Assoc. of Corrosion Engrs., A.I.Ch.E.,

Am. Inst. Ceramic Engrs., A.S.M., Armed Forces Chem. Assoc., Canadian Ceramic Soc. Hobby: color photography.

McKEAN, Walter Addison, lab. dir., Allied Asphalt & Mineral Corp., Dunellen, N.J.; res. Meredith Rd., Colonia, N.J.
Chem.; b. Paterson, N.J., June 21, 1912; s. of Addison G. and Edna B. McKean; ed. Amherst Coll. A.B., 1934; M.I.T., grad. schl., 1935; mem.: Theta Xi, Alpha Mu; m. Betty Schaumann, 1936; ch.: Jon, Judith, Richard. 1935-44, res. engr., Raritan Copper Wks., Perth Amboy, N.J.; 1944 to date. chf. chem., lab. dir., Allied Asphalt & Mineral Corp. Co-author pat. oxygen free copper. Mem.: A.S.T.M., A.C.S., A.I.C. Hobby: amateur radio (W2 ODZ).

McKEE, Mary Clarissa, prof. chem., Connecticut Coll., New London, Conn.; res. same.
Tchr.; b. July 7, 1885; d. of Daniel Harper and Mary Clarissa (Bute) McKee; ed. A.B., Pa. Coll. for Women, 1907; M.A., 1908; Ph.D., Yale U., 1926; grad. scholar, chem., Bryn Mawr Coll., 1907-08; Sterling scholar chem., Yale U., 1924-25; Phi Mu Fellow A.A.U.W. (Yale) 1925-26. H.S. tchr. chem. and physics, Gladstone, Mich., 1908-09; asst. and grad. student chem., Mt. Holyoke Coll., 1909-11; hd. dept. chem. and physics, Northfield Seminary, Northfield, Mass., 1911-15; asst. grad. stu., U. Chicago (5 quarters) 1915-17; prof. chem., Hollins Coll., Hollins, Va., 1917-18; asst. prof. chem., Connecticut Coll., 1918-26; assoc. prof., 1926-27; prof. and chmn. dept. 1927 to date. Res. on distribution of nitrogen in plants. Mem.: A.C.S., A.A.A.S. (fellow), Sigma Xi, New England Assoc. Chem. Tchrs., Amer. Assoc. Plant Physiol., A.A.U.P., A.A.U.W. Trustee, First Church (Congregational), New London. Hobby: gardening.

McKEE, Ralph H(arper), prof. chem. engrg., Columbia U., retired; res. 635 Riverside Dr., N.Y. 31, N.Y.
Consltg. chem. engr.; b. Clinton, Mo., June 20, 1874; s. of James T. and Mary (Ricketts) McKee; ed. Coll. of Wooster, Ohio, A.B. 1895, A.M. 1897; U. of Chicago, Ph.D. 1901; mem.: Phi Delta Theta, Phi Beta Kappa; m. 1st, Mary Coyle Noyes, June 26, 1902 (divorced), 2nd, Marian E. Winter, Sept. 10, 1931; ch.: Dr. Margaret Harper Anderson, William Noyes. Prof. of math., Carthage, Ill. Coll. 1895-1900; prof. of chem., Lake Forest, Ill. Coll. 1901-09; prof. of chem. engrg., U. of Me. 1909-16; prof. of chem. engrg. Columbia U. 1917-39; retired 1939; consltg. engr., Tenn. Copper Co., 1916 to date; dir. res. dept., Oxford Paper Co. 1924-29; dir., U.S. Ordnance Schl. of High Explosives 1918-19. Organized first course of paper tech. in U.S. at U. of Me. 1912; a founder of T.A.P.P.I.; mem. of Perkin M. Comm. yrs. 1906-07-19-20-22-23; over 100 sc. & tech. papers. Author: "Shale Oil" A.C.S. Monograph, 1926.

McKENNA, Philip Mowry, pres., Kennametal, Inc., P.O. Box 186, Latrobe, Pa.; res. R.D. No. 3, Greensburg, Pa.
Invent., chem., mfr.; b. Pittsburgh, Pa., June 16, 1897; s. of Alex G. and Elizabeth (Mowry) McKenna; ed. Geo. Washington U., Wash., D.C., 1921, A.B.; m. (2nd.) Katherine M. Smith, Sept. 21, 1946; ch.: Philip C., Carol E. Chem. asst., U.S. Bur. of Stds., Wash., D.C., 1914-15; v.p., Chem. Prods. Co., 1916-25; res. in steel cutting alloys, 1925-38; founded McKenna Metals Co., mfrs. of hard carbide tool matls., under trade name of "Kennametal," 1938; propr. 1938-40, pres. 1940-43, McKenna Metals; pres., 1943 to date, Kennametal, Inc. (successor corp.); pres., 1940 to date, Kennametal of Canada (Victoria, B.C.). Res. and invents. in fld. of cemented carbides upon which bus. is based. Contrib. to num. sc. & tech. jls., and newspapers on carbides and return to gold std. Dir. Latrobe Hospital; natl. chmn., The Gold Standard League (Latrobe). Mem.: A.A.A.S. (fellow); A.I.M.E., A.S.M., A.C.S., Acdy. Polit. Sc., A.S.T.E. Clubs: University (Pittsburgh), Duquesne (Pittsburgh). Hobby: golf.

McKENZIE, James Parker, tech. dir., Copolymer Corp., P.O. Box 1029, Baton Rouge, La.; res. 225 L.S.U. Ave., Baton Rouge.
Chem.; b. Edmonton, Alberta, Can., Dec. 5, 1904; s. of John James and Margaret D. McKenzie; ed. U. of Alberta, B.S., 1929; Northwestern U., Ph.D., 1934; m. Hilda Richards, May, 1936; ch.: Margaret Ann. Res. chem., Marbon Corp., Gary, Ind., 1934-43; res. chem. Copolymer Corp., Baton Rouge, La., 1943-47; tech. dir., 1947 to date. Res. on chem. derivatives of rubber, synth. plastics and rubber. Mem.: A.C.S., Sigma Xi. Club: Lions.

McKESSON, Leonard Cook, v.p., Ansul Chem. Co., Marinette, Wis.; res. Sheridan Circle, Menominee, Mich.
Exec.; b. Manistique, Mich., Nov. 17, 1905; s. of Robert and Helen (Knuth) McKesson; ed. Marquette U., Milwaukee, Wis.; m. Lucille C. Klaus, Dec. 5, 1931; ch.: Robert F., Richard C. 1927 to date, Ansul Chemical Co.; 1927, traffic mgr.; 1931, sales; 1936, asst. sales mgr.; 1941, sales mgr., refrigeration div.; 1945, sales dir. (all divisions); 1949, v.p. Mem.: Amer. Soc. of Refrigerating Engrs.; Refrigeration Serv. Engrs. Soc.; Amer. Ord. Assoc.; Refrigeration Equipment Mfrs. Assoc.; Fire Extinguisher Equipment Mfrs. Assoc. Clubs: Kiwanis, Elks, Twi Cees, Riverside Country. Hobbies: golf, ice boating.

McKETTA, John J., Jr., assoc. prof., dept. chem. engrg., U. of Texas, 210-A Ch.E. Bldg., Austin, Texas; res. 3317 Perry Lane, R4 Box 431, Austin.
Tchr., conslt.; b. Wyano, Penn., Oct. 17, 1915; s. of John J., Sr. and Mary (Gelet) McKetta (dec.); ed. Tri-State Coll., B.S. (Ch.E.), 1937; U. Mich., B.S.E. (Ch.E.), 1943; M.S. (Ch.E.), 1944; Ph.D. (Ch.E.), 1946; m. Helen Elizabeth Smith, Oct. 17, 1943; ch.: Charles William, John J., III., Robert Andrew. 1937-39, grp. ldr., tech. dept., 1939-40, asst. supt., Caustic Soda Div., Wyandotte Chem. Co.; 1940-41, dir. chem. div., C.B. Schneible Co.; 1946-47, asst. prof. of chem. engrg.; 1947 to date, assoc. prof. of chem. engrg.; 1949 to date, chmn. dept. chem. engrg., U. of Texas. Res. and publications on high pressure vapor-liquid equilibria of hydrocarbon-water systems; solubility of gases in water at high pressures. Mem.: A.I. Ch.E., A.I.M.E., A.S.C., Sigma Xi, Phi Lambda Upsilon, Phi Kappa Phi, Alpha Psi Omega, Tau Omega, Iota Alpha, Omega Chi Epsilon, Chi Epsilon. Hobbies: woodworking, masonry.

McKINNEY, James Willard, res. chem., res. div., Abitibi Power & Paper Co., Ltd., Sault Ste. Marie, Ontario, Canada; res. 1164 Queen St., E.
Chem.; b. Maza, N.Dak., Nov. 9, 1897; s. of James and Louise (Crummy) McKinney; ed. B.Sc., 1917, U. Alberta (1st class honors, chem.); M.Sc., Ph.D., 1923, McGill U.; res. council of Can. Fellowships, 1919-22; m. Mabel E. Barber, Jan. 8, 1924; ch.: G. Norman, Lorna E. Res. chem., fuel test. div., Dept. Mines, Ottawa, 1923; Dom. anal., Food & Drugs Lab., Dept. Health, 1924-25; res. chem., Ethyl Gasoline Corp., Yonkers, N.Y., 1926-27; res. chem., Brown Co., Berlin, N.H., 1928-47; res. chem., res. div., Abitibi Power & Paper Co., Ltd., 1948 to date. Res. in cooking and bleaching of wood-pulp, & dev. of highly purified cellulose. Mem.: Sigma Xi, F.C.I.C., A.C.S. Hobbies: music, photography, gardening.

McKINNEY, Leonard L., in chg. industrial protein section, Northern Regional Res. Lab., Peoria, Ill.; res. 648 Ardmore Pl., Peoria, Ill.
Res. chem.; b. Siloam Springs, Ark., May 28, 1908; s. of Claude P. and Maude (Leonard) McKinney; ed. B.S., U. of Ark., 1931; George Washington U., 1934-35; U. of Ill., 1938-40; M.S. Bradley U., 1950. Mem.: Alpha Lambda Tau, Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi; m. Alice Rodkey, Aug. 11, 1941; ch.: Heather Ellen. Chem., Texaco Salt Prods. Co., Tulsa, Okla., 1931-34; seafood inspector, U.S. Food and Drug Adm., New Orleans, La. 1935-37; res. chem., U. S. Soybean Lab., U. of Ill., Urbana, Ill., 1937-42; Capt. to Lt. Col., U.S. Army, Chemical Corps., 1942-46; Legion of Merit, Bronze Star Medal; sec. 1 dr., Northern Regional Res. Lab., 1946 to present. Indust. utilization of proteinaceous mtls., from soybeans and corn, synthetic protein fibres, adhesives, plastics and water paints; utilization of amino acid derivatives. Author: "Portable Flame Thrower Operations in W.W.II," U.S. Govt. Printing Office, 1949. Mem.: A.C.S., A.A.A.S., Armed Forces Chem. Corps Assoc., Acdy. of Sc. (Peoria). Hobbies: military science and tactics (Lt. Col., Chemical Corps, Reserve).

McKINNEY, Robert Myers, pat. mgr., Pigments Dept., du Pont Co., Newport, Delaware; res. Shipley Rd., Wyckwood, Wilmington, R.D.2.
Chem., pat. agt.; b. Woodbine, Maryland; s. of John C. and Annie C. McKinney; ed. Blue Ridge Coll., New Windsor, Md., 1920-24, A.B.; Johns Hopkins U., 1924-27, Ph.D.; m. Mary Englar, June 5, 1929. 1927-28, res. chem., Std. Oil Co. (N.Y.); 1928-31, res. chem., Comm'l Pigments Corp.; 1931-41, res. div. hd., 1941 to date, pat. mgr., du Pont Co.; dir. Claymont Savings & Loan Assoc.; treas. and dir. Forwood Co.; pres. and dir. Windsor Hills Co. Res. in titanium technology. Mem.: Sigma Xi, A.C.S. Club: du Pont Country. Hobbies: gardening, real estate.

McKINNIS, Ronald B., tech. serv. mgr., Brown Citrus Machinery Corp., Whittier, Calif.; res. Winter Haven, Fla.
Food tech., food engr.; b. Summerville, Ore., July 3, 1903; s. of Herschel and Ora McKinnis; ed. Willamette U., A.B., 1926; Wash. State Coll., M.S., 1927; U. of Pitts., Ph.D., 1929; mem.: Alpha Chi Sigma; m. Myrtle Hoyt, Aug. 28, 1939; ch.: Judith Elaine, Patricia Ann. Mellon Inst., fellow, 1928-37; consltg., 1937-39; Sunshine Foods, Inc., mgr., 1939-42; McKinnis Foods, 1942-44; Am. Machinery Corp., dir. res. & dev., 1944-47; Girdler Corp., Votator Div., mgr. tech. serv., 1947-50; Brown Citrus Machinery Corp., tech. serv. mgr., 1950 to date. Mem.: A.C.S., A.A.A.S., I.F.T. Club: Chemists'. Hobbies: traveling, photography.

McKOON, Harold Parsons, gen. plant supt., Stuart Oxygen Co., 211 Bay St., San Francisco; res. 152 Ashbury Ave., El Cerrito, Calif.
Chem. engr.; b. Cloverdale, Calif., Nov. 1, 1907; s. of Horace C. and Mary E. (Parsons) McKoon; ed. B.S., Coll. of Chem., U. of Calif., May, 1931; mem.: Chi Pi Sigma; m. Ann M. Lynch, May 6, 1939; ch.: Mary Elizabeth, Robert Horace. Held the following positions with the Stuart Oxygen Company: chem.-operator, 1931-38; foreman, 1938-39; supt., 1939-44; gen. supt., 1944 to present.

McLACHLAN, Dan, Jr., prof., U. of Utah, Mines Bldg., Salt Lake City, Utah; res. 4033 S. Parkview Dr., Salt Lake City.
Phycisist, metallurg., mineral.; b. Arcola, Saskatchewan, Can., Dec. 5, 1905; s. of Dan and Laura Mary (Carter) McLachlan; ed. Kans. State Coll., B.S. (indust. chem.), 1930; Penn. State, Ph.D. (phys. chem.), 1936; mem.: Phi Lambda Theta; m. Fredolyn Mae Walker, June 11, 1934; ch.: Edwin Dale, Dan Houston, Wayne Carter. Res. and lab. asst., Kans. State Coll., 1928-30; res. asst., Sinclair Refin. Co., East Chicago, 1930-31; scholarship Penn. State, 1931-32; tchg. asst., Penn. State, 1932-36; res. chem., Corning Glass Wks., Corning, N.Y., 1936-40; res. physicist and grp. ldr., Amer. Cyanamid Co., Stamford, Conn., 1940-47; prof. of physics, metallurgy and mineral., U. Utah, 1947 to date. Res. in structures of biolog. compds. and dyes; construction of machines for Fourier synth.; theory of crystal growth. Author: "X-ray Crystallography" (in process of completion). Mem.: Phi Lambda Upsilon, A.A.A.S., A. C.S., Amer. Crystallographic Assoc., Sigma Xi, (fellow) Amer. Phys. Soc. (fellow), Sigma Pi Sigma. Hobby: painting in oils.

McLAIN, Stuart, sr. chem. engr., Argonne Natl. Lab., Chicago 80, Ill.; res. 1433 Maple Ave., Downers Grove, Ill.
Chem. engr.; b. Tecumseh, Mich., Mar. 31, 1905; s. of Henry and Mary (Elliott) McLain; ed. U. of Mich., B.S. in Ch.E., 1929; M.S., 1930; Ph. D. in Ch.E., 1933; mem.: Alpha Chi Sigma; m. Winifred R. Denman, Sept. 18, 1930; ch.: Neal D., Douglas R. 1933-36, chem. engr. U.S. Rubber Co.; 1936-38, asst. prof. of chem. engrg. U. Detroit; 1938-41, asst. prof. of chem., U. Ark.; 1941-45, chf., Mobile Artillery Sec.; chf., Arms & Ammunition Div., Res. & Dev. Center, Aberdeen Provg. Gr., U.S.A.; 1945-48, hd., dept. chem. engrg., Wayne U.; 1948-49, assoc. dir., tech. div., Oak Ridge Natl. Lab.; 1949 to date, chmn., steering comm. on matls. testing reactor, Argonne Natl. Lab. Lt. Col., Ord. Dept., U.S.A., Reserve. Mem.: Sigma Xi, A.I.Ch.E., A.C.S.

McLAIN, William Richard, pres., Kusan, Inc., 2716 Franklin Rd., Nashville, Tennessee; res. 2814 Kenway Rd., Nashville.
Engrg., adm.; b. Huntsville, Ala., Dec. 7, 1916; s. of William Walton and Dora (White) McLain; ed. Ga. Schl. of Tech., chem. engrg.; mem.: Pi Kappa Alpha; m. Margaret Copenhaver, Oct. 5, 1941; ch.: Patricia Jane. Cost clerk, Lincoln Mills of Ala., 1934; asst. supt., H.E. Wolfe Construction Co., Huntsville, Ala., 1935-36; one half time as co-operative student employee of Tenn. Eastman Corp., Kingsport, Tenn., 1936-40; res. chem., Southern Dyestuff Corp., Charlotte, N.C., 1940; Tenn. Eastman Corp., U.S. Army Air Corps, 1941; chf. civilian engr., smoke and incendiary div., C.W.S., Huntsville Arsenal, Ala., 1942-44; citations from Commanding General, Huntsville Arsenal and Under Secretary of War for life saving during incendiary explosion and fire at arsenal; U.S.N.R., Lt. (j.g.), England and France, 1944-46; pres. Kusan, Inc., 1946 to date. Injection molding of plastics. Patents: "Methods of Producing Pubescent Yarns," "Insecticide," & two toys of plastic construction. Mem.: A.C.S., A.I.Ch.E., Am. Soc. Mech. Engrs., Soc. of Plastics Engrs., Soc. of the Plastics Ind., Georgia Tech. Alumni. Club: Rotary (Nashville). Hobbies: swimming, fishing, tennis.

McLAREN, James, chem., Carbide & Carbon Chem. Corp., Oak Ridge, Tenn.; res. 103 Norman Lane, Oak Ridge.
Electrochem.; b. Long Eddy, N.Y., Jan. 31, 1909; s. of Robert and Christine (Jamieson) McLaren; ed. 1926-30, Syracuse U., B.S. in chem.; 1930-33, Edinburgh U., Ph.D.; mem.: Alpha Chi Sigma, Epsilon Chi; m. Joan Miller, Dec. 9, 1935; ch.: Elizabeth, Margaret, Helen Ann. With U.S. Dept. of Agric., 1935-47; with Carbide and Carbon Chem. Corp., Oak Ridge, 1947 to date; "The Electrochem. Meth. for the Separation of Isotopes," 1930-33; "The Design of an Electrochem. Cell for the Prod. of Sodium Chlorate," 1935-41. Mem.: E.S., Faraday Soc., A.C.S., Soc. of Corrosion Engrs., A.A.A.S. Hobby: rose garden.

McLAUGHLIN, James William, div. pres., Bakelite Div., Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N.Y.; res. 200 Forest Ave., New Rochelle.

Div. pres.; b. Paris, Ill., Aug. 17, 1890; ed. U. of Ill., B.S. in M.E. 1914. 1914-18 engr. Peoples Gas, Light and Coke Co.; 1918 supt. Prest-O-Lite Co., Inc.; 1924 wks. mgr.; 1927 asst. supt. Carbide & Carbon Chems. Corp., gen. supt. 1929; v.p. 1931, dir. 1944; 1939, v.p., Bakelite Corp.; 1944, pres. and dir.; 1945, v.p., Plastics Div., Union Carbide & Carbon Corp. pres. and dir., Bakelite Co. (Canada) Ltd.; div. v.p. Carbide & Carbon Chems. Div., U.C. & C.C.; v.p. and dir., Carbide and Carbon Chems. Ltd.; v.p. U.S. Vanadium Corp.

McLEAN, David Alexander, tech. staff, Bell Telephone Labs., Murray Hill, N.J.; res. 141 Washington Ave., Chatham, N.J.

Chem. engr.; b. Golden, Colo., July 15, 1905; s. of Alex and Ella (Parfet) McLean; ed. U. of Colo., B.S. Ch.E. (special hon.), 1929; mem.: Lambda Chi Alpha, Tau Beta Pi, Sigma Xi, Alpha Chi Sigma, Phi Lambda Upsilon; m. Emily Calkins, Apr. 6, 1935; ch.: Emily Sue. Bell Telephone Labs., tech. staff, 1929 to date. Pats. & publ. on dielectrics, stabilization of dielectrics by chem. additives, cation exchange in cellulosic matls. Mem.: A.C.S., A.I.C. (fellow). Hobby: camping.

McLEOD, Earle Davis, v.p., Arnold, Hoffman & Co., Inc., 55 Canal St., Providence, R.I.; res. 125 Miller Ave., Rumford, R.I.

Chem.; b. Wentworth, N.H., Nov. 22, 1909; s. of Joseph W. and Josephine (Davis) McLeod; ed. M.I.T., B.S., 1933; mem.: Phi Mu Delta; m. Louise Cooper, July 4, 1935; ch.: Davis C., Charles E. 1933-36, chem., Pacific Mills, Worsted Div.; 1936-38, chf. chem. in chg. of prod., Masury Young Co.; 1938-42, res. chem. Arnold, Hoffman & Co., Inc.; 1942-48, res. dir.; 1948-50, asst. to the pres.; 1950, v.p. Co-inventor and inventor of sev. U.S. pats. Mem.: A.A.T.C.C., A.O.C., A.C.S. Clubs: Chemists', M.I.T. Alumni Assoc.

McMAHON, Howard Oldford, res. physical chem., Arthur D. Little, Inc., 30 Memorial Dr., Cambridge, Mass.; res. 45 Spring St., Lexington, Mass.

Res. chem., physicist; b. Alberta, Canada, Sept. 16, 1914; s. of Thomas Arthur and Trefina (Oldford) McMahon; ed. B.A., U. of Brit. Columb., 1935; M.A., 1937; Ph.D., M.I.T., 1941; m. Lucile Nelson, 1940; ch.: Thomas Arthur, Elizabeth Jean, Nancy Lucile. Res. assoc., M.I.T., 1940-42; Arthur D. Little, Inc., 1942 to date. Dev. of "McMahon Packing" for distillation columns; co-dev. of "Collins Helium Cryostat" for helium liquefaction; numerous low temp. inventions. Mem.: A.C.S., A.Phys.S., A.A.A.S., Am. Optical Soc.

McMEEKIN, Thomas LeRoy, hd., protein div., Eastern Regional Res. Lab., Chestnut Hill, Phila. 18, Pa.; res. 312 Abington Ave., Glenside, Pa.

Biochem.; b. Monticello, S.C., May 8, 1900; s. of Franklin R. and Eloise M. McMeekin; ed. B. S., 1921, Clemson Coll.; M.S., Tulane U., 1922; Ph.D. (magna cum laude), 1925, U. of Chicago; mem.: Gamma Alpha, Phi Beta Pi; m. Vera Crockatt, Dec. 24, 1928; ch.: Thomas, Dorothy, Elizabeth. Instr. chem., Med. Coll. of S.C., Charleston, S.C., 1922-23; asst. prof. biochem., Emory U., Atlanta, Ga., 1925-27; chem., E.R. Squibb & Son, 1927-28; res. assoc., Harvard Med. Schl., Boston, Mass., 1928-40; sr. chem., Eastern Regional Res. Lab., Phila., Pa. 1940-47; hd., protein div., 1947 to date. Physical chem. of amino acids, peptides & proteins; separation of milk & serum proteins; hydration of proteins; artificial protein fibers. Mem.: A.C.S., A.S.Biol.C., N.Y. Acdy. of Scs. Hobbies: walking, reading.

McMILLAN, Wallace A., dir. tech. serv., asst. mgr., tech. & res. div., Texas Co., 135 E. 42nd St., N.Y. 17, N.Y.; res. 211 Eastland Ave., Pelham, N.Y.

Chem. engr.; b. Goldfield, Nev., Oct. 31, 1907; s. of Daniel A. and Elizabeth C. McMillan; ed. Calif. Inst. of Tech., Pasadena, Calif., B.S., 1929; mem.: Pi Kappa Delta; m. Catherine Ryan, Nov. 18, 1931; ch.: Daniel A., II, James W. Texas Co. since 1929; Calif., chem. engr. & frmn., Cryogenic Lab., 1929-31; Del. & Beacon Res. Lab., res. chem. engr., 1931-36; asst. supvr. anal. & testing dept. 1936-38; asst. to asst. supt., 1938-39; N.Y., adm. asst. to mgr. tech. & res. div., 1939-40; Beacon Res. Lab., asst. supt. in chg. of res. 1941-43, asst. dir. of res. 1943-49; N.Y., asst. mgr. tech. & res. div., 1949 to date. Fld. of hydrocarbon chem., incl. absorption, distillation of hydrocarbon gases, azeo-tropic distillation, chems. from pet. Mem.: A.A.A.S. (Gordon res. conf. adv. comm., 1947-49), A.C.S. (sr. mem., councilor Mid-Hudson sec. 1943, 1946-50; standing comm. on local sectional activities, 1949-50; exec. comm., pet. div. & representative of Area IV, 1949 and 50), A.I.Ch.E. (active), Am. Soc. of Lubricating Engrs., Prof. Engr. State of Calif., No. 1285. Club: Chemists'. Hobby: hunting.

McMILLEN, Elliott Lee, prof., hd. chem. engrg. dept., Lafayette Coll., Easton, Pa.; res. Easton.

Engrg educator; b. Grinnell, Ia., July 6, 1902: s. of Peter A. and Elizabeth (Moore) McMillen; ed. B.S. (chem. engrg.), U. of Minn., 1923; M.S. (chem. engrg.), 1927; Ph.D., 1931; mem.: Gamma Alpha; m. Mildred Bartow, Feb. 8, 1930; ch.: Mollie Ann, Nancy Lee. Instr., chem. engrg., Lehigh U., 1927-28; res. investigator, The New Jersey Zinc Co., 1928-31; instr. chem. engrg., U. Minn., 1932-35; asst. prof., Iowa State Coll., 1935-38; assoc. prof. and hd. chem. engrg. dept., Lafayette Coll., 1938-47; res. engr., Eastman Kodak Co., NDRC project, 1944-45; prof., and hd. dept., Lafayette Coll., 1947-50. Res. and publications in flds. of heat transfer, filtration, plastic flow, pigments, nomography.. Mem.: Sigma Xi, Tau Beta Pi, Phi Lambda Upsilon, A.C.S., A.I.Ch.E., Am. Soc. Engrg. Ed.

McMURPHY, J. L., mgr., chem. div., Gen. Electric Co., 1 Plastics Ave., Pittsfield, Mass.; res. Pittsfield.

Exec.; b. Nebr., Dec. 29, 1904; s. of J.M. and Helen K. McMurphy; ed. Nebr. State Teachers Coll., A.B., 1927; Iowa State Coll., B.S. (chem. engrg.), 1930; m. Doris Kirby, 1933; ch.: Dorothy. Gen. Elec. Co., engr., frmn., plant mgr., div. mgr. Mem.: Phi Lambda Upsilon; A.I.Ch.E..

McNABB, Wallace M., assoc. prof. chem., U. of Pa., John Harrison Lab. of Chem., Phila. 4, Pa.; res. 24 Sycamore Rd., Havertown, Pa.

Tchr.; b. Belleville, Pa., Oct. 6, 1894; s. of John L. and Katharine M. McNabb; ed. Gettysburg Coll., B.S., 1918; U. of Pa. M.S., 1921; Ph.D., 1926; m. Josephine Alberta Willis, Sept. 16, 1924; ch.: Mary Katharine, Imogene Willis. U.S.A., 1918-19; chem., du Pont Co., 1919-20; U. of Pa., 1920 to date. Forty res. publ. in flds. of inorg. & anal. chem. Mem.: A.C.S., Sigma Xi, Am. Electrochem. Soc.

McNAIR, James Birtley, chem., Pacific Wines, Inc., Los Angeles, Calif.; res. 818 S. Ardmore Ave., Los Angeles 5.

Chem.; b. Hazleton, Pa., Mar. 18, 1889; s. of Thomas Speer and Mary (Stevens) McNair; ed. Pomona Coll., Claremont, Calif., 1912-13; A.B., U. of Calif., 1916; A.M., 1917; U. of Pa., 1918; U. Chicago, 1922-25; U. So. Calif., 1934; mem.: Sigma Xi. Asst., U. Calif., 1914-16; res. chem., Nev. Agric. Expt. Station, 1917; asst. chem., Citrus By-Prod. Lab., Bur. of Chem., U.S. Dept. Agric., Los Angeles, Calif., 1919; chem.-in-chg., Chem. Econ. Co., Los Angeles, 1920; jr. chem., Dairy Div., Bur. Animal Indust., U.S. Dept. Agric., Wash., D.C., 1920-21; asst., Fishery Food Lab., Bur. Fisheries, Wash., D.C., 1920-22; asst. chem., Bur. Internal Revenue, Treas. Dept., Chicago, Ill., 1922; assoc. in econ. botany, 1925-26, and asst. curator of econ. botany, Fld. Museum Natural History, Chicago, 1926-32; pvt., Med. Enlisted Reserve Corps, U.S.A., 1918-19; lt., Q.M.O.R.C., 1919; capt. C.W.O.R.C., 1923; major, 1928; chf. of info., intelligence sect., Office of Chf. C.W.S., 1935; chem. warfare officer, Camp Wallace, Texas, 1942; Camp Swift, Texas 1942-44; Honorary Reserve 1950; chem.-in-chg., Lac. Chems. Inc., Culver City, Calif., 1944-45; asst. wine maker & chem., Pacific Wines, Inc., Los Angeles, Calif., 1945 to date. Author: "Rhus Dermatitis, Its. Pathol. & Chemotherapy," 1923; "Citrus Prods.," Part I, 1926, Part II, 1927; "The Anal. of Fermentation Acids," 1947; "Simon Cameron's Adventure in Iron," 1949. Mem.: A.A.A.S. (fellow), C.W. Assn. (exec. com., Chicago chap., 1930-32), Am. Bot. Soc., A.C.S., Torrey Bot. Club, Sigma Xi.

McNALLY, James G., dir. res., Tenn. Eastman Corp., Kingsport, Tenn.; res. 1226 Linville St., Kingsport.
Chem.; b. Danbury, Conn., Aug. 4, 1904; s. of Bernard F. and Della L. McNally; ed. Trinity Coll., B.S., 1925; McGill U., Ph.D., 1927; mem.: Alpha Chi Rho, Sigma Xi; m. Helen E. Geraghty, 1931; ch.: James, Michael. Res. Lab., Eastman Kodak Co., 1927-42; Clinton Engrg. Wks., Oak Ridge, 1942-46; Tenn. Eastman Corp., 1946 to date.

McNALLY, Paul Thorpe, res. chem., Comstock Canning Corp., Newark, N.Y.; res. Fancher Ave., Fair Haven, N.Y.
Res. chem.; b. Syracuse, N.Y., Dec. 26, 1918; s. of William Francis and Jane (Thorpe) McNally; ed. Colgate U., B.A., 1940; Syracuse U., M.A., 1941; m. Ruth E. Otis, May 17, 1940; ch.: Michele Patricia, Paul Edward. 1941-42, chf. anal. chem., General Electric Co., Syracuse Turbine Generator Div.; 1942-46, chf. petty officer, U.S.N., 2nd Beach Battalion, European Theater; Silver Star Medal, Bronze Star Medal, Purple Heart with Gold Star: 1946-49, res. dir., Stewart Hartshorn Co. (Oswego Shadecloth Co.), Oswego, N.Y.; 1949 to date, res. chem., omstock Canning Corp. Electrochem. anal. of Naval Bronze; original work in the formulation mfr. and appl. of synth. fire-retardent coatings to cotton muslin and related fabrics; food processing. Mem.: A.C.S., A.S.T.C.C. Clubs: B. P.O.E., Fortnightly (Oswego), Oswego Jr. C. of C. Hobbies: sailing, fishing, hunting.

McNAMEE, Raymond Wilson, Sr., acting supt., res. and dev. dept., res. center, Carbide and Carbon Chems. Div., Union Carbide & Carbon Corp., So. Charleston, W.Va.; res. 1543 Loudon Heights Rd., Charleston 4, W.Va.
Chem.; b. Bellaire, O., Nov. 27, 1907; s. of James and L. and Anna M. Weisner McNamee; ed. B.S., U. of Akron, 1929; Ph.D., Northwestern U., 1933; mem.: Phi Delta Theta, Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi; m. Edith Irwin, Nov. 28, 1930; ch.: Raymond W., Jr., Philip Irwin. Chem., Carbide and Carbon Chems. Div., U.C.C.C., 1933 to date. Synthetic org. chemical processes. Mem.: A.C.S., A.I.Ch.E., Sigma Xi.

McNEIL, Arthur L., S.J., hd. chem. dept., prof. chem., Gonzaga U., Spokane 11, Wash.; res. same.
Prof., chem.; b. Waubauschene, Ontario, Canada, Nov. 6, 1905; s. of N. and Katheleen (Hartnett) McNeil; ed. Gonzaga U., M.A.; Catholic U. of Amer., Ph.D. 1933, assoc. prof. chem., Gonzaga U.; 1941 to date, hd. chem. dept. Res. in hay fever. Mem.: A.C.S., Northwest Sc. Assoc., A.A.A.S.

McNEIL, Robert Lincoln, pres. McNeil Labs. Inc., 2900 N. 17th St., Phila. 32, Pa.; res. "Overlook," Chestnut Hill, Phila. 18.
Pharmaceut. mfr.; b. Phila., Pa., May 4, 1883; s. of Robert and Mary (Urwiler) McNeil; ed. U. of Penn., 1904, B.S. (econ.); mem.: Kappa Sigma; m. Grace F. Slack, Oct. 2, 1914; ch.: Robert L., Jr., Henry S. Exec. partner, firm of Robert McNeil, 1914-33; founder & pres. McNeil Labs. Inc., 1933. Mem.: Amer. Pharmaceut. Mfrs. Assoc. (dir., 1919-27; pres., 1927-29; chmn., bd. dirs., 1929-36); Pharmaceut. Contact Comm. (to cooperate with U.S. Dept. of Agric. for estab. stds. of non-off. pharmaceut. preparations; organizer, (co-chmn. 1924-27); Amer. Drug Mfrs. Assoc., (dir., 1929-36; treas., 1936-44; v.p., 1944-48; pres., 1948-50); Drugs Resources Comm. (adv. to U.S. A. and U.S.N. Munitions Bd., 1939-44); Pharmaceut. Indust. Adv. Comm., (U.S. War Prod. Bd., 1944-45); U.S. Comm., World Med. Assoc. (since 1946). Bd. of corporators, Women's Medical Coll. of Penn. Clubs: Union League of Phila., St. Andrew's Soc., Phila. Cricket.

McNEY, H. W., regional mgr., Lederle Labs. Div., American Cyanamid Co., 20 N. Wacker Dr., Chicago, Ill.; res. 412 Bristol Lane, Arlington Heights, Ill.
Sales mgmt.; b. Wash., D.C., Nov. 22, 1914; s. of Edward M. and Mary M. (Young) McNey; ed. Columbia U.; m. Katherine Sperry, Feb. 1, 1936; ch.: Laurena, Katherine, William E., 1941, phar. salesman, Lederle Labs.; 1945, distr. mgr.; 1947 asst. regional mgr.; 1947 to date, regional mgr.

McNITT, James D., v.p. chg. of mfg., Bristol Labs., Inc., P.O. 657, Syracuse, N.Y.; res. Fayetteville, N.Y.
Exec.; b. Perth Amboy, N.J., July 13, 1917; s. of Robert J. and Dora (Waring) McNitt; ed. Antioch Coll., B.S. (chem.), 1939; M.I.T., S.M. (chem. engrg.), 1941; m. Helen Louise Shaver, July 24, 1944; ch.: James D., III. 1941-44, dir., M.I.T. Schl. of Chem. Engrg. Practice, asst. prof.; 1944 to date, Bristol Labs.; dir. of engrg. and dev.; plant mgr.; v.p. in chg. of mfg. Mem.: A.C.S., A.Phar.A., A.I.Ch.E. Warden, Trinity Ch., Fayetteville, N.Y. Clubs: Chemists'; Technology. Hobbies: sports, sailing.

McNITT, Robert Joseph, self-employed, 47 Lewis St., Perth Amboy, N.J.; res. same.
Engr. inventor; b. Logansport, Ind., Sept. 16, 1879; s. of James David and Mary Ellen (Uhl) McNitt; ed. Lake Forest Coll., 1898-1900; Cornell U., 1900-04; A.B., 1902; M.E., 1904; mem.: Sigma Xi; m. Dora Waring, Oct. 3, 1914; ch.: Robert W., James D., Edward W., Douglas. Res. asst., Elec. Ry. Test Commis. 1904; res. asst., Cooper Hewitt Elec. Co., 1904-05; instr., Cornell U., 1905-06; electrometallurg., Acker Process Co., Niagara Falls, N.Y., 1906; supt. 1906-07; asst. v.p., Roessler & Hasslacher Chem. Co., 1907-19; supt., Chlorine Prods. Co., Niagara Falls, 1907-11; supt., Gen. Bakelite Co., dir., 1917-19; conslt., Std. Oil Dev. Co., 1937-45; private experimental wk. & consltg., 1919-33; designed, built & put in operation a sodium plant for Soc. Montecatini, Milan, Italy, 1934-36. Ward Motor Vehicle Co. (secy., dir.). Processes for producing alkali metals, vacuum tubes. Mem.: A.I.E.E., E.S., A.A.A.S. Perth Amboy, N.J., (trustee) Y.M.C.A., Perth Amboy Safety Council, Boy Scouts of Am. (dir.).

McNULTY, Joseph A., proprietor, G.A. & E. Meyer, 114 Liberty St., N.Y. 6, N.Y.; res. 1316 Ditmas Ave., Bklyn. 26.
Import mercht.; b. Bklyn., N.Y., Mar. 19, 1892; s. of John C. and Mary E. McNulty; ed. parochial grammar & prep. schl., Bklyn., N.Y.; Broaker Com. Schl., N.Y.C.; m. Mary M. Byrne, Nov., 1914. Started in bus. with G.A. & E. Meyer, old

firm of import merchts., earth pigments, natural & processed resins, est. in N.Y. in 1805; upon death of last surviving partner in 1918, took over and continued bus. as successor. Trustee, St. Rose of Lima R.C. Church, Bklyn. Clubs: N.Y. Paint, Downtown A.C., K. of C. Hobby: golf.

McNUTT, Homer E(dward), tech. supvr., Barrett Div., Allied Chem. & Dye Corp., Margaret & Bermuda Sts., Phila. 24, Pa.; res. 1029 Foulkrod St., Phila. 24.
Chem. engr.; b. Saugus, Mass., May 25, 1906; s. of Edward D. and Minnie (Fiske) McNutt; ed. Wesleyan U., B.S., 1928; M.A., 1929; mem.: Sigma Nu; m. Catherine Page, Sept. 6, 1930; ch.: Douglas P., Robert L. 1929-31, Tubize Chatillon Corp., Hopewell, Va., res. chem.; 1932-34, chf. chem.; 1935-37, res. chem., Tubize Chatillon Corp., Rome, Ga.; 1937-42, res. and dev. chem. engr., Barrett Div., Allied Chem. & Dye Corp., Phila.; 1942-45, prod. supvr.; 1946 to date, tech. supvr. Mem.: A.C.S., A.I.Ch.E.

McPHAIL, Howard A(lexander), hd. intelligence sec., E.I. du Pont de Nemours & Co. Inc., Electrochem. Dept., Niagara Falls, N.Y.; res. 8674 Hennepin Ave., Niagara Falls, N.Y.
Chem.; b. Mt. Brydges, Ont., Jan. 22, 1906; s. of Hugh A. McPhail and Florence Waters McPhail; ed. B.A., U. Toronto, 1929; M.A., 1930; m. Edna L. Brown, Aug. 11, 1931; ch.: Joyce K., Donald H., Roger B. Asst. in chem., U. Toronto, 1929-30; res. chem., Roessler & Hasslacher Chem. Co., Niagara Falls, N.Y., 1930; group ldr., control lab., Electrochem. Dept., E.I. du Pont de Nemours & Co., Niagara Falls, N.Y., 1930-38; supvr., 1938-43; asst. chf. supvr., labs. div., Hanford Engrg. Wks., Richland, Wash., 1944-45; group ldr., chem. res., Electrochem. Dept., du Pont de Nemours & Co., Niagara Falls, N.Y., 1945-46; hd., Intelligence Sec., 1946 to present. Mem.: A.C.S., A.A.A.S.

McPHEE, Warren Douglas, chg. of pats., G.D. Searle & Co., Chicago 80, Ill.; res. 1531 Central Ave., Wilmette, Ill.
Org. chem.; b. Belmont, Mass., Apr. 23, 1914; s. of Herman A. and Flora (Morrison) McPhee; ed. S.B. (with distinction), Boston U., 1937; Ph.D., Northwestern U., 1940; m. Eleanor McLaskey, June 12, 1939; ch.: Peter, Bruce. Spec. res. asst., U. Ill., 1940-41; instr., U. Rochester, 1941-43; res. chem., Winthrop Chem. Co., and Sterling Winthrop Research Inst., 1943-47; in charge of pats., G.D. Searle & Co., 1947 to present. Res. in acetylenic alcohols, chem. of marihuana, chem. of synthetic drugs. Mem.: A.C.S., Phi Beta Kappa, Sigma Xi.

McPHERSON, Archibald Turner, chf., div. of org. and fibrous matls., Natl. Bur. of Standards, Washington 25, D.C.; res. 19 Cleveland St., Kensington, Md.
Phys. sc. adm.; b. Marceline, Mo., Feb. 22, 1895; s. of Samuel Archibald and Adeline (Brewer) McPherson; ed. Trinity U., A.B., 1914; U. of Texas, M.A., 1916; U. of Chicago, Ph.D., 1923; m. Margaret F. Willcox, Dec. 21, 1923; ch.: Frances M., Jean L. 1917, chem., Merrimac Chem. Co.; 1917-18, chem., Natl. Bur. of Stds.; 1919-21, instr. chem., Ewing Christian Coll., Allahabad, India; 1922, chem., Sprague Memorial Inst., Chicago; 1923-30, res. chem., Natl. Bur. of Stds.; 1930-43, chf., rubber sec.; 1943 to date, chf., div. of org. and fibrous matls. Papers on properties of the rubber-sulphur system, on electrical, thermodynamic and optical properties of rubber. Mem.: A.C.S., A.Phys.S., A.A.A.S., Sigma Xi, Philosophical Soc. of Wash., Wash. Acdy. of Sc. Clubs: Cosmos, Potomac Appalachian Trail. Hobby: raising of trees.

McRARY, Willard Lee, assoc. prof. chem., chmn. dept. of physical sc., Santa Barbara Coll., U. of Calif., Santa Barbara, Calif.; res. 3507 Chuparosa Dr., Santa Barbara.
Chem. prof.; b. Los Angeles, Calif., Oct. 15, 1914; s. of Willard Lee, Sr., and Mabel (Hoffman) McRary; ed. B.S., 1936, Calif. Inst. of Tech.; M.S., 1938; Ph.D., 1940; m. Lauretta I. Smith, June 29, 1940; ch.: Linda Lee, Denise Susan. Instr., Santa Barbara Coll., 1940; asst. prof., assoc. prof. to date; on leave, 1943-44, assoc. physiologist, U.S. Dept. of Agric. Res. publ. in fld. of biochem. Mem.: Sigma Xi, A.A.U.P. Hobby: gardening.

McSWEENEY, Ellsworth E., res. supvr., Battelle Memorial Inst., Columbus 1, Ohio; res. 1203 Lincoln Rd., Columbus 12.
Indust. chem. res.; b. Jersey City, N.J., Mar. 19, 1914; s. of William J. and Martha L. McSweeney; ed. A.B., Oberlin Coll., 1934; Ph.D., U. Rochester, 1938; m. Margaret J. TeWinkel, June 18, 1938; ch.: Martha, Ann, Michael, Mary. 1934-38, grad. asst., U. Rochester; 1938-39, res. assoc. Battelle Memorial Inst.; 1939-43, res. engr.; 1943-47, asst. supvr.; 1947 to date, supvr., treas. and pres., C.D.I.C. Paint & Varnish Prod. Club; secy.-treas. and chmn.-elect, Paint, Varnish, and Plastics Div. of A.C.S. Mem.: Sigma Xi, A.C.S., Fed. Paint & Varnish Prod. Club, Soc. of Plastics Engrs., A.S.T.M. Hobby: gardening.

MEAD, Morris W., dir. labs., Natl. Yeast Corp., Mill St., Belleville, N.J.; res. 19 Barnett St., Bloomfield, N.J.
Chem.; b. Pittsburgh, Pa., Oct. 18, 1900; s. of Morris W., Sr., and Johanna E. Mead; ed. Haverford Coll., B.S., 1924; U. Pittsburgh, Ph.D., 1928; mem.: Phi Lambda Upsilon; m. Leah Davis, Dec., 1933; ch.: David W. 1928-31, res. chem. U.S. Rubber Co., Passaic, N.J.; 1931-32, res. asst., Columbia U., N.Y.C.; 1932-35, fellow, Mellon Inst., Pitts., Pa.; 1935-41, chem. Natl. Yeast Corp., Belleville, N.J.; 1941 to date, lab. dir. Res. in problems of yeast-making and fermentation. Mem.: A.C.S., A.I.C. (fellow), A.A. Cer. Chem., A.A.A.S. Club: Bloomfield Heights. Hobby: oil painting.

MEADE, George Peterkin, mgr., Colonial Sugars Co., Gramercy, La.
Chem. engr.; b. Cumberland, Md., Dec. 26, 1883; s. of Rev. Philip Nelson and Sarah (Rannells) Meade; ed. N.Y.U., B.S., 1905; grad. wk., U. Mich., summer, 1914; Ch.E., N.Y.U., 1921; mem.: Phi Beta Kappa, Tau Beta Pi, Alpha Chi Sigma; m. Eleanore F. Hussey, Aug. 7, 1912. Asst. chem., Natl. Sugar Ref., Yonkers, N.Y., summers, 1901-05; full time 1905-07; Fajardo (Puerto Rico) Sugar Co., 1908; chem., asst. supt., Col. Sugars Co., Gramercy, La., 1909-13; supt., mgr., Cuban Sugar Ref. Co., Cardenas, also dir., Central Contr. Lab., Cuban-Am. Sugar Co., 1913-23; gen. supt., Col. Sugars Co., 1923-28; mgr., 1928 to date. Cuban-Am. Sugar Co., dir. Contrib. extens. to sc. and tech jls. on sugar anal., tech., ref. in various stages. Author: "Cane Sugar Handbook," (eighth ed. 1945). Delegate Int. Comm. for Uniform Meths. of Sugar Anal., London, 1936, Brussels, 1949. Mem.: A.I.C. (fellow), A.A.A.S., A.C.S., A.I.Ch.E., Int. Soc. Sugar Cane Tech.; St. James Parish (Co.) Schl. Bd. (pres.); Bone Char Res. Proj., Inc. (pres., 1949). Clubs: Louisiana (New Orleans), Chemists' (N.Y.C.). Hobby: life habits of Louisiana harmless snakes.

MEADOW, Jacob Robert, prof. chem., U. Kentucky; res. Lexington, Ky.
Univ. tchg. & res.; b. Shaw, Miss., Dec. 11, 1903; s. of Jacob K. and Letitia (Fowlkes) Meadow; ed. Arkansas Coll., A.B., 1925; M.A., 1927; Johns Hopkins U., Ph.D., 1933; mem.: Pi Kappa Alpha, Alpha Chi Sigma, Sigma Xi, Phi Beta Kappa, Phi Lambda Upsilon; m. Margaret Cobb, Aug. 1, 1929; ch.: Joan, Barbara, Summers,

1926, 1928, 1929, instr. chem., U. Ark.; 1927-28 and 1928-29, asst. prof. chem., Ark. Coll.; acting hd. dept., 1930-31; 1929-30, fellowship (microchemistry), N.Y.U.; 1931-33, tchg. fellow, Johns Hopkins U.; 1933-35, res. chem., Exp. Sta., E.I. du Pont de Nemours & Co., Wilmington, Del.; 1935-42, prof. and hd. chem. dept., Southwestern Coll., Memphis, Tenn.; 1942-45, res. chem. (grp. ldr.), res. and dev. div., Socony-Vacuum Oil Co., Paulsboro, N.J.; 1945 to date, prof. of chem., U. Kentucky, Lexington, Ky. Res. on cellulose derivatives; org. sulfur compounds; micro-chem. anal.; patents on high octane hydrocarbons-desulfurization of oils-chemicals from petroleum. Mem.: A.C.S. (chmn. Lexington sec., 1948-49; councilor, Memphis sec., 1940-42). Clubs: Faculty, (U. of Kentucky). Hobbies: golf, carpentering, travel.

MEAGHER, Edward Columba, treas., Texas Gulf Sulphur Co., 75 E. 45th St., New York 17, N.Y.; res. 864 Carroll St., Bklyn. 15, N.Y. Mining engr.; b. Hoboken, N.J., Oct. 2, 1897; s. of Peter and Elizabeth (O'Reilly) Meagher; ed. Columbia Coll. (Columbia U.), B.S. 1917; Columbia Engrg. Schl., E.M., 1921; mem.: Phi Kappa Psi, Theta Tau, Tau Beta Pi. 1921-27, mining engr.; 1927-48, min. engr., asst. to pres.; 1948 to date treas., all with Texas Gulf Sulphur Co., N.Y.C. Mem.: A.I.M.E. (dir. 1950); Mining & Metallurg. Soc. of Amer.; United Engineering Trustees. Clubs: University (N.Y.), Columbia U., The Mining (N.Y.), Huntington Crescent, (Huntington, L.I.). Hobby: golf.

MEALS, Robert Nelson, grp. ldr., Silicone Dev. Lab., Gen. Electric Co., Waterford, N.Y.; Chem.; b. Trenton, N.J., Dec. 20, 1912; s. of Casper D. and Katherine (Smith) Meals; ed. McMaster U., B.A., 1934; Toronto U., M.A., 1936; Iowa State Coll., Ph.D., 1942; m. Eileen M. Caley, July 26, 1941; ch.: Robert N. Jr., Michael E. Chem., Gen. Electric Co., Schenectady, N.Y., 1942-45; dir. of chem. res., Buckman Labs., Memphis, Tenn., 1945-50; chem., Silicone Plant, Gen. Electric Co., Waterford, N.Y., 1950 to date; v.p. Buckman Labs. Inc., Memphis, Tenn., 1946-50. Organometallic chem., particularly in silicon and mercury compds.; a co-discoverer of a meth. of making organobarium and strontium compds. Mem.: A.C.S. Hobbies: music, reading, tennis.

MEANS, Dwight R., asst. to v.p., Pittsburgh Plate Glass Co., Columbia Chem. Div., 4337 Fifth Ave., Pitts. 13, Pa.; res. 1355 Terrace Dr., Pitts. 16. Chem. engr.; b. Harris, Kan., Apr. 9, 1898; s. of J.W. and Mary E. Means; ed. Ottawa (Kansas) U., 1916-18; Kansas U., Bs.Ch.E., 1921; mem.: Sigma Tau, Tau Beta Pi, Sigma Xi; m. Ruth Tulloss, June 4, 1921; ch.: Max, Marion, Barbara, Kathryn. Solvay Process Co., Hutchison, Kan., 1921, tech. asst. to supt.; Procter & Gamble, Kansas City, 1922-23, chem. engr.; Columbia Chem. Div., Pitts. Plate Glass Co., 1923 to date; started as draftsman, advanced thru various positions to asst. to v.p.; closely assoc. with Southern Alkali Corp., a subsid. of P.P.G.Co. and Am. Cyanamid, present position, tech. adv. to pres. Mem.: A.I.Ch.E., Electrochem. Soc., Engrs. Soc. of Western Pa. Club: Pitts. Athletic Assn. Hobby: photography.

MEANS, Karl Stone, prof. chem., Butler U.; res. 2101 W. Pennsylvania St., Indianapolis, Ind. Tchg.; b. Jan. 2, 1892; s. of Albert and Bertha L. Means; ed. Butler U., A.B., 1914; Indiana U., M.A., 1915; U. of Chic., Ph.D., 1924; mem.: Alpha Chi Sigma, Sigma Xi; m. Margarette L. Eckels, 1917; ch.: Paul A. Butler U., 1917-20 & 1928 to present; Mich. Coll. of Mines, 1922-26; Milligan Coll., 1926-28. Mem.: A.C.S., Indiana Acdy. of Sc.

MEASE, Ralph T., chf. chem., Caled Prods. Co., Inc., Brentwood, Md.; res. 1010 Sigsbee Place, N.E., Washington, D.C. Chem.; b. Lickdale, Lebanon County, Pa., Jan. 31, 1895; s. of William M. and Lydia (Fake) Mease; ed. Lebanon Valley Coll., A.B., 1920; m. Eva Nye, Oct., 1921; ch.: Josephine Ida, Ernest William, Carolyn Lydia, Norman Edward. 1924-27, asst. chem., div. of chem., U.S. Bur. of Stds.; 1927-36, assoc. chem.; 1936-44, chem.; Caled Prods. Co., Inc., 1944 to date, chf. chem. Numerous arts. on sc. jls.; work on secret govt. projects. Mem.: A.C.S., A.T.C.C., Kalozetean Literary Soc. Hobbies: wood and metal shop, bee keeping, horticulture, photography.

MEBANE, William Marion, mgr., tech. dir., Thiokol Corp., Redstone Div., Huntsville, Ala.; res. 717 E. Clinton St., Huntsville. Chem.; b. Newton, North Carolina, Aug. 26, 1903; s. of Charles Harden and Mary (Cochran) Mebane; ed. U. of N.C., B.S. (chem.), 1925; M.S., 1926; Ph.D., 1929; mem.: Alpha Chi Sigma, Sigma Xi; m. Isabelle Knudsen, 1929; ch.: Isabella. 1926-27, 1st. Lieut., The Citadel, Charleston, S.C.; 1927-29, instr. U. of N.C.; 1930-41 prof. chem., Tennessee State Coll., hd. dept.; 1942-46, Commander, U.S.N.R.; 1946-49, assoc. prof. chem., U.S. Naval Post-grad. Schl., Annapolis; conslt., then, 1949 to date, mgr. and tech. dir. Thiokol Corp., Redstone Div. Sev. arts. on sc. jls. Mem.: A.C.S., Amer. Rocket Soc., Amer. Ord. Assoc. Clubs: Rotary, Huntsville Country, Redstone Arsenal Officers. Hobbies: music, golf.

MECREDY, James Roderick, wks. mgr., The Davison Chem. Corp., Baltimore 3, Md.; res. 510 W. Joppa Rd., Towson 4, Md. Chem. engr.; b. Roanoke, Va., Sept. 3, 1888; s. of James and Charlotte Mecredy; ed. Va. Military Inst., B.S. (chem.); U. of Md., post grad.; mem.: Sigma Alpha Epsilon; m. Rosalie Miller, Oct. 4, 1916; ch.: James Randolph. 1911-13, teacher, Augusta Military Acdy.; 1913-15, chem.-supvr., Am. Smelting & Refining; 1915-18, supvr., Electrolytic Zinc, Balt.; 1918-21, chem., The Davison Chem. Corp.; 1921-38, chem. supvr.; 1938-41, chem. dir.; 1941-43, prod. mgr.; 1943-47, asst. wks. mgr.; 1947 to date, wks. mgr. Mem.: A.I.Ch.E. Hobby: sports.

MEE, Thomas C., pres., treas., Thos. C. Mee Co., P.O. Box 514, Pawtucket, R.I.; res. 174 Freeman Pkwy., Providence. Mfr. shellacs, paints; b. Nov. 1, 1893, Woonsocket, R.I.; s. of Edward and Margaret (Rafter) Mee; ed. Georgetown U., Wash., D.C., A.B., 1917; m. Isabel Donahoe, Apr. 23, 1923; ch.: Thomas C., Jr., Isabel A. Rogers Ryatt Shellac Co., N.Y., 1920; organized Eastern Shellac Co., Woonsocket, R.I., 1926 (changed to Thos. C. Mee Co.), 1931 to date. Club: Alumni of Georgetown U. (natl. pres., 1948-50).

MEES, C(harles) E(dward) Kenneth, v.p. chg. res. Eastman Kodak Co., Rochester 4, N.Y.; res. 1209 Clover St., Rochester 10. Photo. res.; b. Wellingborough, England, May 26, 1882; s. of Charles Edward and Ellen (Jordan) Mees; ed. Kingswood School, Bath, England; St. Dunstan's College, Catford, Eng., 1895-97; D.Sc., University Coll., London, 1900-06; m. Alice Crisp, June 1, 1909; ch.: Graham Charles, Doris Margaret Mees Sturdy. Joint managing dir., Wratten & Wainwright, Ltd., Croydon, England, 1906-12; dir. of res., Eastman Kodak Co., 1912 to present. Eastman Kodak Co., v.p. and dir. Author: "Investigations on the Theory of the Photographic Process" (co-author with S.E. Sheppard), 1907; "The Photography of Coloured Objects," 1909; "The Organization of Industrial Scientific Research," 1920 (revised edition, 1950; co-author with J.

A. Leermakers); "Photography," 1936, "The Theory of the Photographic Process," 1942, "The Path of Science," 1946. Mem.: N.A.S., A.Phil.S., Sigma Xi, Royal Soc. (London), A.A.A.S., A.C.S., A.I.Ch.E., A.Phys.S., Chem. Soc. (London), Opt. Soc. Amer. Clubs: Genesee Valley and Country (Rochester); Century Assn. and Chemists' (New York); Athenaeum, Chemical, and Nat. Liberal (London).

MEFFORD, Ernest Clayton, pres., Mefford Chemical Co., 1026 Santa Fe Ave., Los Angeles 21, Calif.; res. 1525 No. Sierra Bonita Ave., Los Angeles 46, Calif.
Exec.; b. Clinton, Mo.

MEHARG, Virgil Edward, supt. of dev., Bakelite Div., Union Carbide & Carbon Corp., Bound Brook, New Jersey; res. 1055 Sleepy Hollow Lane, Plainfield, N.J.
Chem.; b. Texas, Oct. 20, 1897; s. of S.Y. and Mary Elizabeth Meharg; ed. Rice Inst., B.A. (magna cum laude), 1918; Northwest U., 1921, M.S.; mem.: Alpha Chi Sigma, Sigma Xi, Phi Lambda Upsilon; m. Francis Fribley, Aug. 8, 1922; ch.: Edward Ferdinand, Helen Virginia. Chem., Sanitary District, Chicago, 1921-22; chem., Bakelite Corp., 1922-44; supt. of dev., 1944 to present. Plastic raw materials dev., 1922-30; plastic products dev., 1930-44. Mem.: A.C.S., A.A.A.S.

MEHL, Robert Franklin, dir., Metals Res. Lab., Carnegie Inst. Tech., Pittsburgh, Pa.
Coll. prof.; b. Lancaster, Pa., Mar. 30, 1898; ed. Franklin & Marshall, 1919; Princeton U., 1924; Harvard U., 1927; mem.: Delta Sigma Phi, Sigma Xi, Phi Lambda Upsilon, Phi Kappa Phi, Tau Beta Pi, Phi Beta Kappa; m. Helen Charles; ch.: Robert F., Jr., Marjorie Ward, Gretchen. Proctor Fellow (chem.), Princeton U., 1922-23; hd., dept. chem., Juniata Coll. 1923-25; natl. res. fellow, Harvard U., 1925-27; supt., div. physical metallurgy, Naval Res. Lab., Wash., D.C., 1927-31; asst. dir., res. labs., Am. Rolling Mill Co., Middletown, Ohio, 1931-32; dir., Metals Res. Lab., Carnegie Inst. Tech., Pittsburgh, Pa. 1932 to date; hd., dept. Metallurg. Engrg., 1935 to date. John Scott M., certif., prize award dev. of gamma-rays radiography. (Awarded by Dirs. Bd. City Trusts, Phila., Pa. 1934). Contrib. extens. to sc. and tech. jls. Author: Trans. Tammann's bk. "States of Aggregation," 1925; "Metallurgy of Iron & Steel (in Portuguese) 1944"; "Hist. of Physical Metallurgy," 1947; ed. Metallurgy and Metallurgical engrg. series. Mem.: A.I.M.E., A.S.M., A.S.T.M., A.C.S., A.A.A.S., Inst. Mtls. (Great Britain), Iron & Steel Inst. (Great Britain), Associacao Brasiliera de Metals, Newcomen Soc., A.S.E.E. Clubs: University, Shop.

MEHLIG, Joseph Parke, prof. anal. chem., dept. of chem., Oregon State Coll., Corvallis, Oregon; res. 835 South 11th St., Corvallis.
Prof. anal. chem.; b. Tipton, Ind., June 26, 1885; ed. Purdue, B.S., 1908; M.S., 1910; Ph.D., 1931; m. Clarice McLaughlin, Aug. 15, 1933. U.S. Bur. Chem., asst. chem., 1910-12; U.S. Forest Prods. Lab., asst. chem., 1912-13; Pittsburgh Test Lab., chem. 1914; H.S. instr. 1915-17; hd. H.S. chem. dept., 1917-20; Ore. State Coll., instr. chem., 1920-24; asst. prof. anal. chem., 1924-34; assoc. prof., 1934-47; prof., 1947 to date. Spectrophotometric meth. of anal.; meth. teach. anal. chem.; num. pubs. in chem. jls. Mem.: A.C.S. (secy.-treas. Ore. sec., 1933), Tau Beta Pi, Sigma Xi, Phi Lambda Upsilon. Hobby: athletics.

MEHRING, Arnon Lewis, sr. chem., U.S. Dept. Agr., Bur. Plant Indus., Beltsville, Md.; res. 4510 Longfellow St., Hyattsville, Md.
Chem.; b. Apr. 11, 1892; s. of L.D. and Mary Elizabeth (Slifer) Mehring; ed. Geo. Wash. U., A.B. 1922; m. (1st.) Anna Cook, Sept. 14, 1910; (2nd) Estelle Miriam Ryder, Apr. 22, 1914; ch.: Arnon L., Jr., Dorothea L., Mildred B. 1906, factory hand, B.F. Shriver & Co.; 1908, clerk, Am. Type Founders Co.; 1909, salesman, Kenny Tea Co.; 1910-12, station agent, N.Y., New Haven & Hartford R.R.; 1912-13, bookkeeper, Woodward & Lothrop; 1913-18, typist, U.S. Post Off. Dept.; 1918-19, chem., Lewis Flemer, Inc.; 1919-22, chem. lab., U.S. Bur. Animal Indus.; 1922, jr. chem., U.S. Bur. of Soils; asst. chem., 1923; assoc. chem., 1930-41; 1941-45, conslt. on fertilizers, U.S. Off. of Agr. War Relations; 1943-46, chem., U.S. Bur. Plant Indus.; 1946 to date, sr. chem. Author of over 100 bulletins, magazine arts. and circulars on the mfr., economics and usage of fertilizers; during W.W. II, helped org. and assisted Fertilizer Indus. Adv. Comm. of the W.P.B.; mem. of various comms. that made important decisions relating to the bldg. of synth. nitrogen plants, allocation of fertilizers, standardization of fertilizer grades and distr. of supplies and shipping facilities dur. the war. Selected in 1947 in a survey conducted among members of the A.C.S. by the "Chem. Bulletin" as one of the 10 outstanding U.S. chemists in the fertilizer fld. Abstractor C.A. 1923-40. Mem.: A.C.S.; fellow, A.I.C.; Assoc. of Off. Agr. Chem.; Assoc. of Fertilizer Control Officials; A.S.A. (fertilizer comm.); councilor of A.C.S. 1948 to date; pres. Wash. Chapt. A.I.C. 1932-34; Fed. Govt. Interdepart. Chem. Stat. Comm. Trustee, Hyattsville Pub. Library, 1938 to date; councilman, City of Hyattsville, 1930-38; chmn., Hyattsville Police Dept., 1935-38. Club: Mt. Hermon Lodge No. 179, A.F. & A.M. (Master, 1930); chaplain, 1901; secy., 1933). Hobbies: stamp and shell collecting.

MEIER, Robert H.M., purch. agent, J.T. Baker Chem. Co., Phillipsburg, N.J.; res. R.D. 2, Easton, Pa.
Chem.; b. Easton, Pa., Sept. 25, 1898; s. of Karl and Emma Meier; ed. Muhlenberg Coll., Allentown, Pa.; Churchman Bus. Coll., Easton, Pa.; m. Anna Miriam Huhn, June 3, 1925. Anal. chem., 1922-31, J.T. Baker Chem. Co.; supvr. control lab., 1932-38; res. & dev., 1939-47; chem. buyer, 1948-49; gen. purch. agent, 1950 to date. Mem.: A.C.S., Natl. Assn. Purch. Agents. Clubs: Chemists' (N.Y.), Northampton Co. Country (Easton). Hobbies: golf, painting.

MEIGS, Frederick Madison, dir. dev. dept., Gen. Aniline & Film Corp., 247 Park Ave., N.Y.C.; res. 540 Alda Rd., Mamaroneck, N.Y.
Chem.; b. Quincy, Ill., Apr. 26, 1906; s. of Robert V. and Ida M. (Holch) Meigs; ed. Shurtleff Coll., Alton, Ill., 1922-24; U. of Ill., 1924-25; U. of Chicago, 1926-27 B.S., 1927-30 Ph.D. in chem., 1930 cum laude; m. Florence N. Meigs, Nov. 20, 1941; ch.: Robert John, Gordon Frederick, Marylin Frances. du Pont Co., Expt. Station, res. chem. 1930-36, electrochem. dept. market dev. 1937, mgr. sales dev., cyanide prods. 1938, mgr. hydraulic classifier div. 1939-40, dev. dept. 1941-42; Gen. Aniline & Film Corp., dir. dev. dept., 1942 to date. More than 30 U.S. pats. Mem.: A.C.S. Clubs: Chemists' (N.Y.C.), Niagara (Niagara Falls, N.Y.). Hobbies: sailing, gardening, bridge, music.

MEISSNER, Herman Paul, assoc. prof. chem. engrg., M.I.T., Cambridge, Mass.; res. 60 Wilson Ave., Watertown, Mass.
Chem. engr.; b. W. Hoboken, N.J., Aug. 3, 1907; ed. (Chem. engrg.), S.B., M.I.T. 1929; S.M., 1930; (physical chem.) D.Sc., 1938, U. of Frankfurt am Main, Germany; mem.: Delta Upsilon; m. Dorothy C. Butler, Nov., 1932; ch.: Susan, Cody, Peter. Com. Solvents Corp., 1930-34; M.

I.T. staff, 1935 to date (with 2 yrs. out, 1937-38, for study in Germany). Papers in chem. thermodynamics, ind. chem., adhesion. Mem.: Sigma Xi, A.I.Ch.E., A.C.S. Hobby: painting.

MEISTER, (Friedrich Karl Georg) Heinrich, res. chem., Wallerstein Co., Inc., 125 Lake Ave., Staten Island 3, N.Y.; res. 71 Westminster Court, Staten Island 4.
Chem.; b. Arolsen, Germany, Aug. 17, 1898; s. of Ferdinand and Marie (Penke) Meister; ed. 1908-16, Realgymnasium Arolsen, Germany; 1919-20, U. of Munich, Germany; 1920-23, U. Erlangen, Germany, Ph.D. (magna cum laude); m. Thea Schmidt, Apr. 13, 1927. 1923, chem., Badische Anilin & Soda Fabrik, Ludwigshafen, Germany; since 1924, Wallerstein Co., Inc. Res., dev. and process supervision in enzyme and org. preparations, food and fermentation prods. Mem.: A.C.S., A.I.C. (fellow). Hobby: photography.

MEITER, Edward George, dir., ind. hygiene div., Employers Mutual Liability Ins. Co., 1200 Empire Bldg., Milwaukee 3, Wis.; res. 2557 N. 81st St., Wauwatosa 10, Wis.
Chem.; b. Salem, Ohio, June 11, 1898; s. of George and Katherine (Krauss) Meiter; ed. Mt. Union, S.B., 1920; Ohio State, M.Sc., 1921; Ph.D., 1923; mem.: Phi Kappa Tau; m. Hazel F. Smith, June 18, 1923; ch.: George E. Ohio State U., grad. asst. in chem., 1920-23; U.S. Bur. of Mines, asst. physical chem., 1923-28; assoc. chem., 1928-32; Employers Mutual Liability Ins. Co. of Wis., 1932 to date; sc. conslt., Tech. Ind. Intelligence Comm., Foreign Economic Adm., 1945. Author of numerous sc. arts. publ. in govt. bull. & tech. press; res. ind. gases, absorption of gases, atmospheric pollution, ventilation, gas masks, dust respirators, dust problem in ind., health hazards in ind. Co-author: (with Toering,) "Ind. Safety in Germany" Joint Intelligence Objectives Agency, Wash., D.C., 1945. Mem.: A.C.S., A.I.C. (fellow), A.A.A.S. (fellow), A.P.H.A. (fellow), Am. Ind. Hygiene Assn., N.Y. Acdy. of Sc., Am. Soc. of Safety Engrs., Veterans of Safety, Sigma Xi. Hobbies: books, gardening, photography, television.

MELBY, Arne, plant mgr., Niagara Falls Geon Plant, B.F. Goodrich Chem. Co., P.O. Box 457, Niagara Falls, N.Y.; res. Hillside Dr., Lewiston, N.Y.
Chem. engr.; b. Duluth, Minn., Aug. 27, 1915; s. of Olaf and Marie Melby; ed. Case Inst. of Tech., Cleveland, Ohio, B.S.Ch.E., 1939; mem.: Alpha Chi Sigma; m. Marie Oden, Feb. 17, 1946; ch.: Arne, III. 1939-40, design engr., Struthers-Wells Co., Titusville, Pa.; 1940, chem. anal., B. F. Goodrich Co., Akron, Ohio; 1940-41, tech. shift foreman, B.F. Goodrich Co., Niagara Falls, N.Y.; 1941-43, engr. in chg. design and constr., Ammonium Nitrate Plt. and supt. during its initial operation, Lone Star Defense Corp., Texarkana, Texas; 1943-46, gen. foreman, Tank Farm and Process Areas, B.F. Goodrich Chem. Co., Borger, Texas (Govt. GRS Plant); 1946 to date, plt. mgr., Niagara Falls Geon Plt., B. F. Goodrich Chem. Co. Mem.: A.I.Ch.E., A.C.S., N.Y. State Soc. of Prof. Engrs., Armed Forces Chem. Assoc. Club: Niagara Falls, Lions Internat. Hobbies: color photography, gardening, ceramics.

MELDRUM, William Buell, John Farnum prof. chem., Haverford Coll., Haverford, Pa.; res. 747 College Ave., Haverford.
Chem. prof.; b. Hull, Canada, Dec. 18, 1887; s. of Thomas and Isabella (Thane) Meldrum; ed. McGill U., B.A., 1909; M.Sc., 1910; Harvard U., Ph.D., 1914; mem.: Phi Beta Kappa; m. Phillipa Ruth Coleman, Sept. 2, 1919; ch.: Wm. Buell, Jr., Lestella, Thomas Wilson, Donald Nicol. Instr. in chem., Montreal Tech. Inst., 1911; Austin teaching fellow, Harvard U., 1911-12; 1851 Exhibition Scholar, 1912-14; asst. prof. of chem., Vassar Coll., 1914-17; asst. prof., Haverford Coll., 1917-18, 1919-21; assoc. prof., 1921-26; prof., hd. of dept., 1926 to date. Res. in physical & anal. chem. (abt. 20 papers); assoc. edit., "Jl. of the Franklin Inst." Author: "Introd. to Theoretical Chem.," 1936; "Qualitative Anal.," 1938; "Semimicro Qualitative Anal." 1939; "A Textbook of Qualitative Anal.," 1946; "Physical Chem.," 1942. Mem.: A.A.A.S., A.C.S., Franklin Inst., Electrochem. Soc., Phila. Sc. Council; Sc. Teachers Assn. Mid. States; New England Assn. of Chem. Teachers. Dir., Phila. Sc. Council. Hobbies: gardening, bridge, chess, mountain climbing, history.

MELENDY, Jesse George, prodn. conslt., Gen. Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N.Y. 6, N.Y.; res. 56 Grove St., Tarrytown, N.Y.
Chem. mfg.; b. Milford, N.H., Sept. 30, 1877; s. of George L. and Adelaide E. (Burpee) Melendy; ed. Colby Acdy., New London, N.H.; Brown U., Providence R.I., Ph.B.; mem.: Phi Beta Kappa, Sigma Xi, Phi Delta Theta; m. Jessie May Cofran (dec.), Apr. 20, 1904; ch.: Adelaide Burpee (Melendy) Putney. 1901-02, teacher, St. George's Schl., Newport, R.I.; 1902-22, chem., supt., Gen. Chem. Co., Camden, N.J., Cleveland, Ohio, Buffalo, N.Y., Wilmington, Del.; 1922 to date, res. chem., at Denver, Colo. & 40 Rector St., N.Y.C. Holder of several U.S. & Can. pats.; early wk. on Pt.Cat.Contact Sulfuric; dev. of new meths. of mfg. anhydrous sodium sulfite & anhydrous sodium bisulfite. Mem.: A.C.S., A.S.M.E., Y.M.C.A. (Tarrytown, N.Y., for many yrs., dir.). Hobbies: 2 grandsons (previously golf & gardening).

MELHASE, Fred, process control dir., Westvaco Div., Food Machinery & Chem. Corp., Newark, Calif.; res. 567 Arden St., Newark, Calif.
Chem. engr.; b. Fort Klamath, Ore.; s. of Alfred and Dora Melhase; ed. U. of Calif.; m. Mary Louise Margold, Sept. 12, 1937; ch.: Mary Louise, John. Calif. Chem. Corp., 1933-37, res. chem.; Westvaco Chlorine Products Corp., 1937-48, res. chem., then process control head; Westvaco Div. Food Machinery & Chem. Corp., 1948 to date, process control head. Reg. Prof. Chem. Engr. (Calif.). Mem.: A.C.S., A.I.Ch.E., Newark Elementary School Bd. (dir.); Washington Township Hospital Board (dir.). Clubs: Rotary International; Almeda Lodge No. 167, F.A.M. Hobbies: photography, gardening, hunting, fishing, woodworking.

MELLECKER, John (Bottorff), tech. edit., "Chemical Engineering Catalog," Reinhold Publ. Corp., 330 W. 42nd St., N.Y. 18, N.Y.; res. Birchwood Rd., Springdale, Conn.
Processing equip. obtainability & sales-dev. counsel, edit.; b. Anamosa, Iowa, Oct. 14, 1911; s. of Charles H. and Pearle (Bottorff) Mellecker; ed. Iowa State Coll., B.S. in chem. engrg., 1934; m. Gretta Stephenson, Dec. 14, 1932; ch.: John B., II, Judy Elaine. 1930-34, Iowa Engrg. Expt. Station, part-time employee (while student), agr. waste prod. pilot-scale dev. program; 1934-35, Iowa Planning Bd., agr. waste prods. plants design; 1935-40, Curtis Companies Inc., in chg. of wood prod. decay & stain prevention & wood byprod. utilization res. & dev. program; 1940-41, Tech. Serv. Dowicide (chlorophenols fungicide) sales, Protection Prods. Co.; 1941-42, special asst. to publisher, Chem. Engrg. Catalog; 1942-43, comsd. off. U.S.A., C.W.S., chf. of indus. safety sec., Pine Bluff chem. agent mfg. arsenal (Ark.); 1943-45, commissioned officer, U.S.A., Quartermaster Corps, Doron (plastic body armor) dev. proj-

ect, in chg. fld. operations univ. & indus. labs.; 1945 to date, tech. edit., Chem. Engrg. Catalog, Reinhold Publ. Corp. Dev. of an improved information pattern in Chem. Engrg. Catalog. with collaboration of major mfrs. supplying plant equipt., matls. & contract services; discovery commercially adopted synergistic mixture of chlorophenols for wood decay & stain control. Co-author: "The Doron Development Program" with W.J. Gailus, 1945, restricted govt. distribution. Mem.: A.C.S. (Metropolitan N.Y. Sec.; Divs. of Ind. & Engr. Chem. & Chem. Lit.), A.A.A.S., A.O.A., Armed Forces Chem. Assn. Award: Citation of Army Commendation Ribbon, 1946, by Quartermaster General for services on Doron project. Clubs: Chemists' (N.Y.), Stamford Yacht (Stamford, Conn.), Stamford Camera. Hobbies: yachting, photography.

MELLON, Melvin Guy, prof. anal. chem., Purdue U., Lafayette, Ind.; res. 9 Russell St., W. Lafayette.
Tchr.; b. Conneaut Lake, Pa., Oct. 25, 1893; s. of Harry J. and Myrta E. Mellon; ed. Allegheny Coll., B.S., 1915; Sc.D., 1940; Ohio State U., M.S., 1917; Ph.D., 1919; mem.: Alpha Chi Rho; m. Catharine Collart, Aug. 30, 1919; ch.: Frances Catharine (Mrs. P.A. Phillips). 1911-12, tchr., Pa. Pub. Schls.; 1918-19, instr., Ohio State U.; 1919-25, asst. prof., Purdue U.; 1925, hd., div. of anal. chem.; 1925-31, assoc. prof.; 1931, prof.; Summer 1931, visiting prof. Ohio State U. Designer, Purdue Chem. Bldg.; tchr. 30 yrs. in anal. chem. at Purdue. Author: 5 books and over 100 tech. papers. Speaker at over 50 local sections of the A.C.S., and some misc. grps. Author of "Chemical Publications," 1928 and 1940; "Methods of Quantitative Chem. Anal.," 1937; "Quantitative Anal. Record Bk.," 1944; "Colorimetry for Chemists," 1945; "Anal. Absorption Spectroscopy," 1950. Mem.: A.C.S., A.A.A.S., A.S.T.M., Optical Soc. of Amer.; Indiana Acdy. of Sc. (pres., 1942), Inter-Soc. Color Council. Clubs: Torch, Masons, Phi Beta Kappa, Sigma Xi, Phi Sigma, Phi Lambda Upsilon, Alpha Chi Sigma. Hobbies: music, forestry.

MELNICK, Daniel, chf. technol., res. lab., Best Foods, Inc., Bayonne, N.J.; res. 354 Forest Ave., Teaneck, N.J.
Res. chem.; b. Boston, Mass., Jan. 4, 1910; s. of Sam and Ester (Melny) Melnick; ed. Ph.B. (cum laude), Yale Coll., 1931; Ph.D. (Sigma Xi), 1936; m. Alice E. Lupatin, Nov. 28, 1935; ch.: Edward L., Ronald L., Marjorie J. 1931-32, E.R. Squibb & Sons, New Brunswick, N.J., pharmacol.; 1934-37, Yale U., tchg. asst., post doctorate fellowship; 1937-40, U. of Mich., Ann Arbor, Mich., res. assoc.; 1940-47, Food Res. Labs. Inc., L.I.C., N.Y., supvr. of res.; 1947-49, Quartermaster Food & Container Inst. for Armed Forces, Chicago, Ill., chf. of food dev. div.; 1949 to date, Best Foods, Inc., Bayonne, N.J., chf. technol. Author of more than 90 papers publ. in sc. journals & U.S. pats. in flds. of protein chem. & metabolism, vitamin methodol. & metabolism, nutrition & food technol. Mem.: A.C.S., A.S.Biol.C., A.A.C.C., Am. Inst. Nutrition, I.F.T. (chmn. of thiamine & niacin assay Comms.); Res. Corp.; Food & Nutrition Sec., Gordon Res. Confs. (chmn.); A.A.A.S. Hobbies: gardening, photography.

MENG, Karl H., chem. plant supvr., Distillation Products Industries, Div. of Eastman Kodak Co., Rochester 3, N.Y.; res. 206 Edgewood Ave., Rochester 18.
Chem. engr.; b. Rochester, N.Y., Nov. 7, 1911; s. of Gustave J. and Anna H. Meng; ed. B.S. (chem. engrg.), 1934, U. Rochester; M.S. (org. chem.), 1935; Ph.D., 1939; mem.: Sigma Xi; m. Elizabeth Green, June 8, 1943; ch.: David C., Ann E. U. Rochester, grad. asst., 1935-38; Nazareth Coll., Rochester, chem. prof., 1939-41; Distillation Products., Inc. (now Distillation Prods. Indus., div. Eastman Kodak Co.), res. chem., 1941 to date; position gradually enlarging, field of wk. changing toward chem. engrg., prod. dev., now mostly supervisory. Res. in chromatog., prods. engrg.; patents & applications field of adsorption. Mem.: A.C.S., Sigma Xi. Club: active in Boy Scouts. Hobbies: hiking, gardening, ceramics, gen. handiwork.

MENKE, William Kenneth, dir., gen. dev. dept., Monsanto Chem. Co., 1700 S. 2 St., St. Louis, Mo.; res. 76 Webster Woods, Webster Groves, Mo.
Chem. engr.; b. Nov. 1, 1911; s. of W.B. and Emily C. Menke; ed. Wash. U. B.S. (Ch.E.), 1932; M.S. (chem.), 1934; mem.: Alpha Xi Sigma, Sigma Phi Epsilon, Tau Beta Pi, Sigma Xi; m. Emily S. Busse, May 10, 1936; ch.: W. Kenneth, Jr., R. Bruce, Linda Louise. 1935-37, anal., Monsanto, Ill. plant; 1937-40, asst. prod. supvr.; 1940-42, group leader, res. lab., Organ. Chem. Div.; 1942-47, dev. chem. engr.; 1947-49, asst. dir., gen. dev. dept.; 1949 asst. gen. mgr. sales, Merrimac Div.; 1949 to date, dir., gen. dev. dept. Monsanto (Canada) Ltd., bd. dirs. Mem.: A.C.S., A.I.C., A.I.Ch.E., A.A.A.S.

MENOTTI, Amel R., v.p., dir. res., Bristol Labs. Inc.; res. 26 Redfield Ave., Fayetteville, N.Y.
Exec.; b. Carrara, Italy, Oct. 7, 1913; s. of David and Mary Menotti; ed. B.S., Antioch Coll., 1937; Ph.D., Ohio State U., 1940; mem.: Sigma Psi; m. Mary Pia, Sept. 4, 1939; ch.: David, Marilyn, Robert. Chem. asst., C.F. Kettering Foundation, Antioch Coll., Yellow Springs, O., 1934-37; chem., A.M.A., Chicago, Ill., 1940-43; v.p., dir. of res., Bristol Labs. Inc., Syracuse, N.Y., 1943 to date. Mem.: A.Phar.A., Acdy. of Sc. (N.Y.), A.A.A.S., Sigma Psi. Clubs: Tech. (Syracuse), Ohio State Alumni Assoc. Hobbies: golfing, hunting, fishing, photography.

MEREDITH, George Brackett, chf. chem., South Point Plant, Solvay Proc. Div., Allied Chem. & Dye Corp., P.O. Box 98, Ironton, Ohio; res. 1500 Hilton Ave., Ashland, Ky.
Chem. indust.; b. Feb. 5, 1903, Hanover Co., Va.; s. of Dr. William and Marian (Saunders) Meredith; ed. Va. Polytech. Inst., B.S., chem., 1926; m. Lulie May Wilson, Sept. 3, 1927; ch.: Joanne, Coralee. 1926-27, anal. chem., Froehling & Robertson, Richmond, Va.; 1927-28, res. chem., Solvay Proc. Div., A.C.&D., Syracuse, N.Y. & Hopewell, Va.; 1928-42, contr. chem.; 1942, asst. plant chem., Atmospheric Nitrogen Corp., Henderson, Ky. (org. as a subsid. of Solvay Proc. Div., Allied Chem. & Dye Corp., to operate anhydrous ammonia plants for War Dept. at Henderson, Ky. & So. Point, Ohio); 1942-45, plant chem., South Point, Ohio; 1945-49, plant chem., Solvay Proc. Div., A.C.&D., South Point, Ohio; 1949 to date, chf. chem. Mem.: A.C.S., A.I.C. Club: Bellefonte Country (Ashland, Ky.). Hobbies: golf, hunting, bridge.

MERICA, Paul Dyer, exec. v.p., dir., Internatl. Nickel Co., 67 Wall St., N.Y. 5, N.Y.; res. Millwood, N.Y.
Metallurgist, exec.; b. Warsaw, Ind., Mar. 17, 1889; s. of Charles Oliver and Alice (White) Merica; ed. 1904-07, DePauw; U. of Wis., A.B., 1908; Ph.D., U. of Berlin, 1914; hon. D.Sc., DePauw, 1934; Lehigh U., 1938; Stevens Inst. of Tech., 1942; m. Florence Young, Sept. 22, 1917. Asst. physicist, physicist, U.S. Bur. of Stands., Wash., D.C., 1914-19; dir. of res., asst. to pres., v.p., exec. v.p., Internatl. Nickel Co., N.Y.C., 1919 to date. Am. Mtl. Co., N.Y. (dir.); Babcock & Wilcox, N.Y. (dir.); Internatl. Nickel Co. of Canada (dir.). Originator precipitation theory of hardening alloys, dev. in connection

with res. on al. alloys. Written or collaborated in num. papers on metall. subs., sev. of the more significant issued by U.S. Bur. of Stands., others by leading tech. publs. or the transactions of sc. socs. Awards: James Douglas M., 1929; John Fritz M., 1938; Franklin Inst. M., 1942; M. of Inst. of Mtls. (Gt. Britain), 1941. Mem.: N.A.S., A.I.M.E., A.S.M., A.S.T.M., Iron & Steel Inst. (London), A.C.S., A.I.Ch.E., Canadian Inst. of Min. & Metallurgy, Am. Iron & Steel Inst., Min. & Metallurgical Soc. of Am., Iron & Steel Inst. of Eng. Clubs: City, Midday, Mining, Engineers, University, Sleepy Hollow Country.

MERKER, Harvey Milton, supt. of mfgr., Parke, Davis & Co., Detroit 32, Mich.; res 201 East Kirby, Apt. 2, Detroit 2, Mich.
Chem. engr.; b. Detroit, Mich., Feb. 24, 1888; s. of Herman and Jane (Walz) Merker; ed. B.S. (chem. engrg.), U. of Mich., 1909; M.E., 1940, U. of Mich. (hon.); Sc.D., (chem., hon.), 1943, Wayne U.; mem.: Tau Beta Pi (hon. engrg.); m. Buda Overesch, June 27, 1911; ch.: Henry M., Marjorie M. Sell. Parke, Davis & Co., 1909 to date. Detroit Inst. Cancer Res., pres.; Detroit Public Library Com., commis. and past pres.; Rackham Res. Foundation, Governor; Kresge Eye Inst., trustee; Detroit Agr. Ind. Foundation, trustee; Cranbrook Inst. of Sc., trustee; Ft. Street Presbyterian Ch., trustee & chmn., advisory comm.; Mich. Memorial-Phoenix Proj., chmn. Mem.: A.C.S. (past chmn. Detroit sec.), A.I.h.E. (past chmn., Detroit sec.), Engrg. Soc. (Detroit, past pres.). Clubs: Torch (pres., 1939, 1940, 1941), Players, Orpheus (retired active mem.). Hobbies: music, golf.

MERKLE, George Edward, v.p., gen. mgr., Fiske Bros. Refing. Co., 129 Lockwood St., Newark 5, N.J.; res. 418 Ridgewood Ave., Glen Ridge, N.J.
Chem.; b. Detroit, Mich., Feb. 8, 1890; s. of Emil Fred and Elizabeth M. Merkle; ed. U. of Mass., B.S., 1912; post-grad. wk. for M.S. and Ph.D., R.I. State Coll., 1918; m. Annie Stanton Potter, Sept., 1915; ch.: G. Edward, Jr., Mrs. Norma S. Batchell. 1912-18 asst. in chem., R.I. State Coll.; 1918-21, chf. chem., Lister Chem. Wks., Newark, N.J.; 1921, chf. chem., Natl. Carbon Co., Jersey City, N.J.; 1921-26, chf. chem., Fiske Bros. Refing. Co., Newark, N.J.; 1926-29, chf. chem., tech. dir.; 1929 to date, gen. mgr., dir., v.p. and gen. mgr. dir., Lubriplate Corp. Res. pub. by R.I. State Exp. Station on chem. studies of crop rotations; assisted in the compilation and writing "Synthetic Resins and Their Applications," and "Ultra-violet Rays." Holds pats. on lubricating cmpds. Mem.: A.C.S., A.I.C. (fellow), A.S.T.M., Amer. Soc. Lubr. Engrs., A.A.A.S., A.P.I., Natl. Lubricating Grease Inst. (dir.). Hobbies: painting, gardening.

MERLING, Ruth Evelyn, chem. pat. attorney, Eastman Kodak Co., 343 State St., Rochester 4, N.Y.; res. 204 Oakwood Rd., Rochester 16.
Chem.; b. Blue Rapids, Kans., Aug. 14, 1895; d. of Charles V. and A. Caroline (Riddle) Merling; ed. B.S. (cum laude), U. of Wash., 1916; M.S., 1917; Ph.D., U. of Ill., 1920. Res. chem., B.F. Goodrich Co., 1920-21; instr. in chem., Ill. Womans Coll., 1921; prof. chem., Coll. of St. Teresa, Winona, Minn., summer 1921; instr. chem., U. of Kans., 1921-22; lit. res. chem., Exp. Station, E.I. du Pont de Nemours & Co., 1923-30; chem., pat. dept., Eastman Kodak Co., 1931-34; pat. attorney, Eastman Kodak Co., 1934 to date. Mem.: Iota Sigma Pi, Sigma Xi, Phi Beta Kappa, A.C.S. Clubs: Women's Ad (Rochester), Zonta. Hobbies: music, theater, gardening, sewing.

MERLUB-SOBEL, Menahem, assoc. prof. chem. engrg., asst. pres. Hebrew Inst. of Tech., Haifa, Israel; res. 11 Balfour St., Haifa (254 Bergen Ave., Jersey City, N.J.).
Chem., metallurg. engr.; b. Bklyn., N.Y., Aug. 12, 1900; s. of Samuel and Libby (Merlub) Sobel; ed. Columbia Coll., A.B., 1922; Columbia Grad. Schl., A.M., 1924; Columbia Engrg. Schl., Ch.E., 1924; Western Resverve U., Ph.D., 1930; mem.: Sigma Xi. Shift chem., Warner Chem. Co., 1924; chem. engr., Beryllium Corp. of Amer., 1925-26 & 1931-32; chem. engr., Kemet Labs. Co. (Union Carbide & Carbon), 1926-31; hd. chem. mfg. dept., Addressograph-Multigraph Corp., 1932-40; dir. of res., Virginia-Carolina Chem. Corp., 1940-45; tech. mgr., Palestine Potash Ltd., Dead Sea Concession, 1945-47; assoc. prof. chem. engrg., Hebrew Inst. of Tech., 1947 to date. Asst. pres., Hebrew Inst. of Tech. Res. in rare metal tech.; dev. in potash and in regenerated fibres. Author: "Metals and Alloys Dictionary," 1944. Mem.: A.I.Ch.E., A.I.M.E., A.C.S., N.Y. Acdy. of Scs., E.S., Israeli Chem. Soc., Israel Assoc. of Architects and Engrs., Sigma Xi. Hobby: sociological studies.

MERRELL, Cyrus Walbridge, asst. gen. mgr. sales, Monsanto Chem. Co., 1700 S. Second St., St. Louis, Mo.; res. 13 Black Creek Lane, Clayton, Mo.
Sales mgmt.; b. St. Louis, Mo., Nov. 5, 1893; s. of Ashbel N. and Mattie H. (Hutchinson) Merrell; ed. Cornell U.; mem.: Beta Beta Phi.; m. Frances S. Spink, Nov. 22, 1927; ch.: Mrs. William H. Bixby, Jr., Cyrus W., Jr. V.p., sales mgr., J.S. Merrel Drug Co.; v.p., gen. mgr., Southwest Drug Corp., Ft. Worth Div.; divisional sales mgr., Lambert Pharmacal Co.; asst. gen. mgr. sales, Monsanto Chem. Co. Mem.: Missouri Athletic Club, Bellerive Country Club. Hobbies: golf, farming.

MERRIAM, Edmund Sawyer, prof., Marietta Coll., Marietta, Ohio; res. 231-4 St.
Chem.; b. Easthampton, Mass., May 4, 1880; s. of Alexander Ross and Jane May (Gore) Merriam; ed. Trinity Coll., Hartford, Conn., A.B., 1902; M.A., 1905; U. Gottingen, Ph.D., 1906; mem.: Psi Upsilon; m. Edna M. Grafton, June 16, 1909; ch.: Joseph Grafton, Katherine Margaret. Hd. dept. chem., Marietta Coll., 1906-17; C.W.S. 1917; Toluol Recovery; fire resistance of record protecting devices, Safe Cabinet Co., 1920-23; installation of plants for recovery of natural gasoline, carbon black, 1923-27; low temp. coal carbonization, Internatl. Combustion Engrg. Corp., 1927-31; dev. of abrasive prods., 1931-39; res. on carbon black, Ohio St. U., 1941-45; lecturer on natural gas, Brown Pet. Schl., Marietta, Ohio, 1948 to date. Mem.: A.C.S., A.A.A.S., Phi Beta Kappa. Club: Chemists' (N.Y.). Hobby: touring.

MERRILL, Albert Darius, pres. and treas., Chemipulp Proc. Inc., 500 Woolworth Bldg., Watertown, N.Y.; pres. and treas., Chemipulp Proc. Inc., 403 Crescent Bldg., Montreal, Que.; res. 344 So. Indiana Ave., Watertown, N.Y.
Business exec.; b. Burke, N.Y., June 25, 1885; s. of David S. and Ada (Proctor) Merrill; ed. Franklin Acdy., Malone, N.Y., grad. 1905; B.S. in Ch.E., Clarkson Coll. of Tech., 1913; mem.: Omicron Pi Omicron; m. Ferol J. Quenell, June 30, 1909; ch.: Orma A., Jaunta J., Lloyd P. Chainman, redman, leveler, asst. engr. in chg. of contracts B and D, Cayuga & Seneca Canal Div. of N.Y. State Barge Canal, 1909-14; asst. engr., St. Regis Paper Co., Watertown, N.Y., 1915; des. engr. and dftsman, Naugatuck Chem. Co., Naugatuck, Conn., 1916; chf. engr. Stebbins Engrg. & Mfg. Co., Watertown, N.Y., designing paper and chem. pulp mills and des. & supvn. erection of acid plants, 1916-29; made specialty of chem. pulp mills and helped dev. spl. linings for protection against bisulphite of lime liquors, sulphuric acid, nitric acid and others; v.p. Cana-

dian Stebbings Engrg. & Mfg. Co., 1927-29; v.p. and treas., Chemipulp Proc., Inc., 1927-46: pres. and treas., Chemipulp Proc., Inc., since 1946; pres. and secy., Chemipulp Proc., Ltd., Montreal, Que., 1935-46; pres. and treas., Chemipulp Proc., Ltd., Montreal, Que., since 1946. Perfected bleaching system for handling wood fibres at high density; inventor of proc. covering chem. prod. of cellulose; invented and patented pulp bleaching systems, chem. pulp cooking proc., designed and supervised building of complete chem. pulp mills for mfr. of paper pulp and high alpha cellulose. Author of: "Just Thoughts," 1939 & 1941; (with others), a handbook, "Chem. Sulphite Mill Operation," 1939; many tech. arts. pub. in T.A.P.P.I. papers. Mem.: A.C.S., N.Y.S. Prof. Engrs., T.A.P.P.I., Paper Mill Supts. Assoc. Clubs: Black River Valley, Canadian (N.Y. C.). Hobbies: photography, writing.

MERRILL, Ernest Joseph, hd. of dept. of physics & chem., Central Mich. Coll. of Ed.; res. 409 E. High St., Mt. Pleasant, Mich.
Prof. of chem.; b. Nov. 28, 1889; s. of Giles H. and Luella Merrill; ed. 1913, A.B., Albion Coll., Mich.; 1939, Ph.D., U. of Mich.; mem.: Sigma Nu; m. Pearl S. Merrill, Dec. 28, 1914; ch.: Elwyn E., Barbara Jean. Teacher, Otsego H.S., Mich., 1913; teacher, principal, St. Joseph H.S., Mich., 1914-18; chf. chem. & metallurgist, Alma, Mich., Republic Motor Co., 1918-21; prof. of chem. 1921 to date, hd. of dept. 1948 to date, Central Mich. Coll.

MERRILL, Frank Henry, pres., Los Angeles Soap Co., 617 East First St., Los Angeles 54, Calif.; res. 2420 Ocean View Ave., Los Angeles.
Soap mfr., exec.; b. Newburyport, Mass., May 1, 1871; s. of William H. and Mary (Short) Merrill; ed. M.I.T., B.S., Chem. Engrg.; m. Grace Carver Johnson, Nov. 28, 1894; ch.: Paul C., Willis H., Ruth E. Chem. engr. at Jobbins & Van Ruymbecke, 1893-97; Los Angeles Soap Co., 1897 to date, in following capacities: chem. engr. and supt., asst. gen. mgr., gen. mgr., 1928 elected pres. and gen. mgr.; pres. and gen. mgr. and chmn. bd. of dirs., Los Angeles Soap Co., White King Soap Co., Copra Oil & Meal Co., Ltd., California Rendering Co., Ltd.; dir. The Farmers & Merchants Natl. Bank of Los Angeles. Discovered presence of tri methylene glycol as an impurity in distilling glycerine; improved meth. of distilling glycerine; developed the first satisfactory soap for electric washing machines. Mem.: A.I.Ch.E., A.C.S., A. A.A.S. Clubs: Wilshire Country, University (Los Angeles). Hobbies: golf, double crostic puzzles.

MERRILL, Henry Baldwin, lab. dir., B. D. Eisendrath Tanning Co., Racine, Wis.; res. 1012 College Ave., Racine.
Chem.; b. St. Paul, Minn., July 22, 1894; s. of Henry A. and Mabel (Baldwin) Merrill; ed. U. of Wis., B.S. (chem.), 1916; M.S., 1917; Ph.D., 1921; mem.: Phi Beta Kappa, Sigma Xi, Alpha Sigma Phi, Alpha Chi Sigma; m. Doris Lucas, 1923; ch.: Ralph L., Phyllis, Richard J. 1921-22, prof. of chem., Carroll Coll.; 1922-41, chem., A.F. Gallun and Sons Corp.; 1941-46, active duty, Capt., Maj., Lt. Col. and Col., C.W.S., A.U.S.; 1946 to date, lab. dir., B.D. Eisendrath Memorial Lab. Author or co-author of about 40 papers chiefly on var. phases of leather chem.; (ith John Arthur Wilson), "Analysis of Leather," 1931. Mem.: A.C.S., Amer. Leather Chems. Assn.

MERRILL, Leon Kenneth, gen. supt., Bakelite Div., Union Carbide & Carbon Corp., Bound Brook, N.J.; res. 12 English Village, Cranford, N.J.
Metallurg. engr.; b. Cleveland, O., Oct. 19, 1897; s. of John Herbert and Leva (Coe) Merrill; ed. Baldwin Wallace Coll.; Case Schl. of Appl. Sc., B.S. in Mining; mem.: Zeta Psi; m. Ellouise Pomeroy, Nov., 1919; ch., Rene, Joan, Engr. of Mines, Johnston City Coal Co., Johnston City, Ill., 1919-20; devel. engr., plant supt., hd. of labs. at Cleveland, O., N.Y.C., Fostoria, O., Natl. Carbon Co., 1920-33; plastic devel. and promotion, 1933-43; Manhattan Proj., 1944; gen. supt., Bakelite, Bound Brook, N.J., 1945 to date. Mem.: Sigma Xi. Hobbies: golf, tennis.

MERRILL, Robert (Abel), mgr., process dev., Tire Mfg. Div., U.S. Rubber Co., 6600 E. Jefferson Ave., Detroit 32, Mich.; res. 5944 Courville, Detroit 24.
Physicist; b. Craig, Colorado, Dec. 20, 1909; s. of Charles Sumner and Emma Elnora (Green) Merrill; ed. B.A. (magna cum laude) U. of Colo., 1931; Ph.D. (physics), U. of Wis., 1935; m. Freda Louise Havens, July 12, 1934; ch.: Ronald Thomas, Douglas Edward. Teaching asst., dept. physics, U. of Wis., 1931-35; physicist, New Products Dev. Dept., Tire Div., U.S. Rubber Co., 1935-43; mgr., process dev., Tire Div., U.S. Rubber Co., 1943 to present. Mem.: A.Phys.S., Sigma Pi Sigma, Phi Beta Kappa, Sigma Xi.

MERRILL, Robert Turner, v.p., Joseph Turner & Co., Ridgefield, N.J.; res. R.F.D. 1, Flemington, N.J.
Exec.; b. N.Y.C., Oct. 31, 1925; s. of Walter D. and Dorothy T. Merrill; ed. U. of Pa., A.B., 1946; Harvard Grad. Schl. of Arts & Sc., 1947-49; mem.: Kappa Alpha Soc. 1949 to date, Joseph Turner & Co. Merrill Corp. (v.p.). Hobby fishing.

MERRITT, Paul P(rowers), dir. bakery prods. dev. res., Red Star Yeast & Products Co., 325 N. 27 St., Milwaukee 8, Wis.; res. 2478 N. 52nd St., Milwaukee 10.
Res. chem.; b. Lamar, Colo., May 1, 1896; s. of Alfred W. and Ida B. Meritt; ed. U. Kans., B.S. Chem. Engrg., 1921; U. Minn., Ph.D., 1944; mem.: Alpha Chi Sigma, Sigma Tau, Tau Beta Pi, Gamma Alpha, Sigma Xi; m. Helen Hunt, June 6, 1931. Peet Bros. Mfg. Co., Kansas City, Kan., 1921-23; Bakeries Serv. Corp., Chicago, Ill., 1923-24; Larabee Flour Mills, Kansas City, Mo., 1924-30; Fellow of A.A.C.C., U. Nebr., 1930-32; Stand.-Tilton Mlg. Co., Dallas, Texas, 1932-37; U. Minn., 1937-44; Red Star Yeast & Prods. Co., Milwaukee, Wis., 1944 to date. Res. in standardization of lab. baking test; studies in physical prop. of doughs with farinograph, extensograph; evaluation of milling, baking prop. of wheat varieties; res. on baking powder, frozen eggs, active dry yeast and their uses. Contrib. extens. to sc. and tech. jls. on cereal chem. Mem.: A.A.C.C., A.C.S., Am. Soc. Bakery Engrs., Natl. Geog. Soc., Rosicrucian Order (A.M.O.R.C.). Club: B.P.O.E. Lodge No. 46. Hobbies: fishing, touring.

MERRIWETHER, Duncan, exec. v.p., Rohm & Haas Co., 222 W. Washington Sq., Phila. 5, Pa.; res. R.F.D. No. 1, Malvern, Pa.
Business exec.; b. Greenville, Ala., June 9, 1903; s. of Jacob and Claudia (Robinson) Merriwether; ed. B.S., Columbia U., 1928; M.S., 1938; Robert H. Montgomery accounting prize award; mem.: Alpha Kappa Psi, Beta Gamma Sigma, Sahib Senior Soc.; m. Asenath M. Kenyon, Feb. 9, 1929; ch.: Duncan Charles, Virginia Ann, Julia Elizabeth, Jacob Douglass. Asst. to hd. of indust. dept., Peat Marwick Mitchell & Co., N.Y.C., 1928-33; various assignments, loan and personal trust divs., Irving Trust Co., N.Y.C., 1933-39; Rohm & Haas Co., Phila., chf. acc't. 1939-41; asst. treas., 1941-43; treas., 1943-48; exec. v.p., 1948 to date. Southern Resin & Chem. Co., dir., member exec. comm. and v.p. Mem.: Soc. of CPA's (New York), Columbia U. Advisory Group on Student Placement (1946-49), Columbia U., Schl. of Business Alumni Assn. (pres. 1932-33). Clubs: Downtown,

University, Phoenixville Country. Hobby: breeding Aberdeen Angus cattle.

MERZ, August, conslt., Amer. Cyanamid Co., Calco Chem. Div., Bound Brook, N.J.; res. 333 S. Harrison St., East Orange, N.J.
Chem.; b. New York, N.Y., Nov. 7, 1873; s. of Henry and Augusta (Heller) Merz; ed. pub. schls. and City Coll. of N.Y.C.; Cornell U., B. S. 1893; grad. study, Cornell, 1893-95; Heidelberg, 1895-97; Ecole de Chemie Mulhouse Alsace, 1897; D.Sc. (hon.) Rutgers, 1934; mem.: Sigma Xi, Phi Gamma Delta; m. Florence V. Doyle, Apr. 26, 1899; ch.: Mrs. Alfred Meurlin, Mrs. John K. Watson, August, Jr. Entered employ Heller & Merz Co., 1897; later chf. chem. and supt. coal tar color dept.; then secy., asst. treas. and plant mgr.; v.p. of Calco Chem. Co. (on merger when Heller & Merz was purchased by Amer. Cyanamid Co.), 1929-38; 1938 to date, serving Calco Chem. Div. in conslt. and advisory capacity. Dir. and exec. comm. mem., Van Ameringen Haebler, Inc.; mem. branch bank, and trustee advisory comm., Fidelity Union Trust Co., Newark, N.J. Pres., 1926-46, Synthetic Organic Chem. Mfrs. Assoc., and hon. mem. bd. of govs., 1946 to date; mem. Advisory Council, the History Comm., Inc. Var. arts. on hist. of the Amer. coal tar color industry. Mem.: A.C.S. (chmn., North Jersey sec., hon. chmn. 108 Meeting, 1944), A.I.Ch.E., A.I.C., A.Phar.A., S.C.I.; Amer. Tariff League (v.p.). Trustee, East Orange Gen. Hosp.; v.p. and trustee, Newark Eye & Ear Infirmary; v.p., E. Orange Sinking Fund Commis.; mem. Trustee Advisory Comm., N.J. Coll. of Pharmacy. Clubs: Chemists' (N.Y.C.), Phi Gamma Delta, (N.Y.C.), Orange Lawn Tennis (S.Orange). Hobbies: chemistry, photography, music.

MESCHTER, Emery, res. dir., E.I. du Pont de Nemours & Co., Photo Products Dept., Towanda, Pa.; res. 3 Huston St., Towanda, Pa.
Physicist; b. Phila., Pa., Apr. 26, 1910; s. of Albert F. and Ernestine Emery Meschter; ed. A.B., Amherst, 1930; Ph.D., Cornell, 1937; m. Emily Bostwick, Apr. 17, 1937; ch.: Charles A., Emily L. Asst. physics, Cornell, 1930-35; instr. physics, Cornell, 1935-37; physicist, du Pont, Photo Products Dept., Parlin, N.J., 1937-46; res. dir., Towanda, Pa., 1946 to present. Mem.: Am. Physical Soc., Electrochem. Soc., A.C.S., Soc. Non-Destructing Testing, Sigma Xi, Phi Beta Kappa, Gamma Alpha.

MESSERSMITH, Chauncey Plyde, asst. mgr., gen. sales dept., Merck & Co. Inc., Rahway, N. J.; res. 535 Sherwood Parkway, Westfield, N.J.
Chem. engr.; b. Red Lion, Pa., Aug. 1, 1887; s. of Franklin H. and Sarah (Bear) Messersmith; ed. Penn. State Coll., B.S., 1910; m. Myrtle I. Longenberger, Jan. 3, 1912; ch.: Phyllis Ann (dec.). 1910-11, instr., chem. and physics, Penn. Military Coll.; 1911-20, chem., acid supvr., plant mgr., Aetna Explosives Co. Inc.; 1920-26, explosive conslt. (personal business); 1926-29, plant supvr., ammonia div., E.I. du Pont de Nemours & Co.; 1929-34, maintenance engr., Trojan Powder Co.; 1934 to date, asst. mgr., gen. sales dept., Merck & Co. Inc. Clubs: Masonic (Consistory). Hobby: gardening.

MESSIER, Robert Louis, assoc. edit., "Chemical Abstracts," Ohio State U., Columbus, O.; res. 2112 Iuka Ave., Columbus.
Biochem.; b. Worcester, Mass., Sept. 13, 1917; s. of A. Eugene and Cyprienne B. Messier; ed. Worcester Polytech. Inst., B.S. (chem.), 1940; U. of Mass., M.S. (food tech.), 1941; Cornell U., Ph.D. (biochem.), 1945. 1941, mgr. of cannery; 1942-45, indust. fellowship at Cornell U.; 1945 to date, edit. with "Chemical Abstracts." Res. on pectic enzymes. Mem.: A.C.S. Clubs: Conservation. Faculty (Ohio State U.). Hobbies: fishing. camping, travel, music, chess.

MESSMAN, Henry Cashel, gen. purchg. agent, Westvaco Chem. Div., Food Machinery & Chem. Corp., 405 Lexington Ave., N.Y. 17, N.Y.; res. 230 E. 48th St., N.Y. 17.
Exec.; b. Guymon, Okla., Aug. 24, 1909; s. of Lawrence F. and Anna L. (Gleason) Messman; ed. A.B., Columbia Coll. (N.Y.C.); m. Joyce Hayes, Nov. 15, 1947. 1931-36, chem., Enid Terminal Elevator Co., Enid, Okla.; 1936-38, sales engr. and branch mgr., Barada & Page, Inc., Kansas City, Mo. and Wichita, Kans.; 1939-41, sales mgr., Barada & Page, Inc., Kansas City, Mo.; 1941-42, distr. sales mgr., Warner Chem. Co., Chicago and N.Y.C.; 1942-48, gen. purch. agt., Westvaco Chlorine Prods. Corp., N.Y.C.; 1948 to date, gen. purch. agt., Westvaco Chem. Div., Food Machinery & Chem. Corp. Assisted in dev. of ferric sulfate as coagulent in municipal water treatment; introduced ferric sulfate as coagulent and stabilizer in oil-fld. salt water disposal; assisted in dev. of ammonium chloride as a tempering buffer in raw-water ice. Mem.: A.C.S., A.A.Cer.C., A.A.A.S. (fellow), Natl. Assoc. of Purchasing Agents, Aircraft Owners and Pilots Assoc. Hobbies: private flying (lic. pilot), tinkering.

MESSMANN, Frank J., dir. production & purchasing, The Wm. S. Merrell Co., Cincinnati 15, O.; res. 1620 Peaslee Ave., Cincinnati 24.
Chem. engr.; b. Cincinnti, O., Nov. 8, 1913; s. of Frank and Rena Messmann; ed. M.I.T. & U. of Cincinnati, Ch.E.; mem.: Theta Chi, Tau Beta Pi, Omicron Delta Kappa, Sigma Xi, Alpha Chi Sigma; m. Beatrice Wenstrup, Sept. 28, 1937; ch.: Frank, Susan, Carol. With The Wm. S. Merrell Co. since 1942; asst. prod. mgr., 1942-45; prod. mgr., 1945-47; dir. of prod. and purch., 1947 to present. Mem.: Engrg. Soc. (Cincinnati, treas. & dir.), A.I.Ch.E. (chmn. local sec.). Hobbies: golf, tennis, reading.

METSCHL, John, dir., tech. info. service, Gulf Research & Development Co.; res. 410 Willow Pl., Pittsburgh 18, Pa.
Physical chem.; b. Milwaukee, Wis., Mar. 7, 1892; s. of Norbert George and Elizabeth (Goetter) Metschl; ed. U. of Wis., A.B., 1918, A.M., 1920, Ph.D., 1923; m. Eleanor May Kehrein, Sept. 1, 1928. Asst. anthropology, Public Museum, Milwaukee, 1914-16; asst. curator 1923-26; lecture asst., U. Wis., 1920-21; Petroleum Fellowship, Mellon Inst., 1927 to present; dir. tech. info. service, Gulf Research & Development Company, 1938 to present; private, Research Div., Aviation Sect., Signal Corps, U.S.A. 1918-19. Supersaturation of gases in liquids, setting of plaster of Paris, petrol. waxes, classification of pet. literature, evaluation of jobs in the petrol. industry. Author: "The Rudolph J. Nunnemacher Collection of Projectile Arms," (Vol. 1, "Long Arms," Vol. 2 "Short Arms"), 1928. Mem.: A.C.S., Special Libraries Assoc., Sigma Xi. Clubs: Chemists' (Pittsburgh). Hobbies: photography, firearms.

METZIGER, Max C., chf. chem., Blockson Chem. Co., Joliet, Ill.; res. 820 Grand Blvd., Joliet.
Chem.; b. Strasbourg, France, Dec. 15, 1906; s. of Edmond and Marguerite Metziger; ed. U. of Strasbourg, Chem. Engr.; m. Anna G., June 12, 1934; ch.: Margy, Madeleine, Edmond. Res. chem., Usine Rhone-Poulenc, Lyon, France, 1928-29; chf. chem., Blockson Chemical Co., 1929 to present. Patents. Mem.: A.C.S., A.A.A.S., Electrochem. Soc. (Chicago sec.).

METZNER, Wendell Phillips, dir. res., Monsanto Chem. Co., Nitro, W. Va.; res. 823 Springdale Dr., Charleston, W. Va.
Res. chem.; b. Bryant, Ind., Feb. 16, 1912; s. of Irvin G. and Julia S. Metzner; ed. A.B., India-

na U., 1933 (with honor), Ph.D., U. of Chic., 1937; mem.: Alpha Tau Omega; m. Lois C. Rake, Aug. 31, 1935; ch.: Barbara S., Susan F. Res. chem., Monsanto Chem. Co., St. Louis, Mo., 1936; group leader, 1939; assoc. dir. res., Monsanto Chem. Co., Nitro, W. Va., 1947; dir. res., 1949 to date. Investigations in lines of process and synthesis in the fields of org. intermediates, polymers and rubber chemls. Mem.: A.C.S., Alpha Chi Sigma; Phi Beta Kappa, Sigma Xi. Hobbies: woodcraft, gardening.

MEYER, Albert William, group leader, new materials and analytical research, General Labs., United States Rubber Co., Passaic, N.J.; res. 518 Prospect St., Nutley 10, N.J.
Chem.; b. Schenectady, N.Y., Nov. 29, 1906; s. of Wm. L. and Theresa Meyer; ed. U. of Chic., B.S., 1927; Ph.D., 1930; mem.: Phi Beta Kappa, Sigma Xi; m. Leslie Hudson, June 27, 1931; ch.: William, Leslie, Katherine, Robert. E.I. du Pont, Wilmington, Del., 1930-31; A.O. Smith Corp., Milwaukee, Wis., 1931-34; U.S. Rubber Co., Passaic, N.J., 1934 to present. Determined structure of cold rubber. Mem.: A.C.S., Phi Beta Kappa. Club: Nutley Speakers. Hobbies: sports, public speaking, photography.

MEYER, Arthur E., dir. res., Fellows-Phar. Labs., 26 Christopher St., N.Y., N.Y.; res. 3203 162 St., Flushing, N.Y.
Chem., phar.; b. Oct. 7, 1887; s. of Carl W. Meyer; ed. U. Marburg, U. Berlin, Germany, M. S., Ph.D.; m. Gertrude Phillips, Jan. 3, 1922; ch.: Gerhard A., M.D. Prof., U. Mexico, 1927; Chappel Foundation for Organotherap. Res., 1936; Maltine Co., Bklyn., N.Y., 1947; Fellows-Phar. Labs. Res. in liver extracts, anemia, thyroid, metabolism, acids. Mem.: A.C.S., A.Phil.Soc., Ann. Study of Internal Secretion, S.E.B.M., N.Y. Acdy. Scs., N.Y. Acdy. Med., Harvey Soc., A.A.A.S. Hobbies: water color painting, golf.

MEYER, Arthur Henry Frederick, chf. chem., Providence Gas Co., 100 Weybosset St., Providence 1, R.I.; res. 24 Richland Road, Cranston 10, R.I.
Chem.; b. Johnston, R.I., Sept. 23, 1896; s. of Emil P. and Martha (Sattler) Meyer; ed. B.S., Chem. Engrg., R.I. State Coll., 1918; mem.: Sigma Chi; m. Anna C. Martin, Oct. 17, 1925. Chf. chem., Providence Gas Co., 100 Weybosset St., Providence, R.I., 1925 to date. Mem.: Providence Engineering Soc. Club: St. Paul's Lutheran Laymen's League (Prov., R.I.). Hobbies: flowers, fishing, bowling.

MEYER, Carl Fred George, pres., Meyer Bros. Drug Co., St. Louis, Little Rock, New Orleans; res. 7330 Maryland Ave., St. Louis, Mo.
Wholesale drugs; b. St. Louis, Mo., Mar. 7, 1880; s. of C.F.G. and Frances T. Meyer; ed. St. Louis; Ann Arbor, Mich.; Paris, France; mem.: Psi Upsilon; m. Lea Goddard Newell, June 20, 1900; ch.: Eleanore (Meyer) Burruss, Carl F.G., III.

MEYER, Fred L., chem., J. Meyer & Sons, Chem. Mfrs., 4321 N. 4th St., Phila. 40, Pa.; res. 1014 Prospect Ave., Phila. 26, Pa.
Chem.; b. Phila., Pa., Apr. 3, 1875; s. of J. and Mary Meyer; ed. U. Pa., B.S.; Goettingen, Germany, Ph.D.; m. Freda Pfister, July 2, 1914; ch.: Ann, Jane. Analytical lab. prop., J. Meyer & Sons, chem. mfrs., 1897-1950. Clubs: Union League, Old York Road Country, Chemists'. Hobby: carpentry.

MEYER, Garson, chf. chem., Eastman Kodak Co., Camera Wks., Rochester, N.Y.; res. 55 Chadbourne Rd., Rochester.
Chem.; b. Rochester, N.Y., Nov. 22, 1896; s. of Morris and Sarah Meyer; ed. Cornell U., B.S., 1919; U. of Rochester; mem.: Kappa Nu (natl. hon. pres.); m. Esther L., Nov. 14, 1920; ch.: Arlene Sylvia, Marjorie Ann. Chem., res. lab., Eastman Kodak Co., 1919-20; chf. chem., Camera Wks., 1920 to date. In chg. of confidential reports, Offensive and Defensive Sections of C.W.S., dur. W.W. I. Served as mem. of Advis. Comm. to the Army, Navy and Air Forces on Plastics and Standardiz. Data dur. W.W. II. Chmn., Tech. Comm., Testing of Plastics Parts and Engrg. Comm. of the Soc. of the Plastics Industry, 1943 to date. Chmn., Consumers' View of Plastics Comm., Soc. of the Plastics Engrs. Author: "Chem. Induction and Photographic Development," 1920; "Monograph on Theory of Photography," 1920. On bd. of editors, "Chemical Formulary," 1933-35 and 1949. Contrib. to Mfg. Engrg., 1949; and to "Soc. of the Plastics Industry Handbook," 1947. Mem.: A.C.S., A.A.A.S. (fellow), A.S.T.M., S.P.E., S.P.I., Plastics Pioneers Assoc. (dir.). Pres. of Home for the Aged since 1943; on bd. of dirs., Temple B'rith Kodesh; on bd. of educ., Harley Schl.; bd. of dirs., Council of Social Agencies, Monroe County; bd. of dirs., Council of Jewish Agencies; chmn. Section of the Care of the Aged, Monroe County, Council of Social Agencies; on exec. council, United Jewish Welfare Fund; Natl. Council, United Jewish Appeal; chmn. Rochester Section, Amer. Technion Soc.; chmn. Chamber of Commerce, Comm. on Crime Prevention, Juvenile Delinquency. Clubs: Irondequoit Country (hon. pres.); Grand Master Masons (Past District Deputy), Monroe County, Cornell.

MEYER, Glen Ernest, tech. rep., Latex and Rubber, Inc., Baltimore 30, Md.; res. 1424 N. Rolling Rd., Baltimore 28.
Chem.; b. Albany, Ore., Feb. 10, 1913; s. of Walter E. and Myrtle A. Meyer; ed. Albany Coll., Albany, Ore., B.S., 1935; Johns Hopkins U., Md., Ph.D., 1939; m. Mae L. Geist, Apr. 1938. C.W.S., Edgewood Arsenal, 1940-41; res. chem., U.S. Rubber Co., Plantations Div. Sumatra, N.E.I., 1941-42; syn. rubber res., Naugatuck Chem. Co., 1942-45; tech. advisor, Plantations Div., 1945-50; tech. rep., Latex and Rubber, Inc., Baltimore, 1950 to date.

MEYER, H. Conrad, pres., Foote Mineral Co., 18 W. Chelten Ave., Phila. 44, Pa.; res. 9421 Meadowbrook Ave., Phila. 18, Pa.
Exec.; b. Phila., Pa., Oct. 19, 1886; ed. Drexel Inst.; m. Marion M. Farley, Aug. 21, 1918; ch.: 1 son, 2 daus. V.p., Foote Mineral Co., 1916-36; pres., 1936 to date; pres., Zirmet Corp. Num. arts. on properties and indus. appls. of zirconium metal and zirconium ores; also statistical arts. on prod. and appl. of rarer elements. Mem.: Franklin Inst., (Phila.); A.I.M.E. (N.Y.). Club: Phila. Cricket. Hobbies: photography, mineralogy, fishing.

MEYER, Leonard S., mgr., plastics div., Western Products, Inc., Newark, Ohio; res. Rt. 2, Granville, Ohio.
Chem. engr.; b. Jamaica, N.Y., May 31, 1912; s. of Harry W. and Gertrude Meyer; ed. Polytech. Inst. of Bklyn., 1932, B.Ch.E.; m. Sylvia M. Miller, 1937. 1933-35, Natl. Aniline Corp., prod. operation; 1936-45, Plaskon div., L.O.F. Glass Co., dir. engrg. res.; 1945 to date, Western Prods., Inc., mgr. plastics div. Licensed Prof. Engr. (Ohio). Numerous pats. Mem.: S.P.I., S.P.E., A.M.S., A.C.S. Hobby: archery.

MEYER, Martin, conslt.; res. 1572 E. 28 St., Brooklyn 29, N.Y.
Consltg. chem.; b. St. Louis, Mo., Apr. 15, 1899; ed. Ph.D., Columbia U., 1921. Lt. Col. Chem. Corps, U.S.A., Reserve. Author: "Sc. of Explosives," T.Y. Crowell, N.Y., 1943.

MEYER, Ronald Edgar, res. dir., Warren Petroleum Corp. Res. Lab., R. 8, Box 300A, Tulsa, Okla.; res. 264 E. 29 St., Tulsa 5.

Chem., chem. engr.; b. Lemont, Pa., Mar. 13, 1911; s. of George C. and Anna M. Meyer; ed. Pa. State Coll., B.S., 1932 (chem. engrg.); M.S., 1939 (org. chem.); Ph.D., 1941 (org. chem.); mem.: Alpha Chi Sigma; m. Betty Pate, Aug. 31, 1940; ch.: Lois Elizabeth, Joanne Lee. 1932-37, Meyer Bros. & Haskins, coal & lumber, mgr., State Coll., Pa.; 1937-40, Pa. State Coll., grad. wk. for Ph.D.; 1940-43, Socony-Vacuum Oil Co., Paulsboro, N.J., res. chem.; 1943-46, Celanese Corp., Cumberland, Md., sec. supvr., res. dept.; 1946 to date, Warren Pet. Corp., Tulsa, Okla., res. dir. Dev. of an improved process for the prod. of oxygenated chem. from hydrocarbons; dev. of a process for the prod. of mercaptans from LPG hydrocarbons; dev. several additives for lubricating oils; consulting wk. on all phases in fld. of petrochems. Mem.: Alpha Chi Sigma, Phi Lambda Upsilon, A.C.S. Clubs: Kiwanis Internatl. (Woodbury, N.J.; Cumberland, Md.; Tulsa, Okla.), Progressive Toastmasters (Tulsa, Okla.), Masonic Order. Hobby: golf.

MEYERHOF, Otto, res. prof., dept. physiolog. chem., Schl. of Med., U. of Penn.; res. Hamilton Court Apts., 39th and Chestnut St., Phila., Pa.
Res.; b. Hanover, Germany, Apr. 12, 1884; s. of Felix and Bettina (May) Meyerhof; ed. Us. of Freiburg, Strassburg, Berlin, Heidelberg, 1909; LL.D. Edinburgh (United Kingdom); m. Hedwig Schallenberg, June 4, 1914; ch.: George Geoffray, Bettina Ida, Walter Ernst. Asst. prof., U. of Kiel, Germany; mem. Kaiser Wilhelm Inst. for Biology, Berlin-Dahlem, Germany; 1929, dir., Kaiser Wilhelm Inst of Physiology, Heidelberg; 1938, dir. res., U. of Paris; 1940, res. prof. of physiolog. chem., Schl. of Med., U. of Penn., Phila., Pa. Biochem. res. on muscle, carbohydrate, enzymic chemistry. Author: "Chem. Dynamics of Life Phenomena," Lippincott, 1923; "Chemische Vor. in Muskel" (German), Springer, 1930 (French trans. 1932). Nobel Laureate of Medicine, 1922. Mem.: Harvey Soc. (N.Y., Lect.), Royal Soc. (London, foreign), Natl. Acdy. of Scs. (Wash., D.C.), Sigma Xi.

MEYERINGH, Petrus Wilhelm, v.p., Hercules Powder Co., Delaware Trust Bldg., Wilmington, Del.; res. 1103 Hopeton Rd., Westover Hills, Wilmington.
Exec.; b. Rotterdam, Holland, Mar. 10, 1895; s. of Ernest F. and Johanna M. (Centen) Meyeringh; ed. public schls. in Rotterdam; m. Rachel M. Briggs, Feb. 6, 1936. Began career 1919, export mgr.; pres., Netherlands Raw Matl. & Chem. Co., Rotterdam, 1920; since 1923, Hercules Powder Co., in chg. of European sales, 1923; mgr. N.V. Hercules Powder Co., Rotterdam, 1925; mgr. of foreign relations dept., Wilmington, 1930; dir., 1937 to date; v.p. 1941 to date. Clubs: Wilmington Country, Vicmead Hunt, Hercules Country, Wilmington.

MEYERS, Elwood William, chf. chem. & res. dir., Hershey Chocolate Corp., Hershey, Pa.; res. 231 E. Areba Ave., Hershey.
Chem.; b. Dallastown, Pa., June 6, 1908; s. of Edward and Emma Meyers; ed. B.S., Lebanon Valley Coll., 1930; m. Pearl Savoy March, Apr. 23, 1933; ch.: Eleanor, Rebecca, William. 1930-47, asst. chf. chem., Hershey Chocolate Corp.; 1947 to date, chf. chem. & dir. res. Mem.: A.C.S.; several advis. comms. relative to cocoa & choc. Clubs: Hershey Civic, Hershey Country. Hobbies: golf, hunting, bridge.

MICELI, Angelo Sylvestro, hd. chem. res., engineered rubber prods. div., U.S. Rubber Co., Ft. Wayne 4, Ind.; res. Rothman Rd., R.R. 2, Ft. Wayne 8.
Chem.; b. N.Y.C., Dec. 24, 1913; s. of Anthony and Concetta Miceli; ed. B.S., Wayne U., Detroit, Mich., 1934; M.S., 1936; Ph.D., U. of Mich., 1941; mem.: Alpha Chi Sigma; m. Vera Elizabeth Rozelle, June 18, 1938; ch.: Angela Vera, Anthony Herbert, Mary Carol, George Michael. Grad. teaching asst., 1934-36, Wayne U.; instr. chem. 1936-42; sr. scientist, 1942-47, U.S. Rubber Co., Detroit; hd. chem. res., 1947 to date, U.S. Rubber Co. Ft. Wayne. Res. in reaction mechanism using radioactive tracers; dev. the "Brassomatic" process for bonding elastomeric polymers to metal. Mem.: A.C.S., Sigma Pi Sigma, Phi Lambda Upsilon, Electrochem. Soc., Detroit Rubber & Plastics Group. Hobbies: weekend farming, Samoyed dog breeding, outdoor sports, photography.

MICHAEL, Lyle Jordan, chmn., dept. of chem., Otterbein Coll., Westerville, Ohio; res. 67 S. Grove St., Westerville.
Chem. prof.; b. Philips, Wis., Feb. 1, 1895; s. of Lewis C. and Carrie (Jordan) Michael; ed. B. Sc., Otterbein Coll., 1919; Ohio State U., M.Sc., 1920; Ph.D., 1929; m. Gladys Lake, June 17, 1921. 1920-21, Norton Co., Worcester, Mass., ceramic chem.; 1921-37, prof. chem., Ind. Central Coll., Indianapolis; 1937 to date, prof. chem., Otterbein Coll. Mem.: A.C.S., Ohio Acdy. of Sc., Sigma Xi, Phi Lambda Upsilon. Club: Lions.

MICHEL, Henri M., pres., Michel & Pelton Co., Mfg. Chemists, 5743 Landregan St., Oakland (Emeryville), Calif.; res. 224 Arlington Ave., Berkeley, Calif.
Chem., exec.; b. Bruxelles, 1882; s. of Marc and Lucie Michel; ed. Bachelor es letters, Lausanne, Switzerland; studied chem., toxicology and biochem. at Univs. of Lausanne and Berne, Switzerland; m. Marguerite Lemieux, 1916; ch.: Lucile Michel-Brown. Pres., Calif. Labs., 1914; founder and hd. chem., Pacific Potash Prods. Co., 1915-17; chem. in partnership with Western Industries at Agnew, Calif., 1919-20; founder and pres., Michel & Pelton Co., mfg. chem., 1921. First (1914) in U.S. to make caustic potash, permanganate of potash, bichroamte of potash. Hobby. collection wks. of art.

MICK, Kerwin Lewis, chf. engr., supt., Minneapolis-St. Paul Sanitary District, P.O. Box 3598, St. Paul, Minn.; res. 639 E. 57th St., Minneapolis 17.
Sanitary engr. (chem. engr.); b. Loyal, Wis., Nov. 12, 1906; s. of Emil N. and Grace O. (Jones) Mick; ed. B.S. (chem. engrg.), U. of Minn., 1929; M.S. (chem. engrg.), 1930; m. Katherine Mary Nelson, Sept., 22, 1934. Asst. sanitary engr., Minnesota State Dept. of Health, 1930-31; chem., Metropolitan Drainage Commission of Minneapolis and St. Paul, 1931-33; chf. chem., Minneapolis-St. Paul Sanitary District, 1933-42; Sanitary Corps, A.U.S., 1st Lt. to Major, 1942-46; chf. engr., and supt., Minneapolis-St. Paul Sanitary District, 1946 to present. Reg. Prof. Engr., Minnesota (chem). Sev. papers on tech. subjects pertaining to sewage disposal. Mem.: Sigma Xi, A.I.Ch.E., Central States Sewage Wks. Association (pres., 1942-43), Minnesota Indus. Chemists' Forum, Minneapolis Engrs. Club, Minnesota Assoc. Prof. Engrs., Am. Soc. of Civil Engrs. Hobby: color photography.

MICKA, Jan, dir. res., United Biscuit Co. of America, 1041 W. Harrison St., Chicago 7, Ill.; res. 2408 Oak Park Ave., Berwyn, Ill.
Res. chem.; b. Czechoslovakia, June 6, 1899; s. of Jan and Josefa Micka; ed. D.Sc., 1923, Czechoslovakia; m. Milada, Sept. 25, 1940; ch.: Janice, June (twins). Asst. prof. Tech. U., Brno, Czechoslovakia, 1922-25; asst. chf. chem., Hecker-Jones-Jewell Milling Co., N.Y., 1925-27; cereal chem., and instr., Ontario Agr. Coll., Guelph, Ont., Canada, 1927-30; dir. of res., United Biscuit Co. of

America, Chicago, since 1930. Res. in study of pH and soda cracker fermentation. Mem.: A.C.S., A.A.C.C. (chmn., biscuit and cracker flour comm.), I.F.T., Am. Oil Chemist Soc., A.A.A.S., Acdy. of Scs. (N.Y.), Am. Soc. of Bakery Engrs., Am. Czechoslovak Engrs. Soc. (pres. 1934 and 1935). Hobby: abstracting Czechoslovak chem. jls.

MICKELSON, Grant A., supvr. mfg. res., Filtrol Corp., 3250 E. Washington Blvd., Vernon, Calif.; res. 2121 El Sereno, Altadena, Calif.
Chem.; b. Thief River Falls, Minn., Aug. 29, 1913; s. of Martin and Ellen Mickelson; ed. N.D. State Coll., 1931-33; U. of Ill., 1936, B.S.; Ohio State U., Ph.D. (agronomy), 1942; mem.: Alpha Gamma Rho. 1935-36, N.D. Expt. Station, soil surveyor; 1936-40, Ohio State U., assistantship; 1940-42, Ohio Agr. Expt. Station, soil surveyor; 1942-44, U.S.D.A. Forest Serv., Guayule project, soil scientist; 1944-45, U.S.D.A. Plant Ind., inspector of soil surveys; 1945 to date, Filtrol Corp., res. chem. to supvr. of mfg. res. Mem.: A.C.S., Sigma Xi.

MICKELSON, Milo Norval, res. bacteriolog., Midwest Res. Inst., 4049 Pennsylvania, Kansas City 2, Mo.; res. 7530 Locust, Kansas City 5.
Bacteriolog.; b. Brigham, Iowa Co., Wis., Feb. 27, 1911; s. of George A. and Gena Mickelson; ed. U. of Wis., B.S., 1935 (sr. honors); Iowa State Coll., Ph.D., 1939; mem.: Gamma Alpha; m. Marjorie Ann Deal, Apr. 12, 1941; ch.: Kaaren Deal, Eric George, Kristi Ann. Inst. of Amer. Meat Packers, Chicago, bacteriolog., June-Sept., 1937; Commercial Solvents Corp., Terre Haute, Ind., res. bacteriolog., Dec., 1939-Aug., 1940; U. of Mich., instr. in bacteriology, Sept., 1940-Oct., 1945; Midwest Res. Inst., Kansas City, Mo., res. bacteriolog., Nov., 1945 to date. Author of num. tech. arts. pub. in sc. jls. Mem.: Sigma Xi, Soc. of Amer. Bacteriologists, A.C.S.

MIGHTON, Charles Joseph, mgr., Akron lab., Rubber Chems. Div., E.I. du Pont de Nemours & Co., 40 E. Buchtel Ave., Akron, Ohio; res. 555 Woodside Dr.
Chem.; b. Saskatoon, Sask., Canada, Oct. 13, 1913; s. of J.A. and E.S. Mighton; ed. U. Saskatchewan, B.Sc., 1933; M.Sc., 1935; U. Chicago, 1937; mem.: Gamma Alpha, Sigma Xi; m. Frances K. Wharton, Aug. 3, 1937; ch.: Charles Ellis, Alex Cloyd. Res. chem., Chem. Dept., du Pont, 1937-42; res. supvr. Chem. Dept., 1942-45; lab. mgr., Rubber Chem. Div., 1945 to date. Publs., patents, Raman Spectroscopy, synth. rubber, rubber chems., plastics, finishes, adhesives. Mem.: A.C.S. Hobbies: photography, gardening.

MILITZER, Walter Ernest, prof. chem., dept. of chem., U. of Nebraska, Lincoln, Neb.; res. 3141 Sheridan Blvd., Lincoln, Nebr.
Chem. prof.; b. Arlington Heights, Ill., Aug. 20, 1906; s. of Theodore and Caroline Militzer; ed. U. of Wis., B.S., 1933; Ph.D., 1936; mem.: Alpha Chi Sigma, Sigma Alpha Epsilon; m. Clementine Newman, Aug. 20, 1939; ch.: Susan. 1936 to present, staff, dept. of chem., U. of Neb., now full professor. Mem.: A.C.S., A.A.U.P., Phi Beta Kappa, Phi Lambda Upsilon, Sigma Xi. Club: Sertoma. Hobby: talking.

MILLAR, Harvey Clifford, pres., Geneva Food & Chem. Co., Pleasant Grove, Utah; res. Pleasant Grove.
Chem.; b. Am. Fork, Utah, Nov. 24, 1907; s. of A.L. and Elizabeth Millar; ed. Brigham Young U., Provo, Utah; Iowa State Coll., Ames; U. of Chicago; U. of Calif.; m. Pauline Schofield, Sept. 12, 1933; ch.: Yvonne, Derrill, Paul. Res. asst., Brigham Young U., 1929-31; res. fellow, Iowa State Coll., 1932-36; res. chem., Quaker Oats Co., 1936-45; pat. chem., Stand. Oil of Calif. (Calif. Res. Corp.), 1945-47; pres., Geneva Food & Chem., 1947 to date. Furfural prod., furfural catalysts, by-prod. utilization, ammoniations of plant matls., ruminant use of ammoniated prod., thirty publs. Mem.: Sigma Xi, Gamma Sigma Delta. Hobby: fruit growing.

MILLARD, Earl Bowman, prof. physical chem., M.I.T., 77 Mass. Ave., Cambridge 39, Mass.; res. 255 Mill St., Newtonville 60, Mass.
Prof.; b. Central City, Nebr., July 17, 1888; s. of Howard B. and Elizabeth (Hays) Millard; ed. B.A., U. of Colo., 1910; M.A., U. of Wis., 1911; Ph.D., U. of Ill., 1914; m. Elizabeth Chapman, June 22, 1924; ch.: Janet, Richard. Chem. dept., M.I.T., 1914 to date. Author: "Physical Chem. for Colleges," 6th edit., 1946.

MILLER, Alvin D., gen. mgr., Firestone Synthetic Plants, Firestone Tire & Rubber Co., 381 W. Wilbeth Rd., Akron 1, Ohio; res. 1632 Chestnut Blvd., Cuyahoga Falls, Ohio.
Chem. plant mgt.; b. Akron, Ohio, Nov. 14, 1912; s. of Frank L. and Maida Adell Miller; ed. Capitol U., Columbus, Ohio, B.A.; Case Schl. of Applied Sc., Cleveland, Ohio, B.S. Ch.E.; mem.: Alpha Chi Sigma, Tau Beta Pi; m. Katherine Graham, July, 1938; ch.: Michael L., Daniel F., James B., Jean Adell. Firestone Tire & Rubber Co., Akron, since 1935; 1935-40, lab. tech.; 1940-41, chem.; 1941-42, chem. engr. (syn.); 1942-43, chf. chem. (syn.); 1943-47, tech. mgr. (syn.); 1947 to date, gen. mgr., Firestone Syn. Plants. Res. & dev. of syn. rubber, culminating in the building, prod. & management of syn. rubber plants. Mem.: A.I.Ch.E., A.C.S., Akron Rubber Group, Soc. of Prof. Engrs. Club: Prof. Group (Alpha Chi Sigma). Hobby: fishing.

MILLER, Alvin Julius, adm. asst., process design & dev., Phillips Petroleum Co., Bartlesville, Okla.; res. 2121 S. Dewey St.
Chem. engr.; b. Corsicana, Texas, Oct. 8, 1910; s. of Mose M. and Ray (Daniels) Miller; ed. B.S. Ch.E., Texas A.&M. Coll., 1933; M.S. in Ch.E., 1934; m. Ernestine Elam, June 21, 1942. With Phillips Pet. Co. since 1934; plant engr., Natural Gasoline, 1934-42; section chf., butadiene pl., process design, 1942-43; asst. chf. chem., butadiene pl., 1943-45; adm. asst., process design & dev., 1945 to present. Mem.: A.I.Ch.E., A.C.S.

MILLER, Arild J(ustesen), assoc. prof., chmn. chem. dept., Carleton College, Northfield, Minn.; res. 200 Maple St., Northfield.
Chem. prof.; b. Pine City, Minn., May 16, 1918; s. of Jens P. and Helga (Justesen) Miller; ed. B.A., Carleton Coll. (cum laude; honors in chem.), 1939; Ph.D. (physical chem.), Purdue U., 1943; m. Jean Saunders, Aug. 22, 1943; ch.: Susan Elizabeth, Eric Saunders, Kristin Louise. Graduate asst., Carleton Coll., 1939-41; grad. asst. and res. fellow, Purdue U., 1941-43; res. chem., Manhattan Project U.S. Army Engrs., Metallurgical Lab., U. of Chicago, 1943-45; Clinton Labs., Oak Ridge, Tenn., 1945-46; asst. prof. chem., Antioch Coll.; and res. chem. on Charles F. Kettering Foundation for the Study of Chlorophyll and Photosynthesis 1946-49; assoc. prof. chem. and chmn. of chem. dept., Carleton Coll., 1949 to present. Res. in radiation chem.-effect of radiations on aqueous solutions (classified); role of iron in photo-synthesis using radioactive iron; attempts to replace iron with pyrrole derivatives. Mem.: A.C.S., A.Physical S., Sigma Xi. Hobbies: photography, foreign languages.

MILLER, Arthur Merkel, asst. to pres., Rohm & Haas Co., 222 W. Washington Sq., Phila. 5, Pa.
Chem. exec.; b. Rochester, N.Y., Mar. 7, 1894;

s. of Louis H. and Eliza (Leffler) Miller; ed. U. of Rochester; M.I.T., S.B., 1917; Harvard U., B.S., 1917; mem.: Alpha Delta Phi, Theta Tau, Tau Beta Pi; m. Corinne Adelle Parquet, July 18, 1923; ch.: Arthur Parquet. Private to 1st Lt., U.S.A., Fld. Artillery, incl. serv. in A.E.F. with 144th F. A., 40th Div., 1917-19; draftsman, J.F. Ancona, consltg. ind. engr., Rochester, N.Y., 1919-20; engr., advancing to hd. of engrg. dept., Tenn. Eastman Corp., Kingsport, Tenn., 1920-27; engr., advancing to first asst. dir. of operations, Gen. Chem. Co., N.Y.C., 1927-32; conslt., N.Y.C., 1932-33; chem. engr., wks. mgr., asst. chf. chem. engr., Tenn. Valley Authority, 1933-38; dir. of chem. engrg., Tenn. Valley Authority, 1938-45; asst. to pres., Rohm & Haas Co., 1945 to date.

MILLER, Carl F., pres., Carl F. Miller & Co., Inc., 1217 6th Ave. So., Seattle, Washington; res. 2158 Shelby St., Seattle.
Chem., exec.; b. Huntingdon, Pa., Oct. 21, 1897; s. of F.W. and Annie Miller; ed. B.S. (chem.), Penn. Coll., Gettysburg, Pa.; mem.: Phi Sigma Kappa; m. Dorothy Pakeman, July 3, 1929; ch.: Leone. Chem. instr., H.S., Clifton Forge, Va.; chem. instr., State Coll. of N.C., Raleigh, N.C.; chem., Root Glass Co., Terre Haute, Ind.; pres., Carl F. Miller & Co., Inc.; dir., Overseas Commodities Ltd., Vancouver, B.C.; pres., Keystone Engineering Corp., Seattle; pres., Globe Merchandise Factors, Seattle; pres., Inland Commodities Corp., Spokane, Wash. Clubs: Washington Athletic, Rainier (Seattle).

MILLER, Clarence Edwin, res. mgr., acetate res. sec., E.I. du Pont de Nemours & Co. Inc., Waynesboro, Va.; res. 1330 N. Augusta St., Staunton, Va.
Chem. engr.; b. Beallsville, Pa., Nov. 11, 1900; s. of Jess P. and Edith (Horton) Miller; ed. Washington & Jefferson Coll., A.B., 1920; M.I.T., M.S. Ch.E., 1924; mem.: Beta Theta Pi; m. (1st.) Helen E. Burk, 1925; (2nd.) Laura H. Brownell, 1931; ch.: Robert P., Thomas B., Jess P., William B. 1924-27, E.I. du Pont de Nemours & Co. Inc., rayon dept., Buffalo, N.Y.; 1927-29, Better Packages, Inc., Shelton, Conn.; 1929-37, Champion Paper & Fiber Co., Canton, N.C., 1937-38, self-employed; 1938 to date, res. mgr., E.I. du Pont de Nemours & Co., rayon dept.

MILLER Clarke C., hd., information div., Stand. Oil Co. (Ind.) P.O. Box 431, Whiting, Ind.; res. 2143 Stanton Ave., Whiting.
Chem. engr.; b. Racine, Wis., June 22, 1900; s. of Henry Charles and Cosie (Clarke) Miller; ed. S.B. (chem. engrg.), M.I.T., 1923; m. Rhoda Joan Hornish, July 2, 1932; ch.: Mary Lynn, Clarke Campbell, Richard Hornish. 1920, chem., McClaren Rubber Co., Charlotte, N.C.; 1923-24, experimental helper, Sinclair Refining Co., E. Chicago, Ind.; 1924-27, chem. engr., group leader, Stand. Oil Co. (Ind.), Whiting, Inc.; 1928, fld. asst., A.O. Smith Corp., Milwaukee, Wis.; 1929-45, chem. engr., dir. of res., chf. chem., Stand. Oil Co. (Ind.), Wood River, Ill.; 1946 to date, hd., info. div., Stand. Oil Co. (Ind.), Whiting, Ind. res. on cracking, corrosion, tech. service to & dev. of propane dewaxing, solvent extraction, catalytic cracking, systematization of chem. & engrg. literature. 9 U.S., 3 Canadian pats. Mem.: A.C.S., A.I.C., Special Libraries Assn., Am. Libraries Assn. Clubs: Am. Legion, Ind. Res. Recreation, Whiting Square Dance, Whiting Cotillion. Hobbies: nature study, photography, travel.

MILLER, Clemmy O., pres., Kremers-Urban Co., 141 W. Vine St., Milwaukee, Wis.; res. 4830 N. Oakland Ave.
Chem. b. Henry Co., Ind., Dec. 27, 1897; s. of Charles W. and Dora (Johnsonbaugh) Miller; ed. Manchester Coll., A.B., 1920; U. Chicago, Ph.D., 1926; m. Sara Beahm, July 22, 1926; ch.: Evelyn, Marianne, Philip Clement. 1920-21, prof. chem., Blue Ridge Coll., Md.; 1921-24, grad. stud. U. Chicago; 1924-28 instr. chem.; 1928-36, asst. prof. biochem., Northwestern U.; 1936-37, tech. dir., Hospital Liquids, Inc.; 1938-46, tech. dir., v.p. Lakeside Labs., Milwaukee; 1947 to date, pres., Kremers-Urban Co. Orig. investigations on chem. of carbohydrates, amino acids, studies on ascorbic acid; investigations of reactions in liquid ammonia. Mem.: A.C.S., A.Phar.A., Am. Heart Assn., Sigma Xi, Wesley Found., Milwaukee (chmn. bd. dirs.). Clubs: Chicago Chem., Milwaukee Athletic, City (Milwaukee), Am. Interprofessional Inst., Seven Arts Soc., Foreign Policy Assn., Chem. (Milwaukee). Hobby: lawn bowling.

MILLER, Donald James, plant mgr., Monsanto Chem. Co., 6251 Paramount Blvd., Long Beach, Calif.; res. 329 Winnipeg Pl., Long Beach.
Chem. engr.; b. Nome, Texas, Dec. 29, 1916; s. of S.H. and M.E. (Gorges) Miller; ed. Wash. U., 1941, B.S. in Ch.E.; mem.: Sigma Xi; m. Evelyn E. Triggs, Nov. 10, 1945; ch.: Donna Dee, Deborah Dean. 1941-42, Monsanto Chem. Co., Plastics Div., Springfield, Mass., control & res.; 1942-46, Navy, Lt., submarines; Monsanto Chem. Co., Plastics Div., Springfield, Mass., 1946, process investigator, shift supvr., supvr.; 1946-48, oper. supt.; 1948-49, training; 1949-50, oper. supt.; 1950 to date, Monsanto Chem. Co., Long Beach, Calif., plant mgr. Hobbies: skiing, sailing, woodworking, radio repair.

MILLER, Edgar Grim, Jr., prof. biochem., Columbia U. College of Physicians and Surgeons, 630 W. 168th St., New York 32, N.Y.; res. 4930 Goodridge Ave., New York 71, N.Y.
Biochem.; b. Gettysburg, Pa., Feb. 22, 1893; s. of Edgar Grim and Esther (Valentine) Miller; ed. Gettysburg Coll., B.S., 1911; Columbia U., Ph.D., 1913; Cambridge U., 1928-29; U. of London, 1929; mem.: Phi Gamma Delta, Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon; m. Margaret Motter, Sept. 7, 1921; ch.: Margaret Esther (Mrs. Ralph D. Junker), Edgar Grim, III, Ledlie Sitgreaves (Mrs. James Quentin Graham, Jr.). Asst. in biolog. chem., 1911-13; asst. in patholog. chem., Bellevue Hosp., 1912-13; instr. in physiolog. chem., Coll. of Med., U. of Ill., 1913-14; assoc. in biochem., Columbia U., 1914-21, asst. prof. in biochem., 1921-24, assoc. prof. in biochem., 1924-35, prof. biochem., 1935 to date. Res. in physiolog. and patholog. chem. Mem.: A.A.A.S. (fellow), N.Y. Acdy. Scs. (fellow), N.Y. Acdy. Med. (assoc. fellow), A.C.S., A.S.Bio.C., Harvey Soc., S.E.B.M., Internatl. Assoc. Dental Research. Clubs: Century Assoc., Riverdale Yacht.

MILLER, Ellis, dir. chem. dev., Sharp & Dohme, Inc., Glenolden, Pa.; res. Croydon-701, 49th & Locust Sts., Phila. 39, Pa.
Chem.; b. Raleigh, N.C., Sept. 9, 1890; s. of Louis and Rebeka Miller; ed Johns Hopkins, A.B., 1912; Ph.D., 1915; mem.: Phi Beta Kappa; m. Marion Hirschmann, June 25, 1916; ch.: Stanley, Morton. Johns Hopkins, chem. faculty, 1915-19; du Pont Co., chem. 1919-23; priv. bus. 1923-24; Sharpe & Dohme, mfg. and res. chem., dept. mgr., 1924-40; asst. dir. res., 1940-43; dir. chem. prod., 1943-50; dir. chem. dev., 1950 to date. Res. synth. medls., esp. antiseptics. Mem.: A.C.S., A.A.A.S. (fellow), Phi Beta Kappa. Hobbies: collecting bric-a-brac, playing bridge.

MILLER, Elroy John, hd., div. chem., Mich. Agric. Experimental Station, East Lansing, Mich.; res. 262 Cedar St., East Lansing.
Chem.; b. West Toledo, O., July 27, 1891; s.

of John and Louisa Miller; ed. U. of Mich., B. S., 1914; M.S., 1915; Ph.D., 1923; m. Louise Robson, June 27, 1918; ch.: John Robson, Winston Elroy, Mary Lee. Mich. Agric. Expt. Sta., asst. chem., 1915-19; res. asst. chem., 1920-23; res. assoc. chem., 1924-30; chem., 1931; to date, hd. div. chem.; 1st Lt., C.W.S. (res. poison gas warfare), 1917-19. Author of num. sc. arts; studies in fld. colloid chem., adsorption from solution by ash-free activated carbons, wax emulsions for protection nursery stock and plant matls., agric. chem.; colloidal iodine and indust. utiliz. of agric. prods. Mem.: A.C.S. (Colloid Div., secy.-treas., 1932; chmn. 1933; v.chmn., 1936), A.A.A.S., Mich. Acdy. Sc., Arts and Letters, Sigma Xi, Meritorious Res. citation, Mich. State Coll. Chap., Phi Lambda Upsilon, Phi Kappa Phi. Clubs: St. John's Lodge No. 11, A.F. & A.M. (Wash., D. C.), Mich. State Coll., Lansing Economic. Hobbies: gardening, hunting, fishing.

MILLER, Floyd Laverne, dir. res. div., Esso Labs., Stand. Oil Dev. Co., P.O. Box 51, Linden, N.J.; res. 910 Highland Ave., Westfield, N.J.
Res. dir., coordinator; b. Arbela, Mich., Apr. 12, 1905; s. of Fred J. and Laura (Baldwin) Miller; ed. Mich. State Normal Coll., Ypsilanti, Mich., B.A., 1926; U. of Mich., Ann Arbor, Mich., M.S., 1927; Ph.D., 1929; mem.: Phi Lambda Upsilon, Gamma Alpha, Sigma Xi, Kappa Delta Pi; m. Ruth Pound, June 19, 1926; ch.: Lois, Leighton. Instr. chem., Mich. State Normal Coll., 1926-27; A.P.I. Fellowship, U. of Mich., 1927-29; Chem. Foundation Res. Grant, 1929; Stand. Oil Dev. Co. (S.O. of N.J.), res. chem. 1930-31; asst. to group hd. of minor chem. res. group, 1931-33; asst. hd. of lubricants sec. Apr.-Oct., 1933; hd. of lubricants sec. 1933-37; asst. dir. Esso Labs. Res. Div., 1937-45; assoc. dir., 1945-47; dir., 1947 to date. Num. pubs. in tech. jls. Mem.: A.C.S., S.A.E., Armed Forces Chem. Assn., A.P.I. Clubs: Echo Lake Country, F. & A.M. Hobbies: golf, Woodworking, landscaping.

MILLER, George Edgar, partner, W.A. Taylor & Co., 7300 York Rd., Baltimore 4, Md.; res. 7302 York Rd., Baltimore 4.
Chem.; b. Abbottstown, Pa., Nov. 13, 1891; s. of Edward P. and Miriam (Baker) Miller; ed. Gettysburg Coll., B.S.; Johns Hopkins, Ph.D.; mem.: Alpha Tau Omega. C.W.S., U.S.A., Edgewood Arsenal, 1920-45; res. chem., chf. org. dept., chf. res. div., staff of chf. C.W.S., and tech. adviser to Comdg. Gen., Tech. Command. Mem.: A.C.S., A.I.Ch.E.

MILLER, George Willis, chf. chem., W.J. Voit Rubber Corp., 1600 E. 25th St., Los Angeles, Calif.; res. 2159 Lorain Rd., San Marino 9, Calif.
Chem. engr.; b. Irwin, Pa., Feb. 3, 1900; s. of George and Bertha Cunningham Miller; ed. B.S. chem. engrg), U. of Pitts., 1925; mem.: Sigma Alpha Epsilon; m. Felicia Boerio, June 19, 1926; ch.: George W., Jr. Res. chem., Firestone, Akron, O.; asst. chf. chem., Firestone (Xylos div.), Akron; chf. chem., Xylos div., Los Angeles; chem. conslt., Emergency Rubber (Guayule) Project. Res. in extraction of rubber from Guayule and reclaiming of rubber. Chapter on "Reclaimed Rubber," Davis & Blake's "Chemistry & Technology of Rubber." Mem.: A.C.S. (rubber div.), Rubber Group (Los Angeles).

MILLER, Glen Russel, prof. chem., Goshen College, Goshen, Ind.; res. 1619 S. 9th St., Goshen. Chem. tchr.; b. Wellman, Ia., May 6, 1902; s. of Lewis J. and Sarah Miller; ed. B.A., Hesston Coll., Hesston, Kans.; 1925, M.S., State U. Ia.; 1930, Ph.D.; m. Pearl Klopfenstein, Dec. 24, 1926; ch.: John Keith, Lewis Jerold. Prof. chem., 1925 to date, Goshen Coll.; 1 yr. in England, 1944 dir. in M.C.C. Relief Agency. Res. in selective action in the Zincke nitration, (co-author); behavior of mixed halogenated phenols in the Zincke method. Mem.: A.C.S., A.A.A.S., Ind. Acdy. Sc., Phi Lambda Upsilon, Sigma Xi.

MILLER, Harold Carl, regional dir., Region III, U.S. Bur. of Mines, 1415 U.S. Appraisers Bldg., 630 Sansome St., San Francisco 11, Calif.; res. 6200 Contra Costa Rd., Oakland 18, Calif.
Mining engr.; b. Saginaw, Mich., May 22, 1889; s. of William H. and Bertha L. (Meyer) Miller; ed. B.Sc., Engr. of Mines, Mich. Coll. of Mines, 1911; m. Hazel G. Gunter, May 22, 1916; ch.: Barbara Jeanne. Engrg. & contracting business, Bishop, Calif., 1911-17; supt., Round Valley Tungsten Co., Bishop, 1917-19; supt., Bishop Creek Mines, Bishop, 1919-20; petroleum engr., Standard Oil Co. of Calif., Taft, 1920-23; U.S. Bur. of Mines, San Francisco, Calif., 1923 to present. Inventor of method of removing mud sheaths from oil wells by chem. methods; co-inventor of a pressure core barrels to sample formations penetrated by drill in oil wells. Author: "Function of Natural Gas in the Production of Oil," 1929; num. Bur. of Mines Bulletins, tech. papers and reports of investigations. Mem.: A.I.M.E. Clubs: Engineers' (San Francisco). Hobbies: vacations in the Sierra Nevada mountains, gardening.

MILLER, Harry Fullerton, dir., Transformer & Allied Prods. Div. Lab., Gen. Elec. Co., 100 Woodlawn Ave., Pittsfield, Mass.; res. 40 Buel St., Pittsfield.
Org. chem.; b. Michigan City, Ind., July 29, 1909; s. of A. Walter and Ann Miller; ed. Ohio State U., B.A., 1932; M.S., 1933; Ph.D., 1935 (org. chem.); m. Dorothy Marie Saur, Aug. 3, 1932. Natl. Res. Council Fellowship, Harvard U., 1935-36; chem., anal. sec. of lab., Gen. Elec. Co., Pittsfield, 1936-41; sec. hd., chg. of chem. sec. of lab., 1941-48; asst. dir. of lab., Trans. & Allied Prods. Div., 1948; dir. of lab., 1949 to date. Charles A. Coffin Award, 1947, for res. & dev. in fld. of electrical insulating matls. Mem.: A.C.S., Sigma Xi, Phi Beta Kappa. Club: Stanley (Pittsfield). Hobbies: gem cutting, chess, bridge.

MILLER, Hugh, chf. plant engr., Am. Viscose Corp., Meadville, Pa.; res. The Plateau, Meadville.
Chem. engr.; b. Catasauqua, Pa., Oct. 25, 1902; s. of Charles H. and Elsie (de Kraft) Miller; ed. Colo. Schl. of Mines, Golden, Colo., Ch.E., 1925; m. Maria Werner, Feb. 12, 1939; ch.: Charles, Margaret, Elizabeth, Kathryn. Bethlehem Steel Co., Lackawanna, N.Y., heater-coke ovens, 1925-28; Natl. Aniline & Chem. Co., Buffalo, N.Y., proj. engr., 1929-31; Am. Cyanamid Co., Bridgeville, Pa., proj. engr., 1933-38; Am. Viscose Corp., Meadville, Pa., chf. plant engr., 1939 to date. Mem.: A.I.Ch.E. (active). Bd. of incorporators, Spencer Hosp., Meadville, Pa.; West Mead Township Schl. Bd. (Meadville); advisory council, Y.W.C.A. (Meadville). Club: Iroquois (Conneaut Lake, Pa.). Hobby: music.

MILLER, James Gilbert, res. mgr., Westvaco Chem. Div., Food Machinery & Chem. Corp., Box 1608, Pocatello, Idaho; res. 1352 E. Bonneville, Pocatello.
Business mgr.; b. Yoncalla, Ore., 1892; s. of John T. and Emma (Bridges) Miller; ed. degree in Engrg., Cornell U.; mem.: Eta Kappa Nu; m. Mary H. Spicer, 1927; ch.: John G., James H., Robert W., Harold Richard, Mary Ann. Engr., American Potash & Chem., 1922-27; Westvaco Chem. Corp. since 1927; engr. & tech. sales, 1930-36; plant mgr., Carteret, N.J., 1930; asst. mgr., South Charleston, W.Va.; res. mgr., Westvaco Chem., Div., Food Machinery & Chem. Corp., 1936 to present. Mem.: A.S.M.E., Idaho Mining Assoc., Chamber of Commerce (Idaho),

Chamber of Commerce (Pocatello), Telluride Assoc. Club: Rotary (Pocatello).

MILLER, John George, assoc. prof. chem., U. of Pa., Phila. 4, Pa.; res. 4040 Baltimore Ave., Phila. 4.
Chem.; b. Phila., Pa., Oct. 18, 1908; s. of Robert and Regina (Ramspacher) Miller; ed. A.B. (with hon.), U. of Pa., 1929; M.Sc., 1930; Ph.D., 1932; University Scholar 1929-30; mem.: Alpha Chi Sigma; m. Elizabeth G. Snyder, June 8, 1940; ch.: J. Gregg, Margery K. Res. chem., Dermatolog. Res. Labs. (div. of Abbott Labs.), Phila., 1929-30; asst., chem. dept., U. of Pa., 1930-31; asst. instr., 1931-32; instr., 1932-40; asst. prof., 1940-47; assoc. prof., 1947 to date; project leader, Thermodynamics Res. Lab., U. of Pa., 1945 to date; consIt., res. & dev. dept., Attapulgus Clay Co., Phila., 1944 to date. Molecular structure, deilectric constant measurements, homogeneous catalysis, reaction mechanisms, surface chem., gas properties, calorimetry. Mem.: A.C.S., Electrochem. Soc., Phi Beta Kappa, Sigma Xi, Pi Mu Epsilon. Club: Metachemical of Phila. Hobbies: golf, tennis, music.

MILLER, John Strother, conslt., Miller-Warden Associates, 63 Bernhardt Dr., Snyder, Buffalo 21, N.Y.; res. same.
Chem. engr., consltg. asphalt tech.; b. Washington, D. C., Nov. 14, 1876; s. of John S. and Minnie (Potter) Miller; ed. Cornell U., Ithaca, N.Y. (class of 1901 for 3 yrs.); mem.: Phi Sigma Kappa; m. Clarine G. Ramage, June 4, 1902; ch.: John Strother, 3rd, Kenneth Ramage. Asst. chem., supvg. architects off., U.S. Treasury Dept., then tech. branch, Geological Survey, U.S. Dept. of Int., 1902-09; asst. chem., Barbar Asphalt Paving Co., 1909-17; chf. chem., 1917-26; dir. tech. bur., 1926-38; tech. adviser, 1938-42; retired consltg. asphalt tech., 1942-49; conslt. to Miller-Warden Associates, 1949 to present. Initated first comprehensive fundamental res. in asphalt tech. Mem.: A.I.Ch.E., A.C.S., A.S.T.M. (honorary), Assoc. Asphalt Pav. Techs. (2nd v.p., 1935; 1st v.p., 1936; pres., 1937). Club: Chemists' (N.Y. C.). Hobbies: music, motoring.

MILLER, Kenneth William, asst. dir. res., Armour Res. Foundation, Tech. Center, Chicago 16, Ill.; res. 10431 S. Oakley Ave., Chicago 43, Ill.
Res. engr.; b. Jacksonville, Ill., Apr. 24, 1898; s. of James William and Jessie Morris (Cross) Miller; ed. B.S. in E.E., U. of Ill., 1919; prof. deg. in E.E., 1929; M.S. in E.E., Union Coll., Schenectady, N.Y., 1931; m. Helen Joan Hogg, Apr. 10, 1927; ch.: Kenneth Forbes, Margery Jo Anne. 1919-21 test & jr. engr., Gen. Elec. Co., Schenectady; 1921-24, hydroelec. constr., City of Seattle (Skagit River Project), Wash.; 1924-30, jr. engr., Commonwealth Edison Co., 72 W. Adams St., Chicago, Ill.; 1931-45, dir. of res., Utilities Res. Commis., 72 W. Adams, Chicago; 1941-43 $1/yr. man, O.P.M., W.P.B. (OWU) & O.P.R. D., Wash., D.C.; 1945-46, chmn., E.E. dept., Armour Res. Foundation, Chicago, Ill., 1946 to date, asst. dir. res. Several articles in tech. jls. in relation to elec. cables and elec. engrg. Mem.: A.Phys.S., A.I.E.E. (fellow), Am. Math. Assn., Physics Club of Chicago, Sigma Xi, Eta Kappa Nu, Sigma Tau, Tau Beta Pi.

MILLER, Lawrence P., biochem., Boyce Thompson Inst. for Plant Res. Inc., 1086 N. Broadway, Yonkers 3, N.Y.; res. 17 Etville Ave., Yonkers 3.
Res. biochem.; b. Old Zionsville, Pa., Apr. 17, 1901; s. of Levinus H. and Sarah S. Miller; ed. B.S., Pa. State Coll., 1923; M.S., U. of Wis., 1925; Ph.D., Purdue U., 1933; m. Florence Flemion, 1935; ch.: Helen Josephine, Robert Charles. Chem., West Va. Pulp & Paper Co., 1923; res. asst., U. of Wis., 1925; asst. chem., Agric. Experiment Station, Purdue U., 1926-29; asst. biochem., biochem., Boyce Thompson Inst. for Plant Res. Inc., Yonkers 3, N.Y., 1925-26, 1929 to date. Investigations on the effect of stimulative chem. on the chem. composition of plants; induced formation of B-glycosides in plants; syn. of glycosides; process for improvement of color & flavor in cocoa powder; sulfur metabolism in plants, nutrition of sulfate-reducing bacteria; mechanism of action of fungicides. Mem.: A.C.S., Am. Soc. of Plant Physiol., Botanical Soc. of Am., Am. Phytopatholog. Soc., N.Y. Acdy. of Sc., A.A.A.S. (fellow), A.I.C. (fellow), Am. Inst. of the City of N.Y. (bd. of mgrs. 1940 to date; Sigma Xi (v.chmn. 1941; secy. 1943). Hobbies: food specialties of various countries & localities, food flavors.

MILLER, Lloyd C(uster), dir. pharmacopeial revision, U.S. Pharmacopeia, 46 Park Ave., New York 16, N.Y.; res. Lakeview Rd., Rt. 1, Ossining, N.Y.
Pharmacol.; b. Streator, Ill., July 2, 1907; s. of Herbert A. and Bertha (Custer) Miller; ed. B.A., 1929, Pomona College (with deptl. honors in chem.); Ph.D., 1933, U. of Rochester; mem.: Nu Alpha Phi (Pomona Coll.); m. Helen Elizabeth Pelter, July 21, 1931; ch.: Carolyn Jean, Merle Elizabeth. 1929-33, asst. biochem., U. of Rochester Schl. of Med. & Dentristry; 1933-35, res. fellow, Upjohn Co., Kalamazoo, Mich.; 1935-43, asst., sr. pharmacol. Food & Drug Admin., Wash., D.C.; 1943-50, dir. biology div., Sterling-Winthrop Res. Inst., Rensselaer, N.Y.; 1950 to date, dir. of pharma. revision, U.S.P. Res. in the standardization of sex hormones and other endocrinolog. prods., digitalis, antispasmodic drugs, local anesthetics and the statistical evaluation of sci. data. Author of abt. 30 arts. on subjs. in above gen. flds. incl. 2 review arts. presented by invitation to Symposia org. by N.Y. Acdy. Sci. Mem.: Am. Soc. Pharmacology & Exptl. Therap., Sigma Xi, A.C.S., A. Ph.A. Club: Internatl. Torch. Hobbies: photography, gardening.

MILLER, Paul Frank, asst. gen. supt., Pan American Refining Corp., Texas City, Texas; res. Route 1, Box 66K, Dickinson, Texas.
Chem. engr.; b. Dallas, Ore., Feb. 10, 1906; s. of William P. and Grace Chapin; ed. Williamette U., Salem, Ore., 1924-27; B.S. in Ch.E., U. of Washington, Seattle, 1929; m. Frances Lemery, Aug. 12, 1934; ch.: Roland William, Allen Paul, George Earl. Chem., Shell Oil Co., 1929, chem., chem. engr., group ldr., Standard Oil Co. (Ind.), Whiting, Ind., 1929-36; chem. engr., group ldr., asst. dept. hd., dept. hd., asst. gen. supt., Pan American Refining Corp., 1936 to date. Trustee, Dickinson Independent Schl., District (Dickinson, Texas); chmn., camping and activities, Mainland Dist., Bay Area Council, Boy Scouts of America. Mem.: A.C.S., A.I.Ch.E., Soc. of Professional Engineers (Texas and Natl.). Hobbies: Boy Scouts, gardening, bowling.

MILLER, Philip, chem. engr., H.K. Ferguson Co., 19 Rector St., N.Y. 6, N.Y.; res. 150 W. 21st St., N.Y.C.
Chem. engr.; b. New Haven, Conn., Nov. 4, 1912; s. of Samuel and Bessie Miller; ed. B.S. (highest honors), Yale Coll., 1934; D.Engr., Yale Graduate Schl., 1938. Yale Club Award, Sigma Xi. T.V.A. Dept. of Chem. Engrg., 1937-47; H.K. Ferguson Co., Atomic Energy Div., 1947 to date. Mem.: Sigma Xi, A.C.S., A.I.Ch.E. (Walker Award, 1946), A.A.A.S. Hobbies: painting, golf.

MILLER, Philip Allen, scientific res. admin., Office of Naval Research, 801 Donahue St., San Francisco 24, Calif.; res. 580 McAllister St., Apt. 306, San Francisco 1, Calif.

Sc. admin. basic res. contracts; b. Ithaca, N.Y., Sept. 5, 1908; s. of Ernest A. and Lillian A. (Phillips) Miller; ed. B.A. (chem. and physics), Cornell U., 1930; Ph.D., (physical chem.) Cornell, 1936; M.A., (intnatl. admin., Navy Schl. Military Govt.); Columbia, 1944; mem.: Cornell Cosmopolitan Club; m. Eleanor P. Hecker, June 17, 1950; ch.: Barry P. Miller (by previous marriage). Rubber chem., for Dr. William C. Geer, Ithaca, N.Y., 1936; physical chem., U.S. Rubber Co., General Labs., Passaic, N.J., 1936-37; physical chem., chg. of Latex Control Lab., U.S. Rubber Co., Plantation Div., Plantation Res. Dept., Boenoet, Sumatra, East Coast, N.E.I., 1937-40; dev. chem., latex-dipped goods, U.S. Rubber Co., Providence Plant, Providence, R.I., 1940-41; chem. special assignments, U.S. Rubber Co., Munitions Div., Des Moines Ordnance Plant, Ankeny, Ia., 1941-43; U.S. Navy (Military Gov't. Officer), 1943-46; Sc. Officer, O.N.R., San Francisco, 1946-47; present position, Office of Naval Res. (Civil Service), 1947 to date. Organized smoothly operating control lab. and completed solution of latex clarification problem for U.S. Rubber Co. in Sumatra; assisted in setting up procedures for effective operation, Scientific Section, Office of Naval Res., San Francisco, where now (as a civilian) responsible for the local scientific adm. of most of the chem., biochem. and metallurgy projects. Mem.: A.C.S., (Northern Calif. sec.), Volunteer Res. Reserve Unit 12-1 (rank Lt. Cmdr.). Hobbies: swimming, hiking, tennis, current events, and present job.

MILLER, Ralph Lester, res. dir. entomologist, Plymouth Citrus Growers Assn., Plymouth, Fla.; res. 701 S. Hyer St., Orlando, Fla.
Entomol.; b. Cincinnati, May 29, 1902; s. of John W. and Emma (Keifer) Miller; ed. B.S., Ohio State U., 1925; M.Sc., 1925; Ph.D., 1928; mem.: Sigma Xi, Delta Theta Sigma, Gamma Alpha; m. Edna Yeager, June 16, 1925; ch.: Phoebe Claire, Lois Jean. Fellow, Sherwin-Williams Co., Ohio State, 1925; fellow, Graselli Chem. Co., Ohio State, 1927-28; asst. entomologist, Fla. State Plant Bd., 1926-27, 1928-29; assoc. entomologist, U.S. Dept. of Agric., 1930-34; Freeport Sulphur Co., entomologist, 1934-36; Fla. Agric. Supply Co., 1936-45; Plymouth Citrus Growers Assn., res. dir. & entomologist, 1945 to date. Insecticides & plant nutrition. Mem.: Sigma Xi, A.C.S., A.A.A.S., Am. Assn. Econ. Entomologists, Fla. Entomolog. Soc., Fla. Processors, I.F.T., Fla. Agric. Res. Inst. Club: Country (Orlando). Hobbies: young people, fishing, citrus.

MILLER, Robert J(ohn), sr. res. chem., Calif. Research Corp., Richmond, Calif.; res. 2333 Carleton St., Berkeley 4, Calif.
Chem.; b. Chicago, Ill., Sept. 23, 1915; s. of Peter and Katherine Miller; ed. B.S., Northwestern U., 1936; Ph.D., U. of Calif., 1938; mem.: Phi Beta Kappa; m. Elizabeth Randall, Aug. 29, 1942; ch.: Jean, Carol, Diana. Res. chem., Standard Oil of Calif., 1938-46; sr. res. chem., Calif. Res. Corp., 1946 to present. Recovery, purification, synthesis and utilization of org. cmpds. from pet. Mem.: A.C.S. Club: Sierra.

MILLER, Roman Rodney, hd., physical & inorg. chem. br., Naval Research Lab., Wash. 25, D.C.; res. 1232 Pinecrest Circle, Silver Springs, Md.
Chem.; b. Monroe Co., Ohio, Mar. 6, 1907; s. of Edward and Mary (Christman) Miller; ed. Marietta Coll., Ohio, A.B., 1929; George Washington U., Wash., D.C., 1931-35; Maryland U., 1939-40; mem.: Lambda Chi Alpha; m. Irene Bailey, Nov. 25, 1936; ch.: Edward, JoAnn, Mary. U.S. Dept. of Agric., fixed nitrogen lab., sc. aide, 1930-36; Naval Res. Lab., res. chem., 1936 to date. Navy Distinguished Civilian Service Award, 1947. Oxides of alkali mtls. Mem.: A.C.S.

MILLER, Roy Edmund, pres., gen. mgr., Miller Prods. Co., ft. of S.W. Caruthers St., Portland 1, Ore.; res. 4050 Jackson St., Milwaukie 2, Ore.
Mfr.; b. Leadville, Colo., Jan. 2, 1888; s. of Alfred A. and Annie Louise Miller; ed. 1915, B.S., Ore. State Coll.; 1916, M.S., U. Chicago; 1918, W.W. I, chem.-bacteriolog. wk., Yale U.; m. Lillian Thordarson, June 5, 1917; ch.: Thormund Aubry, Dorothy Louise. 1916-18, dir. of agric., Idaho Tech. Inst., now Idaho State Coll., Southern Branch; 1920-21, county agric. agent, Josephine Co., Ore.; 1922 to date, pres., Miller Prods. Co., Portland, Ore. W.W. II, Wash., D.C., mem. Indus. Advisory Comms. Insecticide & Fungicide, W.P.B., Rotenone; O.P.A., Rotenone. Mem.: Am. Assn. Econ. Entomol., Am. Phytopatholog. So., Gamma Sigma Delta, Phi Kappa Phi, Pacific Insecticide Inst. (dir.). Hobby: gardening.

MILLER, Samuel John, chem. dir., The Du Bois Co., 1120 W. Front St., Cincinnati 3, Ohio; res. 1525 Joseph St., Cincinnati 37.
Chem. engr.; b. Newton Falls, Ohio, Dec. 18, 1902; s. of George J. and Henrietta Susan (Grinnell) Miller; ed. U. Cincinnati, Coll. of Engrg., Ch.E., 1925; mem.: Alpha Chi Sigma, Am. Commons Club; m. Mary Louise Schroeder, Sept. 1, 1927; ch.: Mary Susan, Lucy, Elizabeth. 1925-34, Fischer Industries, Inc., Cincinnati, chem. to supt.; 1934 to date, Du Bois Co., Cincinnati & Los Angeles, chem. engr. to chem. dir. Service on various A.C.S. comm. & on federal procurement comm. on detergents specifications; lecturer on sanitation of Cornell, Columbia, Michigan State. Numerous articles on sanitation paint spray booth control in tech. & trade jls. Mem.: A.C.S., Am. Pub. Health Assn., A.O.C.S., Engrg. Soc. of Cincinnati, Natl. Sanitation Foundation, Alpha Chi Sigma. Active in Episcopal Church wk. Hobby: writing verse.

MILLER, Stanley Johnson, res. chem., Thompson Horticultural Chem. Corp., 3600 Monon St., Los Angeles, Calif.; res. 921-1/2 W. 36 Pl., Los Angeles 7.
Org. chem.; b. Dayton, Va., June 26, 1918; s. of Julius O. and Wavie E. (Glick) Miller; ed. Bridgewater Coll., B.A., 1940; Purdue U., M.S., 1942; U. So. Calif., Ph.D., 1947; m. Helen Margaret Rogers, Dec. 20, 1941. Grad. asst., Purdue U., 1940-43; res. assoc., U. of So. Calif., for comm. for medical res., O.S.R.D., 1943-46; res. chem., Thompson Horticultural Chem. Corp., 1946 to date. Antimalarial drugs, vitamins & plant hormones. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S. Hobby: fishing.

MILLER, Theodore Thomas, v.p. chg. sales, Dewey & Almy Chem. Co., Cambridge 40, Mass.; res. 63 Mt. Vernon St., Boston, Mass.
Exec.; b. Orange, N.J., Aug. 26, 1900; s. of Harry F. and Lilly V. Miller; ed. M.I.T., 1922, B.S.; mem.: Chi Phi; m. Janet Hilton, Nov. 5, 1927. Dewey & Almy Chem. Co. since 1922; 1922-25, sales engr.; 1925-35, mgr. European sales; 1935-47, gen. sales mgr.; 1947 to date, v.p. chg. sales. Dewey & Almy Chem. Co., dir.; Middlesex Prods. Co., dir. Mem.: A.C.S., Am. Marketing Assn. Clubs: Algonquin (Boston, Mass.); Essex County (Manchester, Mass.). Hobbies: golf, music.

MILLER, Vernon Leroy, asst. chem., Western Washington Expt. Station, Puyallup, Washington; res. 401 13 St., S.W. Puyallup, Washington.
Chem.; b. Prosser, Wash., Nov. 22, 1910; s. of G.P. and Mary Edna (Patch) Miller; ed. B.S. (chem.), State Coll. of Wash., 1933; M.S. (chem.),

1944; m. Eleanor C. Hansen, July 3, 1939; ch.: Judith Harmon, Douglas Robert. Analyst, State Chemist's Office, 1934; asst. in chem., Western Wash. Expt. Sta., 1935-38; res. chem., 1938-45; asst. chem., 1946 to date. Investigations into damage to agriculture from fluoric fumes from industry in Washington; investigations of fungicides. Mem.: Phi Lambda Upsilon, A.C.S.

MILLER, Warren W., assoc. prof., dept. chem., Pennsylvania State College, State College, Pa., Chem.; b. Bluffton, Ind., Mar. 23, 1915; s. of Dwight C. and H.A. (Nourse) Miller; ed. B.S. (high distinction), Ohio St. U., 1941; Ph.D., U. Calif., 1944; m. Barbara J. Everhart, 1941; ch.: Carolyn R., Craig S. 1942-45, N.D.R.C. war res., U. Calif., Maryland Res. Labs., Harvard U.; 1945-47, res. assoc., dept. physics & chem., M.I.T.; 1947-50, chem., Brookhaven Natl. Lab., A.E.C.; Upton, L.I.; 1950 to date, assoc. prof., dept. chem., Pa. St. Coll. Assoc. with Tracerlab, Inc., 55 Oliver St., Boston, during the initial dev. of radio chem. labs., during the founding of this corp., 1945-47. Radiation chem., in application of isotopes to chem. probs. esp. exp. procedures. Presently dev. chem. lab. college course in radio chem. Mem.: A.C.S., Phi Beta Kappa, Sigma Xi. Hobbies: clocks, clam digging, sedentary sports.

MILLER, Wilbur Hobart, tech. rep., Am. Cyanamid Co., Wash. Bldg., 15 & N.Y. Ave., N.W., Wash. 5, D.C.; res. 19 Crestview Ave., Springdale, Conn.
Chem.; b. Boston, Mass., Feb. 15, 1915; s. of Silas R. and Muriel G. Miller; ed. U. New Hampshire, B.S. (hons.) 1936; M.S., 1938; Columbia U., Ph.D., 1942; m. Harriett Harmon, June 20, 1941; ch.: Nancy Iber, Warren Harmon. Grad. asst. chem., U. New Hamp. 1936-37; instr. chem., 1937-38; asst. chem., Columbia U. 1938-39; statutory asst. chem., 1939-40; Univ. fellow, chem., 1940-41; res. chem., Stamford Res. Labs., Am. Cyanamid Co., 1941-49; Wash. tech. rep., 1949 to date. Enzymes, chemotherapy, particularly antithyroid drugs. Mem.: A.C.S. (adv. bd., News Serv.), A.A.A.S., N.Y. Acdy. Sc., Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma, Phi Kappa Phi; Stamford Forum for World Affairs (program chmn., dir.), (1948 Am. Design Award for establ. pattern for community education in world wide problems).

MILLER, W(illiam) Schuyler, chmn. div. of scs., prof. of chem., Randolph-Macon College, Ashland, Va.; res. 409 N. Center St., Ashland.
Chem. prof.; b. Mar. 15, 1910; s. of William B. and Anna (Hartman) Miller; ed. B.S., Lehigh U. (chem., with honor), 1930; M.S., 1932; Ph.D., Syracuse U., 1936; m. Margaret Reeve Miller, 1935; ch.: Marnie Sabina, William Schuyler, Jr. Grad. asst., Lehigh U., 1930-32; grad. asst., Syracuse U., 1932-36; instr. chem., Bethany Coll., Bethany, W.Va., 1936-40. Randolph-Macon College since 1940; asst. prof. chem., 1940; prof. chem., 1944; chmn. div. of scs., 1947 to present. Mem.: A.C.S., A.A.A.S., Sigma Xi. Clubs: Torch, Kiwanis. Hobbies: music, photography, painting.

MILLER, William T., Jr., prof. org. chem., dept. of chem., Cornell U., Ithaca, N.Y.; res. 223 Thurston Ave., Ithaca.
Chem. tchg., res.; b. Winston-Salem, N.C., Aug. 24, 1911; s. of W. Taylor and Catherine Jane (McMahan) Miller; ed. 1932, Duke U., A.B.; 1935, Ph. D.; mem.: Phi Beta Kappa, Sigma Xi. Jr. res. assoc. chem., Stanford U., 1935-36; instr. org. chem., Cornell U., 1936-41; asst. prof. 1941-44; official investigator & conslt., N.D.R.C., 1941-43; res. scientist & fluorocarbon res. group leader, Manhattan Project, Substitute Alloy Matls. Labs., Columbia U. & Carbon & Carbide Chems. Corp., 1943-46; assoc. prof., Cornell U., 1944-47, prof. 1947 to date. Org. fluorine chem.; mechanisms of org. reactions. Author: chapter "The Preparation of Fluorocarbons by Polymerization of Olefins" in "Preparation, Properties & Technol. of Fluorine & Fluoro-org. Cmpds.," Div. VII vol., Natl. Nuclear Energy Series, Manhattan Project Sec., (in press), McGraw-Hill. Mem.: A.C.S., Chem. Soc. of Gt. Brit., A.A.A.S., A.A.U.P. Clubs: Statler (Cornell U.), Yacht. Hobbies: sailing, photography.

MILLER, Wyatt A., gen. mgr. Chicago operations, Sherwin-Williams Co., 115 St. & Cottage Grove Ave.; res. 1935 W. 102 St.
Exec.; b. Salem, N.J., June 17, 1892; s. of Josiah and Mariane (Thompson) Miller; ed. U. of Mich., 1916, B.Ch.E.; mem.: Tau Beta Pi, Phi Lambda Upsilon; m. Lucile Duff, June 26, 1920; ch.: Esther, Wyatt, Edward, Robert, Clark, Mariana. 1916-17, Toledo Furnace Co., Toledo, Ohio; 1917 to date, Sherwin-Williams Co.; started as chem. in control lab. & held several supervisory positions; at present, gen. mgr. of Chicago operations. Mem.: A.C.S. Trustee of Earlham Coll. Clubs: Beverly Country, Chickaming. Hobbies: golf, photography.

MILLHISER, Frederick R., tech. supt., Waynesboro Wks., E.I. du Pont Co., Waynesboro, Va.; res. 847 Woodrow Ave., Waynesboro.
Chem.; b. Buffalo, N.Y., Oct. 27, 1910; s. of William Henry and Jennie (Harpster) Millhiser; ed. Carnegie Inst. of Tech., 1928-34; B.S., 1932; M.S., 1933; Harvard U., 1934-37; M.A., 1936; Ph.D.; 1937; mem.: Pi Kappa Alpha, Tau Beta Pi, Sigma Xi, Phi Kappa Phi; m. Priscilla S. Bacon, June 12, 1937; ch.: William Bacon, Frederick Robert, John Douglas. 1937-39, res. chem., viscose res., E.I. du Pont Co.; Buffalo, N.Y.; 1939-43 res. chem., Viscose res., Richmond, Va., 1943-47, res. supvr., 1947-50 res. mgr., 1950 to date, tech. supt., Waynesboro Wks., E.I. du Pont Co.

MILLINGTON, Paul E(manuel), prof. chem., U. of Wis., 623 W. State St., Milwaukee, Wis.; res. 3840 N. Sherman Blvd., Milwaukee.
Chem. prof., physician; b. Waverly, Iowa, May 29, 1897; s. of Darwin and Katherine (Ronin) Millington; ed. 1924, Minn., B.A. (magna cum laude); 1928, Wis., Ph.D.; 1944, Marquette U., M.D.; mem.: Phi Beta Kappa (Minn., 1924), Alpha Chi Sigma, Phi Chi; m. Annabelle Halverson, 1944; ch.: Mary Katherine, Patricia Ann. Lawrence Coll., 1927, instr.; Wis., 1927-28, du Pont Fellow; E.I. du Pont de Nemours & Co., 1928-30, res. chem., expt. station; U. of Wis., Milwaukee Center, 1931-37, asst. prof.; 1937-47, assoc. prof.; 1947 to date, prof. chem. Catalysis in org. chem. Mem.: A.C.S., A.A.U.P., Am. Medical Soc., Am. Acdy. of Gen. Practice. Hobbies: electronics, amateur radio.

MILLS, Earl Joseph, Southwest, dist. sales mgr., Diamond Alkali Co., 1006 Main St., Houston, Texas; res. 823 Little John Lane, Houston, Texas.
Sales mgr.; b. Prov., R.I., Apr. 3, 1901; ed. K. of C. eve. course adver. & salesmshp.; m. May K. Beasley, June 1, 1928. Scott Laundry Co., sales mgr., 1915-27; Lever Bros. sales & laundry tech., 1927-32; Stand Silicate Co., sales mgr., 1932-44: mgr. lcl. sales, Chicago Off., Diamond Alkali Co., 1944-49; Southwest dist. sales mgr., Houston, Texas, 1949 to present time. Clubs: Chemical (Houston), B.P.O.E. (Houston). Hobbies: baseball, reading biographies, lawn care and gardening.

MILLS, George Alexander, asst. dir. res., Houdry Process Corp., P.O. Box 427, Marcus Hook, Pa.; res. 550 Walnut Lane, Swarthmore, Pa.
Chem.; b. Saskatoon, Sask., Canada, Mar. 20,

1914; s. of George R. and Leafa V. Mills; ed. B. S. (honors) U. of Sask., 1934; M.S., 1936; Ph.D., Columbia U., 1940; m. Roberta B. Walker, 1940; ch.: Richard, Sandra, Marilyn, Janice. Student and asst., U. of Sask., 1931-36; Columbia, 1936-39; instr., Dartmouth Coll., 1939-40; Houdry Process Corp., 1940 to present. Res. in isotopes, pet., refining, catalysis. Mem.: Sigma Xi, A.C.S., Am. Ceramic Soc., A.A.A.S.

MILNER, Max, prof. of milling indus., Kansas State Coll., Manhattan, Kans.; res. 1630 Laramie, Manhattan.
Biochem.; b. Edmonton, Alberta, Canada, Jan. 24, 1914; s. of Morris and Roze Milner; ed. B.Sc. (hon. in chem.), U. of Saskatchewan; M.S. Ph.D., U. of Minn.; mem.: Alpha Epsilon Pi; m. Betty Banen, Aug., 1942; ch.: Ruth Sharon. Res. chem., Pilllsbury Mills, Inc., 1941-42; res. asst., U. of Minn., 1942-44; res. assoc. 1944-46; prof. of milling indus., Kans. State Coll., 1947 to date. Respiration & thermogenic behavior of stored grain, enzyme studies in wheat, wheat technology. Chapters in 2 monographs; 25 sc. publ. as of June, 1950. Mem.: Sigma Xi, Phi Lambda Upsilon, Gamma Sigma Delta, Gamma Alpha, A.A.A.S., A.C.S., A.A.C.C., A.C.I.C. (Canada). Club: Kiwanis. Hobbies: photography, fishing.

MILNER, Reid Thompson, dir., Northern Regional Res. Lab., U.S. Dept. of Agric., 825 N. University, Peoria 5, Ill.; res. 140 Cole Court.
Chem.; b. Carbondale, Ill., Aug. 13, 1903; s. of Paul Chambers and Bessie (Thompson) Milner; ed. B.S., U. Ill., 1924; M.S., 1925; Ph.D., U. Calif., 1928; mem.: Alpha Chi Sigma; m. Marjorie Pickens, 1939; ch.: Paul Chambers. Asst. to assoc. chem., U.S. Bur. Mines, Pittsburgh, Pa., 1929-30; assoc. chem., U.S. Dept. of Agric., Washington, D.C., 1930-36; sr. chem. to dir., U.S. Regional Soybean Lab., Urbana, Ill., 1936-41; hd. anal. and phys. chem. div. to director, Northern Regional Res. Lab., Peoria, Ill., since 1941; director in 1948. Publications on low temperature, specific heats and microanal.; administrator in the field of agric. chem. Mem.: A.O.C.S. (pres., 1947-48), Sigma Xi, Phi Lambda Upsilon, Epsilon Chi, Gamma Sigma Delta, A.C.S., A.A.A.S. Trustee, Bradley U.; exec. bd., Peoria chap., Am. Cancer Soc. Club: Cosmos. Hobby: gardening.

MIMS, Lawrence Winstead, plant mgr., Cabot Carbon Co., Gainesville, Fla.; res. Kirkwood, Gainesville.
Chem. engr.; b. Fort Pierce, Fla., Nov. 16, 1914; s. of Robert Elliott and Eva (Winstead) Mims; ed. U. of Fla., B.S. Ch.E., 1937; mem.: Pi Kappa Alpha, Sigma Tau, Gamma Sigma Epsilon; m. Harriette Hjort, Aug. 13, 1938; ch.: Dee Ann, L.W., Jr. 1937, chem. engr., Naval Stores Div., The Glidden Co.; 1939, plant supt.; 1940 plant mgr.; 1942, chem. engr., Bur. Agr., E.Ind. Chem., U.S.D.A.; 1945 to date, plant mgr., Cabot Carbon Co., retort chem. div.; pres., Gainesville Indust. Corp. Properties of oleoresins, rosins, and turpentine from chem. stimulated slash and longleaf pines; co-patentee of apparatus for flash distillation of gum turpentine; author of arts. on naval stores industry. Mem.: A.C.S., A.I.Ch.E., N.S.P.E., F.P.R.S., Fla. Soc. Prof. Engrs. Club: Rotary. Hobbies: music, golf, art.

MINER, Carl Shelley, dir., The Miner Labs., 9 S. Clinton St., Chi. 6, Ill.; res. (winter) 1120 Lake Shore Dr., Chi. 11; (summer) 718 Raleigh Rd., Glenview, Ill.
Res. chem.; b. State Center, Ia., Aug. 5, 1878; s. of Marvin E. and Flora B. (Shelley) Miner; ed. B.S., U. of Chi., 1903; Hon. D.Sc., Coe Coll., 1948; mem.: Phi Delta Theta; m. (1st) Alice Reed Dunshee, Jan. 11, 1912; (2nd) Elizabeth M. Kohlsaat, Oct. 6, 1949; ch.: C.S., Jr., Barbara M. Parker. Res. chem., Corn Prods. Refining Co., 1903-06; owner & director, The Miner Labs., since 1906; Commercial Solvents Corp., dir., Edwal Labs., Inc., dir.; Universal Oil Prods. Co., dir.; member chem. referee bd., W.P.B.; conslt., Baruch Rubber Comm.; Modern Pioneer Award, 1940; Perkin Medal Award, 1949. Trustee, St. Luke's Hospital. (Chi.). Mem.: A.C.S., A.A.A.S., A.A.C.C., A.O.C.S., Inst. of Food Tech., Sigma Xi, Alpha Chi Sigma. Clubs: Chemists' (Chi.), Union League (Chi.), Athletic (St. Louis, Mo.).

MINNIG, Max A., sales mgr., carbon black div., Witco Chem. Co., 311 Evans Savings Bldg., Akron, Ohio; res. 202 Westover Dr., Akron.
Sales engr.; b. Bartlesville, Okla., Jan. 5, 1918; s. of Carl J. and Marcella Minnig; ed. St. Louis U., 1935-36; U. of Okla., 1936- 40; B.S. in natural gas engrg.; mem.: Tau Beta Pi, Phi Gamma Delta; m. Betty Owens, June. 5, 1940; ch.: Carl, Michael, Timothy. Jr. engr., Panhandle Eastern Pipeline Co., Kansas City, Mo., 1940-41; A.A.F. Officer (2nd Lt. to Lt. Col.), 1941-45, Wright Field, Dayton, O.; gas engr., Continental Carbon Co., Amarillo, Tex., 1946-47; mgr. gas dept., 1947-49; dir., v.p., Witco Carbon Co., 1949 to date; sales mgr., carbon black div., Witco Chem. Co., 1949 to date. Mem.: Akron Rubber Group (A.S.C.), Instrument Soc. of Am., Am. Gas Assn. Club: University (Akron). Hobbies: spectator sports, golf.

MINNIS, Wesley, asst. dir., res. & dev., Natl. Aniline Div., Allied Chem. & Dye Corp., Box 975, Buffalo 5, N.Y.; res. 174 Admiral Rd., Buffalo 16.
Chem.; b. Cheney, Kans., June 5, 1895; s. of Thomas Wesley and Rose Lee (Coffey) Minnis; ed. B.S. (magna cum laude), 1916, U. Wash.; M.S., 1916; U. Mich., Ph.D., 1922; mem.: Gamma Alpha; m. (1st) Nola E. Sauer, Mar. 25, 1919 (d. May, 1946); (2nd) Janette E. Moore, July 19, 1947; ch.: Marjorie Lee. Teach. asst., U. Mich., 1916-18; res. chem., Natl. Aniline & Chem. Co., Marcus Hook, Pa. 1918-20; Natl. Aniline fellow, U. Mich., 1920-22; res. chem., Semet-Solvay Co. 1922-23; res. chem. Natl. Aniline Div., 1923-31; asst. dir., res. & dev., 1931 to date. Mem.: Sigma Xi, A.C.S., Phi Beta Kappa.

MINTO, Wallace Louis, res. dir., Temperature Control Corp., 364 Hudson St., Hackensack, N.J.; res. 48 Patton Dr., Bloomfield, N.J.
Res. chem.; b. Jersey City, N.J., Aug. 6, 1921; s. of Wallace M. and Hazel J. (Trautmann) Minto; ed. B.S., Columbia Coll., 1942; m. Marilyn McDonald, Sept. 15, 1945; ch.: Cynthia Anne. Res. asst., Wile Electric Co., 1942; conslt., St. Lawrence Corp. of Newfoundland, Ltd., 1943; asst. to dir., Manhattan Proj., Spec. Problems Div., Radioactivity Sec., later the A.E.C., 1944-47; v.p., dir. res., Clairmint Chem. Co., 1947-49; to date, Temperature Control Corp., v.p. dir., Golden Valley Minerals Co., Inc. Chem. and radiological properties of the trans-uranic elements, separations of rare earth elements; synthesis of beta-amylose triodide; holds 14 pats., pub. sev. copyrighted arts. on above wk.; sev. classified pubs. Mem.: A.C.S., A.A.A.S. Hobbies: marksmanship, hunting, mineralogy, gunsmithing.

MINTON, David Carson, Jr., asst. to dir., Battelle Memorial Inst., 505 King Ave., Columbus 1, Ohio; res. 1942 Collingswood Rd., Columbus 12.
Mining & metallurg. engr.; b. Okla. City, Okla., May 10, 1907; s. of David Carson and Rose (Talbot) Minton; ed. U. Ariz., B.S.E.M., 1930; M.S. (metallurgy), 1931; Metallurg. Engr., 1948; mem.:

Alpha Tau Omega, Theta Tau, Tau Beta Pi; m. Elizabeth Maris Lloyd, Mar. 20, 1933; ch.: David Carson, III. Mill supt. & asst. mgr., Minas Las Animas, S.A., Noria, Sonora, Mex., 1932-33; asst. state supvrg. engr., U.S.G.S. Photomapping Project, Tucson, Ariz., 1933-34; mill supt., Molybdenum, Inc., Helvetia, Ariz., 1934; dev. engr. & res. assoc., Titanium Alloy Mfg. Co., Niagara Falls, N.Y., 1934-37; Inst. of Metallurgy, U. of Ariz., Tucson, Ariz., 1938; cons. metall., Mammoth-St. Anthony, Ltd., Ariz., 1938; prof. of metall., U. of Phillippines, 1938-40; res. engr., Battelle Memorial Inst., Columbus, Ohio, 1941-42; adm. officer & res. supvr., War Metallurgy Comm., Natl. Acdy. of Sc., N.R.C., Wash., D.C., 1942-46; tech. aide, War Metallurgy Div., Natl. Defense Res. Comm., O.S.R.D., Wash., D.C., 1943-46; asst. to dir., Battelle Memorial Inst., 1945 to date. Mem.: A.I.M.E., A.S.M. Clubs: Mining (N.Y.), Athletic (Columbus), Symposiarchs, Leatherlips Yacht. Hobby: small yacht racing.

MINTS, Thomas M., pres., E.H. Sargent & Co., 4647 W. Foster Ave., Chicago 30, Ill.; res. 391 Sheridan Rd., Winnetka, Ill.
Exec.; b. New York, Jan. 20, 1893; s. of Martin and Rosalee Mints; ed. LL.B., New York U.; mem.: Delta Chi; m. Marie D. Pendergast, July 31, 1915; ch.: Thomas M., Jr., Margery Emily. Mem.: A.C.S., A.S.T.M., Scientific Apparatus Makers Assn. (treas., dir.), (treas., dir.) United States Scientific Export Assn.

MITCHELL, Charles M., Jr., chf. contr. chem., Smith, Kline & French Labs., 1530 Spring Garden St., Phila., Pa.; res. 117 Harrogate Road, Overbrook Hills, Phila. 31, Pa.
Chem.; b. Norristown, Pa., Aug. 29, 1918; s. of Charles M., Sr. and Laura A. D. Mitchell; ed. Phila. Coll. Phar. & Sc., 1940, B.Sc. Chem. (hons.); mem.: Phi Delta Chi, Alpha Sigma; m. Erna H. Hallman, Jan. 11, 1941; ch.: Charles M., III, Peter H., Myra Kim. Anal., Wyeth, Inc. 1940-44; asst. chf., anal. div., 1944; U.S.N. (Lt., j.g.), 1944-46; chf., anal. div. Wyeth, Inc. 1947-48; chf. contr. chem., Smith, Kline & French Labs., 1948 to date. Mem. combined contact comm., Am. Drug Mfgs. Assn.; Am. Phar. Mfgrs. Assn., sub-comms., on minimal lab. stands. & sub.-comm. on capsule tolerances; contrib. to U.S. Phar. & Natl. Form. Mem.: A.C.S., A.I.C., A.Phar.A. Hobbies: bridge, gardening.

MITCHELL, Edwin L., chf. food technologist, Richmond-Chase Co., 380 Stockton Ave., San Jose; res. 1555 Cherry Ave., San Jose, Calif.
Chem., food technol., b. Butte, Mont., July 30, 1915; s. of Edwin John and Mary Sydney (Davies) Mitchell; ed. San Jose State Coll.; B.S., U. of Calif., 1937; m. Edith R. Norton, Apr. 13, 1940; ch.: Martha Mary, Susan Elizabeth. Chem., Richmond-Chase Co., 1937-42; chf. chem. and chf. food technol., 1942 to present, Richmond Chase Co. Processing of canned fruits, vegetables and juices, dehydrated fruit. Mem. Inst. of Food Technologists, A.C.S. Hobbies: sports, photography.

MITCHELL, Harry Gilbert, adv. mgr., Speer Carbon Co., St. Mary's, Pa.; res. 302 Chestnut St., St. Mary's.
Exec.; b. Boston, Mass., Nov. 10, 1887; s. of Melvin P. and Marcia F. Mitchell; ed. Dartmouth, B.S., 1910; Columbia U., A.M., 1915; mem.: Kappa Sigma, Gamma Alpha; m. Ruth E. Aiken, Oct. 24, 1914; ch.: Marian R., Ralph M., Harry G., Jr. Instr., athletic coach, Kimball Union Acdy., Meriden, N.H., 1910-11; instr. chem., Dartmouth Coll., 1911-14; instr., asst. prof. chem., U. of Me., 1915-18; res. chem., U.S. Indus. Alcohol Co., Baltimore, Md., 1918-26; res. & dev. engr., Speer Carbon Co., St. Mary's, Pa., 1926-42; chf. carbon prod. sec., conslt., W.P.B., 1942-45; adv. mgr., Speer Carbon Co., 1945 to date. Two process pats., prod. of di-ethyl carbonate (assigned to U.S. Indus. Alcohol Co.). Mem.: A.C.S., Electrochem. Soc. Clubs: Masons, Elks. Hobby: athletics.

MITCHELL, Henry N., lab. mgr., Cuprinol Div., Darworth Inc., Simsbury, Conn., res. 43 Hazel Meadow Pl.
Res. chem.; b. Sanford, Maine, Sept. 2, 1905; s. of Samuel J. and Lillian (Nason) Mitchell; ed. Tri-St. Coll., Angola, Ind., B.S. Chem. Engrg., 1925; m. Mary E. Sherburne, June 1, 1925; ch.: Robert H., Mrs. Shirley M. Lloyd: Goodall-Sanford, Inc., Sanford, Me., res. chem. 1925-43; Signal Corps Res. & Dev. Labs., Fort Monmouth, N.J., engrg., materials, 1943-45; owner Mitchell Labs., North Shapleigh, Me., 1945-47; Masury-Young Co., Boston, Mass., res. chem., 1947; Cuprinol Div., Darworth Inc., mgr. of lab., 1947 to date. Dev. orig. germicides, fungicides, rubber chems., mothproofing chems., waterproofing chems., detergents, text. fiber lubricants, new meths. of anal. Contrib. extens. to sc. and tech. jls. Mem.: Am. Wood Preservers Assn., A.A.A.S., Engr. Soc. Club: Chemists'. Hobbies: gardening, hunting, fishing.

MITCHELL, Jack Harris, Jr., sr. chem., Stability Div., Quartermaster Food & Container Inst., 1819 W. Pershing Rd., Chicago 9, Ill.
Res. chem.; b. Auburn, Ala., Sept. 15, 1911; s. of J.H. and Ethel (Blasingame) Mitchell; ed. Clemson Coll., B.S., 1933; Columbia U., 1936-37; Purdue U., Ph.D., 1941; m. Annie Lee Knox, Oct. 7, 1944; ch.: Jack H., III. 1933-36, anal. chem., S.C. State Labs.; 1936-40, grad. schl.; 1940-41, res. chem., Purdue U.; 1941-42, res. chem., Amer. Meat Inst.; 1942-46, chem. warfare res., Capt., C.W.S.; 1946-47, proj. ldr., Air Reduction Co.; 1947-48, res. chem., Southern Res. Inst.; 1948-50, hd. biochem. sec.; 1950 to date, sr. chem., Stability Div., Quartermaster Food & Container Inst. Biochem. problems related to leukemia; dev. ultraviolet spectroscopic meth. for anal. of fatty acids; stabilities of foods and prod. dev. Mem.: A.C.S., Sigma Xi, A.I.C. Hobbies: gardening, antiques.

MITCHELL, James Albert, tech. supt., E.I. du Pont de Nemours & Co., Film Dept., Richmond 12, Va.; res. 5020 Caledonia Rd., Richmond.
Res. chem.; b. Baltimore, Md., June 10, 1906; s. of John and Mabel L. (Fisher) Mitchell; ed. Johns Hopkins U., B.S., 1927; Ph.D., 1930; mem.: Tau Beta Pi, Phi Beta Kappa, Gamma Alpha; m. Florence Hester Rohr, Nov. 27, 1930; ch.: David Alan. Instr. in chem., Johns Hopkins U., 1930-31; E.I. du Pont since 1931; res. chem., 1931-38, Buffalo, N.Y.; res. supvr., 1938-43; res. mgr., 1943-50; tech. supt., 1950 to date, Richmond, Va. Mem.: A.C.S. Hobbies: music, photography.

MITCHELL, John Pearce, prof. of chem. and registrar, emeritus, Stanford U., Calif.; res. 235 Embarcadero Rd., Palo Alto, Calif.
Prof. of chem. emeritus; b. Providence, R.I., June 4, 1880; s. of John Waite and Lydia (Pearce) Mitchell; ed. Stanford U., A.B., 1903; A.M., 1904; Ph.D., 1909; mem.: Delta Upsilon; m. Helen Waldo, 1905; ch.: Laura (Mitchell) Eaton, John W., Sidney P., Mary (Mitchell) Boyd. Asst. chem., Stanford, 1901-04, instr. 1905-09, assst. prof. 1909-16, assoc. prof. 1916-20, prof. 1920-45, emer. prof. 1945 to date; registrar, 1925-45. With U.S. Dept. of Justice. Res. in smelter smoke and cement dust injuries to vegetation; sanitary water analysis and standards. Mem.: A.A.A.S., A.C.S., A.I.Ch.E., hon. mem. Assoc. Collegiate Registrars.

MITCHELL, William Alexander, sect. hd., biochem. sec., Central Labs., Gen. Foods Corp., 1125 Hudson St., Hoboken, N.J.; res. Jacksonville Rd., Lincoln Park, N.J.
Res. chem.; b. Raymond, Minn., Oct. 21, 1911; s. of Ernst and Florence Mitchell; ed. Nebr. Wesleyan, B.A., 1935; U. Nebr., M.S., 1938; m. Ruth C. Cobbey, Sept. 3, 1938; ch.: William Cobbey, Charles Elliott, Michael Ernst, John Laurin, Jan Musette. Res. asst., Nebr. Wesleyan, 1933-35; res. asst., U. Nebr., 1936-37; Exp. Sta., U. Nebr., 1937-38; res. chem., Synthetic Organic Dept., Eastman Kodak Co., 1939-41; res. chem., proj. leader, Gen. Foods Corp., 1941-46; sect. hd., 1946 to date. Prep. of pure maltose, ammoniated pectins, starches, proteins, bleaching agents, Kodachrome couplers, food chem., biochem., organic chem. Mem.: A.C.S., Phi Lambda Upsilon, Sigma Xi. Hobbies: gardening, fishing.

MITCHELSON, Jay Burdett, asst. mgr., chem. engrg. div., Goodyear Tire & Rubber Co., Akron 16, O.; res. Route No. 1, Box 221, Cuyahoga Falls, O.
Chem. engrg.; b. Nova, O., Sept. 28, 1911; s. of George Judson and Mary Ellen Mitchelson; ed. B.Sc., Otterbein Coll., Westerville, O., 1932-36; M.Sc., Ohio State U., Columbus, O., 1936-37; Ch.E., 1945; mem.: Sigma Delta Phi (Otterbein); m. Ella Irene Stevens, Aug. 20, 1935; ch.: Mary Frances. With Goodyear Tire & Rubber Company since 1937; res. dept. 1937-40; chem. engrg. div., 1940-44; asst. staff hd., 1944-46; asst. mgr., 1946 to date. War time dev. in natl. synthetic rubber program; member comm. of Office of Rubber Reserve, R.F.C. Mem.: A.C.S., A.I.Ch.E., Registered Engr. in State of Ohio.

MLEJNEK, Vincent Joseph, quality control dir., Graton & Knight, 356 Franklin St., Worcester, Mass.; res. 60 Flagg St., Worcester.
Leather chem.; b. Holyoke, Mass., Apr. 2, 1892; s. of Vincent and Josephine (Kammermann) Mlejnek; ed. Worcester Polytech. Inst., Worcester, Mass., 1913, B.S.; m. Gertrude M. Karle, 1926; ch.: Marilyn Gertrude. Graton & Knight since 1913; 1913-16, lab. anal. chem.; 1916-19, dev. chem.; 1919-46, dir. labs.; 1946 to date, dir. quality control. Publs. on leather res. Mem.: A.C.S., Am. Leather Chem. Assn. (councillor, v.p.; pres. 1940-42), Am. Soc. for Quality Control. Hobby: golf.

MOBLEY, Willard Mitford, chf. chem., res. dir., Alabama By-Prods. Corp., Tarrant, Ala.; res. 3129 Norwood Blvd., Birmingham.
Chem. engr.; b. Birmingham, Ala., Mar. 27, 1898; s. of Robert Vernon and Susan (Schoppert) Mobley; ed. Ala. Polytech. Inst., B.S., 1919; M.I.T., 1919-20; mem.: Pi Kappa Alpha, Phi Kappa Phi; m. Willie K. McCormack, June 11, 1932. Ala. By-Prods. Corp., chem., 1920-28; chf. chem., 1928-39; res. dir., 1930 to date. Coal chems. recovery & utilization, benefication & blending of Ala. coals for prod. of high grade metallurg. coke. Mem.: A.C.S., Ala. Acdy. of Sc., Am. Foundrymen's Assn., Am. Coke & Coal Chem. Inst., A.I.M.E., Am. Gas Assn. Hobbies: sports, flower culture.

MOE, Carl, retired industrial chem.; res. 18 Phipps Ave., Rice Lake, Wis.
Retired, indust. chem., pulp, paper chem.; b. Tangen sub-parish of Stange Parish, Norway, Mar. 8, 1874; s. of Hans Olsen and Anne Pedersdatter; ed. Vardeberg Schl., Tangen sub-parish; Middle Schl., City of Hamar, Norway; Tech. Schl., Kristiania (now Oslo), Norway (4 yr. coruse in engrg., majoring in chem.); grad. 1893. Study of mfr. of sulphite pulp and paper at Granfos Brug, Lysaker, Norway; var. positions with Ranheim Cellulosefabrik, Ranheim, Norway, incl. drawing and chem. wk., as well as chg. of buying, storing and distrib. of supplies; 5 yrs. at Moss Cellulosefabrik, Moss, Norway, mfg. sulphate pulp and paper; 6 yrs. at Canada Paper Co., Windsor Mills, Que., Canada, mfg. var. grades of paper and chem. pulp; chemist and supt. of operation of chem. pulp mill; 6 mos. at new sulphate pulp mill of Brown Corp. at La Tuque, Quebec, Canda; organized chem. control wk. at initial operation; 2½ yrs. at Wayagamack Pulp and Paper Co., Three Rivers, Que., Canada, pulp wood culler, draftsman and chem.; var. positions in Louisiana, incld. organ. of chem. control wk. at Braithwaite in a plant converted from cooking bagasse to cooking wood chips by alkaline proc., operated by Louisiana Pulp and Paper Co.; self-employed for sev. yrs.; foreman for Louisiana Fibre Board Co., Bogalusa, La.; returned to Braithwaite, mill having been taken over by the E-Z Opener Bag Co., chem.; joined staff of Bogalusa Paper Co. (now Gaylord Corp.) and remained for 2 yrs.; in 1918, chem., Stevens Point Pulp and Paper Co., Stevens Point, Wis., mfg. sulphate pulp; 1921, chf. chem. Minnesota and Ontario Paper Co., Internatl. Falls, Minn., mfg. sulphite, sulphate and groundwood pulps, kraft and newsprint papers, Insulite wallboard and container board; served until 1931 when co. went into receivership; returned to Stevens Point Pulp and Paper Co. as control chem. and res. chem. until 1949, when plant discontinued operations. Prelim res. on prods. of phenolic resins and laminated plastics from spray dried solids of spent liquors, produced in mfr. of chem. wood pulp by alkaline proc. Author: "Technology of the Sulphate Process," 1917. Mem.: A.C.S., A.A.A.S. (mem. in German Verein der Zellstoff und Papier Chemiker und Ingenieure was dropped after W.W. I, and of the English Soc. of Chem. Indust. and the T.A.P.P.I. in 1949). Hobbies: skiing, canoeing, general science, psychic research.

MOESEL, F(rederick) Charles, asst. prof., dept. chem. & metall. engrg., U. of Mich., Ann Arbor, Mich.; res. 1700 Fenwood Dr., Ann Arbor.
Chem. engr.; b. Scranton, Pa., Dec. 31, 1915; s. of Frederick (dec.) and Lena (Stoeckel) Moesel (dec.); ed. Lehigh U., B.S. in Ch.E. (summa cum laude), 1939; M.I.T., S.M. in Ch.E., 1940; Sc.D. in Ch.E., 1943 (Natl. Tau Beta Pi Fellow No. 65, 1939-40); mem.: Sigma Xi, Phi Beta Kappa, Tau Beta Pi, Chi Psi, Omicron Delta Kappa, Phi Lambda Upsilon, Alpha Chi Sigma, Pi Mu Epsilon, Phi Eta Sigma, Alpha Phi Omega. Staff asst., res. asst., instr., M.I.T., 1940-43; chem. engr., Al. Co. of Am., New Kensington, Pa., 1943-46; conslt., South Am., 1946-47; asst. prof., chem. & metall. engrg., U. of Mich., 1947 to date. Fireproofing of cotton fabrics; purification of molten al.; cause of sludge formation in die casting holding pots; effect of boron & sodium in al. alloys; syn. lubricants; salting & scaling in evaporator tubes. Mem.: A.I.Ch.E., A.I.C., A.S.M., A.S.E.E., A.A.A.S. Hobbies: wood carving, leather working, violin playing, photography.

MOFFAT, Fraser Muir, Jr., dir., Dyes & Chems. Export Dept., Amer. Cyanamid Co., 30 Rockefeller Pl., N.Y. 20; res. 1035 Park Ave., N.Y. 28.
Chem. engr.; b. Bklyn., N.Y., Aug. 8, 1897; s. of Fraser M. and Elizabeth Churchill (Ripley) Moffat; ed. Williams Coll., A.B., 1918; M.I.T., S.B., 1920; mem.: Delta Psi; m. Lydia Comstock, Sept. 24, 1927; ch.: Fraser M., III, Lydia. 1920-21, asst. supt., Moffat, Cover & Co.; 1921-31, prod. mgr., dir. of mfr., asst. sales mgr., Natl. Aniline & Chem. Co., Inc.; 1931-34, pres., treas., dir.: Earl, Moffat & Co., Inc.; 1934-46, v.p., U.S. Indust. Chems. Inc.; 1947 to date, dir., Dyes & Chems. Export Dept., Amer. Cyanamid Co. 1918,

2nd Lt., Inf., U.S.A.; 1921-34, 1st Lt. Cavalry, O.R.C.; 1921-24; 1st Sgt., B. Troop, Squadron A, N.Y.N.G.; 1942-46, Lt. Col., Colonel, C.W.S., U.S.A.; 1946 to date, Colonel, Hon. Res., U.S.A. 1941-42, chf., Alcohol & Solvents Sec., Chem. Div., W.P.B. Clubs: Williams (N.Y.), St. Anthony (N.Y.), University (N.Y.), University (Wash., D.C.), Union Interalliee (Paris), The Strangers (London). Hobbies: philately, golf.

MOFFETT, Ernest Cutter, adm. tech. dept., Am. Cyanamid Co., 30 Rockefeller Plaza, N.Y. 20, N.Y.; res. 582 Barron Ave., Woodbridge, N.J.
Chem.; b. Fords, N.J., Nov. 17, 1888; s. of Wilbur Halsey and Ann Freemen (Voorhees) Moffett; ed. Rutgers, 1910, B.Sc. (1st Sc. hon. Phi Beta Kappa); M.Sc., 1930; m. Sarah Cutter Voorhees, Sept. 21, 1915; ch.: Grace. 1910-11, U.S. Mtls. Refining Co., Chrome, N.J., control chem.; 1911-16, Central Testing Lab. of City of N.Y., engrg. chem.; 1916-20, secy., treas., dir. of lab., Stillwell Labs. Inc., N.Y.C.; 1920-22, consltg. & res.; 1922-26, chg. res. lab. Am. Cyanamid Co.; 1926-33, asst. to chf. tech.; 1933-44, asst. to v.p. in chg. dev. wk.; 1944 to date, tech. dept. adm. Stillwell Labs. Inc., secy., treas. Several pats. in fld. of liquid bath case hardening of steel, mfr. of cyanides & fumigation of grain. Two magazine articles on case hardening of steel, sec. on the ferro & ferricyanides in "Encyclopedia of Chem. Tech." Mem.: A.C.S.

MOFFETT, George Monroe, chmn. of bd., Corn Products Refining Co., 17 Battery Pl., New York, N.Y.; res. Queenstown, Md.
Exec.; b. Parkersburg, W.Va., Oct. 29, 1883; s. of James Andrew and Kate (Jackson) Moffett; ed. Princeton, Class of 1904; m. Odette Fuller Feder, Aug., 1946; ch.; James Andrew, George Monroe, Jr. Entire business life with Corn Products Refining Co., present position, dir. and chmn.; dir. of Commercial Solvents Corp. and South Porto Rico Sugar Co. Trustee, The Hanover Bank. Trustee, Institute for the Crippled and Disabled. Clubs: Racquet and Tennis, Links.

MOFFITT, William Richard, Western tech. dir., The Borden Co., Chem. Div., 6010 Airport Way, Seattle, Wash.; res. 4533 Bagley Ave., Seattle.
Tech. dir.; b. Pittsburgh, Pa., 1914; s. of S.R. and N. Gibson Moffitt; ed. B.S. Ch.E., U. of Pittsburgh, 1936; mem.: Phi Lambda Upsilon; m. La Verne W., 1940; ch.: Douglas, Vicky. Fellowship asst., Mellon Inst. of Indus. Res., 1936-38; The Borden Co., Chemical Division, 1939 to present; res. chem. and process development chem. engr. 1939-43; res. chem., 1943-45; chf. chem., 1945-48; Western tech. dir. 1948 to present. Res. in fundamentals drying oil synthesis; chem. res. and dev. engrg. prods. & processes in field synthetic resins and natural polymers for adhesives, binders. Mem.: A.C.S., A.I.Ch.E.

MOGENDORFF, Nicholas, prof. natural sc., U. of Toledo, Toledo 6, Ohio; res. 3924 Woodmont Rd., Toledo 13.
Educator; b. Groenlo, The Netherlands, July 24, 1899; s. of Hertog and Meta Frankenhuis Mogendorff; ed. State Agr. Coll., Wageningen (Netherlands) B.S., 1921; M.Sc., 1922; Rutgers U., M.Sc., 1925; U. Wis., Ph.D., 1929; m. Catherine Watson Clifford, Jan. 31, 1931; ch.: Meta Susan. Res. asst., St. Agr. Exp. Sta., New Brunswick, N.J., 1923-25; res. asst., St. Agr. Exp. Sta., Madison, Wis., 1926-29; U. Toledo, asst. prof. natural sc., chem., 1929-34; assoc. prof. natural sc., chem., 1934-42; prof. natural sc., chem., 1942 to date. Res. in fungicides, insecticides. Author: "Chem. Factors Invol. in Arsenical Injury of Fruit Trees," 1925; "Fernleaf of Tomato," 1930. Mem.: Phi Sigma, Sigma Xi, A.A.U.P., Ohio Acdy. Sc., Mich. Acdy. Sc., Arts, Letters, A.A.A.S.

MOGERMAN, William David, editor, "Inco Corrosion Reporter," Internatl. Nickel Co., 67 Wall St., N.Y.C.; res. 190-06 D 69th Ave., Flushing, L.I., N.Y.
Chem., writer; b. Phila., Pa., July 24, 1903; s. of Benjamin and Kate (Goorland) Mogerman; ed. U. of Mo., 1929, A.B.; grad. courses in a number of other universities; mem.: Phi Beta Kappa, Sigma Xi; m. Elsa Gaylord, 1936; ch.: Kate. Natl. Bur. of Stands., assoc. chem., 1929-44; Internatl. Nickel Co., tech. writer, 1945 to date. Standardization of meths. for non-ferrous metal anal.; distillation of volatile metals for anal. purposes; internal electrolysis; corrosion studies. Mem.: A.C.S., A.S.T.M. (conslt. to comm. E-3).

MOHLMAN, Floyd William, dir. of labs., Sanitary Dist. of Chicago, 910 S. Michigan Ave., Chicago, Ill.; res. 10724 Drew St., Chicago.
Chem.; b. Beardstown, Ill., Mar. 6, 1890; s. of Henry J. and Mary E. Mohlman; ed. U. of Ill., Ph.D., 1916; mem.: Kappa Sigma, Alpha Chi Sigma, Phi Lambda Upsilon; m. Mary Franklin Savage, June 29, 1916; ch.: William, Robert, David. 1914-16, Ill. State Water Survey; 1916-19, Conn. State Dept. of Health; 1919 to date, Sanitary Dist. of Chicago; 1941-47 visiting prof., Ill. Inst. Tech.; conslt., indus. waste disposal, various industries; sub-chmn., Comm. of N.R.C., 1943-47; chmn., Sanitation Div., A.C.S. Author arts. on sewage treat., disposal indus. wastes, stream poll.; editn., "Sewage Works Jl." Mem.: A.C.S. (past chmn. Div. Water, Sewage & Sanit.), A.I.Ch.E., Sigma Xi. Club: University (Chicago). Hobbies: music, fishing.

MOHRHOFF, William H., supt., antibiotic div., Parke, Davis & Co., Detroit 32, Mich.; res. 1536 Pennsylvania Ave., Detroit 14.
Chem. engr.; b. Pittsburgh, Pa., Dec. 14, 1911; s. of William F. and Ida E. (Schuh) Mohrhoff; ed. B.S. (engrg.), 1934, U. of Mich.; mem.: Lambda Chi Alpha, Tau Beta Pi. 1934-40, glandular extract dept., Parke, Davis & Co., supvr.; 1941-42, asst. to gen. supt.; 1943-45, mgr. of plasma dehydrating sec.; 1946 to date, supt. of antibiotic div. Mem.: Tau Beta Pi, A.I.Ch.E. Hobbies: golf, bowling, fishing, amateur photography.

MOHRMAN, Harold Wilbur, dir. res., Monsanto Chem. Co., 812 Monsanto Ave., Springfield, Mass.; res. 19 Ford St., Springfield.
Chem.; b. Quincy, Ill., Oct. 1, 1917; s. of Wilbur H. and Florence (Meise) Mohrman; ed. U. Ill., B.S., 1939; m. Joyce Kiss, Sept. 1, 1939; ch.: Joan, Donna, Phyllis. Monsanto Chem. Co. since 1939; 1939, res. chem.; 1940-46, group leader; 1946-50, asst. dir. of res.; 1950 to date, dir. of res. Pats. & publ. in fld. of condensation resins. Mem.: A.C.S., A.A.A.S. Hobby: North American archaeology.

MOLINARI, Vittorio, div. hd., raw matls. & org. chem. div., develop. dept., Bakelite Div., Union Carbide & Carbon Corp., Bound Brook, N.J.; res. 1285 Arlington Ave., Plainfield, N.J.
Chem.; b. Piovene, Italy, May 15, 1896; s. of Ettore and Elena Molinari; ed. Polytech. Inst., Milano, Italy, Dr.Ch.E., 1919; U. of Milano, Prof. Ch.E., 1930; m. Nelda Vezzoli. Industrianazionale Colori & Anilina, 1920-21, chem. dir.; Consorzio Romagnolo Industria Tartarica 1921-22, dir. chem. engrg.; Inst. Indust. Chem., 1922-29, prof. chem.; Bakelite Corp., 1930 to date, div. hd. Purification and prod. of phenols; raw matls. and org. chems. for plastics. Author: "Indust. Chem.," 1930 (with E. Molinari). Mem.: A.C.S., A.A.A.S., S.C.I., A.I. Ch.E. Hobbies: boccie (Italian bowling), rowing.

MOLITOR, Hans, dir., Merck Inst. for Therapeutic Res.; res. 9 Iroquois Dr., Cedarcroft, Metedeconk, N.J.
Pharmacol.; b. Maffersdorf, Czechoslovakia, Aug. 10, 1895; s. of Emil and Lydia (Schmid) Molitor; ed. Volksschule, Maffersdorf, grad, 1905; Staatsgymnasium, Reichenberg, Czech., grad., 1913; U. Vienna, Austria, grad., 1921, M.D. Asst. prof. pharmacol., U. Vienna Med. Schl., 1922-26; Rockefeller traveling fellow, Edinburgh & London, 1924; privat-dozent (lecturer) pharmacol. & toxicol., U. Vienna Med. Schl., 1927-28; assoc. prof. 1928-32; dir., Merck Inst. for Therap. Res., Rahway, N.J., 1932 to date. Studies on nervous & hormonal regulation of water metabolism, physiol. & pharmacol. of sleep, liver hormones, preanesthetic medication, water soluble vitamins, bioassay technis, chemotherapy, antibiotics; engaged in dev. of exptl. meths. for determination of safety & therapeutic value of new drugs. Mem.: Am. Physiol. Soc., Am. Soc. Pharmacol., S.E.B.M., Am. Soc. Tropical Med., A.A.A.S. (fellow), Natl. Malaria Soc., South. Med. Assn., Internatl. Coll. of Anesth. (fellow), Phila. Physiol. Soc., N.Y. Acdy. of Sc. (fellow). Club: Colonia Country (Colonia, N.J.).

MOLSTAD, Melvin Carl, prof. chem. engrg., U. of Pa., Engrg. Bldg., Phila. 4, Pa.; res. 530 Riverview Rd., Swarthmore, Pa.
Tchr.; b. Spring Valley, Minn., Nov. 18, 1898; s. of Kleber G. and Josephine (Sorenson) Molstad; ed. Carleton Coll., B.A., 1920; M.I.T., B.S. (Ch.E.), 1923; Yale, Ph.D., 1930; mem.: Alpha Chi Sigma, Sigma Xi; m. Barbara Van Tuyl, Dec. 27, 1924; ch.: Katharine. Fixed Nitrogen Res. Lab., jr. chem. 1920-21; chem. engr., 1923-26; Yale U., instr. 1926-29; asst. prof., 1931-39; E.I. du Pont de Nemours & Co., chem. engr., 1929-31; U. of Pa., assoc. prof. 1939-42; prof., 1942 to date; Atlantic Refining Co., conslt. summer 1941; Davison Chem. Corp., conslt., 1942 to date. Absorption, catalysis & crystallization. Mem.: A.I.Ch.E., A.C.S., Am. Soc. for Engrg. Ed., Franklin Inst. Clubs: Appalachian Mountain, Adirondack Mountain, Phila. Trail, Lenape.

MONKHOUSE, George R., gen. mgr., Western Div., Shell Chem. Corp., 100 Bush St., San Francisco, Calif.; res. 1751 Green St.
Exec.; b. England, Apr. 11, 1903; s. of G. Norman and Winifred (Simpson) Monkhouse; ed. Wellington Coll., England, London U.; m. Dixie Scales, Jan. 12, 1950. Shell Oil Co., London, Bombay, St. Louis, Mo., Hartford, Conn., Cleveland, Ohio, Minneapolis, Minn., 1922-42, div. mgr.; A.U.S. 1943-45, Lt. Col.; Shell Chem. Corp., 1945 to date; gen. mgr., Eastern Div., 1946-48, Western Div., 1948 to date; asst. secy., Shell Chem. Corp. Clubs: University, Olympic (San Francisco), Chemists' (N.Y.). Hobbies: golf, music, art, literature.

MONRAD, Carl Corydon, prof., hd. dept. of chem. engrg., Carnegie Inst. of Tech., Pittsburgh 13, Pa.; res. 339 Inglewood Dr., Pittsburgh 16.
Chem. engr.; b. Buffalo, N.Y., Jan. 15, 1905; s. of Charles Olaf and Wilhelmina (Lagergren) Monrad; ed. B.S.E., U. of Mich, 1927; M.S.E., 1928, Ph.D., 1930; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Tau Beta Pi, Sigma Xi; m. Christine Clark, Sept. 27, 1930; ch.: Margaret Eleanor, Donald Richard. Res. chem. engr., Standard Oil Co. (Ind.), 1930-37; assoc. prof., Carnegie Inst. of Tech., 1937-42; prof., 1942 to date; hd., dept. of chem. engrg., 1947 to date. Asst. group exec., Natl. Defense Advisory Comm., 1940-41; conslt. on chem. industry, W.P.B., 1941-42; chf. Butadiene & Styrene Branch, Office of Rubber Dir., 1942-44; conslt., Rubber Reserve Co., 1944-45. Numerous arts. on heat transfer, pet. refining, fluid dynamics. Mem.: A.C.S., A.I.Ch.E., Am. Soc. for Engrg. Education. Hobbies: violin, gardening.

MONSON, Louis Travis, chf. chem., Tretolite Co. of Calif., 5515 Telegraph Rd., Los Angeles 22, Calif.; res. 3076 Turnbull Canyon Rd., Puente, Calif.
Chem., chem. engr.; b. St. Louis, Mo., July 14, 1903; s. of Magnus and Sophie (Moellmann) Monson; ed. Wash. U., St. Louis, B.S. (chem. engrg.), 1924, M.S. (chem.), 1926; Tau Beta Pi, Sigma Xi, final honors, alumni prize; mem.: Sigma Phi Epsilon, Alpha Chi Sigma; m. Victoria Gratiot Carter, June 1, 1927; ch.: Julie Andrews (Monson) Atterbury, Anne Carter. Tretolite Co., St. Louis, chem., 1926-31; Tretolite Co. of Calif., chem., chf. chem., 1931 to date. Licensed Chem. Engr., State of Calif. Patentee or co-patentee, 30 U.S. pats. in flds. of chem. demulsification, foam prevention, wax and mud removal in oil prod.; approx. 10 tech. articles in magazines; chapt. on demulsification, Alexander, "Colloid Chem.," Vol. VI. Mem.: A.C.S., Natl. Assn. of Corrosion Engrs. Hobby: growing avocados.

MONTGOMERY, Jack P(ercival), prof., emeritus, org. chem., U. of Alabama, Drawer H, University, Ala.; res. 1918 9th St., Tuscaloosa.
Prof. emeritus, consltg. chem.; b. Columbus, Miss., July 18, 1877; s. of David H. and Annie (Stinson) Montgomery; ed. Southwestern, B.A. (first hons.), 1899; M.A., 1900; U. of Va., Ph.D., 1903; summer courses, U. of Chicago, Armour Inst., Columbia, Johns Hopkins; mem.: Pi Kappa Alpha, Phi Beta Kappa, Omicron Delta Kappa; m. Adeline Hudson Harrison, July 18, 1917; ch.: Belle (Montgomery) Chenault. Miss. A.&M. Coll. (now Miss. State), asst. prof. chem., asst. state chem., 1904-11; asst. prof. chem., U. of Ala., 1911-18; prof. org. chem. 1918-48; prof. emeritus, 1948 to date; summer schl., U. of Va., prof. chem., 1926-27. Academic, with emphasis on advisory wk. with student groups; advisor to premedical students, 1918-48; founder of the Alpha Epsilon Delta Premedical Soc.; various grand offices & editorship of publ. in the Gamma Sigma Epsilon chem. frat. & the Chi Beta Phi sc. frat. Several mimeographed issues of lab. manuals in gen. chem. & org. chem. Mem.: A.C.S., A.I.C. (charter & life mem.), Chem. Soc. (London), Phi Beta Kappa, Phi Beta Pi, Gamma Sigma Epsilon, Chi Beta Phi. Clubs: Kiwanis (Tuscaloosa), University.

MONTONNA, Ralph E(ugene), dir., engrg. exp. sta., U. of Minnesota, Minneapolis 14, Minn.; res. 1499 N. Cleveland Ave., St. Paul 8, Minn.
Chem. engr., prof., res. admn.; b. Cape Vincent, N.Y., Oct. 13, 1894; s. of William E. and Alberta V.V. Montonna; ed. Syracuse U., B.S. (chem.); Yale U., Ph.D.; mem.: Alpha Chi Sigma, Sigma Xi; m. Mary Louise Light, June 30, 1919; ch.: Margaret Ann Emmons, Mary Lou. 1916-17, Merrell-Soule Co., Syracuse, N.Y.; 1918-19, Solvay Proc. Co., Syracuse; 1919-20, U.S. Color & Chem. Co., Ashland, Mass.; 1921, Semet-Solvay Co., Syracuse; 1922-24, Yale U.; 1924-46, U. Minn., asst. prof., prof. chem. engrg., asst. dean grad. schl., dir. Minn. Inst. Res.; 1946-50, Syracuse U. prof. chem. engrg., dir. inst. indus. res. Lecturer in chem. econ., U. Birmingham (England), 1937-38; Distinguished Service Lecturer, Texas A.&M. Coll., 1940. Mem.: A.C.S., A.I.Ch.E., A.I.C., Am. Soc. Engrg. Ed., A.A.A.S., A.A.U.P., Sigma Xi, Phi Lambda Upsilon, Tau Beta Pi. Clubs: Campus, Skylight. Hobbies: gardening, history.

MOODY, Warren Lafayette, owner, Robb & Moody, Chemists, 5 N. 6th St., Richmond, Va.; res. 4104 Cary St., Richmond.
Conslt., chem.; b. Mt. Airy, N.C., May 17, 1894; s. of William B. and Olive R. Moody; ed. N.C.

State, B.S. (chem.); mem.: Kappa Sigma; m. Margaret Janet McCready, June 30, 1916; ch.: Mrs. John C. Swan, Warren L. Moody, Jr.; grandch.: Irene Moody Swan, Jack Clark Swan. Nitrogen Prods. Co., Saltville, Va., 1915-17; Southern Railway System, Alexandria, Va., 1917-21; Robb & Moody, chemists, Richmond, Va., 1921 to date. Amatis Co. Inc., pres; Sorbtex Foundation, trustee. Mem.: A.C.S., Va. Acdy. Sc.

MOOMAW, William A., mgr., Dominion Labs., 301 E. Franklin St., Richmond 19, Va.; res. 4914 Grove Ave., Richmond 26, Va.
Chem. exec.; b. Rocky Point, Va., July 10, 1907; s. of Nathan R. and Emma (Houser) Moomaw; ed. B.S., U. of Va., 1929; M.A., U. of Cincinnati, 1932; Ph.D., Chem., 1933; mem.: Alpha Chi Sigma, Sigma Xi; m. Thelma Crouch Moomaw, Aug. 27, 1933; ch.: Mary Virginia. Asst. chem., U. Va., 1929-30, Cincinnati, 1930-33; prof. Shenandoah Coll., 1933-34; dir. res., Wm. P. Poythress and Co., 1934-39; instr. chem., Medical Coll. of Va., 1941-47; mgr., Dominion Labs., 1939 to date. Synthesis organic cmpds. by condensation; synthesis and resolution of asymetric cmpds.; cmpds. exerting germicidal and antiseptic action, control of toxins in the human organism. Mem.: A.I.C., A.C.S. Club: Hunting and Fishing.

MOORE, Arthur Allen, principal chem. engr., Koppers Co., Inc., Res. Dept., Kearny, N.J.; res. 234 Walnut St., Nutley 10, N.J.
Chem. engr.; b. Spokane, Wash., July 11, 1903; s. of Oliver P. and Hettie M. Moore; ed. Wash. State Coll., 1927, B.S. Ch.E.; mem.: Theta Xi; m. Vivienne M.; ch.: Richard A. 1927-28, Bunker Hill & Sullivan Mining & Smelting Co., Kellogg, Idaho, shift foreman; 1928-42, Allied Chem. & Dye Corp., Syracuse, N.Y., Hopewell, Va., res. chem. engr.; 1942 to date, Koppers Co., Inc., gen. foreman Kobuta Rubber Plant, res. chem. engr., Kearny, N.J. Mem.: A.C.S., A.I.Ch.E. Hobby: philately.

MOORE, Chas. Greenwood, tech. dir., Nubian Paint & Varnish Co., 1856 N. Leclaire Ave., Chicago 39, Ill.; res. 826 N. Euclid Ave., Oak Park, Ill.
Exec.; b. Marlboro, Mass., Dec. 8, 1899; ed. M.I.T., S.B., 1922; Eid. Tech. Hochschule, Zurich, Switzerland, D.Sc., 1925; m. Julia Allmond, Oct. 27, 1927; ch.: 1 son, 1 dau. Natl. Aniline & Chem. Co., res. chem., 1925; du Pont Co., res. chem., 1926-27; Glidden Co., res. chem., 1927-34; Pure Calcium Prod. Co., sales engr., 1934-36; Nubian Paint & Varnish Co., res. chem. 1936; tech. dir. to date. U.S. Naval Res. 1918-19. Res. and devel. in alkyd resins and allied paint flds. Mem.: A.I.C. (fellow), A.C.S., A.S.T.M, Masons, Chicago Paint & Varnish Production Club, Society of Gallows Birds.

MOORE, Clark Meeker, mgr., food sanitation dept., Cowles Chem. Co., 7016 Euclid Ave., Cleveland 3, O.; res. 2847 Sedgewick Rd., Shaker Heights 20, O.
Sales mgr; b. Kansas City, Mo., Jan. 23, 1906; s. of Guy A. and Grace Moore; ed. B.S. Chem. Engrg., U. of Kansas, Lawrence, Kansas, 1927; mem.: Beta Theta Pi; m. Dorothy Easton, May 20, 1930; ch.: Clark M., Michael Lynn. Control chem., Victor Chem. Wks., Chicago, Ill., 1927-30; tech. dir., dir. of res., The Diversey Corp., Chicago, 1930-45; mgr., food sanitation dept., Cowles Chem. Co., 1945 to present. Res. and patents on chem. feeders, bake pan. Mem.: Inst. of Food Techs., Am. Dairy Sc. Assoc., Assoc. of Milk and Food Sanitarians, Am. Soc. Bakery Engrs., Am. Soc. Brewing Chems., Master Brewers Amer. Hobbies: fishing, golf, woodworking, photography.

MOORE, Edmond E., hd., spec. proj. res., Abbott Labs., North Chicago, Ill.; res. 1435 North Ave., Waukegan, Ill.
Chem.: b. Aug. 14, 1896; s. of Edmond E. and Eliza (McCarthy) Moore; ed. Worcester Polytech. Inst., B.A., 1914; Ia. St. Coll., Ph.D., 1928; m. Marjorie Barr, June 18, 1924; Atlas Powder Co., chem., 1918-19; Peoples Gas Co., Chicago, chem., 1919-20; Wash. St. Coll., instr., 1920-22; Ia. St. Coll., asst., 1922-24, 1926-28; Hedding Coll., prof., 1924-26; Swen-Myers Co., chf. chem., 1928-30; Abbott Labs., res. chem., 1930-46; hd. spec. projs. res., 1946 to date. Synthetic medicinal prods. Mem.: A.C.S., A.A.A.S., Ill. Acdy. Sc., A.Ph.A., Sigma Xi, Phi Lambda Upsilon, Gamma Sigma Delta. Clubs: Chicago Chem., Waukegan Yacht. Hobbies: sailing, photography.

MOORE, Howard Roswald, res. engr., matls., proc., U.S. Naval Air Dev. Center, Johnsville, Pa.; res. 908 Concord Ave., Drexel Hill, Pa.
Chem.; b. Chicago, Ill., Oct. 4, 1901; s. of Eugene Howard and Jessie (Compton) Moore; ed. U. Chicago, S.B., 1921; S.M., 1922; Ph.D., 1924; m. Mary Colette Brode, Dec. 13, 1930; ch.: Howard R., Jr., Ruth Evangeline, Jean Margaret, William Brode. Res. chem., Eastman Kodak Co., 1925-27; U.S. Bur. Stands., 1927-30; Celanese Corp. Am., 1930-33; Am. Cyanamid Co., 1934-36; Interchem. Corp., 1936-37; Devoe & Raynolds Co., 1937; Phila. Naval Shipyard, 1938-48; Aero. Electronic Elec. Lab., N.A.D.C., 1948 to date. Res. in aerated resins for wrinkle finishes, synth. finishes for inter., exter. use on naval vessels; meth. of inhibiting corrosion of steel during pickling, wet sandblasting; org. foams for radomes, electronic circuits; patents on coating analyzer, electrothermal tester, alkyd resins, rust inhibitors, foam potting compositions. Mem.: A.I.C. (fellow), A.A.A.S. (fellow), A.S.T.M., A.C.S., Federation Paint, Varn., Lacq. Prod. Clubs, Sigma Xi. Hobby: loafing.

MOORE, James Henry, dir., metals res. dept., Natl. Research Corp., 70 Memorial Dr., Cambridge, Mass.; res. 27 Fuller Ave., Swampscott, Mass.
Metallurg.; b. Providence, R.I., Feb. 9, 1919; s. of Leslie A. and Agnes B. Moore; ed. B.S., M.I.T., 1940; graduate wk., Carnegie Tech. & M.I.T.; m. Beverly H. Bridge, Apr. 11, 1943; ch.: Carol Ann, Judith Ellen. Metallurgist, Aluminum Co. of Amer., 1940-42; Res. Officer, U.S.A.A.F., 1942-46; metallurg., project mgr., Natl. Res. Corp., 1946-48; dir. metals res., 1948 to date. Mem.: A.S.M., Amer. Ordnance Assoc., A.I.M.E., A.A.A.S. Hobbies: tennis, skiing, sailing.

MOORE, Joseph B., v.p., McLaughlin Gormley King Co., 1715 Fifth St., S.E., Minneapolis, Minn.; res. 5100 Grove St., Minneapolis.
Entomologist; b. Potchefstroom, Transvaal, Union of South Africa, Dec. 17, 1910; s. of William and Mary B. Moore; ed. Cornell U., B.S., 1933; M.S., 1935; Ph.D., 1937; m. Jane Elizabeth Ross, Oct. 2, 1937; ch.: Sarah Beth. 1934-39, asst. in res., Geneva Exper. Sta., Geneva, N.Y.; 1939, asst. entomolog., Wash. State Coll., Wenatchee, Wash.; 1939 to date, res. entomolog., McLaughlin Gormley King Co.; dir. and v.p., McLaughlin Gormley King Co.; dir. McLaughlin Agric. Chems. Inc. Mem.: A.C.S., Am. Assoc. of Econ. Entomologists. Hobby: flying.

MOORE, Leonard Patrick, mgr., new prods. dev. dept., Am. Cyanamid Co., 30 Rockefeller Plaza, N.Y. 20, N.Y.; res. Box 277, R.R. 1, Ponus Ridge, New Canaan, Conn.
Chem. engr.; b. Eagle Bend, Minn., Mar. 24, 1908; s. of Edward V. and Ellen Elizabeth Moore; ed. Coll. of St. Thomas, St. Paul, Minn., 1924-25; U.

of Minn., 1925-29, B.Ch.E.; McGill U., 1929-30, M.Sc.; 1930-33, Ph.D.; mem.: Sigma Xi (Kappa Chapter, Columbia U., N.Y. since 1930); m. Sarah-Elizabeth Rodger, May 5, 1945; ch.: Michael Bruce, Clement Henry. 1934-36, res. syn. resins, Am. Cyanamid Co., Stamford, Conn., 1936-44, dev. engr.; 1944-46, mgr., new prod. dev., Celanese Corp. of Am., N.Y.C.; 1946-49, foreign tech. rep., Am. Cyanamid Co.; 1949 to date, mgr., new prods. dev. dept. Mem.: A.C.S., A.I.Ch.E., A.I.C., Acdy. of Political Sc., Sigma Xi. Clubs: Chemists' (N.Y.), Tokeneke (Darien, Conn.).

MOORE, Marjorie Barr, group leader, Abbott Labs., North Chicago, Ill.; res. 1435 North Ave., Waukegan, Ill.
Chem., org. res.; b. Kansas, Ill., Aug. 12, 1896; dau. of Walter H. and Ada (Reat) Barr; ed. Purdue U., Ph.C. B.S., 1919; Iowa State Coll., M.S., 1924; Ph.D., 1928; mem.: Pi Beta Phi; m. Edmond E. Moore, 1924. 1919-20, Cragmont, Madison, Ind., pharmacist; 1920-21, Eli Lilly & Co., anal. chem.; 1921-22, Purdue U., grad. asst.; 1922-24, Iowa State Coll., grad. asst., instr.; 1925-26, Hedding Coll., assoc. prof. chem. & physics; 1926-28, Iowa State Coll., grad. asst.; 1929-31, Swan-Myers Co., res. chem.; 1931 to date, Abbott Labs., res. chem. Res. on chem. of allergens; syn. of medicinal prods.; about 40 papers & pats. Mem.: A.C.S., A.Phar.A., Sigma Xi, Sigma Delta Epsilon, Iota Sigma Pi, Pi Mu Epsilon, Gamma Sigma Delta. Hobbies: sailing, photography.

MOORE, Maurice Lee, dir., res. labs., Smith, Kline & French Labs., 1530 Spring Garden St., Phila. 1, Pa.; res. 303 Upland Rd., Havertown, Pa.
Medicinal chem.; b. Laurel Hill, Fla., Sept. 11, 1909; s. of Daniel Richmond and Maggie Alice (Steele) Moore; ed. B.S., U. of Fla., 1930; M.S., 1931; Ph.D., Northwestern U., 1934; fellow, Yale, 1934-36; mem.: Phi Kappa Phi, Sigma Xi, Alpha Epsilon Delta, Alpha Chi Sigma, Gamma Sigma Epsilon, Phi Sigma, Assoc. of College Honor Soc., Delta Chi; m. Charlotte M. Holg, Dec. 2, 1933; ch.: Daniel Richmond, Margaret Anne, Amanda Lee. 1927-29, lecture and lab. asst., gen. chem. and biol., U. of Fla.; 1928-30, lecture asst., comparative anatomy and embryology; summer 1929, part-time 1930-31, analyst, soil survey, dept. of chem. & soils, Agr. Exper. Sta., Gainesville, Fla.; summer 1930, chem., plant control labs., Phosphate Mines, Internatl. Agr. Corp., Mulberry, Fla.; 1930-31, grad. asst., anl. chem., U. of Fla.; 1931-34, asst. instr., gen. chem., Northwestern U. Dental Schl., Chicago; summer, 1933, grad. lab. asst., org. chem., Northwestern U.; 1934-36, res. fellow in org. chem., Yale U.; 1936-43, org. res. chem., Sharp and Dohme, Phila.; 1943-47, dir. of org. res. and 1945-47, asst. dir. of res., Frederick Stearns & Co., Detroit; 1947 to date, dir., res. labs., Smith, Kline & French Labs., Phila., Pa. Molecular rearrangements of org. sulfa cmpds.; the chemotherapy of sulfonamides; dev. of anti-spasmodic and sympatholytic agents. Mem.: A.C.S., A.Phar.A., Amer. Drug. Mfrs. Assn. (Res. & Devel. Sect., secy., 1949 to date), Mich. Acdy. of Pharmacy, S.C.I., Am. Soc. of Human Genetics, N.Y. Acdy. of Sc., Assoc. of Res. Dirs., A.A.A.S. (fellow), A.I.C. (fellow), Alpha Epsilon Delta (Natl. Premed. Honor Soc., natl. secy.). Clubs: Chemists' (N.Y.), University (Phila.). Hobby: gardening.

MOORE, N. Hunt, asst. mgr., Delta Prods. Co., Wilson, Ark.; res. 30 Adams St., Wilson.
Chem. engr.; b. Milan, Tenn., Apr. 11, 1914; s. of Yates and Lila Belle (Hunt) Moore; ed. Memphis St. Coll., 1932-35; U. Tenn., 1937-41, B.S. Ch.E.; mem.: Alpha Chi Sigma; m. Patricia Gerrie, May 27, 1945; ch.: Jack Gerrie, Katheryn Hunt. Allis Chalmers, 1941-45, des. solv. plants; Delta Prods., 1945-48, installation, operation of solv. plant on cottonseed; 1948-50, operation cottonseed oil mill; install., hd. of solv. plant; 1950 to date, chg. operation cottonseed oil mill, veg. oil ref., hydrog. gas plant, shortening, oleomargarine prod. Des. & operated pilot plant solv. extraction cottonseed; helped on des. & erect., started up first comm. solv. extract. plant on cottonseed in country; instal., operat. first prep. operation on cottonseed. Mem.: A.I.Ch.E., A.O.C.S., Tri State Oil Mill Supt. Assn. (pres.).

MOORE, Paul Joaquin, prof. chem., W.Va. State Coll.; res. Institute, W.Va.
Tchg.; b. Pasadena, Calif.; s. of James Grozier and Mollie Catherine (Stoner) Moore; ed. U. of Southern Calif., Ph.C., 1923; B.S., 1925; M.S., 1926; mem.: Kappa Alpha Psi. 1926-27, Va. State Col., instr. chem. & physics; 1927 to date, W.Va. State Coll., instr. in chem. to 1932; assoc. prof. to 1942; prof., 1943 to date. Div. Educ., A.C.S. Testing Program; co-author A.C.S. Org. Chem. Forms T-U-W & Y; A.C.S. Quan. Anal. Form T. Co-author: "Study Questions & Probs. in Gen. Chem." (with Wallace), 1943; "Lab. Manual for Coll. Chem." (with Wallace), 1948 (mimeograph). Mem.: A.C.S., W.Va. Acdy. of Sc., Beta Kappa Chi, Am. Teachers Assn., W.Va. Teachers Assn., A.A.U.P Clubs: Research Council, Bachelor, Benedict. Hobby: athletics (chmn. athletic comm., W. Va. State Coll.; pres. C.I.A.A., 1948 to date).

MOORE, Richard L., asst. to pres., Foster D. Snell, Inc., 29 W. 15th St., N.Y. 11, N.Y.; res. 47 Farrandale Ave., Bloomfield, N.J.
Dir. of adv. & promotion; b. Palisade, N.J., Nov. 11, 1923; s. of Robert J. and Sarah G. Moore; ed. A.B. (chem.), Bucknell U., 1947; M.A. (economics), 1948; mem.: Sigma Chi; m. Dorothy Dillenback, Sept. 13, 1944; ch.: Diana Lindsay, Patricia Ann. 1941, lab. asst., varn.-resin div., Bakelite Corp.; 1941-43, Bucknell U., student; 1943-46, U.S.N. commanding officer LC1(L); 1946-48, grad. student, chem. lab. asst., Bucknell; 1948 to date, asst. to pres., Foster D. Snell, Inc. Mem.: Alpha Chi Sigma, A.I.C. Clubs: Sigma Chi, U.S. Naval Res. (Lt. j.g.; Reserve Cruise Training Officer). Hobbies: stamps, gardening, bridge.

MOORE, Robert Law, dir. res. & prod. dev., Raybestos Manhattan Corp., U.S. Asbestos Div., Manheim, Pa.
Chem. engr.; b. Meadville, Pa., Jan. 10, 1895; s. of Rollin L. and Katherine (Sherman) Moore; ed. Allegheny Coll. B.Sc., 1917; mem.: Alpha Chi Sigma, Phi Kappa Psi; m. Bertha Langley, Mar. 5, 1920. 1917-19, sgt., C.W.S., U.S.A. Am. U., Exp. Station, Wash., D.C.; 1919-32, chf. chem., Thermatomic Carbon Co, Pitts., Pa.; 1932-36, res. dir., Marshall Eclipse Asbestos Corp., Troy, N.Y.; 1936-42, prod. supt., asphalt tile plant, Johns Manville Corp., Manville, N.J.; 1942-47 res. compounder, Vinyl Plastics Goodyear Tire & Rubber Co., Akron, Ohio; 1947-49 v.p., res. & dev., Robbins Tire & Rubber Co., Tuscumbia, Ala.; 1949 to date, dir. res. & prod. dev., U.S. Asbestos Div., Raybestos Manhattan Corp., Manheim, Pa. Pats. & tech. papers published on thermal decomposition carbon black; pigments for rubber & vinyl plastics. Mem.: A.C.S., A.A.A.S., Soc. Plastic Engrs. Clubs: Masons, Am. Auto. Assoc. Hobby: kodachrome photography.

MOORE, Robert Sydney, district mgr., Quaker Chem. Prods. Corp. of Conshohocken, Pa., 15330 Idaho, Detroit 3, Mich.; res. 14608 Vaughan Ave., Detroit 23.
Chem., exec.; b. London, Canada, June 8, 1916; s. of Stanley Roy and Hazel Marlowe (Tait)

Moore; ed. U. of Western Ontario, B.A., 1938, gold medalist; Calif. Inst. of Tech., M.S., 1940; mem.: Delta Upsilon; m. Juliette V. Guzevich Myers, Apr., 1941; ch.: Jonathon Robert, Cynthia Jean. Res. chem., Union Oil Co. of Calif., 1940-43; Quaker Chem. Prods. Corp., res. chem., 1943-46; res. & dev. engr., 1946; dist. mgr., Michigan, 1947 to date. Assn. of silver ion with Cis & trans isomer (CalTech). Mem.: A.C.S., A.A.A.S., A.S. M., A.S.T.E., A.I.S.E., A.S.L.E., Engrg. Soc. of Detroit. Club: Plum Hollow (Detroit).

MOORE, Samuel A., mgr. field dev. & polyfax process dept., Interchem Corp., 1754 Dana Ave., Cincinnati 7, Ohio; res. 14 Denny Pl., Cincinnati 27.
Indust. engr.; b. Mich., Apr. 11, 1909; s. of W.A. Moore; ed. G.M. Inst. Tech., B.S. Engrg., 1926-30; mem.: Gilgal; m. Jane Hyett, 1936; ch.: Phebe Jane, Mary Martha. 1930, Buick Motor Car Co., indus. engr.; 1933, A.C. Spark Plug div., Gen. Motors, proc. engr.; 1938, Interchem. Corp., mgr. prod. engrg. dev.; mgr. field dev. & mgr. polyfax proc. dept. Patents in bituminous adhesive, composition of matter, printing fixtures for glass dials. Mem.: S.P.I., I.C.S. Hobbies: many.

MOORE, Thomas E(arl), dir. res., The Ransom & Randolph Co., 324 Chestnut Street, Toledo 1, Ohio; res. 2348 Middlesex Dr., Toledo 6.
Chem.; b. Jewett, O., Apr. 19, 1889; s. of Samuel G. and Laura (Peoples) Moore; ed. B.A., Mount Union, 1910; M.S., State U. of Iowa, 1913; Ohio State U., 1913-14; mem.: Phi Lambda Upsilon; m. Bertha G. Schaub, 1913; ch.: Madelyn (Moore) Metzger, Kenneth F. Moore. Instr. of chem., Charles City Coll., 1910-12; instr. chem., Ohio State U., 1913-14; instr. chem., Toledo High Schools, 1914-18; chem., The Ransom & Randolph Co., 1918-22; dir. of res., 1922 to present. Dental mtls., mold mtls. for precision casting. Mem.: A.C.S. (chmn., Toledo sec., 1922), A.S.M., Intl. Assoc. for Dental Res. (chmn., materials group 1938; treas., 1950). Clubs: Chemists' (N.Y.), Kiwanis, Sylvania Country. Hobbies: photography, golf.

MOORE, Thomas R., Jr., sales service mgr., Gen. Dyestuff Corp., Antara Prods. Div., 435 Hudson St., N.Y.C.; res. Stamford, Conn.
Sales engr.; b. Roanoke, Va., Apr. 23, 1910; s. of Thomas R. and Durah M. Moore; ed. Va. Polytech. Inst., B.S., elec. engrg., 1931; mem.: Pi Delta Epsilon; m. Helen Smith Sorensen, Nov. 27, 1947; ch.: Helen, Edward, Carol, James. Sherwin-Williams Co., salesman (trade sales), 1935-41; Natl. Carbon Co., Inc., sales engr., 1941-46; Gen. Aniline & Film Corp., Antara Prods. Div., sales mgr., 1946-50, sales service mgr. 1950 to date; 3 yrs. U.S. Naval Reserve 1943-46. Ordnance Specialist, final rank Lt., U.S.N.R. Mem.: Metal Powder Assn. (dir). Club: Stamford Yacht. Hobbies: music, golf, fishing, hunting, family.

MOORE, Thomas Verner, mgr., prod. res. dept., Standard Oil Dev. Co., 15 West 51st St., N.Y.; res. 33 Buckminster Lane, Manhasset, L.I., N.Y.
Chem. engr.; b. Omaha, Nebr., Sept. 5, 1907; s. of Stuart B. and Nancy (Barbour) Moore; ed. Va. Military Inst., 1922-25, B.S.; Rice Inst., 1925-26, B.A.; 1926-27, Ch.E.; M.I.T., 1928-29, M.S. Ch.E.; m. Kathleen Houseman, 1935; ch.: Thomas Verner, Jr. 1927, chem., Central Crown Pet. Corp., Pasadena, Tex.; 1927-28, chem. engr., Humble Oil & Refining Co., Baytown, Tex.; 1928-29, res. asst., Res. Lab. of Applied Chem., M.I.T.; 1929-45, res. asst., Humble Oil & Refining Co., Houston, Tex., loaned to Metallurg. Labs., U. of Chicago, 1942-43, loaned to M.I.T., Cambridge, Mass., 1943-45, mem. of Sec. 11.3, N.D.R.C.; 1945 to date, res. exec., Stand. Oil Dev. Co., N.Y.C. Misc. papers on pet. prod. Mem.: Am. Assn. of Pet. Geologists, Am. Geophysical Union, A.P.I., A.I.M.E., A.C.S., A.I.Ch.E. Clubs: U.S. Power Squadron (Manhasset, L.I.), Pt. Washington Yacht. Hobby: boating.

MOORE, Walter J., assoc. prof. chem., Catholic U. of Am., Wash., D.C.; res. 2502 Allison St., Mt. Rainier, Md.
Chem.; b. N.Y.C., Mar. 25, 1918; s. of Walter J. and Ruth (Hart) Moore; ed. B.Sc., N.Y.U., 1937; Ph.D., Princeton, 1940; mem.: Psi Upsilon; m. Patricia Bacon, Dec. 5, 1943; ch.: Anthony G., Julia E .Natl. res. fellow, Calif. Inst. Tech., 1940-41; res. supvr. Manhattan Project 1942-46; asst. prof., Catholic U., 1946-48; assoc. prof,, 1948 to date. Res. in chem. of free radicals, high temp. reactions of mtls. Author: "Physical Chem." 1950. Mem.: A.C.S., A.Phys.S., The Faraday Soc., Am. Crystallographic Soc., Sigma Xi, Phi Beta Kappa.

MOORE, William Cabler, retired res. chem., consult., 42 Chesterfield Rd., Stamford, Conn.
Chem., res.; b. Nashville, Tenn., Feb. 10, 1884; s. of William and Lillie Talbot (Cabler) Moore; ed. U. Nash.; B.S., 1903; U. Chicago; Ph.D. (magna cum laude), 1910; mem.: Sigma Tau (local, now non-exist.); m. Margaret Wakins Goode, Sept. 15, 1910; ch.: Lillian Cabler Maclay, Thomas Goode. 1901-06 & summer 1902-09, asst. instr., U. Nash.; 1909-13, instr., schl. chem., Columbia U., N.Y.C.; 1913-19, res. chem., Natl. Carbon Co., Cleveland, Ohio; 1919-20, assoc. immunology, Johns Hopkins U., Schl. Hygiene & Publ. Health, Balt.; 1920-49, res. chem., U.S. Indus. Chems., Inc.; retired Mar. 1, 1949; conslt. wk. Flame arc carbons, use active carbon; prep. of alco gels (patents); prep. copper-powder, copper oxide catal.; $1. a yr. conslt., U.S. Bur. Mines, 1917-19; $1. a yr. conslt., Off. Prod. Res. & Dev. (W.P.B.), and U.S. Dept. Comm., 1943-48. Co-author: "Calculations in Chem.," 1918. Mem.: Sigma Xi, A.C.S. (Cleveland, Md. & W. Conn. secs.; chmn., Cleveland sec., 1915-16; secy., treas., Md. sec. 1926-31; chmn., 1944-45, West Conn. sec.); E.S. (pres., 1946-47). Hobbies: Gilbert and Sullivan operettas, philately, railroads, motor touring, genealogy, water color painting.

MOOSE, Joe Eugene, prof., chmn. chem. dept., U. of Nevada, Reno, Nev.; res. 721 Arlington Ave., Reno.
Chem. prof.; b. Poolville, Tex., May 28, 1895; s. of Joseph E. and Lou (Kendrick) Moose; ed. So. Methodist U., A.B., 1917; U. of Ill., M.S., 1922; Ph.D., 1924; mem.: Sigma Xi, Phi Lambda Upsilon, Phi Kappa Phi, Gamma Alpha, Alpha Epsilon Delta, Alpha Chi Sigma, Sigma Alpha Epsilon; m. Mary Jane Cox, Aug. 9, 1924; ch.: Joe David. Principal, Mineral Wells H.S., Mineral Wells, Tex., 1919; asst. prof., U. of Okla., 1924-26; assoc. prof. chem. engrg., 1926-29; res. chem., Swann Res. Corp., Anniston, Ala., 1929-35; res. chem. engr., Monsanto Chem. Co., Anniston, Ala., 1935-45; prof. of chem., U. of Nevada, 1945-48; chmn. chem. dept., 1948 to date. Res. phosphorus & phosphate prod.; chlorination & pyrolisis of hydrocarbons; lampblack from pet. oils; detergent compositions; moisture proofing compositions; elastomers. Mem.: A.C.S., A.A.A.S., A.I.Ch.E., A.A.U.P. Club: Rotary (1935-45). Hobbies: travel, golf, gadgeteer.

MORAN, James J(oseph), conslt., Kimble Glass Div., Owens-Illinois Glass Co., Vineland, N.J.; res. Landis Ave. & Spring Rd., Vineland.
Chem. engr.; b. Phila., Pa., July 31, 1900; s. of John F. and Margaret C. Moran; ed. U. of Pa., B.S. in Ch.E., 1920; m. Margaret Ross, Aug. 5,

1942; ch.: Susan, James J., Jr., Margaret. Kimble Glass Co., asst. chem. engr., 1920-21; asst. foreman, 1921-26; foreman, 1926-28; chem. engr., 1928-31, tech. advisor, sales dept., 1931-39; tech. mgr., sales dept., 1939-47; conslt., cust. res. dept., Kimble Glass Div., Owens-Illinois Glass Co., 1947 to date. Mem.: A.C.S., Am. Cer. Soc., A.A.A.S., Soc. Glass Tech., A.S.T.M. (co. rep.), Instrument Soc. Am., A.P.H.A. Club: Engineers' (Phila.). Hobbies: gardening, travel.

MORAN, Raymond F., prod. mgr., Newark plant, Westvaco Chem. Div., Food Machinery & Chem. Corp., Newark, Calif.; res. 31 Primrose Way, Palo Alto, Calif.
Chem. engr.; b. Bklyn., N.Y., Sept. 20, 1911; s. of Angelo C. and Sarah A. (MacNichol) Moran; ed. Bklyn. Tech. High Schl.; Cooper Union Night Schl. of Engrg., B.S. Chem. Engrg.; Ch. Engr.; mem.: Omega Delta Phi; m. Kathleen H. Mantz, Aug. 27, 1938; ch.: Patricia Rae, Catherine Lewis, Vicki Frances. 1929-36, Ekroth Labs., Bklyn., chem.; 1936-37, Mathieson Alk. Wks., Saltville, Va., contr. & dev. chem.; 1938-41, Westvaco Chem. Div., Charleston, W.Va., asst. chf. chem.; 1941-46, proc. contr. supt.; 1947, Westvaco Chem. Div., N.Y.C., plant rep.; 1948, central dir. proc. contr.; 1949, asst to prod. mgr.; 1949 to date, Westvaco Chem. Div., Newark, Calif., prod. mgr. Publ. arts. on titanium, manganese anal., sieving anal., use of statistics in anal. chef.; papers on related subjs. Mem.: A.C.S., A.I.Ch.E. (chmn., Charleston, W. Va., sec., 1946). Hobbies: bridge, golf.

MORAN, Willis Thomas, hd., chem. engrg. section, Bur. of Reclamation, Denver Federal Center, Denver, Colo.; res. 2941 Quitman St., Denver.
Chem. engr.; b. Chicago, Ill., Jan. 17, 1902; s. of John J. and Agnes Mary Moran; ed. U. of Denver, B.S. Ch.E., 1930; mem.: Phi Kappa; m. Kathleen M., July 27, 1927; ch.: Shirley Agnes, Willis T., Jr., Leonard J. Bur. of Reclamation, jr. chem. engr., chg. chem., lab., 1931-34; asst. chem. engr., 1934-36; assoc. chem. engr., 1936-40; hd., chem. engrg. sect., 1945 to date; Lt. Col., Ordn. Dept., 1940-46. Protective coatings, portland cement, pozzolanic matls., corrosion resistance, weed control, bituminous matls. Mem.: Chem. Soc., A.S.T.M., Amer. Concrete Inst., A.C.S. Club: Izaak Walton League of Amer. Hobbies: music, fishing.

MOREHOUSE, Clarence Kopprel, asst. dir., elec. prods. res. and dev., Olin Industries, Inc., New Haven, Conn.; res. 120 Everit St., New Haven, Conn.
Chem.; b. Boston, Mass., Apr. 8, 1917; s. of John Ambrose and Agnes C. Morehouse; ed. B.S. (chem.), Tufts Coll., 1939; M.S. (chem.), McGill U., 1940; Ph.D., M.I.T. (chem.), 1947; mem.: Alpha Kappa Pi; m. Eleanor Esmode DeWitt, Dec. 19, 1942; ch.: Margaret Elizabeth, John DeWitt. Tchg. fellow, chem., Tufts Coll., 1938-39; chem., Naval Ordnance Lab., Wash., D.C., 1942-43; chem., Natl. Bur. of Standards, Wash., D.C., 1943-45; tchg. fellow, chem., M.I.T., 1946-47; chem., res. and dev. div., Olin Industries, Inc., 1947 to present. Co-author of papers, dry cells & lower bromides of hafnium. Mem.: Alpha Chi Sigma, Sigma Xi, A.C.S., Electrochem. Soc., A.A.A.S. Club: Toastmasters Intl. Hobbies: golf, tennis.

MORETTI, Louis R., pres., Industrial Minerals & Chem. Co., 836 Gilman St., Berkeley, Calif.; res. 14 Lincoln Ave., Mill Valley, Calif.
Mining engr.; b. San Francisco, Calif., Sept. 29, 1897; s. of Attilio and Mercedes (Abbot) Moretti; ed. Stanford, A.B. (geology), 1923; E.M. (mining & metallurgy), 1926 mem.: Theta Xi; m. Shirley de La Fontaine, Dec. 26, 1925; ch.: Shirley M., Anne Mc., Catherine A. 1926-27, engr., Minas Del Tajo, Mexico; 1927-28, chf. engr., Cia de Inversiones Del Oro, Mexico; 1928-29, fld. supt., Death Valley, Calif. & Nev.; 1930 to date, consltg. engr.; 1935 to date, mgr., secy., treas., Heckathorn & Co., partner-mgr., Spanish Mine; Mem.: A.I.M.E. Club: Meadow.

MOREY, Carroll Andrew, dean, hd. dept. chem. & geol., Findlay College, Findlay, Ohio; res. 325 Howard St., Findlay.
Dean, chem. tchr.; b. Oct. 25, 1888, Denver, Colo.; s. of C.D. and Helen (Rogers) Morey; ed. Oberlin Coll., A.B., 1916; U. Colo., M.S., 1927; grad. schl., U. Chi. 1923; U. Mich., 1934-35; m. Patrice Price, June 23, 1934. Ward Acad., So.Dak., 1916-18, dean boys & sc. tchr.; Kewanee High Schl., Kewanee, Ill., 1918-19, coach & sc. tchr.; Casey Township H.S., Casey, Ill., 1919-21, sc. tchr.; Findlay Coll., 1921 to date, tchr. chem., geolo.; 1929 to date, dean; 1943-47, act. pres. Mem.: A.C.S., A.A.A.S., Am. Geograph. Soc., A.A.U.P. Hobby: carpenter work.

MOREY, Glen H., pres., Glas-Col Apparatus Co., Inc., 1700 S. 7 St., Terre Haute, Ind.; res. R.R. 5, Box 547, Terre Haute.
Res. chem.; b. Alma, Mich., Apr. 21, 1902; s. of John G. and Ollie (Williams) Morey; ed. U. of Chicago, B.S., 1929; M.S., 1930; Ph.D., 1932; m. Ruth J. Kemp, Aug. 11, 1928; ch.: John G., II. Instr. chem., Carnegie Inst. Tech., 1930; in chg. dev. chem. exhibits, A Century of Progress Expos., 1932-33; res. chem., Phillips Pet. Co., 1933-36; res. chem., Commercial Solvents Corp., 1936-45; founder, pres., Glas-Col Apparatus Co., Inc., 1945 to date. Thermodynamics of hydrocarbon reactions, chem. equilibria, org. syn., chem. mfr. Mem.: A.C.S., A.A.A.S. (fellow), Sigma Xi. Hobbies: fishing, gardening, music.

MORGAN, Agnes Fay, prof. home economics and biochem., Agric. Exper. Sta., U. of Calif.; res. 1620 Spruce St., Berkeley, Calif.
Coll. tchr., admin., res.; b. Peoria, Ill., May 4, 1884; d. of Patrick J. and Mary (Dooley) Fay; ed. B.S., U. of Chicago, 1904; M.S., 1905; Ph.D., 1914; mem.: Phi Beta Kappa, Sigma Xi, Iota Sigma Pi; m. Arthur I. Morgan, May 17, 1908; ch.: Arthur I., Jr. Instr. chem., Hardin Coll., Mexico, Mo., 1905-07; asst. chem., U. of Montana, 1907-08; instr. chem., U. of Wash., 1910-13; asst. prof. nutrition, U. of Calif., 1915-16; asst. prof. household sci., 1916-19; assoc. prof., 1919-23; prof., 1923-38; prof. home econs. and biochem. in Calif. Agric. Exper. Sta., since 1938; Member of Comm. of Nine, U.S.D.A. (regional cooperative res. under Research and Marketing Act of 1946); Res. in food chem., nutrition, particularly in vitamins and protein problems, effects of processing on nutritive value of foods, nutritional status studies with similar subjects; has pub. about 150 res. papers. Author (with Irene S. Hall), "Experimental Food Study," 1938, Farrar & Rinehart. Mem.: Amer. Inst. of Nutrition, A.S.Bio.C., S.E.B.M. (fellow), A.A.A.S., A.C.S. (1949 Garvan Medallist), Am. Home Econ. Assoc., I.F.T., Iota Sigma Pi (Natl. Histn.).

MORGAN, Clarence, pres., Clarence Morgan Inc., 919 N. Mich. Ave., Chicago 11, Ill.; res. 4538 Virginia Ave., Chicago.
Chem. distributors; b. Chicago, Ill., Dec. 11, 1893; s. of Henry and Bella (McIndoo) Morgan; m. Constance M. Morgan, Sept. 1, 1949. Sprague-Warner & Co., 1903-05, Armour & Co., office boy to a purch. agent, 1905-16; Stresen-Reuter & Hancock off. mgr. 1917-18; Frank Z. Woods Co., chem. mgr., 1918-20; Rockhill & Victor, chem. mgr. Chicago office, 1920-22; Clarence Morgan, Inc., pres. & treas. to date.

MORGAN, D(avid) P(ercy), v.p., dir. dev., Mathieson Chem. Corp., 60 E. 42nd St., New York City; res. 340 E. 72nd St., New York City.
Exec.; b. Lenox, Mass., Sept. 4, 1894; s. of D. Percy and Edith (Parsons) Morgan; ed. Middlesex Schl., 1912; A.B. Harvard, 1916; Ph.D., Columbia U., 1923; mem.: Sigma Xi, Phi Lambda Upsilon; m. Alma deGersdorff, June 9, 1919; ch.: Helen Suzette (Mrs. Robert C. Alsop). Partner, Loomis, Stump & Banks, cons. chem. engrs., New York, 1924-28; chem. conslt., Scudder, Stevens & Clark, New York, inv. counsel, 1929-40; chem. div., adv. comm. to N.D.C., 1940; O.P.M., 1941; Supply, Priorities & Allocations Bd., 1942; dir. chem. div., W.P.B., 1942-43; dir., chemicals bur., W.P.B., 1943-45; charge chem. market res. & dev., W.R. Grace & Co., New York, 1946-48; v.p., treas., Mathieson Chem. Corp., New York, 1949; v.p., dir., of dev., 1950 to present; New England Lime Co., dir.; Mem.: A.A.A.S. (fellow), A.I.C., A.C.S., A.I.Ch.E., Soc. of Chem. Ind., Chem. Market Res. Assn. Trustee; Trustees of Public Reservations, Mass.; Pleasant Valley Sanctuary, (Lenox, Mass.). Clubs: Chemists', Camera, Cosmos (Wash., D.C.), Harvard (N.Y., Boston), Stockbridge (Mass.) Golf, The Lunch, Maryland. Hobbies: golf, photography.

MORGAN, Jerome John, prof. emeritus chem. engrg., and publisher, owner, Jerome J. Morgan, Maplewood, N.J.; res. 67 Salter Pl., Maplewood.
Chem. engr., pub.; b. Russell, Pa., Apr. 22, 1880; ed Penn. State, B.S., 1905; M.S., 1910; Columbia, Ph.D., 1919; m. Elizabeth Perry, Aug. 21, 1907; ch.: 1 son, 1 dau. Md. Agric. Coll., asst. chem., 1905-06; asst. prof., 1906-08; U.S. Dept. Agric., asst. chem., 1908; Coll. Hawaii, prof. chem. in chg. dept., 1908-09; Stevens Tech., instr. chem., 1909-11; asst. prof., 1911-19; Columbia, asst. prof. chem. engrg., 1919-26; assoc. prof., 1926; prof., 1937; prof. emer. since 1949; Babcock & Wilcox Co., conslt. chem. engr., 1925-31, owner, Jerome J. Morgan, publisher. Author: "Amer. Gas Practice" Vol. I; "Prod. of Mfrd. Gas," 1926, 2nd ed. 1931; "Amer. Gas Practice" Vol. II; "Distrib. and Utiliz. of City Gas," 1928 (2nd ed. 1935). Res. on volatilization of potash; carbonization of coal; pyrolysis of hydrocarbs.; pubs. on same. Mem.: A.C.S., A.G.A., A.A.A.S., A.I.Ch.E. Clubs: Men's Faculty Club, Columbia Univ. Hobbies: golf, gardening, photography, shopwork.

MORGAN J(erome) Perry, asst. dir., prod. div., N.Y. Operations, U.S. Atomic Energy Commis., 70 Columbus Ave., N.Y.C.; res. 47 Kendall Ave., Maplewood, N.J.
Chem. engr.; b. Maplewood, N.J., Aug. 6, 1911; s. of Jerome John and Elizabeth (Perry) Morgan; ed. B.S., Pa. State Coll., 1934; M.S., Columbia U., 1936; Ph.D. (chem. engrg.), 1942; mem.: Alpha Chi Sigma, Sigma Xi, Phi Lambda Upsilon; m. Marjorie Oswald Ragsdale, Aug. 21, 1941; ch.: John P.R., James P., Thomas O. Instr., Stevens Inst., 1938-41; asst. prof. chem. 1941-42; chem. engr., devel. div., Stand. Oil Dev. Co., 1942-48; asst. dir., prod. div., N.Y.O.O., U.S.A.E.C., 1948 to date; lecturer, Grad. Schl., Stevens Inst., 1940-47; adj. prof. of chem. & chem. engrg., 1948 to date. Dev. & process design in connection with prod. of pet. chems.; thermal cracking of hydrocarbons; syn. rubber; syn. detergents; fungicides & insecticides; processing of uranium bearing feed matls. Mem.: A.C.S., A.I.Ch.E. (active). Club: Rock Spring (W. Orange, N.J.). Hobbies: photography, golf.

MORGAN, Sister M. Sylvia, dir. sc., Marywood College, Scranton, Pa.
Tech., hd. sc. dept.; b. Glamorganshire, Wales; d. of William J. and Mary A. (Williams) Morgan; high schl. tchr., 1913-15; coll. tchr., 1915-19; hd. dept. 1919-43; coll. pres., 1943-49; hd. sc. dept., 1949 to date. Res. in anal. various types of oranges, surface tension in detoxication prods. Author: monographs only; reaction certain vitamins on albino rats, (abt. 1935); effect of lack of essent. vitamins on albino rats, (abt. 1939). Mem.: A.C.S., A.A.A.S. (fellow), N.Y. Acdy. Sc., Museum of Art, Museum of Natl. Hist., Audubon Assn., Pa. Acdy. Sc.

MORGAN, Oliver Moorehouse, mgr. detergent sales, Natl. Aniline Div., Allied Chem. & Dye Corp., 40 Rector St., New York 6, N.Y.; res. 2 Beverly Place, Larchmont, N.Y.
Chem.; b. Ripley, Ontario, Can., July 24, 1906; s. of Levi and Agnes (Braden) Morgan; ed. U. of Western Ontario, B.A., 1927; M.A., 1928; McGill U., Montreal, Ph.D., 1930; m. Gladys Ruberta Ferrier, Sept. 6, 1933; ch.: Robert E., Catharine A., Ruth V. Natl. Research Council, Ottawa, Can., in chg. of Laundry & Textile Lab., 1930-34; Natl. Aniline Div., Allied Chem. & Dye Corp., Buffalo, N.Y., res. chem., 1934-44; mgr., detergent application res., 1944-50; mgr., detergent sales, New York, N.Y., 1950 to date. Res. and extensive contribs. to sc. and tech. jls. in fld. of cleansors, wetting agents and detergents. Mem.: A.C.S., A.I.C., Amer. Concrete Inst., A.A.T.C.C. Clubs: Chemists' (N.Y.), Larchmont Yacht (Larchmont, N.Y.). Hobbies: boating, fishing, golf.

MORGAN, William McLennan, prof. org. chem., Mt. Union College, Alliance, Ohio; res. 1169 Kings Way, Alliance.
Chem. prof.; b. Cincinnati, Ohio, Oct. 1, 1898; s. of Edward H. and Caroline M. Morgan; ed. Miami U., 1917-19; U. of Ill., 1919-21, B.S.; Ohio State U., M.S., 1922; Ph.D., 1932; University Scholar in Chem., Ohio State, 1921-22; mem.: Sigma Chi, Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi; m. Sara Elizabeth Bonner, Sept. 5, 1923; ch.: Shirley Jane, Marilyn Bonner. Mt. Union Coll., asst. prof., 1922-27; assoc. prof., 1927-32; prof., 1932 to date, acting dean 1936-37. Electrolytic oxidations, carbohydrates. Dir., mem. of exec. comm. Ohio Tuberculosis & Health Assn.; dir., Natl. Tuberculosis Assn.; pres., Alliance (Ohio) City Council. Mem.: A.C.S., A.A.A.S. (fellow), Ohio Acdy. of Sc.

MORGEN, Ralph Alexander, dir. engrg. & indus. exp. station, prof. chem. engrg., U. of Fla., 201 Walker Hall, Gainesville, Fla.; res. 2210 N.W. 1st Ave., Gainesville, Fla.
Res. dir., prof.; b. Sacramento, Calif., June 6, 1903; s. of Leon and Carrie Morgen; ed. B.S. (with honors), U. of Calif., 1923; Ph.D., 1925; mem.: Phi Lambda Upsilon, Tau Beta Pi, Sigma Xi; m. Vera Shapro, Jan. 10, 1926; ch.: Ralph, Joan. Tchg. asst., U. of Calif., 1924-26; dev. engr., Western Elec. Co., 1926-28; dir. res. mgr., Cleaners Equipt. Corp., 1928-33; conslt. chem. engr., 1933-38; since 1938, U. of Fla., prof. chem. engr.; asst. dir. engr. & indus. exp. sta., 1943; dir., since 1947, U. of Fla., Exp. Station. Office of Production Res. and Dev., O.S.R.D. Holder of pats. in gas purification, detergents and machinery for cleaning industries. Author: "Ceco Clarifications," 1931. Mem.: A.I.Ch.E. (comm. on edn. & accrediting), A.C.S. (chmn., Fla. Sec., 1948); A.S.E.E. (chmn., ch.e. div., 1943-44, chmn., S.E. res. br., 1949), E.C.R.A. (bd. of dirs., 1950), Natl. Soc. Prof. Engrs. (Registered Engr., Fla.), Acdy. of Sc. (Fla.), Engineers Soc. (Fla.), T.A.P.P.I. Clubs: Rotary, Gainesville Golf and Country. Hobbies: golf, bridge.

MORK, Harry Solomon, conslt. chem., 40 Broad St., Boston, Mass.
Conslt. chem.; b. Boston, Apr. 10, 1878; ed. M.I.T., S.B., 1899; m. Claire Z. Levy, Nov. 19,

1914; ch.: 1 son, 1 dau. City Wastes Disposal Co., chem., 1899; Mass. Bd. of Health, asst. chem., 1899-1900; Cellulose Prods. Co., chem., 1900-01; Little & Walker, chem. 1901; Arthur D. Little, v.p., treas. and dir., 1901-19; Chem. Prods. Co., secy. and dir., 1902-30; Lustron Co., v.p., dir., 1919-30; Spec. Yarns Corp., v.p., dir., 1925-28, conslt. chem., 1928 to date. Author of var. monographs on cellulose chem.; res. in fld. cellulose acetate (pioneer), cellulose acetate rayon; pat. num. inventions on cellulose procs. and prods. in other br. chem. Former mem. A.C.S., A.A.T.C.C., A.A.A.S. (resigned because of illness). Club: Kernwood Country (secy.). Hobbies: golf, music.

MORLEY, Nelson W., Jr., hd., finishing dept., Schenley Labs. Inc., Lawrenceburg, Ind.; res. 404 Short St., Lawrenceburg.
Chem. engr.; b. Mt. Dora, Fla., Jan. 30, 1917; s. of Nelson W. and Frances W. Morley; ed. 1934-38, U. of Fla., B.S.Ch.E. (with hon.); m. Deloris E. Schneider, June 14, 1941; ch.: Sandra A., Janet C., Nelson W., III. 1938-39, Southern Kraft Corp., chem.; 1939-42, Joseph E. Seagram & Sons, Inc., supvr.; 1942-44, U.S.A., C.W.S.; 1944-45, Firestone Tire & Rubber Co., chem. engr.; 1945 to date, Schenley Labs. Inc. Mem.: A.I.Ch.E., Phi Kappa Phi. Club: Lions Internatl. Hobbies: swimming, golf.

MORNINGSTAR, Joseph, pres., Morningstar, Nicol, Inc., 630 W. 51 St., N.Y. 19, N.Y.; res. Cherry Valley Rd., Greenwich, Conn.
Exec.; b. N.Y.C., July 11, 1890; s. of Joseph and Judith (Peixotto) Morningstar; ed. B.A., Wesleyan, 1911; LL.B., Harvard, 1914; mem.: Delta Kappa Epsilon; m. Lauretta Wood, June 14, 1923; ch.: Thomas, Anne. Morningstar, Nicol, Inc., pres.; Paisley Prods. Inc., pres.; Aroostook Potato Prods. Inc., pres. Clubs: Harvard, Westchester Country.

MORRILL, Manning C., plant mgr., Dewey and Almy Chem. Co., West Concord, Mass.; res. 12 Madison Ave., W. Winchester, Mass.
Chem. engr.; b. Boston, Mass., Sept. 2, 1918; s. of Manning W. and Elizabeth (Cutter) Morrill; ed. B.S. (chem. engrg.), M.I.T., 1939; M.S. (chem. engrg. practice), 1940; mem.: Kappa Sigma; m. Constance Elrod, Apr. 17, 1942; ch.: Patricia G., Allison C., Judith E. Process Design, Standard Oil Co. (Indiana), 1940-41; tech. service, E.I. du Pont, Louisville, Ky., 1941; Ord. Dept., U.S.A., 1941-45; Dewey and Almy Chem. Co., Cambridge, Mass., 1945 to present; process dev., 1945-47; production, 1947-50. Mem.: A.I.Ch.E., Sigma Xi. Hobbies: photography, golf, swimming.

MORRIS, Alan, chf. metallurg. conslt., Bridgeport Brass Co., Bridgeport, Conn.; res. 159 Hilltop Dr., Nichols, Bridgeport 18.
Metallurgist; b. Nov. 26, 1890; s. of Frederick and Emma (Lang) Morris; ed. Columbia U., B.S., 1920; Met. E., 1923; Yale U., D.Engrg., 1938; mem.: Alpha Delta Phi, Phi Beta Kappa, Tau Beta Pi; m. Marion Tuttle, June 7, 1927. Bridgeport Brass Co., sales engr., metallurgical engr., chf. metallurgist, dir. of res., chf. metallurgical consult. Mem.: A.I.M.E., Inst. Metals (British), Am. Welding Soc., A.S.M.

MORRIS, Albert Wood, pres., Morris Research Corp., and Tide Water Iron & Steel Corp., 14 Wall St., N.Y.C.; res. 54 Buckingham St., Springfield, Mass.
Metallurg., mech. engr.; b. Camden, N.J., Jan. 21, 1880; s. of George M. and Evaline Dowdney (Wood) Morris; ed. U. of Pa., M.E.; Columbia U., E.M.; Sc.D. (hon.); mem.: Alpha Delta Kappa; m. (1st) Elizabeth Cook (dec.); (2nd) Ida B. Randolph, 1941; ch.: 2 sons dec., 1 living, Albert Wood Jr. R.D. Wood & Co., designing engr., hydraulics; Bethlehem Steel Co., asst. to chf. engr., blast furnaces; Am. Pulley Co., asst. chf. engr.; Wetherill Co., factory mgr., chf. engr.; Doehler Die Casting Co., factory mgr.; Harley Co., mgr., chf. engr.; Moore Drop Forging Co., dir. res. & engrg.; Wetherill-Morris Eng. Co., chf. engr.; Morris Engrg. Co., chf. engr., conslt. Morris Engrg. Co., dir.; Morris Res. Corp. pres., dir.; Wetherill Engrg. Co., v.p., dir.; Isthmian Metal Corp., v.p., dir.; Tide Water Iron & Steel Corp., pres., dir.; Gen. Steel Corp., pres., dir.; Mineralatron, pres., dir.; Metal Res. Corp., v.p., dir.; Internatl. Discount Corp., secy., dir.; Palmer & Co., v.p., dir. Metallurg. res. on alloys, both ferrous & non-ferrous; direct steel from ore; special & super stainless steels; recovery of values from ores; benificiating of ores; over 150 pats.; munitions. Trustee, Williamson Trade Schl.; trust., Wealth Independent Finance Corp. Mem.: A.I.M.E., A.S.M.E., A.S.M., S.A.E., A.S.T.E., Franklin Inst. Clubs: Engineers; Phila., Chicago & Springfield Coin; Phila. & Springfield Stamp, Collectors; Am. Philatelic Soc.; Am. Numismatic Assn.; 32nd deg. Mason, Knight Templar, Shriner. Hobbies: numismatics, philately, curio-collector.

MORRIS, Charles Lawrence, Jr., asst. dir., personnel div., Stamford Res. Labs., Am. Cyanamid Co., 1937 W. Main St., Stamford, Conn.; res. 6 Tyler Dr., Noroton Heights, Conn.
Chem., personnel; b. Denison, Texas, Aug. 30, 1915; s. of Charles L. and Esther (Anderson) Morris; ed. A.B., Baylor U., 1932-36; Ph.D., Brown U., 1936-41; m. Dorothy F. Goodchild, June 15, 1941; ch.: Charlotte Lynn, Charles Anderson, Beverly Lou. 1941, N.D.R.C., Brown U., res. chem.; 1941-44, Am. Cyanamid Co., res. chem.; 1944-46, U.S.N., Lt. (j.g.); 1946-50, Am. Cyanamid Co., sr. chem.; 1950 to date, asst. personnel dir., Stamford Res. Labs. Mem.: A.C.S., Sigma Xi. Hobbies: music, gardening.

MORRIS, Herbert Edmund, res. dir., Texas Div., Monsanto Chem. Co., Texas City, Tex.; res. 1328 Rhodora Dr., La Marque, Tex.
Res. chem.; b. Edmonton, Alberta, Canada, Oct. 17, 1908; s. of Cephas E. and Fledda Morris; ed. B.S., U. of Alberta, 1929; M.S., 1931; Ph.D., 1934, McGill U.; m. Mildred Thomas Montgomery, Aug. 17, 1943. Res. asst., Res. Council of Alberta, 1929-31; res. chem., Natl. Res. Council of Canada, 1931-32; chem., Turner Valley Gas Conservation Bd., 1932; dev. chem., Canadian Ind. Ltd., 1934-35; res. chem., Thomas & Hochwalt Labs., Monsanto Chem. Co., Dayton, Ohio, 1935-42; chf. chem., Texas City Plant, Monsanto, 1942-46; res. dir., Texas Div., 1946 to date. Catalytic oxidations, reactions with al. chloride, reactions of unsaturated hydrocarbons. Collaborated on A.C.S. Monograph "Reactions of Al. Chloride & Org. Chem." with Dr. C.A. Thomas. Mem.: A.C.S. (chmn. Southeast Texas Sec., 1950), A.A.A.S., N.A.C.E. Trustee, steward, First Methodist Church of LaMarque. Club: Kiwanis (pres., Texas City, 1950). Hobbies: gardening, books.

MORRIS, Richard Henry, 3rd, spec. asst. to the dir., Eastern Regional Res. Lab., U.S. Dept. of Agri., Phila. 18, Pa.; res. 7830 Winston Rd., Phila. 18, Pa.
Chem. engr.; b. Phila., Pa., May 14, 1897; s. of Richard Henry and Annie (Hoguet) Morris; ed. Lehigh U., grad. 1922, Ch.E.; mem.: Phi Sigma Kappa; m. Katherine Augusta Righter, Sept. 8, 1928; ch.: Mary Ann, Katharine Margaret. U.S. Navy, 1918-20; enlisted Naval Reserve, 1920-21; Hyper-Humus Co., 1922-27, Main Office, Phila., Pa., Plant, Newton, N.J., mfrs. of agric. prods. from peat; orig. hired as chem. engr. (Lehigh U.

1922) to dev. new prods. and proc. for utiliz. of peat; became supt., and then gen. mgr.; E.I. du Pont de Nemours & Co., Main Off., Wilmington, Del., Plant, Buffalo, N.Y., 1928, proc. engr.; selected as one of a commis. of ten engrs. and prod. men to study acetate rayon mfr. in Europe; studies in equip. plant design and proc. operations for mfr. of cellulose acetate and rayon by the Rhodiaseta Comptoir proc. in their plants in France, Germany, Italy, with gen. hq. at Lyon, France, 1929; du Pont, at Waynesboro, Va., 1929-38, in production; supvn. of prod. operations in solution prep., spinning and solvent recovery at newly constructed cellulose acetate rayon plant; respons. for quality control and spinning trouble shooting; assigned to res. dept. for 2 yrs., then asst. to operations, approx. 2 yrs.; U.S. Indust. Chems. Inc., 1938-39, Main Off., N.Y.C., Plant, Balto., Md., mfrs. of cellulose acetate, alcohol and chems.; supvn. of prod.; E.F. Drew & Co., 1940-42, Main Off., N. Y.C., Plant, Boonton, N.J., mfrs. of edible type indust. oils; types of prods. to dev. to improve quality, operation or economy; Eastern Regional Res. Lab., U.S.D.A., 1943 to date, Phila., Pa.; originally princ. indust. analyst in chg. of dev. section, chem. engrg. and dev. div.; spec. asst. to dir., also tech. adv.; 1946 transf. to Director's Office as spec. asst. to dir.; promoted, 1946 to indust. analyst. U.S.D.A. delegate to United Nations Sci. Conf. on the Conservation & Utiliz. of Resources, Lake Success, N.Y., 1949. U.S. Dept. Agri. Distinguished Serv. Award for the commercial dev. of the essence recovery res. project. Dev. proc. meths. and new uses for peat in agric. and mushroom culture, and holds 3 pats.; dev. improvements in mfr. of viscose and acetate rayon, and plastics; dev. new and improved uses for vegetable oils and their derivatives in the textile and leather industries; initiated in the U.S.D.A. an indust. liaison activity to facilitate commercial utiliz. of lab. res. accomplishments. Co-author: "Agriculture Yearbook," U.S. Dept. Agri.; also a number of papers. Mem.: I.F.T., A.T.C.C., A. C.S. Club: Engineers. Hobbies: photography, hunting, horticulture.

MORRIS, Robert Moore, plant mgr., Monsanto Chem. Co., Springfield, Mass.; res. 86 Hawthorn St., Longmeadow, Mass.
Mech. engr.; b. Houston, Texas, Aug. 13, 1913; s. of Barney L. and Nancy Jane (Moore) Morris; ed. Wash. U., St. Louis, Mo., B.S. in M.E., 1936; mem.; S.P.E.; m. Barbara Gene Hart, Aug. 13, 1936; ch.: Susanne Elizabeth, Pamela Jean. 1936-38, Monsanto Chem. Co., St. Louis, area engr.; 1938-42, Monsanto, Springfield, Mass., maint., const., design, power; 1942-45, Longhorn Ord. Wks., Marshall, Tex., supt. of maint., gen. supt. of prod.; 1945-49, Monsanto, Texas City, Tex., asst. plant mgr.; 1949 to date, Monsanto, Springfield, Mass., plant mgr. Club: Longmeadow C.C. Hobbies: flying, golf, skiing.

MORRIS, Vlon Neilan, tech. dir., Industrial Tape Corp., New Brunswick, N.J.; res. 811 Abbott St., Highland Pk., N.J.
Tech. dir.; b. Colorado Springs, Colo., Apr. 1, 1901; s. of Joseph Franklin and Emma Belle (Brown) Morris; ed. B.S. Ch.E., Purdue U. 1922; M.S., 1924; Ph.D., 1926, U. of Minn. (du Pont Fellow, 1925-26); postdoctorate work, M.I.T.; mem.: Delta Upsilon, Sigma Xi, Tau Beta Pi, Phi Lambda Upsilon; m. Gladys L. Dobelbower, 1924; ch.: Marjorie (Morris) Phillips, Marilyn Morris. Res. chem., Fixed Nitrogen Research Lab., 1926-27; Res. chem., hd. physico-chem. div., Firestone Tire and Rubber Co., 1927-35; res. supvr., Resinous Products and Chem. Co., 1935-39; colloid chem., Natl. Aniline and Chem. Co., 1939-40; dir. labs., tech. dir., Industrial Tape Corp., 1940 to present. Chmn. of the Industrial Pressure-sensitive Tape Consulting Tech. Comm. of the W.P.B. and subsequent agencies. American Edition of Mammler's "The Science of Rubber" (co-editor with Dr. R.F. Dunbrook), 1934; section on resins in Degering's "An Outline of Organic Chem.," 1937; section on adhesives in Kirk and Othmer's 'Encyclopedia of Chemical Technology" (in co-operation with Dr. C.L. Weidner and Mr. N. St. Landau), 1947. Mem.: A.C.S., A.I.C., New York Rubber Group, A.A.A.S., Am. Soc. of Res. Directors.

MORRIS, William Nicholas, gen. mgr., Merit-Pak Co., 5315 Arsenal St., St. Louis 9, Mo.; res. same.
Res. chem.; b. Westerly, R.I., May 17, 1919; s. of Henry B. and Carrie L. Morris; ed. R.I. State Coll. 1937-41, B.S. (chem.); Wash. U., 1941-42, grad. wk.; St. Louis U., 1947-48, M.S. (chem.), 1948 to date, Ph.D. grad. wk.; mem.: Alpha Chi Sigma; m. Fern Arlene Looney, Sept. 13, 1943; ch.: Walter Henry, Faye Christine. 1942-43, Atlas Powder Co., supvr. of labs. at Weldon Springs Ordnance Wks., St. Louis, Mo.; 1943-44, Johnson & Johnson Res. Foundation, res. chem., New Brunswick, N.J.; 1944-47, U.S.A., Chem. Corps., chem. res. on liquid fuels for jet propulsion, also counter intelligence wk.; 1947 to date, Merit-Pak Co., St. Louis, Mo., gen. mgr.; dir. Morris Chem. Co., St. Louis, Mo. Res. on syn. rubber pressure sensitive adhesives; res. on liquid fuels for jet propulsion. Mem.: A.C.S., A.I.C., Alpha Chi Sigma, Organized Reserve (Army), Res. & Dev. Group (St. Louis). Hobbies: color photography, movies, stamp collecting.

MORRISH, Edward Puzey, dir. res., perfumery div., Firmenich & Co., 250 W. 18th St., N.Y.C. 11; res. 114 Kenneth Terr., S. Orange, N.J.
Chem.; b. St. Louis, Mo., Apr. 8, 1906; s. of Edward, M.D., and Fannie (Puzey) Morrish; ed. St. John's Coll., Winfield, Kans.; Kansas U., Lawrence, Kans.; Columbia U., Schl. of Pharmacy; N.Y.U.; mem.: Phi Chi; m. Frances Hatfield, Nov. 29, 1933; ch.: Gay Emily, Delia Frances. 1927-41, Metro Oil Inc., pres.; 1941-43, W.G. Shelton Co., dir. res.; 1943-44, chf. Cosmetic Div., O.P.A., Wash., D.C.; 1944-47, dir. res. Affiliated Div. of Amer. Home Prods. Corp.; 1947-49, Jacqueline Cochran Cosmetics, exec. asst. to pres.; 1949 to date, dir. res., Firmenich & Co., New York.

MORRISSON, Clovis C., deptl. supt., Gulf Oil Corp., Port Arthur, Tex.; res. 1038 13th Ave., Port Arthur.
Chem. engr.; b. Glen Cove, Tex., Dec. 29, 1901; s. of A.J. and M.P. Morrisson; ed. B.S. (chem. engrg.), 1923; m. M.V. Rush, June 24, 1923; ch.: Virginia, Clovis. Chem. engr., Gulf Oil, 1923-30, experimental lab. wk.; chf. chem., Gulf Oil, 1930-34, Pitts. refinery; chf. chem., Gulf Oil, 1934-40, Phila. refinery; asst. chf. chem., Gulf Oil, 1940-45, Pt. Arthur refinery; chf. chem., 1945-47; dept. supt., 1947 to date, supt. package & grease dept. Mem.: A.A.A.S., A.C.S. (Chmn. 1949-50, Texas-Louisiana Gulf Sec.), A.I.Ch.E., Am. Pet. Inst. Chmn., Bd. of Trustees, Pt. Arthur Independent Schl. District. Clubs: Y.M.C.A., Knife & Fork, Port Arthur Country. Hobbies: golf, bowling.

MORSE, George Harry, owner, Morse Labs., 316 16th St., Sacramento, Calif.; res. Rt. 2, Box 2415 Carmichael.
Chem. engr.; b. Oregon, 1909; s. of George and O. Anna Morse; ed. Washington State; m. Grace I. in 1931; ch.: George Harry, Jr., Richard Barton. Chem., Techow Labs.; chem. engr., Davis Labs., chf. chem. engr., Elmerden Mining Co.; owner Morse Labs., to date. Mem.: A.C.S. (Chmn., Sacramento Section), A.S.T.M., Assoc. Consulting

Chem. and Ch.E., Natl. Soc. Prof. Engrs., Calif. Soc. Prof. Engrs.

MORSE, Richard Stetson, pres., dir., Natl. Research Corp., 70 Memorial Dr., Cambridge, Mass.; res. 239 Windsor Rd., Waban, Mass.
Exec.; b. North Abington, Mass., Aug. 19, 1911; s. of Kenneth and Mary (Skinner) Morse; ed. S.B., 1933, M.I.T.; graduate wk., 1934, Technische Hochschuler, Munich; mem.: Theta Chi; m. Marion Baitz, Nov. 27, 1935; ch.: Richard S., Jr., Kenneth P. Physicist, Eastman Kodak, res. and dev.; subsidiary Distillation Products, distillation & high vacuum, 1935-40; pres. and dir., Natl. Res. Corp., 1940 to present; New Enterprises, Inc., Boston, dir.; British American Res., Ltd., London and Wishaw, Scotland, dir.; Minute Maid Corp., former pres. and organizer; Holiday Brands, Inc., former pres. and organizer. Mem.: A.C.S.; rec'd. award at recent Boston Jubilee for one of Boston's ten outstanding industrial leaders under 40. Clubs: Engineers' (Boston and New York), Weston Country. Hobbies: amateur radio operator, tennis, skiing.

MORSE, Stanley W(allace), chmn., natural sc. div., prof. physical sc., San Francisco State College, Calif.; res. 1508 Escobita Ave., Palo Alto, Calif.
Prof.; b. Phila., Pa., June 21, 1898; s. of Frank and Jennie (Richards) Morse; ed. A.B., Hanover Coll. (Ind.), 1920; M.A., 1926; Ph.D., 1932, Stanford U.; mem.: Beta Theta Pi, Sigma Xi, Phi Lambda Upsilon; m. Agnes Carson, June 27, 1923; ch.: Jeananne, Marjorie Lou. A.U.S., 1918; instr., Hanover Coll., 1919; high school tchr., Welch, W.Va., 1920-21; high school tchr., Bedford, Ind., 1921-25; tchg. asst., Stanford U., 1925-26, 1931; prof., physical scs., San Francisco State Coll., 1926 to present; on leave U.S.N.R., 1943-46; chmn., natural sc. div., 1947 to present. Res. studies in proteins and amino acids in anemia and hormone actions in amino acid metabolism. Author: "Water, It's Conservation and Use," 1937, "Chemical Symbolism and Calculations for General Chemistry" (mimeo 1942; rev. ed. 1949). Mem.: A.C.S., A.A.U.P., A.A.A.S., N.S.T.A., Acdy. Sc. (Calif.) P.S.C.T.A. Hobbies: photography, travel.

MORSE, Withrow, conslt., 32 Manchester Rd., Eastchester, P.O. Tuckahoe 7, N.Y.
Conslt. biochem.; b. Dayton, Ohio, 1880; s. of D.A., M.D., and Amanda (Withrow) Morse; ed. B.Sc. and M.A., Ohio State; Ph.D., Columbia; mem.: Delta Upsilon, Theta Kappa Psi; m. Winning Allan, 1935; ch.: John, Priscilla. Biochem. tchg., Ohio State, Cornell Medical, Trinity (Conn.), U. of Wis., Nebraska, W. Virginia, Jefferson Med. Coll.; biochem. res., Columbia, Woods Hole, Harpswell Lab. of Tufts Coll., Casco Bay, Maine; coop. res. on med. problems reported to Natl. Res. Council; consultantships, Rohm & Haas, Phila.; Lederle Labs., N.Y. (Pearl River); R.L. Swain Co., Danville, Va. (hemicelluloses); The Kalak Co. (water and solutions for injection in hospitals); Vogelbach Assocs. Inc., N.Y.C., (food accessories, calcium). Author: "Stereoscopy," Tennant & Ward, N.Y.; "Applied Biochemistry" (2 eds.), Saunders; "Co-operative British-American Biochemistry," Saunders. Mem.: Phi Beta Kappa, Sigma Xi, Phila. Co. Med. Soc. (hon.), Biochem. Soc. (British), A.S.Bio.C., Stereoscopic Soc. (British). Hobby: stereoscopic photography.

MORTENSON, Everett N., chf. res. engr., plant food div., Swift & Co., 150 Marble St., Hammond, Ind.; res. 10440 Calumet Ave., Chicago 28, Ill.
Chem. engr.; b. Cherokee, Iowa, 1911; s. of F.O. and Anna Mortenson; ed. 1934, B.S. (chem. engrg.), Iowa State Coll.; mem.: Lambda Chi Alpha; m. Helen Mae Higgins, July, 1941; ch.: Richard E. Swift & Co., 1934 to date. Indus. waste treatment; fat extraction; plant food mfr. Mem.: A.I.Ch.E., A.C.S., A.A.A.S.

MORTON, Avery Adrian, prof., M.I.T., Cambridge, Mass.; res. 182 Standish Rd., Watertown, Mass.
Chem. prof.; b. Nov. 27, 1892; s. of Levi and Mattie Morton; ed. Cotner Coll. A.B., 1913; M.I.T., Ph.D., 1924; m. Zelma Owen, Sept. 5, 1925; ch.: Mary, Elizabeth. Instr., M.I.T., 1919-25; asst. prof., 1925-33; assoc. prof., 1933-41; prof., 1941 to date. Res. in carbon. ions, organosod., comps., polymer., heterogen. reactions, mercuration. Author: "Lab. Tech. Organ. Chem.," 1938; "Chem. of Heterocy. Comps.," 1946. Mem.: A.C.S., A.A.A.S., A.I.C., A. Acad. A.S.

MORTON, Joseph Reece, pres., Morton-Withers Chem. Co., Greensboro, N.C.; res. Kemp Rd. W., Hamilton Lakes, Greensboro.
Chem. mfr.; b. Greensboro, N.C., July 1, 1899; s. of Frank P. and Juanita (Robertson) Morton; ed. Davidson Coll., class 1920; Princeton U., class 1922; mem.: Sigma Chi; m. Ruth Balsam, Dec. 29, 1922; ch.: Marian Ruth (Morton) Brown. Vick Chem. Co., 1918-19; J.E. Latham Co., 1920-22; J.M. Brantley & Co., secy., treas., 1922-26; Joseph R. Morton & Co., 1926-28; Am. Chatillon Corp., southern mgr., 1928; Tubize Chatillon Corp., southern mgr.; Tubize Rayon Co., southern mgr., 1937; Textile Chem. Prods. Co., partner, mgr., 1931-38; Morton Chem. Co., pres., treas., 1938-50; Morton-Withers Chem. Co., pres., treas., 1950 to date. Mem.: A.C.S., A.A.T.C.C. Clubs: Greensboro Country, Starmount Forest Country. Hobbies: golf, music.

MORTON, Joshua R., emeritus prof. chem., Ohio U.; res. 2 Forest St., Athens, Ohio.
Retired; b. "Flower Hill" nr. Wilkesville, Ohio; s. of Wm. Aaron and Emma Jane (Dilworth) Morton; ed. Rio Grande Coll.; Ohio U., B.S., 1905; M.S., 1912; mem.: Lambda Chi Alpha; m. Nellie A. Long, May 27, 1896; ch.: Doris, Frances, Emma. Tchr., public schls., 1896-99; student Rio Grande Coll. 1899-1900; principal, Wilkesville Acad., 1900-01; student, Ohio U., 1901-06; hd. sc. dept., Zanesville H.S., 1906-09; Ohio U., instr., 1910-12; asst. prof. chem., 1912-14; assoc. prof., 1914-17; prof., 1917-36; hd. dept., 1936-48; emeritus prof., 1948 to date. Absorption of barium ion; conductivity of mixed salts; cobalt chlorides; war res. under auspices of N.R.C. Author: "A Manual of Qualitative Anal.," 1917; co-author: "A Lab. Program for Gen. Chem.," 1944. Mem.: A.C.S. (1936-48), A.A.A.S. (fellow), Mason (50 yr. Medal; past chmn. all bodies thru Knight Templar). Club: Izaak Walton League of Am. Hobbies: travel, nature study, out of doors, English classics, philosophy, geology.

MORTON, Maurice, asst. dir. rubber res., U. of Akron, Akron, Ohio; res. 960 Hardesty Blvd., Akron 20, Ohio.
Chem. prof.; b. Latvia, June 3, 1913; s. of Mendel and Frances Morton; ed. B.Sc., McGill U., Montreal, Canada, 1934; Ph.D., 1945; m. Lillian Rosenbloom, Dec. 21, 1933; ch.: Jay Dennis, Ruth, John Alex. 1936-41, chf. chem., Canadian Johns-Manville Co.; 1941-44, chf. chem., Congoleum Canada Ltd.; 1945-48, from asst. prof. to prof. of chem., Sir George Williams Coll., Montreal, Canada; 1948 to date, asst. dir. of rubber res., U. of Akron; 1948 to date, instr., Kent State U. Several publ. papers in fld. of polymers & syn. rubber. Mem.: A.C.S. (rubber div., high polymer div.).

MORY, Austin Van Hoesen, v.p., Lucien I. Yeomans, Inc., Indus. Engrs., 205 W. Wacker Dr., Chicago 6, Ill.; res. 27 Kendrick Place, Amherst, Mass.
Conslt.; b. near Masonville, Ia., Nov. 11, 1869; s. of Robert and Isabel (Van Hoesen) Mory; ed. Coll. Wooster, 2 yrs.; Rose Polytech. Inst., B.S., 1894; Ch.E., 1914; m. (1st) Georgia Graham, 1900; ch.: Isabel Mory Straker; m. (2nd) Lena Chapman, 1935. Anal., Ill. Steel Co., 1895; asst. chem., Armour & Co., Chicago; chf. chem., Kans. City, 1896-1907; chg. U.S. Food & Drug Inspt. Lab., Kans. City, Mo., 1907-11; dir., mdse. contr. lab., Sears Roebuck & Co., Chicago, 1911-19; dir. chem. div., Procter & Gamble Co., Ivorydale, Ohio, 1920-21; dir. tech. bur., Biscuit & Cracker Mfgrs. Assn., 1921-24; dir. personnel, Bakelite Res., Bloomfield, N.J., 1924-34; dir. res., Gen. Printing Ink Corp., N.Y., 1934-37; conslt. chem., Chicago, 1939-47; v.p., Lucien I. Yeomans, Inc., indus. engrs., Chicago, 1947 to date. Chmn. Chicago sec., A.C.S., 1916; adv. bd., J.I. & E.C., 1918-37; councilor, 1920; chmn. comm. on progress in soc. procedure, 1923; secy.-treas., endowment Comm., 1925. Co-author: "The Romance of Research," 1933. Mem.: A.C.S., A.A.A.S. Club: Chemists' (Chicago; pres. 1923).

MOSER, Frank Hans, intermediate dept. supt., Stand. Ultramarine Co.; res. 633 South Terrace, Huntington, Va.
Chem.; b. Chicago, Ill., Aug. 4, 1907; s. of Felix and Antonia (Weiser) Moser; ed. 1928, A.B., Hope Coll.; U. of Mich., M.S., 1929; Ph.D., 1931; mem.: Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma; m. Margaret Gordon, June 14, 1930; ch.: Joyce Elizabeth, John Gordon. Natl. Aniline & Chem. Co., 1932-38, sr. chem.; Stand. Ultramarine Co., 1938 to date, supvr. Pigment, intermediate res.; phthalocyanine pigments (pats.). Mem.: A.I.C. (fellow), A.C.S., W.Va. Acdy. of Sc. Exec. bd., Tri-state Council, Boy Scouts of Am.; exec. bd., Huntington Council, Camp Fire Girls. Club: Guyan Country. Hobby: photography.

MOSER, Robin Emerson, ind. hygiene chem., Ore. State Bd. of Health, 1022 S.W. 11th Ave., Portland 5, Ore.; res. 3470 N.E. Klickitat St., Portland 13.
Chem.; b. Salem, Ore., Apr. 16, 1910; s. of Jacob A. and Jane (Robins) Moser; ed. B.A., Willamette U., 1930; M.A., Ore. State Coll., 1934; Ph.D., U. of Wash., 1942; m. Clara G. Schmidt, June 30, 1947. Physical sc. aide, U.S. Navy Yard, Bremerton, Wash., 1934-38; teaching fellow, U. of Wash., 1940-42; res. chem., Girdler Corp., Louisville, Ky., 1942-43; plant & res. chem., Joseph E. Seagram & Sons, Louisville, 1943-45; ind. hygiene chem., Ore. State Bd. of Health, 1945 to date; instr., Portland Extension Center, Ore. State System of Higher Ed., 1948 to date. Properties of pantothenic acid; res. on alcoholic fermentation; inorg. microanal. of alkaline earths; determination of metals in blood & urine. Mem.: A.C.S., Phi Lambda Upsilon, Am. Conference of Governmental Ind. Hygienists, A.A.A.S. Hobbies: playing piano, folk dancing, linguistics, reading.

MOSES, Edmund Quincy, lawyer, 11 W. 42nd St., N.Y. 18, N.Y.; res. Scarborough, N.Y.
Lawyer, chem. mfg. exec.; b. Jan. 29, 1902; s. of Thomas F. and Hannah Appleton (Cranch) Moses; ed. Harvard U., S.B., 1902, M.C.L.; George Washington, LL.B., M.P.L.; m. Josephine R. Hardesty, Mar. 8, 1930; ch.: Josephine Roberta, Edmund Quincy, Jr., Diana Appleton. Asst. Examiner, U. S. Pat. Off., 1902-07; practice of law, 1907 to date. Secy. and dir., Synthetic Chemicals, Inc., Paterson, N.J.; secy. and dir., Patent Chemicals, Inc., Paterson, N.J.; dir., Better Packages Inc., Shelton, Conn. Clubs: Harvard; Sleepy Hollow Country.

MOSS, Lamar Allison, asst. supt., Whiting-Plover Paper Co., Stevens Point, Wis.; res. R. 4, Box 204, Stevens Point.
Paper tech.; b. Clyde, N.C., Jan. 1, 1913; s. of Zebulon Vance and Jennie May (Allison) Moss; ed. B.S. (chem. engrg.), N.C. State Coll., Raleigh, N.C., 1933, valedictorian; M.S., 1935; Ph.D., 1937, Inst. of Paper Chem., Appleton, Wis.; m. Maurine A. Engel, June 12, 1937; ch.: Judith Ann, Joan Maurine. Gilbert Paper Co., Nenasha, Wis., chem., 1934-38; Whiting-Plover Paper Co., Stevens Point, Wis., tech. dir., chf. chem. 1938-42; asst. supt., tech. dir., 1942 to date. Survey pitch troubles in mfr. & use of sulphite pulp; photographic study of motion fibers & water in flowing fiber suspensions. Mem.: Tau Beta Pi, T.A.P.P.I. Clubs: Rotary Internatl., B.P.O. Elks. Hobbies: voluntary fireman, Sunday School supt., chmn of Chamber of Commerce Health Committee, gardening.

MOSSMAN, Dorothea R(oberta), asst. prof., Bklyn. College, Bklyn., N.Y.; res. 440 Riverside Dr., N.Y.C., N.Y.
Chem. tchr.; b. N.Y., May 12, 1903; d. of Myer and Diana (Gordon) Block; ed. B.A., Hunter Coll., 1924; M.A., Columbia U., 1926; Ph.D., 1930; m. Donald D. Mossman, 1930. Instr., Hunter Coll., 1926-30; instr. Bklyn. Coll., 1930-32; asst. prof., 1932 to date. Res. in anal. chem. Mem.: A.C.S., A.A.A.S., Met. Microchem. Soc., Sigma Xi, A.A.U.P.

MOSTELLO, Anthony Joseph, dev. chem., Bakelite Div., Union Carbide & Carbon Corp., Bloomfield, N.J.; res. 363 Clifton Ave., Newark 4, N.J.
Chem., chem. engr.; b. Newark, N.J., Nov. 19, 1911; s. of Pasquale and Angelina (Miele) Mostello; ed. Newark Tech. Schl., A.E., 1932; Newark Coll. of Engrg., B.S. Ch.E., 1934; Stevens Inst. of Tech., M.S. Ch.E., 1945; mem.: Tau Beta Pi; m. Josephine M. Guarino, Oct. 25, 1936; ch.: Robert Anthony, Wesley Francis, Lucille Ann. 1928-34, lab. asst., Bakelite Corp., Bloomfield, N.J.; 1934-39, chem., res. dept.; 1939 to date, dev. chem., Bakelite Div. of Union Carbide & Carbon Corp., Bloomfield, N.J. Syn. resin preparations for use in grinding wheel, brake lining, core binding & misc. bonding applications. Mem.: A.C.S., A.I.C. (fellow), A.A.A.S. Hobbies: applications of the duodecimal number system compared to the decimal system.

MOUGEY, Harry Clifford, tech. dir., Res. Labs. Div., General Motors Corp., 485 W. Milwaukee, Detroit 2, Mich.; res. 9125 La Salle Blvd., Detroit 6.
Chem.; b. Baldwin, La., Jan. 10, 1889; s. of Joseph and Laura Mougey; ed. O.S.U., B.Sc. in chem. engrg., 1911; Chem. Engr., 1935; m. Julia Brenton, Oct. 27, 1917; ch.: Jane B. Res. chem., Lowe Bros. Paint & Varnish, Dayton, O., 1911-17; Federal Dyestuff & Chem. Co., Kingsport, Tenn., 1917; chf. chem., Dayton Res. Labs., Dayton O., 1917; this co. taken over by General Motors, 1920; became tech. dir., 1939. Res. wk. on automobile finishing, plating and lubrication. Mem.: Sigma Xi, Phi Lambda Upsilon, Tau Beta Pi, A.S.T.M., S.A.E., A.C.S., Detroit Engrg. Soc.

MOUNT, Norman Stanton, tech. sales and advertising, Ohio-Apex, Inc., Nitro, W.Va.; res. Dunbar, W.Va.
Tech. sales and advertising; b. E. Liverpool, Ohio, Nov. 13, 1902; s. of Hugh H. and Laura L. Mount; ed. 1921-22, Phillips U., Enid, Okla.;

1923-24, Carnegie Inst. Tech., Pittsburgh, Pa.; mem.: Pi Kappa Alpha; m. Katharine E. Rollins, Oct. 19, 1924; ch.: Norma Jean, Paul Stanton, Rollin Colburn. Dunbar Glass Corp., 1924-43, dept. mgr.; Ohio-Apex, Inc., 1943 to date, sales and advertising. Clubs: Masonry, 32nd deg., Shrine. Hobbies: fishing, bowling, hunting.

MOURANE, Joseph Harley, prof. chem. & physics, High Point College, High Point, N.C.; res. 1107 Cedrow, High Point.
Tchr.; b. Amsterdam, N.Y., Nov. 20, 1899; s. of Joseph and Josephine Mourane; ed. U. of N. C., B.S. in chem. 1922, M.S. in chem. 1924; mem.: Alpha Chi Sigma, Sigma Xi. Teacher of chem. & physics, High Point Coll., 1924 to date. Mem.: A.C.S., N.C. Acdy. of Sc., Assn. of Am. Physics Teachers. Club: Exchange (High Point, bd. of control). Hobby: gardening (flowers & small fruits).

MOWER, Alexander J., chf. chem., Laurel Soap Mfg. Co., E. Tioga and Thompson Sts., Phila., Pa.; res. 306 Chandler St., Phila. 11.
Chem. engr.; b. July 8, 1894; s. of Leopold and Clementine Mower; ed. Royal Polytechnic of Hungary, Chem. Engr., 1916; m. Louise de Retyi, Aug. 28, 1916. 1916-19, prof.-asst., Royal Polytechnic of Hungary; 1919-24, mfg. chem., aliphatic-esters, Hungary; 1924-31, res. chem., Lyons Piece Dye Wks., Paterson, N.J.; 1934-38, res. chem., Sayles Finishing Plants, Saylesville, R.I.; 1938-40, supt. dyeing, Kanmak Mills, Kulmont, Pa.; 1940-44, chf. chem., Haas-Miller Corp., Phila., Pa.; 1944 to date, chf. chem., Laurel Soap Mfg. Co., Phila., Pa. Mem.: A.C.S., A.A.T.C.C.

MOWERY, Dwight Fay, Jr., instr., Trinity Coll., Hartford, Conn.; res. 90 Vernon St., Hartford 6, Conn.
Teacher; b. Moorhead, Minn., May 1, 1915 s. of Dwight F. and Elizabeth (McGiffert) Mowery; ed. B.A., Harvard, 1937; Ph.D., M.I.T., 1941; Louis Francisco Verges fellow, Sigma Xi; m. Suzanne F. Lenderman, June 12, 1943. Gen. Chem. Co., Claymont, Del., prod. apprentice, 1937; E.I. du Pont de Nemours Co., Wilmington, Del., res. chem., 1940-42; Hercules Powder Co., Wilmington, Del., res. chem., 1942-43; Coll. of Our Lady of Elms, Chicopee, Mass., hd. of chem. dept., 1943-46; Franklin Tech. Inst., Boston, Mass., hd. of chem. dept., 1946-49; Trinity Coll., Hartford, Conn., instr., 1949 to date. Res. publ. on carbohydrates, pats. seed disinfectants, res. in progress on chromatographic adsorption of sugars. Mem.: A.C.S. Hobbies: sailing, woodworking, gadgeteering.

MOWRY, Arthur Smith, Jr., sr. supvr., Gen. Elec. Co., Richland, Wash.; res. 1312 Hains, Richland.
Chem. engr.; b. Charlotte, N.C., Sept. 4, 1914; s. of Arthur S. and Evelyn W. Mowry; ed. U. of N.C., 1936, B.S. (chem. engrg.); m. Mary Elizabeth Skill, Mar. 29, 1947; ch.: Stephen Robert. 1936-41, Am. Enka Corp., viscose rayon, control chem.; 1941-44, E.I. du Pont de Nemours & Co., mfr. of acids for use in TNT mfr.; nitric acid, fuming sulfuric acid, concentration of nitric & sulfuric acids, blending & transportation of acids, operation of waste heat steam generation unit in conjunction with sulfuric acid mfr., sr. supvr. of mfg.; 1944 to date, plutonium mfr., sr. supvr. of mfg. Mem.: A.I.Ch.E. (active; v. chmn., Columbia Valley sec.).

MOYER, Wendell Wm., dir. res., central res. dept., Crown Zellerbach Corp., Camas, Wash.; res. R. 1, Box 85, Camas.
Chem.; b. Glidden, Iowa, July 19, 1903; s. of Elmer Wm. and Cora May Moyer; ed. 1920-24, Findlay Coll., B.S.; 1925-29, U. of Ill., M.S. & Ph. D.; 1929-30, Harvard U., post doctorate; 1930-31, Munich (Germany) U., N.R.C. Fellowship; m. Gladys E. DeRodes, June 18, 1927; ch.: Shirley Ann, Wendell, Jr., Janet Eleanor, Philip D., Margo Beth. 1931-33, Princeton U., res. assoc.; 1933-37, Solvay Process Co., project leader; 1937-47, A.E. Staley Mfg. Co., dir. res.; 1947 to date, Crown Zellerbach Corp., dir. res. Stereochem.; structure of chlorophyll & strychnos alkaloids; oxidation of benzene to phenol; detergents; structure of starch; levulinic acid; amino acids; nutrients for antibiotics; wood, pulp paper & lignin chem. Mem.: A.C.S., A.A.A.S., T.A.P.P.I. Hobbies: golf, chess.

MRGUDICH, John Neil, asst. supt., electrical div., Winchester Repeating Arms Co., Div. of Olin Industries, New Haven, Conn.; res. 47 Homelands Terrace, Hamden, Conn.
Res. dev., prod. control; b. Lead, S.D., Jan. 30, 1907; s. of John N. and Katherine Mrgudich; ed. 1929, B.S., U. of Ariz.; 1930, M.S.; Ph.D., U. of Ill.; mem.: Phi Lambda Upsilon, Alpha Chi Sigma, Sigma Xi; m. Mary Emily Lalicker, June 18, 1930; ch.: Myra. 1929-30, tchg. asst., U. of Ariz.; 1930-33, tchg. asst., U. of Ill.; 1933-34, grad. lecturer physics, Marquette U.; 1934-40, res. assoc., U. of Ill.; 1940-45, res. dir., Burgess Battery Co., Freeport, Ill.; 1945-46, electron microscopist, U.S.A., Signal Corps, Ft. Monmouth, N.J.; 1946-47 chf. photographic branch; 1947-48, res. dir., elec. div., Winchester Repeating Arms Co., New Haven, Conn.; 1948-49, tech. dir.; 1950 to date, asst. supt. Res. with publ. in x-ray diffraction, spectroscopy, dry cells, storage batteries, electron microscopy. Mem.: Electrochem. Soc., Prof. Engs. Ill. Hobbies: music, electronics.

MUELLER, F.W. Hellmut, dir. res. & dev., Ansco, Div. of Gen. Aniline & Film Corp., Binghamton, N.Y.; res. 106 Vincent St., Binghamton, N.Y.
Chem.; b. Dresden, Germany, Apr. 18, 1905; s. of Fritz (dec. 1909) and Gertrud Müller; ed. U. of Leipzig, Germany, 1924-28; U. of Freiburg (Br.), Germany, 1929-30; U. of Freiburg, Germany, 1929, Ph.D.; m. Dorothea Hofmann, Ph.D., Oct., 1935; ch.: Peter, Sabina. Res. asst., Freiburg, 1929-30; res. asst., U. of Calif. (Hooper Found. Fellow Med. Res.) 1930-33; instr. biochem., U. Calif. 1932-33; res. assoc., U. of Leipzig, Germany, 1933-35; res. chem., Agfa plant, Germany, 1935-36; asst., dept. hd., Ansco Div., Gen. Aniline & Film Corp., Binghamton, N.Y. 1937-43; dir. of res., Ansco Div., 1944-46; dir. res. & dev., Ansco Div., 1946 to date. Protein chem.; animal poisons; photographic emulsions; color photography; med. & ind. x-ray emulsions; Ansco high speed-fine grain films; photographic stabilizers; anti-static agents; intensification of latent image. Mem.: A.C.S. (Binghamton Sec. chmn., 1949); Am. Photog. Soc. (assoc. mem.); Southern Tier Tech. Soc.; N.Y. Sec. of A.Phys.S., A.A.A.S., Sigma Xi, Am. Ordnance Assoc., Armed Forces Communications Assoc. Reg. War Manpower Comm. Club: Binghamton Chamber of Com. Hobbies: photography, painting, stamp collecting.

MUELLER, Herbert H., dev. engr. supt., Lever Bros. Co., 80 Varick St., N.Y., N.Y.; res. 102 Longview St., W. Orange, N.J.
Dev. engr. supt.; b. Toronto, Canada, May 21, 1897; s. of Paul W. and Julia (Vollmering) Mueller; ed. U. Toronto, Appl. Sc., Engr., 1915-16; 1919-22, grad., B.A.Sc. Chem. Engr. (hons.); m. Irene A. Langfield, Apr 14, 1928; ch: Mary Elizabeth. 1916-19, Toronto & Niagara Power Co., operating engr.; 1922-24, Procter and Gamble Co., Cincinnati, Ohio, res. dev. engr.; 1924-25, Tech. Adv. Corp., 15 Park Row, N.Y.C., indust. engr.; 1925-28, Emery Industs., Inc. Cincinnati, Ohio,

asst. supt. mfgr.; 1928-32, Am. Cyanamid Co., Linden, N.J. chem. engr.; 1932-43, E.F. Drew Co., Inc., Boonton, N.J.; 1st five yrs., plant mgr.; next 6, dir. res.; 1943 to date, Lever Bros. Co., Cambridge, Mass. and N.Y.C.; 1943-48, res. dev. supvr.; 1948-49 tech. supt.; 1949 to date, dev. engr. supt. Spec. on oils, fats, fatty acids, glycerine. Mem.: A.C.S., A.I.Ch.E., A.O.C.S. Hobbies: music, traveling

MUELLER, Robert K., prod. mgr., Monsanto Chem. Co., Plastics Div., 812 Monsanto Ave., Springfield 2, Mass.; res. Chapin Rd., Hampden, Mass.
Chem. engr.; b. St. Louis, Mo., July 25, 1913; s. of Edward Robert Otto and Lucille M. (Flaugher) Mueller (dec.); ed. Washington U., St. Louis, B.S. (chem. engrg.), 1934; U. of Mich., Ann Arbor, M.S. (chem.), 1935; mem.: Phi Lambda Upsilon, Pi Mu Epsilon, Omicron Delta Kappa, Tau Beta Pi, Sigma Phi Epsilon; m. Jane Elizabeth Konesko, Dec. 27, 1939; ch.: Lucy Alison, Patricia Kirk. Plant chem., Monsanto Chem. Co., St. Louis, Mo., 1935-38; prod. supt., Shawinigan Resins Corp., Springfield, Mass., 1938-40; gen. supt., Monsanto Chem. Co., Springfield, Mass., 1940-42; supt., Longhorn Ordnance Wks., Monsanto Chem. Co., Marshall, Texas, 1942-44; plant mgr. 1944-46; plant mgr., Monsanto, Springfield, Mass., 1946-48; asst. prod. mgr. 1948-49; prod. mgr., 1949 to date; dir., Shawinigan Resins Corp., Springfield. Author: "Effective Management Through Probability Controls," 1950, Funk & Wagnalls. Mem.: A.C.S., A.I.Ch.E., Soc. of Plastics Ind., A.A.A.S. (chmn., Springfield, Mass. Sec.), Am. Ordnance Assn., Am. Soc. for Quality Control, Am. Management Assn., Mem. Prod. Planning Council. Clubs: U. of Mich. Alumni Assn., Washington U. Alumni Assn., Harvard Bus. Schl. Assn., Springfield Chamber of Com. Hobbies: music, skiing, tennis.

MUENZEN, Joseph Bernard (Rev.), S.J., instr. in chem., Canisius H.S., 1180 Delaware Ave., Buffalo, N.Y.; res. 1168 Delaware Ave., Buffalo.
Tchr.; b. Meadville, Pa., Mar. 14, 1893; s. of Charles and Mary Muenzen; ed. Woodstock Coll., A.B., 1920; Fordham U., Ph.D., 1930. St. Joseph's Coll., hd. Chem. Dept., 1930-31; Fordham U., hd. Chem. Dept., 1931-48; Canisius H.S., hd. Chem. Dept. and instr. to date. Mem.: A.C.S., A.A.A.S., A.I.C., British Chem. Soc. Club: Chemists' (N.Y.C.).

MULCAHY, Bernard Patrick, pres., Fuel Research Lab., Inc., 1100 S. Arlington Ave., R.R. 9, Box 575-A, Indianapolis 44, Ind.; res. 3825 Arthington Blvd., Indianapolis 18, Ind.
Fuel res.; b. Geneva, N.Y., Aug. 23, 1899; s. of Patrick H. and Elizabeth L. (Casey) Mulcahy; ed. B.S. (chem. engrg.), U. of Ill., 1925; mem.: Gamma Pi Upsilon; m. Johanna D. Leland, Oct. 24, 1931; ch.: Richard, Patricia, Denis, Aileen, Kathleen. Empire Gas & Electric Co., Geneva, N.Y., 1919-21; Hobart Coll., Geneva, N.Y., 1921-22; Empire Gas & Electric Co., Geneva, 1922-23; U. of Ill., 1923-25; Empire Gas & Electric Co., 1925-28; Indiana Consumers Gas & By-Product, Terre Haute, Ind., 1928-36; Citizens Gas & Coke Utility, Indianapolis, 1926-47; conslt., Indianapolis, 1947-48; Fuel Res. Lab., Inc., 1948 to present. Res. in coal carbonization, coke utilization and identification. Numerous papers on coal identification, blending; coke identification, cupola operation. Mem.: A.S.T.M., A.G.A., A.F.S., A.C. & C.C.I., Blast Furnace & Coke Assn. (Eastern & Chicago). Hobbies: gardening and children.

MULLALY, Arthur B., pres., Advance Solvents & Chem. Corp., 245 Fifth Ave., N.Y. 16, N.Y.; res. 119 Garfield Ave., Avon, N.J.
Chem. mfr.; b. Norwalk, Conn., May 10, 1910; s. of Arthur L. and Mary A. Mullaly; ed. Stevens Inst. of Tech., M.E.; m. Ethel Longman, Sept. 9, 1936; ch.: Arthur Lawrence, Linda Susan, Mary Ellen. 1933 to date, Advance Solvents & Chem. Corp., pres. & dir. Mem.: A.S.M.E., A.A.A.S., A.S.T.M., A.C.S., Natl. Paint, Varn. & Lacq. Assn. (mem., lacq. comm.), N.Y. Paint, Varn. & Lacq. Assn. (chmn. program comm.), Am. Wood Preservers' Assn., Am. Numismatics Soc. Clubs: Manhattan, Chemists', Downtown Athletic, Newark Athletic, Belmar Fishing. Hobbies: golf, photography, fishing, numismatics.

MULLEN, James Whedbee, II, pres., Experiment Inc., Box 1-T, Richmond, Va.; res. 4909 Cary St. Road, Richmond.
Chem.; b. Richmond, Va.; s. of James and Jane (Wingo) Mullen; ed. Princeton, A.B. (summa cum laude), 1939; PH.D., 1942, Procter Fellow; m. Frederica Carr, Aug. 31, 1949; ch.: Sally Carter (by former marriage). Monsanto Chem. Co., 1942-43, res. chem.; Bell Telephone Labs., 1943-45, res. chem.; Johns Hopkins U., applied physics lab., 1945, project supvr.; Experiment Inc., 1945 to date, pres.; Thermochemicals, Inc., pres. Quality control procedures wartime syn. rubber program; cooperated on burner dev. for first successful supersonic ramjet. Mem.: A.C.S., A.I.C., Inst. of Aeronautical Sc., Sigma Xi, Phi Beta Kappa, So. Assn. of Sc. & Ind. (trustee), Advisory Council on the Va. Economy (mem. of Council Comm. on Sc. & Economic Res. & of Res. Comm. on Indus.). Clubs: Country of Va. (Richmond), Commonwealth (Richmond). Hobbies: boating, hunting.

MULLER, Julius Frederick, dir. res., Prescrip. Prods. Div., The Borden Co., 350 Madison Ave., New York 17, N.Y.; res. 35 Westcott Rd., Princeton, N.J.
Chem.; b. Brooklyn, N.Y., Sept. 5, 1900; s. of Edward J. and Julia (Lang) Muller; ed. B.Sc., M.Sc., Ph.D., Rutgers U., New Brunswick, N.J.; m. Ethel Mae Johnson, June 18, 1927; ch.: Richard J., J. Edward, James H. Res. fellow, Coll. of Agric., Rutgers U., 1927-30; agr. conslt., 1930-32; bacteriologist, Natl. Oil Prod. Co., Harrison, N.J., 1932-35; owner, dir., Muller Labs., Baltimore, Md., 1935-41; dir. res., Prescription Prods. Div., Borden Co., N.Y.C., 1941 to present. Invented "Mull-Soy," widely prescribed soy milk for allergic children. Mem.: A.C.S., A. Soybean Assn., A.I.C., A.A.A.S., Sigma Xi, Alpha Zeta (honor. agr. soc.), Phi Lambda Upsilon, N.Y. Phar. Adv. Club. Hobbies: boating, stamp collecting, photography.

MULLER, Oscar F., pres., Nyanza Color & Chem. Co. Inc., 109 Worth St., N.Y. 13, N.Y.; pres., Chem. Mfg. Co., Ashland, Mass.

MULLIKEN, Robert Sanderson, prof. physics, dept. physics, U. of Chicago, Chicago 37, Ill.; res. 5758 Blackstone Ave., Chicago 37.
Physics prof.; b. Newburyport, Mass., June 7, 1896; ed. B.S., M.I.T., 1917; Ph.D. (physical chem.), Chicago, 1921; hon. D.Sc., Columbia, 1939; mem.: Gamma Alpha; m. Mary Helen von Noé, Dec. 24, 1929; ch.: Lucia Maria, Valerie Noé. Jr. chem. engr., Bur. Mines, U.S. Dept. Interior, Wash., D.C., 1917-18; C.W.S., 1918-19; asst rubber res., N.J. Zinc Co., Palmerton, Pa., 1919; N.R.C. fellow, Chicago & Harvard, 1921-25; asst. prof. physics, Wash. Sq. Coll., N.Y.U., 1926-28; assoc. prof., U. Chicago, 1928-31; prof., 1931 to date. Ed. wk. & info. dir. plutonium project, 1942-45; Guggenheim Mem. Foundation fellow 1930-32; mem. ed. bd., "Physical Review," "Jour. Chem. Physics." Separation of isotopes; molecular spectra; diatomic molecules; theory of

molecular spectra & electronic structure of molecules. Mem.: Natl. Acdy. Sc., A.A.A.S., A.C.S., Physical Soc. (fellow), Philosophical Soc. Club: Quadrangle (Chicago).

MULLIN, Charles Earl, proprietor, consulting chem. to textile, rayon and related indus., 111 4th St., Huntingdon, Pa.; res. 200 Second St. Consulting chem.; b. Hyndman, Pa., Apr. 13, 1890; s. of Albert S. and Charlotte (Cook) Mullin; ed. Juniata Coll.; Natl. U., Phila. Textile School; Université de Nancy, France, M.S., 1922; F.A.I.C., 1924; F.T.I., 1927, England; D.Sc., Nancy, France, 1928; m. Ruth Corbin in 1934; ch.: Joseph W., Leilah A. Marshall & Co., Great Western Sugar Co., Chemical Pigments Corporation, General Pet. Corp.; prof. textile chem., rayon & dyeing, hd. of the division textile chem., Clemson College, S.C. Res. in the many branches of chem. in the textile, rayon, and all related flds. Author: "Acetate Silk and Its Dyes," 1927; 500 arts. in tech. journals; abstracts, "Chem. Abs.," 30 yrs., Arts. in Avram's "Rayon Industry." Mem.: A.C.S., Am. Assn. Textile Chems. & Colorists (fellow), Amer. Inst. of Chemists (fellow), Textile Inst. (England), Soc. Chem. Industry (Eng.), Chem. Soc. (Eng, fellow), Soc Dyers and Colorists (Eng.). Hobbies: stamps, textile collection.

MULLIN, Harold Ried, chf., spectrochem. branch, New Brunswick Lab., A.E.C., New Brunswick, N.J.; res. Stockton Pl., R.F.D. 1, New Brunswick.
Spectrochem.; b. Kenosha, Wis., Mar. 1, 1911; s. of Frank B. and Clara R. Mullin; ed. George Washington U., Wash., D.C. B.S., 1941; M.S. Georgetown Univ., Wash., D.C., 1945; mem.: Alpha Chi Sigma; m. Elizabeth I. Owens, Aug., 1940; ch.: H. Ried Mullin, II, Clarene Elizabeth. 1937-46, Natl. Bur. of Stands., spectroscopy sec., chem.; 1946-49, Shell Oil Co., Wood River, Ill., spectrochem.; 1949 to date, New Brunswick Lab., A.E.C., chf. spectrochem. branch. Co-author on dev. wk. for the spectrochem. anal. of uranium & uranium base matls. Mem.: Alpha Chi Sigma, A.C.S., Opt.S.A. Club: Masonic fraternity. Hobbies: model building (especially trains), photography.

MUMFORD, Russell William, v.p., conslt. engr., American Potash and Chem. Corp., 3030 W. 6th St., Los Angeles 54, Calif.; res. 1631 Capistrano Ave., Glendale 8, Calif.
Chem. engr.; b. Cleveland, O., Oct. 15, 1890; s. of William B. and Ada C. (Peters) Mumford; ed. A.B., Mich. State Normal, 1914; A.M., Columbia, 1915; mem.: Sigma Xi, Phi Lambda Upsilon; m. Henrietta Monroe Clevenger, Aug. 14, 1915; ch.: Edgar C., Julia A., Richard H., Harlan H. Asst. chem. and chem. engrg. dept., Columbia U., 1914-17; supt. prods., Industrial Chem. Co., Baltimore, Md., 1917-19; chem. engr. and asst. mgr., American Trona Corp., 1920-26; asst. mgr., American Potash and Chem. Corp., 1926-29; conslt. engr., 1929 to date; Calif. mgr., 1941-45; v.p. 1941 to date. Dev. of Darco, activated charcoal, several pats. issued on this; process for producing potash and borax from Searles Lake brine. Mem.: A.C.S., A.I.Ch.E., Am. Geog. Soc., A.A.A.S. Club: University (Los Angeles).

MUNCH, James Clyde, pres., Munch Res. Labs. Inc., 306 S. 69th St., Upper Darby, Pa.; res. 80 Windermere Ave., Lansdowne, Pa.
Consltg. pharmacologist & toxicologist; b. Farmer City, Ill., Feb. 20, 1896; s. of Henry and Nellie Munch; ed. Ill. Wesleyan U., Bloomington, Ill., B.S. 1915, M.S. 1916; George Washington U., Wash., D.C., Ph.D. 1924; mem.: Kappa Psi, Theta Kappa Psi, Phi Kappa Phi; m. Soula Clanton Robinson; ch.: Margaret Clyde, James Clanton. Bur. of Chem., U.S.D.A. 1917-28; Fish & Wildlife Service, 1928-44; conslt. War Food Adm. 1943-44; prof. of physiol., Temple U., Schl. of Pharmacy 1934-44; prof. of pharmacol., Temple Schl., 1944 to date; prof. of pharmacol., 1931 to date, Temple Pharmacy Schl.; prof. of biometrics, U. of Md. Medical Schl. 1945-46; lecturer in pharmacol., Hahnemann Medical Schl. & Hospital 1940 to date; dir. of pharmacolog. res., Sharp & Dohme, 1928-36, John Wyeth, 1936-37, dir., Munch Res. Labs., 1938 to date. Saliva testing for detecting of dope of race horses & humans; studies chem. constitution & reaction to alkaloidal reagents; antidotes to poisons. Author: "Bioassays" 1931; "Lab. Manual in Pharmacol. & Bioassays" 1937; "Elementary Pharmacol." 1945; "Statistics in Press." Mem.: A.A.A.S. (fellow), A.C.S., A.Phar.A. (life mem., v.p.), Assn. Mil. Surgeons, Internatl. Physiolog. Soc., Physiolog. Soc. Phila., N.P.C.A., Am. Statistical Assn. (life mem.), Sigma Xi, Coll. of Physicians (assoc. mem., Phila.). Clubs: Masonic, Union League (Phila.), Optimist, Torch (dir.).

MUNGER, Charles Galloway, tech. dir., Amercoat Corp., 4809 Firestone Blvd., South Gate Calif.; res. 720 N. Willard Ave., San Gabriel, Calif.
Chem.; b. Los Angeles, Calif., Dec. 29, 1912; s. of Chas. U. and Lena G. Munger; ed. Pomona Coll., B.A., 1935; Claremont Coll., wk. on masters not completed; mem.: Kappa Delta (local); m. Mary Ann Hickson, June 26, 1936; ch.: Patty Ann, Chas. Lloyd. Am. Pipe & Const. Co., 1935-37, timekeeper; 1937-39, chem.; 1939-44, chf. chem.; 1944-47, dir. of res.; 1947-49, tech. dir.; Amercoat Corp. (wholly owned subsidiary of Am. Pipe & Const. Co.), 1950 to date, tech. dir. Dev. of coatings for the sewage, chem., pet. & food indus., all from basic res. into coatings for protection of concrete under severe sewage conditions. Mem.: A.C.S., A.I.C., Natl. Assn. of Corrosion Engrs. Hobbies: fishing, gardening.

MUNN, Lottie Ella, prof. chem., hd. dept., Lake Erie College, Painesville, Ohio; res. 205 Mentor Ave., Painesville.
Coll. tchg.; b. North Eaton, Ohio, June 15, 1897; d. of Edgar L. and Ella M. (Fauver) Munn; ed. A.B., Baldwin Wallace Coll., summa cum laude, 1917; M.S., U. of Ill., 1922; Ph.D., 1924. Instr. in chem., Baldwin Wallace Coll., 1917-20; asst. in chem., U. of Ill, 1920-23; fellow in chem., 1923-24; prof. of chem., Lake Erie Coll., 1924 to date. Value of tellurium cmpds. as disinfectants. Mem.: A.C.S., A.A.A.S., Ohio Acdy. of Sc., A.A.U.P., Sigma Xi, Iota Sigma Pi, Delta Kappa Gamma. Clubs: Grange, Am. Assn. of U. Women, League of Women Voters, Am. Forestry Assn.

MUNN, W(illiam) Faitoute, owner chem. & microscopical lab.; office & residence, 75 Walker Road, West Orange, N.J.
Chem., microscop., perfumer; b. Jan. 20, 1891; s. of William C. and Mary (Stroud) Munn; ed. Columbia U.; m. Clara Mary Bennet, Jan. 14, 1927; ch.: W. Faitoute Munn, Jr. Lab. asst. Columbia U.; chem., West Va. Pulp & paper Co.; engr., Electrical Alloy Co.; asst. dir., Lederle Labs., N.Y.C.; chf. chem., Baker & Adamson Plant, Gen. Chem. Co., Easton, Pa.; chf. chem., Colura Pictures Corp.; chem., Carroll Dunham Smith Pharmacol Co.; certified chem. for Am. Bur. of Shipping for 10 years; pres. Faitoute, Inc., (perfumes); 1950 to date, associate microscopist, Evans Research & Development Corp.; owner of chem. & microscopical lab., specializing in photomicrography. Contrib. extens. to sc. and tech. journals. Mem.: A.A.A.S. (fellow), Royal Microscopical Soc. (fellow), Am. Geog. Society (fellow), N.Y. Acdy.

Scs. Club: Radio Club of Amer. (charter member & fellow). Hobbies: 5-string banjo, philately, model railroad, water color painting, horticulture, radio.

MUNRO, Isaac Hill, asst. chf. engr., Solvay Process Div. of Allied Chem. & Dye Corp., Milton Ave., Solvay, N.Y.; res. 6 Orchard Way, Camillus, N.Y.
Chem. engr.; b. Camillus, N.Y., Sept. 3, 1912; s. of Edwin Knapp and Florence R. Munro; ed. Colgate U., A.B. (Phi Beta Kappa), 1933; M.I.T., M.S. in Ch.E., 1935; mem.: Delta Kappa Epsilon, Alpha Chi Sigma; m. Claudine Bedell, Mar. 21, 1936; ch.: Andrew Gilbert, Catherine Mary. Solvay Process Div. of Allied Chem. & Dye Corp. 1935 to date; promoted to asst. chf. engr. 1945. Mem.: A.S.C.E. Pres. bd. of trustees, Camillus Baptist Church, pres. Bd. of Ed., Camillus. Club: Gyro (Syracuse). Hobbies: building constructions, real estate development.

MUNRO, Wendell Philip, chf. chem., dept. G., dyes dept., Calco Div., Am. Cyanamid Co., Bound Brook, N.J.; res. Washington Valley Rd., Martinsville, N.J.
Chem.; b. Marshalltown, Iowa, Mar. 25, 1908; s. of George W. and Myrtle (Higgins) Munro; ed. State U. of Iowa, B.S. in chem. engrg., with highest distinction, 1929; M.S., 1930; Princeton U., A.M., 1932, Ph.D., 1933; mem.: Theta Tau; m. Bernice Grahame, July 3, 1930; ch.: Warren William, Dawn O'Hara. Engineer Corps, U.S.A., 1930, flood control studies; Am. Pet. Inst., 1931, res. on catalytic desulfurization of pet.; Calco Div., Am. Cyanamid Co., 1933-42, 1945 to date, res. chem., chf. chem.; C.W.S., Tech. Command 1942-46, Chem. Munitions Dev. Officer (1st Lt., 1942; Capt., 1942-45; Major 1946). Army Commendation Ribbon. Processes & pats. on vat dyes & intermediates; dev. of chem. warfare munitions (colored smokes, screening smokes, incendiaries). Mem.: A.C.S. (Councillor of Raritan Valley Group), A.I.C. (fellow), Sigma Xi, Tau Beta Pi, du Pont Fellow, Princeton U., 1932-33. Club: Martinsville Community (pres., 1949-50). Hobbies: amateur radio, amateur theatricals.

MUNSELL, Hazel E., res. assoc., dept. food tech., M.I.T., Cambridge 39, Mass.; res. Monson, Mass.
Anal. chem. (food); b. Monson, Mass., Apr. 9, 1891; d. of K.B. and Nellie E. Munsell; ed. Monson Acdy., 1909; Mt. Holyoke Coll. B.A., 1914; Columbia U., M.A., 1921; Ph.D., 1924. Tchr., Stamford Seminary & Union Free Schl., Stamford, N.Y., 1914-17; Mt. Holyoke Coll., grad. student, 1917-18; Pratt Inst., Brooklyn, N.Y., tchr. 1918-20; Columbia U., grad. student, 1920-24; U.S. Dept. Agr., chg. nutrition res. 1924-38; specialist nutrition res. 1938-42; Schl. of Tropical Medicine, San Juan, Puerto Rico, chem. in clinical res., 1942-44; Nutrition Lab. The Pentagon, chem., 1944-46; Nutritional Biochem. Labs., Dept. Food Tech., M.I.T., Cambridge, res. assoc. in chg. food anal. res., 1946 to date. Res on the vitamin content of foods and in nutrition, some sixty papers publ. Author: "Pattee's Dietetics" (revised 1945). Mem.: A.C.S., Am. Inst. Nutr., Am. Dietetic Assn., Am. Home Economics Assn., A.A.A.S., Sigma Xi

MUNSON, Charles Sherwood, chmn. of the bd., Air Reduction Co. Inc., & U.S. Indus. Chem. Co. Inc., 60 E. 42nd St., N.Y. 17, N.Y.; res. "Penmor," Sasco Hill, Southport, Conn
Exec.; b. Woodbury, Conn., Sept. 14, 1888; s. of John Newton and Florence Averill (Seeley) Munson; ed. B.A., Yale, 1912; m. Marjorie Jean Oatman, June 22, 1912; ch.: Charles Sherwood, Jr. 1912, Amoskeag Mfg. Co.; 1917, treas., Cuban Air Prods., N.Y.; pres. 1919-42; chmn., 1942 to date; 1919-41, pres., Natl. Carbide Corp.; 1924-37, v.p., Air Reduction Co. Inc.; 1937-48, pres.; 1948, chmn. exec. comm.; 1949 to date, chmn. of the bd.; 1931-43, pres., U.S. Indus. Chem. Co. Inc.; 1943-48, chmn. exec. comm.; 1949 to date, chmn. of the bd.; Cuban Air Prods. Corp., dir.; Commonwealth Ins. Co., dir.; North British & Mercantile Ins. Co., dir.; Guaranty Trust Co. of N.Y. Mem. exec. comm., dir.; Natl. Shares Corp., dir.; Natl. Distillers Prods. Corp. Mem. fin. comm., dir.; Consolidated Edison Co. of N.Y., trustee; Air Reduction Canada, Ltd., dir.; Ohio Chem. Canada, Ltd., dir. Mem.: Mfg. Chemists Assn. Inc. (v. chmn., dir.), Muntions Bd. Chem. Indus. Adv. Comm. Yale Alumni U. Found. Assn. (dir.), Yale Inst. for Internatl. Studies. Presbyterian Hosp., N.Y.C. (dir., trustee & mem. exec. comm.), Taft Schl. (trustee). Clubs: The Links (gov., treas.), Union, Cloud, Uptown, Country of Fairfield, Fairfield Co. Hunt.

MURCHISON, John Taynton, prof., hd., dept. of chem., Arlington State College; res. 1115 W. Second St., Arlington, Texas.
Tchr., dept. hd.; b. Ft. Niagara, N.Y., Feb. 7, 1906; s. of W.G. and Lydia T. Murchison; ed. U. of Nebr., A.B.; U. of Texas, M.A. & Ph.D.; mem.: Alpha Chi Sigma, Phi Lambda Upsilon; m. Eleanor Carr, Aug. 25, 1932; ch.: John T., Jr., Eleanor Susan, William G., III, Mary Carolyn. Hd. dept. of chem., Arlington State Coll., 1933 to date; on military leave, 1941-46, serving as commanding officer, Baytown Ordnance Wks., Baytown, Texas, & commanding officer, Lone Star Ordnance Plant, Texarkana, Texas. Res. in fld. of halogenated ethers. Mem.: Sigma Xi, A.C.S., A.A.A.S., Am. Ordnance Assn., U.S. Infantry Assn. Clubs: Rotary (Arlington, Texas). Hobby: fishing.

MURDOCH, Philip G., prof. of chem. engrg., A. &M. Coll. of Texas; res. College Station, Texas.
Chem. engr.; b. Calif., Nov. 26, 1907; s. of Charles A. and Ora E. Murdoch; ed. Calif. Inst. of Tech., B.S. 1929, Ph.D. 1932; m. Margaret E. Murdoch, Sept. 3, 1938; ch.: Jeffrey L. 1933-34, instr. in chem., Los Angeles City Coll.; 1934-36, Shell Oil Co., Wilmington, Calif., tech. asst.; 1936-44, Shell Dev. Co., Los Angeles, San Francisco, Cactus Ord. Wks., res. engr.; 1944-45, Shell Oil Co., N.Y., technologist; 1945 to date, A.&M. Coll. of Texas, res. prof. of chem. engrg. Algebraic calculations of multicomponent distillations. Contrib. articles to tech. jls. Author: "Chem. Engrg. Kinetics," book in prep. Mem.: Sigma Xi, Tau Beta Pi, Phi Kappa Phi, A.I.Ch.E. (active), A.C.S., Reg. Prof. Engr., Texas. Award: 1948 Publication Award, South Texas Sec. of A.I.Ch.E. Mem. Spec. Advisory Group to Synthesis Subcomm. of T.A.C., 1944-45.

MURPHEY, James McDowell, br. mgr. Solvay Sales Div., Allied Chem. & Dye Corp., 1 No. LaSalle St., Chicago 2, Ill.; res. 250 Bronson St., Highland Park, Ill.
Sales; b. Ruston, La., July 9, 1897; ed. La. Polytech. Inst. 1917; m. Frances McMullin, Aug. 4, 1923; ch.: 2 sons, 1 dau. 1917-22, salesman, Whitelaw Bros. Chem. Co.; 1923 to 1930, salesman, and 1930 to date, br. mgr. Solvay Sales Div., Allied Chem. & Dye Corp. 1918, U.S. Naval Aviation. Mem.: Chicago Drug & Chem. Assoc., Chicago Perfumery, Soap & Extract Assoc. Clubs: Union League (Chicago), Exmoor Country (Highland Pk., Ill.). Hobbies: golf, hunting.

MURPHREE, Eger V., pres., Std. Oil Dev. Co., 15 W. 51st St., New York 19, N.Y.; res. 1 Crest Acres Court, Summit, N.J.
Exec., chem. engr.; b. Bayonne, N.J., Nov. 3, 1898; s. of John Burford and Sarah Elizabeth

(Vaughan) Murphree; ed. U. of Kentucky, B.S. and M.S. (chem.); D.Sc. (hon.); m. Georgie C. Rabelais, Sept. 7, 1934; ch.: Sarah Vaughan. With M.I.T., 1922-23, staff asst.; 1923-24, res. assoc.; Solvay Proc. Co., Syracuse, N.Y., 1924-26, chem. engr.; 1926-30, dir., chem. engrg. div.; Std. Oil Co. of La., 1930-34; dir. Jasco Inc.; 1932-34, mgr., dev. and res. dept.; Hydro Engrg. Chem. Co., Baton Rouge, 1934-45, v.p., dir.; Std. Oil Dev. Co., N.Y., 1934 to date; 1934-37, mgr. dev. and res.; 1937-46, v.p.; 1946-47, exec. v.p.; 1947 to date, pres. Dir., Jasco, Inc.; Std. Catalytic Co.; Internatl. Catalytic Oil Processes Corp. Official advisor to U.S. Gov., Natl. Acdy. of Scs., Wash., D.C. W.W. II mem. O.S.R.D. (S-1 Exec. Comm., headed by Dr. J.B. Conant). Special assignment, Atomic Energy Commission, General Advisory Comm., appointed August 11, 1950, for six years. Instrumental in estab. of the Manhattan Proj.; contrib. numerous arts. to sc. jls. and other pubs., particularly in flds. of fluid cat. cracking, 100 octane gasoline, synth. toluene, butadiene and hydrocarbon synthesis; also was in chg. of design of a heavy water plant in Brit. Columbia and supvd. much wk. on centrifugal meth. of separating uranium isotopes; holder of numerous pats. in above mentioned flds. Rec. The Perkin Medal for 1950, awarded by Amer. Sec. of S.C.I. Mem.: Natl. Acdy. Scs. (Wash., D.C.), A.C.S., A.P.I., Armed Forces Chem. Assoc., A.I.Ch.E., A.Phys.S., S.C.I., A.Inst.Phys., A.I.M.E. Club: Baltusrol Golf (Springfield). Hobbies: golf, photography, music

MURPHY, Francis E., supvr. process controls, Pa. Salt Mfg. Co., 1000 Widener Bldg., Phila., Pa.; res. 200 W. Front St., Florence, N.J.
Chem. engr.; b. Bordentown, N.J., July 24, 1908; s. of Joseph A. and Cecelia F. (Mullane) Murphy; ed. Villanova Coll.; St. Joseph's Coll., Phila., B.S. (chem.); m. Alice J. Watson, Nov. 27, 1935; ch.: Anne, Ellen, Alice. 1930-31, Florence Pipe Fdy. & Mach. Co., chem.; 1931-33, N.J. State Highway Dept., chem.; 1933-34, Golden Gate Bridge & Hway. Dist., chem.; 1934-43, Gen. Chem. Co., chem., chem. engr.; 1943 to date, Pa. Salt Mfg. Co., chem. engr. Mem.: A.C.S., A.I.Ch.E. (active), Franklin Inst. Hobbies: home, bowling, autoing.

MURPHY, Nelson Francis, res. prof., Va. Polytech. Inst., Blacksburg, Va.
Tchg.; b. Erie, Pa., Jan. 30, 1906; s. of Louis F. and M. Alice Murphy; ed. U. of Cincinnati, Ch.E., 1929; Cornel U., Ph.D., 1934; m. Georgia Cumins, June, 1932; ch.: Neil Francis, David George. Chem., Gen. Chem. Co., N.Y.C., 1934-39; asst. prof. chem. engrg., Syracuse U., 1939-45; engr., then dir. of engrg. & dev, Bristol Labs., Syracuse, N.Y., 1945-49; res. prof., Va. Polytechnic Inst., Blacksburg, Va., 1949 to date. Res. in chem. of hydrogen peroxide, nicotine extraction, corrosion, mtl. finishing. Author: "Dimensional Anal.," 1950. Mem.: Sigma Xi, A.I.Ch.E., A.C.S., Am. Soc. Engrg. Ed., A.A.U.P., Am. Electroplaters Soc.

MURPHY, Walter I.R., chem. engr., U.S. Bur. of Mines, Petroleum & Oil Shale Experiment Station, Laramie, Wyo.; res. 1310 Kearney St., Laramie, Wyo.
Chem. engr.; b. Butte, Montana, Dec. 27, 1907; s. of C.J. and Mary (Kelly) Murphy; ed. Montana Schl. of Mines, Butte, Mont, 1925-27; Montana State Coll., Bozeman, Mont., 1927-30, B.S. (chem. engrg.), 1930; m. Donivieve Ferguson, Dec. 30, 1933; ch.: Richard Eugene. 1930-33, jr. chem., U.S. Bur. of Mines, Laramie, Wyo.; 1933-35, chem., Socony Vacuum Oil Co., Casper, Wyo.; 1935 to date, chem. engr., U.S. Bur. of Mines, Laramie. Res. on refining of high-sulfur pet.; res. & dev. of syn. liquid fuels from oil shale. Numerous govt. & tech. jl. publs. Mem.: Sigma Xi, A.C.S., A.I.Ch.E. Club: Lions.

MURPHY, Walter Joseph, editor, "Indust. and Engrg. Chem.," "Anal. Chem.," "Chem. and Engrg. News," "Advances in Chem. Series," dir., A.C.S. News Service, 1155 16th St., N.W., Wash. 6, D.C.; res. 1825 Parkside Dr., N.W., Wash. 12, D.C.
Chem. editor; b. Bklyn., N.Y., Aug. 20, 1899; s. of Richard Joseph and Ann (Heath) Murphy; ed. Polytech. Inst. of Bklyn., B.S. in Chem., 1921; mem.: Pi Kappa Phi; m. Gertrude B. McMahon, Feb. 22, 1927; ch.: Joan Ann, Walter, Jr. Chem. and chem. engr., Air Reduction Co., 1921; sales dev. engr., Amer. Cyanamid Co., 1922-25; market res., Naugatuck Chem. Div., U.S. Rubber Co., 1925; v.p., W.F. George Chems. Inc., Seaboard Crystal Co., 1925-28; sales asst. to the pres., Mutual Chem. Co. of Amer., 1928-30; mng. edit., "Chem. Industries," 1930-39; editor and gen. mgr., 1939-42; editor, A.C.S. pubs.; dir. A.C.S. News Service, 1943 to date. Mem. of Chem. Grp., Tech. Indust. Intelligence Comm., Joint Chfs. of Staff, investigating German Chem. Indust. after W.W. II. Tech. observer, Bikini Atom Bomb Tests, 1946. Co-author, "Strategic Matls. in Hemisphere Defense," 1941 (priv. pub.); "I Did Leave Home," 1945; "The Lagoon of Decision," 1946. Mem.: A.C.S., A.I.Ch.E. (fellow), A.A.A.S., A.I.C. (recip. of Gold Medal, 1950), Amer. Sect., S.C.I., Salesmen's Assoc. of the Am. Chem. Indust., Chem. Engrs. Club of N.Y. (hon.), Sigma Xi, Alpha Chi Sigma, Armed Forces Chem. Assoc. (dir.); D.Sc., hon., Centre Coll., 1947. On bd. of trustees, Polytech. Inst. of Bklyn.; Midwest Res. Inst.; Southwest Res. Inst. Clubs: Chemists' (N.Y.), Natl. Press, Cosmos, University, Torch (Wash.). Hobby: gardening.

MURPHY, William J., v.p. chg. sales, dir., Amer. Potash & Chem. Corp., 122 E. 42nd St., N.Y.C.; res. 15 Columbus Ave., Glen Ridge, N.J.
Sales; b. N.Y.C., Aug. 1, 1895; s. of William and Katherine Murphy; ed. publ. schls.; 4 yrs. night schl. (bus. admin.); m. Mary M. Sullivan, Aug. 7, 1916; ch.: William J., Jr., Richard A. 1911-17, Amer. Potash & Chem. Corp., office boy, clerk, bookkeeper; 1917-20, Los Angeles office & Trona, Calif., chg. of orders, shipping recds.; 1920, retd. to N.Y. off. as salesman; 1933, appointed mgr. of borax sales; 1936, gen. sales mgr.; 1941 to date, v.p. chg. sales; Am. Potash Inst., dir.; Potash Export Assn., dir.; Atkinson & Wade, N.Y.C., dir. Clubs: Union League (N.Y.C.). Glen Ridge Country (Glen Ridge, N.J.). Hobby: golf.

MURRAY, Irvin L., chf. proc. engr., Carbide & Carbon Chems. Div., Union Carbide & Carbon Corp., South Charleston, W.Va.; res. 1234 Upper Ridgeway Rd., Charleston, W.Va.
Chem. engr.; b. N.Y.C., May 11, 1904; s. of J. Irvin and Victoria Ludgate (Childs) Murray; ed. Coll. of the City of N.Y., B.S.; M.I.T., S.M.; m. Mary Gillespie, June 7, 1947; ch.: Noël Carroll, John G. Carroll. With Carbide & Carbon Chems. Div., U.C.C., 1927 to date. Mem. of Amer. Rubber Mission to the Soviet Union, 1942-43. Mem.: A.I.Ch.E. (dir., 1949 to date). Clubs: Chemists' (N.Y.), Kanawha Country (Charleston, W.Va.), Press, (Charleston, W.Va.). Hobby: fishing.

MURRAY, Wallace J(ennings), res. chem. and chem. engr., Arthur D. Little, Inc., 30 Memorial Dr., Cambridge, Mass.; res. 100 Memorial Drive, Cambridge 42, Mass.
Chem., chem. engr.; b. Boston, Mass., Aug. 24, 1890; s. of Theodore R. and Juliet W. Murray; ed. M.I.T., B.S., 1912; The University, Leeds, England, 1914-15; Université de Geneve, Geneva,

Switzerland, 1916, D.ès.Sc.Phys.; mem.: Alpha Chi Sigma, Sigma Xi; m. Ina Estelle Shordon, June 15, 1920; ch.: Wallace Shordon, Jean Estelle. M.I.T., asst. org. chem., 1912-13; instr. anal. chem., 1913-14; Northwestern Univ., instr. anal. chem., 1916-17; Natl. Aniline, Marcus Hook, Pa., res. chem., 1917-18; C.W.S., U.S.A., 1st. Lieut., Toxic Gas Res., 1918; Conn. Metal & Chem. Co., New Britain, Conn, 1919-20, res. chem. Arthur D. Little, Inc., Cambridge, Mass, 1920 to date, res. chem. and chem. engr. Author arts. in Jl. A.C.S., Jl. de Chemie Physique, Comptes Rendus 1917, Am. Dyestuff Rep., Trans. Inst. Chem. Eng., Ind. & Eng. Chem. on the devel. proc. mfg. synth. solvents from petrol. Mem.: A.A.A.S., A.C.S., A.I.Ch.E., A.A.T.C.C., A.P.I., Sigma Xi, Alpha Chi Sigma, Mason. Club: Appalachian Mt. Hobby: horticulture.

MUSCHAMP, George M, v.p. chg. of engrg., Brown Instruments Div., Minneapolis-Honeywell Regulator Co., Wayne & Roberts Aves., Phila. 44, Pa.; res. Rodney St., North of Gorgas Lane, Phila.

Engrg. exec.; b. Phila., Pa., Aug. 29, 1908; s. of Herbert and Letitia Muschamp; ed. Drexel Inst. of Tech., Mech. Engrg.; m. Sylvia Hickman, Jan. 28, 1944; ch.: George M., Jr., Herbert M. Brown Instrument Co., pat. engr., 1930-34; pat. atty., 1934-39; asst. gen. mgr., 1939; mgr. engrg. 1939; v.p. in chg. of engrg., 1943; dir., 1943; v.p. chg. of engrg., 1949, Brown Instruments Div. of Minneapolis-Honeywell Regulator Co. Mem.: A.S.M.E. (sec. officer, constitution and by-laws comm.), Am. Ordn. Assoc.; Audubon Soc., Am. Forestry Assoc., Chemical Warfare Soc., Germantown Historical Soc., Instrument Soc. of Amer., Phila. Patent Law Assoc. (Legislative Comm., patent foundation comm.), Recorder Controller Section, Sc. Apparatus Makers of America (chmn., bulb and well comm.; past chmn. engrg. executives' grp.), Tech. Societies of Phila. (pres.). Woodcrest Community Assoc. (pres.); Community Chest of Phila. and Vicinity, Drexel Inst. of Tech. (building fund), Franklin Institute. Clubs: Germantown Cricket, Engineers' (Phila.), The Friends of the Wissahickon. Hobbies: riding, collecting antiques, gardening, history.

MUSSER, David Musselman, hd., textile res. & dev. div., Onyx Oil & Chem. Co., Morris & Warren Sts., Jersey City, N.J.; res. 38 Melmore Gardens, E. Orange, N.J.

Chem.; b. Bowmansville, Pa., Apr. 30, 1909; s. of Henry G. and Frances B. Musser; ed. B.S., Pa. State Coll., 1931; M.S., Georgia Inst. of Tech., 1933; Ph.D., U. of Wis., 1937; mem.: Theta Nu Epsilon, Sigma Xi; m. Edna H. Youndt, Aug. 20, 1938; ch.: David Kenneth, Charles Douglas. 1937-42, fellow, Mellon Inst. of Indus. Res.; 1942-46, sr. chem., Pacific Mills Res. Labs.; 1946-47 sr. chem., Deering Milliken Res. Trust; 1947 to date, hd. of textile res. & dev., Onyx Oil & Chem. Co. Res. on textile chem. and finishing treats. Mem.: A.C.S., A.A.T.C.C., Am. Assn. of Textile Tech.

MYERS, Chester Newton, pres., Casting Research, 5 First St., Troy, N.Y.; res. Valley Falls or 34 Cedar Pl., Yonkers, N.Y.

Chemotherapy, biolog. res.; b. Schaghticoke, N.Y., 1884; s. of A. Bryant and Alida (Waldron) Myers; ed. Williams Coll., 1906; Wesleyan, 1907; Johns Hopkins, 1910, 1912; U. State N.Y., 1908; mem.: Sigma Chi; m. Charlotte J. Thompson, 1911; ch.: Charlotte Elizabeth. Assoc., Carnegie Found.; assoc., Johns Hopkins; assoc. in pharmacol., U.S.P.H.S.; dir. clin. res., H.A. Metz Lab., N.Y.; assoc. in derm., Coll. Phys. & Surgs., N.Y.; assoc. in res., Vanderbilt Clinic; assoc. pathol. Neurological Inst.; dir. chemotherapy, N.Y. Skin & Cancer Hosp.; conslt. venereal diseases, U.S.P.H.S.; pres., Casting Research. Pellegra, nutrition, chemotherapy, toxicol., derm., cancer, biochem., hydrogen electrode; approx. 200 monographs & papers. Mem.: A.C.S., A.A.A.S. (fellow), Fed. Biolog. Socs., N.Y. Acdy. Med. (fellow), N.Y. Acdy. Sc., Soc. Exp. Med., Biolog. Conference. Clubs: Gamma Alpha, fraternal lodges. Hobbies: farming, flower culture, educational clubs.

MYERS, Clyde Burwell, staff engr., Diamond Alkali Co., Painesville, Ohio; res. 664 Liberty St., Painesville.

Chem. engr.; b. Greensville, S.C., Jan. 8, 1906; s. of Thomas Ransom and Mary (Bass) Myers; ed. Ga. Inst. of Tech., B.S. Ch.E., 1927; m. Eleanor George, Dec. 1, 1929; ch.: George Richard, Clyde Burwell, Jr. Mathieson Chem. Corp., Saltville, Va., 1927-41, chem. engrg. dev. dept.; 1941-42, tech. supvr., dry ice & lime recovery plants; 1942-43, asst. supt.; 1943-44, acting supt.; 1944-46, supt.; Diamond Alkali Co., Painesville, Ohio, 1946-47, chem. engrg. dev. dept.; 1947 to date, staff engr. Mem.: A.I.Ch.E. (active), A.C.S. Hobbies: music, chess, fishing.

MEYERS, Eleazer, tech. conslt., Columbia Mills Inc.; res. 103 Glenwood Ave., Leonia, N.J.

Exec.; b. Chicago, Ill., Jan. 3, 1885; s. of Herman R. and Jennie Myers; ed. U. of Chicago, 1903; Armour Inst. of Tech., 1904-05; M.I.T., 1907-08, B.S. (chem. engrg.); m. Etta J. Hughes, Aug., 1916; ch.: Richard H., Ruth J. Columbia Mills Inc., 1908 to date, student, frmn., factory mgr., res. engr., dir. of mfg. tech. conslt. Mem.: A.C.S. (1908 to date).

MYERS, Latimer D., tech. asst. to exec. comm.. Emery Industries, Inc., 4300 Carew Tower, Cincinnati, Ohio; res. 3051 Daytona Ave., Cincinnati.

Chem.; b. New Kensington, Pa., Mar. 10, 1903; s. of Elmer E. and Sadie G. Myers; ed. U. of Pitts., B.Chem. cum laude 1923, Ph.D. 1927; mem.: Alpha Chi Sigma; m. Nellie P. Powell, Apr. 7, 1928; ch.: Jane Kathryn, Sarah R., Jane Ann, David Duffield. Chem., 1927, res. dir. 1930, Twitchell Process Co.; res. dir., Twitchell Process Co. & Emery Industries, 1932; chem. dir. 1944, tech. asst. to exec. comm. 1948 to date, Emery Industries, Inc. Investigations & pats. on mineral oil sulfonates & processing of fatty acids. Mem.: A.C.S., A.O.C.S. Club: Western Hills Country.

MYERS, R(alph) Thomas, hd., chem. dept., Waynesburg College, Waynesburg, Pa.; res. 185 Huffman St., Waynesburg, Pa.

Chem.; b. Maidsville, W.Va., Mar. 28, 1921; s. of Harrison Lonzo and Martha Jane (Nuce) Myers; ed. W.Va. U., A.B., 1937; Ph.D., 1949; m. Dorothy Anna Krauss, Oct. 29, 1948; ch.: Paul Edward. 1940-48, W.Va. U., asst., grad. asst., tchg. fellow; 1944-46, Manhattan Project (S.A.M. Labs.), res. asst.; 1948 to date, Waynesburg Coll., hd. chem. dept. Author (dissertation), "Rate of Saponification of Acetates of Unsaturated Alcohols," 1949. Mem.: A.C.S., Phi Lambda Upsilon, Sigma Xi, Sigma Pi Sigma.

MYHREN, Arne J., assoc. chf., dev. engr. div., New Jersey Zinc Co., Palmerton, Pa.; res. R.D. No. 1, Palmerton.

Chem. engr.; b. Trondheim, Norway, July 13, 1898; s. of A.F. and Ovedie (Olsen) Myhren; ed. B.A., Trondheim Coll., 1917; Chem. Engr., Norway Inst. of Tech., 1922; m. Anita C. Blatz, Sept. 30, 1933; ch.: Trygve Edward, Karen Barbara. Instr., Norway Inst. of Tech., 1922-24; investigator, tech., Guggenheim Bros., Labs., New York, 1925-29; chf. chem., engrg. sec., New Jersey Zinc Co., 1929-43; assoc. chief, dev. engr. div., 1943 to present. Res. and a number of pats.

covering zinc metallurgy, zinc pigments and zinc chems. Mem.: A.I.Ch.E. Hobbies: skiing, work around home.

MYLROIE, John Miller, Jr., chem. engr., prod. dev., & sales supvr., Quaker Chem. Prds. Corp., Conshohocken, Pa.; res. Kulpsville, Pa.
Chem. engr.; b. Akron, O., June 4, 1920; s. of John Miller and Kathryne Augusta Mylroie; ed. Cornell U., chem. engrg.; mem.: Triangle; m. Elva Skyberg, June 26, 1942; ch.: Elva Kathleen Sarah, John Eglinton. 1941-42, asst. met. engr., Arcos Corp., Phila., Pa.; 1942-46, proc. engr., plant met., lab. supvr., Gen. Motors, Trenton, N.J.; 1946-47, sr. chem., Barrett Div., A.C.&D., Frankford, Pa.; 1947 to date, chf. prod. dev. div., sales supvr., exec. asst., Quaker Chem. Prods. Corp., Conshohocken, Pa. Welding electrode dev.; armor plate welding; electromag. hardness testing; substitute for palm oil; cold reduction of steel. Mem.: A.S.M. Club: Conshohocken Assoc. (mfg. club). Hobbies: aircraft, radio, antiques, rowing, sailing.

N

NACHOD, Dr. Frederick C., hd., dept. of physical chem., Sterling-Winthrop Res. Inst., Rensselaer, N.Y.; res. Kinderhook, N.Y.
Res. chem.; b. Leipzig, Germany, Oct. 4, 1913; s. of Dr. Hans and Lili (von Hoesslin) Nachod; ed. Univs. of Paris, Freiburg, Leipzig, Utrecht, D.Sc. in physical chem. Utrecht 1938; mem.: Sigma Xi; m. Emy Henning, Sept. 28, 1940; ch.: Thomas C., James H. Fellow, U. of Utrecht; res. chem., Baker & Co., platinum, C.C.N.Y., Columbia U., res. chem. Permutit Co.; sr. chem., Atlantic Refining Co.; conslt., Smith, Kline & French Labs.; assoc. mem., Sterling-Winthrop Res. Inst. Heavy water, ion exchange, absorption spectra & correlation of structure of org. cmpds., reaction kinetics. Assoc. editor, "Encyclopedia of Chem. Reactions," editor "Ion Exchange" 1949. Mem.: A.C.S., A.A.A.S., N.Y. Acdy. of Sc., Chem. Abstracts (staff). Club: West Ghent Riding. Hobbies: swimming, horseback riding.

NACHOD, Julius Ernest, Jr., tech. asst. to dir. of res., Hercules Powder Co., Wilmington, Del.; res. 215 Dallam Rd., Newark, Del.
Chem. engr.; b. Glenside, Pa., Aug. 23, 1915; s. of J. Ernest, Sr. and Ruth F. Nachod; ed. Colo. Schl. of Mines 1932-33; Pa. State Coll. B.S. in Chem. Engrg. 1933-36; U. of Calif. 1940-41; mem.: Sigma Nu, Phi Lambda Upsilon, Phi Kappa Phi, Pi Mu Epsilon; m. Marguerite Billing, June 3, 1948; ch.: Jay, Norman Y. 1936-40, du Pont Co., ammonia dept., chem. engr.; 1941 to date, Hercules Powder Co., Radford, Va. chem. engr., Hercules, Calif. chem. engr., Louisiana, Mo. area supvr., Wilmington, Del. engrg. dept. design engr., res. dept. asst. group leader, res. dept. tech. asst. to dir. of res. High pressure reactions, heavy chem. dev. & prod., gas. prod. Mem.: A.C.S., A.I.Ch.E., Instrument Soc. of Am., A.A.A.S. Clubs: Rotary Internatl., Jr. Chamber of Com. Hobbies: music, boating, fishing.

NAFTEL, James A., agronomist, So. Div., Pacific Coast Borax Co., Div. of Borax Consolidated, Ltd., First Natl. Bank Bldg., Auburn, Ala.; res. 451 Pinedale Rd., Auburn, Ala.
Agronomist; b Naftel, Ala., Oct. 9, 1905; s. of James A. and Lilly (Mayfield) Naftel; ed. B.S., M.S., Ala. Polytech. Inst., Auburn, Ala.; Ph.D., Ohio State U.; mem.: Gamma Sigma Delta; m. Martha Huguley, Oct. 18, 1933; ch.: James, John, Janet. Res. chem., Brown Co., Everglades, Fla. 1926-28; soil chem., Fla. Agr. Experiment Station, Belle Glade, Fla. 1928; grad. asst., Ohio State U., 1930-32; soil chem., prof. of soils, Ala. Polytech. Inst. 1932-46; agronomist in chg. agr. dev., So. Div., Pacific Coast Borax Co., 1947 to date. Entered military service July, 1942, participated in campaigns of Northern Italy & at end of campaign was Civil Affairs Officer, A.M.G., Northern Italy, discharged 1946. Determination of quinhydrode error in H-Ion determinations by means of glass electrodes. Mem.: A.C.S., Am. Soc. of Agronomy, Sigma Xi.

NAGLE, Wesley Michael, dir., Burnside Lab., Explosives Dept., E.I. du Pont de Nemours & Co., Penns Grove, N.J.; res. 65 N. Woodland Ave., Woodbury, N.J.
Chem. engr.; b. Bryan, Texas, Jan. 12, 1905; s. of Michael and Leonore (Waldrop) Nagle; ed. A.B., Stanford U., 1929; Texas Coll. of Mines, Fall 1924; U. of Berlin, winter 1929-30; Technische Hochschule, summer 1930; S.M., M.I.T., 1932, Sc.D. 1935; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Phi Beta Kappa; m. Mary Elizabeth Ricks, June 23, 1936; ch.: William Wesley, Elizabeth Cameron. Eastern Lab., du Pont Co., Explosives Dept., chem. engr. 1934-39, hd. chem. engrg. sec. 1939-45, asst. dir. 1943-44 and 1945-50; Burnside Lab., du Pont Co., Explosives Dept., director 1950 to date. Publ. on heat transfer res., esp. drop-wise condensation of steam; process dev. on nitric acid, explosives, org. chem. mfg. Author: Nitric Acid Chapter in Roger's Manual of Ind. Chem., 1942. Mem.: A.I.Ch.E., A.C.S., A.A.A.S.

NAIR, John Henry, assoc. dir. of res., Thomas J. Lipton, Inc., Hoboken, N.J.; res. 9 Dunnder Dr., Summit, N.J.
Res. adm.; b. Chicago, Ill., Feb. 20, 1893; s. of John H. and Isabel (Painter) Nair; ed. Beloit Coll., 1915, B.S. cum laude, hon. in chem.; Syracuse U., 1916, no deg.; mem.: Tau Kappa Epsilon, Delta Sigma Rho, Sigma Xi; m. Claire L. Cook, Mar. 22, 1920; ch.: John H., 3rd, Janet (Nair) Adams. Res. chem., Merrell Soule Co., 1919-28; asst. dir. of res., Borden Co., Syracuse, N.Y., 1928-38; tech. sales advisor, Dry Milk Div., Borden Co., 1938-42; asst. dir. of res., Continental Foods 1942-50; assoc. dir. of res., T.J. Lipton, Inc., 1950 to date. Studies in oxidation of butter fat; composition & phys. charact. of cream; dehydration of dairy prods.; dehydration of fruit juices & vegetables; flavor evaluation. Author: "Babcock Testing Manual," 1932. Mem.: A.C.S. (chmn. Syracuse Sec. 1926, chmn. N.Y. Sec. 1950, natl. councillor 1928), I.F.T. (founder mem.), Am. Dairy Sc. Assn., S.C.I., A.I.C., Sc. Res. Soc. of Am., A.A.C.C., Alpha Chi Sigma. Pres., Summit Civic Assn., 1949. Club: Chemists'. Hobbies: gardening, philately.

NANTZ, John D., mgr., Phar. Labs., 40 Rector St., N.Y.C.; res. 61 N. Briarcliff Rd., Mountain Lakes, N.J.
Chem.; b. Owensboro, Ky., Feb. 9, 1907; s. of Marvin M. and Minnie Oglesby Nantz; ed. Owensboro High Schl. 1924; U. Ky. 1928, B.S. in Ind. Chem.; mem.: Delta Tau Delta, Alpha Chi Sigma; m. Frances Louise Coots, Aug. 18, 1928; ch.: Eloise, John D., Jr., Joann, Robert M. 1928 chem., Natl. Aniline Div., Allied Chem. & Dye Corp.; 1932 mgr.; 1950 mgr., phar. labs. Res. in biolog. stains, H-ion indicators, medicinal dyes, phar. intermediates. Mem.: A.C.S., Torch Club Internatl. Clubs: Buffalo Athletic, East Aurora Country. Hobbies: golf, farming.

NANZ, Robert Augustus, research chemist, Florida Citrus Canners Cooperative, Lake Wales, Florida; res. 18 West Johnson Ave., Lake Wales.
Food technologist; b. Baltimore, Md., Apr. 3, 1915; s. of Theodore P. and Viola M. (Wolff) Nanz; ed. B.S., Rutgers U., 1937; M.S., Colum-

bia U. (Tchrs. Coll.), 1939; Medical Fld. Serv. Schl., Carlisle Barracks, Pa., 1945; Med. Dept. Nutrition Lab. Course, Chicago, Ill., 1945; mem.: Alpha Sigma Phi; m. Ruth Emily La Rue, 1939; ch.: Richard Keith. Food chem., The Quaker Maid Co., a subsid. of the Great Atlantic and Pacific Tea Co., Bklyn., N.Y., 1937-38; biochem., Pharmaceut. Prods. Res., The Watchung Labs., Bound Brook, N.J., 1938-39; biochem., Tech. Serv. to Physicians, The Walker-Gordon Lab. Co., Producers of Certified Milk, Plainsboro, N.J., 1939-43; U.S.A. Med. Dept., 42nd Inf. Div., 232nd Reg., med. technician, Camp Gruber, Okla., 1943-44; lab. tech., Glennan Gen. Hosp., Okmulgee, Okla. 1944-45; nutrition off., Sanitary Corps, Med. Dept., Camp Upton, N.Y., 1945, Governor's Island, N.Y., 1945, U.S. Military Govt., Germany, nutritional surveys of the Civilian population, 1945-46; asst. to co-ordinator of res., spec. prods. div., The Borden Co., New York, N.Y., 1946-47; conslt., food technologist, Foster D. Snell, Inc., 1947-50, flavor preservation; new prod. dev.; uses of spices in food processing; Florida Citrus Canners Cooperative, Lake Wales, Florida; 1950 to date; research chemist; new product development, flavor control, nutritional by-products. Mem.: A.C.S., A.I.C. (fellow), A.P.H.A., A.A.A.S., I.F.T. Hobbies: water coloring, photography, gardening, fishing.

NASH, Nat H., tech. dir., chf. chem., Lanco Prods. Corp., 601 W. 26 St., N.Y. 1, N.Y.; res. 3444 Knox Pl., N.Y. 67, N.Y.
Food chem., technologist; b. N.Y.C., Dec. 9, 1914; s. of Benjamin and Ida Naishuler; ed. C.C.N.Y., B.S. 1937; Manhattan Coll., spec. war training courses in food tech.; m. Gertrude Karg, June 3, 1939; ch.: Allan Joel, Steven Michael. Nauheim Phar. Inc., N.Y.C., jr. phar., 1931-36; Walcourse Chem. Inc., N.Y.C., jr. chem., 1937-38; Weiner Chem. Inc., N.Y.C., chem., 1938-40; Picker Corp., N.Y.C., chem., 1940-42; Joe Lowe Corp., N.Y.C., chf. chem., 1942-47; Lanco Prods. Corp., N.Y.C., tech. dir., chf. chem , 1947 to date. Dev. of emulsifiers & stabilizers for bakery & ice cream fld.; worked on coatings, flavors for food use, colors, syrups, frozen confections, sherbets & ices, puddings & pie fillings, gelatin desserts, prepared cake mixes, cereal chemistry, fats & oils, shortenings, jams & jellies, gums & starches, etc., res. on ice cream, bread, donuts, flavors, colors, egg products, bakery specialties, frozen desserts, chocolate & choc. prods., etc. & cake Mem.: A.C.S., A.A.C.C., I.F.T., A.I.C., A.O.C.S., Metropolitan Dairy Tech. Soc. Clubs: Metropolitan Bakery Prod. Men's, City College Chem. Alumni. Hobbies: fishing, woodcraft, camping.

NASH, Russell K., pres., B.B. Chem. Co., 784 Memorial Dr., Cambridge, Mass.; res. Brookline, Mass.

NASH, Thomas Palmer, Jr., dean, Schl. of Biolog. Sc., chf., div. of chem., U. of Tenn., Memphis 3, Tenn.; res. 182 S. Idlewild, Memphis.
Teacher, adm.; b. June 15, 1890; s. of Thomas Palmer and Mattie (Forbes) Nash; ed. U. of N.C., A.B., 1910, A.M., 1911; Cornell, Ph.D., biochem. 1922; mem.: Phi Delta Chi, Phi Beta Kappa, Sigma Xi, Alpha Omega Alpha; m. Edith Lyle Peatross, Mar. 1, 1919; ch.: Thomas Palmer, III, Peggy (Nash) Rolfes. Instr. chem., N.C. 1910-11; Coll. Med. Tenn. 1915-17; actg. prof. 1917-19; instr. Med. Coll. Cornell 1919-22; prof. Colls. Med. & Dentistry, Schls. Pharmacy & Nursing 1922 to date, dean, Schl. Biol. Sc. 1928 to date, chf. div. chem. & physiol. 1928-42, chem. & phar. 1942-45, chem. 1945 to date; conslt. Memphis Gen. Hospital (now John Gaston Hopsital) 1922 to date, assoc. ed. Memphis Med. J. 1935 to date. Var. sc. papers growing out of res. wk.; ammonia metabolism, phlorhizin diabetes, insulin action, antienzymes, carbohydrate metabolism. Mem.: A.S.Biol.C., Federation of Am. Soc. for Experimental Biol., A.C.S. Hobbies: culture of roses, culture & hybridizing of iris.

NASON, Edith Holloway, retired prof. of foods & nutrition, Michigan State Coll., East Lansing, Mich.; res. 752 Touraine Ave., East Lansing.
Teacher; b. Salem, Mass., 1895; d. of Benjamin Franklin and Annie (Moore) Nason; ed. Vassar, 1917, A.B.; Yale, 1921, Ph.D., Sigma Xi. Asst., chem. dept., Vassar Coll., 1917-19; lecturer, Euthenics Inst., Vassar Coll., 1922-25, summers; instr., chem. dept., U. of Ill., 1921-25; asst. prof., foods & nutrition, N.Y. State Coll. of Home Economics, Ithaca, 1925-28; prof., foods & nutrition, Coll. of Home Economics, Syracuse U., 1928-49; prof., foods & nutrition, Schl. of Home Economics, Mich. State Coll., 1949-50 (retired). Co-author: "Chem. & Cookery," "Introduction to Experimental Cookery." Mem.: A.C.S., Inst. of Food Res., Am. Home Economics Assn.

NASON, Howard King, asst. to v.p., res. & dev., Monsanto Chem. Co., 1700 S. Second St., St. Louis 4, Mo.
Chem.; b. Kansas City, Mo., July 12, 1913; s. of Eber J. and Florence (King) Nason; ed. Kans. City Jr. Coll., 1929-32; U. of Kans., 1932-34, A. B. in Chem.; Wash. U., 1937; Harvard U., 1950, post grad. wk.; m. Oralee Kraus, Jan. 6, 1934. From June, 1935-Apr., 1936, Anderson Stolz Corp., Kansas City, Mo., res. chem.; 1936-39, Monsanto Chem. Co., John F. Queeny Plant, St. Louis, Mo., res. chem.; 1939-44, same co., plastics div., Springfield, Mass., asst. dir. of res.; 1944-46, same co., central res. dept., Dayton, Ohio, dir. of dev.; 1946-48, same co. and dept., assoc. dir.; 1948-50, same co. and dept., dir.; May, 1950 to date, same co., St. Louis, Mo., asst. to v.p., res. & dev.; certificate of Commendation from the Am. Stds. Assoc. in recog. of contribs. to dev. of stds. for Army and Navy electronic equip. and of wk. done as mem. of Association's War Comm. on Radio. Contrib. num arts. to sc. and tech. jls. Co-author, "Low Temp. Behavior of Org. Plastics," A.S.T.M. Symposium on Effects of Low Temps. on Matls., Spec. Tech. Pub. No. 78, 1949; holds 6 U.S. pats. Mem.: A.C.S., Soc. of Rheology, A.A.A.S., N.Y. Acdy. of Scs., A.I.Ch.E., A.S.T.M. Clubs: Chemists', Quiet Birdmen. Hobbies: flying, gardening.

NATELSON, Samuel, chmn., dept. biochem., Rockford Mem. Hosp., Rockford, Ill.; res. 136 Lawn Pl., Rockford.
Chem.; b. Bklyn., N.Y., Feb. 28, 1909; s. of Max and Betty Ann Natelson; ed. Coll. City of N.Y., B.S., 1928; N.Y.U., Sc.M., 1930; Ph.D., 1931; m. Ethel D. Nathan, Apr. 4, 1936; ch.: Stephen E., Ethan A., Elissa R., Nina B. N Y. Testing Lab. 1931-32, res. chem.; Jewish Hosp., Bklyn., 1932-49 res. chem.; Rockford Mem. Hosp., 1949 to date, res. chem. Contrib extens. to sc. and tech. jls. Mem.: Sigma Xi, Metrop. Microchem. Soc., N.Y., A.A.Cl.C., A.C S., A.A.A.S., N.Y. Acdy. Sc., S.E.B.M., A.S.Biol.C.

NATHAN, Ernest, v.p., Sun Chem. Corp., pres. Warwick Chem. Co., pres., Warwick Wax Co , 10-10 44th Ave., L.I.C., N.Y.; res. 15 Avon Rd., Larchmont, N.Y.
Exec.; b. Augsburg, Germany, June 21, 1905; s. of Rudolph and Lina (Bernheim) Nathan; ed. Inst. Textile Tech., Reutlingen, Germany, 1924-26; m. Pearl Gluck, May 5, 1937; ch.: Alan David, Joan Hannah, Richard W. Chem., Iterba Chem. Wks., Milan, Italy, 1926-27; sales technician, asst. sales mgr., R. Bernheim Chem., Augsburg, Germany, 1927-29; chem., sales mgr., War-

wick Chem. Co., W. Warwick, R.I., 1930-31, pres. 1931 to date; pres., Warwick Wax Co., Inc., 1943 to date; v.p., Sun Chem. Corp., 1948 to date. Atlantic Home Equip. Corp. (dir.), Palestine Economic Corp. (chmn., ind. advisory comm.). Mem.: A.A.T.C.C., Textile Res. Foundation. Club: Chemists'.

NAUDAIN, Glenn Garnet, prof., hd. chem. and phys. dept., Winthrop Coll., Rock Hill, S.C.; res. 919 Charlotte Ave., Rock Hill.
Coll. prof.; b. Algona, Iowa, Oct. 31, 1894; ed. Iowa State Coll., B.S., 1917, M.S., 1922, Ph.D., 1923; Kans. State, B.S. in Educ., 1927; N.Y.U., 4 summers in coll. adm.; Occidental Coll., 1915-16; m. Lillian Belle Gamrath, Sept. 15, 1921. Oskaloosa H.S. tchr. sc., 1917-18; Ia. State, instr. chem. 1919-23; Mellon Inst. (fellow) 1923-25; Kans. State, prof. chem., 1925-26; Winthrop Coll., hd. and prof. chem. dept. 1926 to date. Author var. arts. on foods and physiol. chem., chem. props. of starch and its indus. appls.; monography on food chem.; survey in tchg. of chem., survey on chlorine prod. in U.S. for C.W.S. Mem.: A.C.S. (pres. S.C. Sect.); S.C. Acdy. Sc. (dir.); Geog. Soc.; Sigma Xi, Phi Kappa Phi, Phi Lambda Upsilon, Gamma Sigma Delta, Lambda Sigma Kappa, Alpha Gamma Tau. Dir., Y.M.C.A.; Milit. Order Fidelity, 4th Corps Area Milit. Adv. Bd. 1918, var. ranks, now Col., C.W. Res.; York Co. Fair dir.; Am. Legion (past commdr Post No. 34); Chef. du Gare (past pres. 1934-35); R.O.A. (state del. to natl. Leg. and R.O.A. mtgs.). Clubs: Rotary, Mason 32 deg, Science, Winthrop Chem. (sponsor). Hobbies: military, farming, music.

NAYLOR, Charles August, Jr., pres., Harris Teachers Coll., St. Louis 12, Mo.; res. 5842 Delor Ave., St. Louis 9.
Coll. pres.; b. St. Louis, Mo., Feb. 20, 1905; s. of Charles A., Sr. and Anna J. Naylor; ed. Wash. U., St. Louis, Mo., B.S., chem. engrg., 1925, M.S. org. chem., 1927, Ph.D., org. chem., 1931; mem.: Alpha Tau Omega, Alpha Chi Sigma, Tau Beta Pi, Sigma Xi, Phi Delta Kappa; m. Hazel Florence Haverporth, Oct. 26, 1934; ch.: Susan Carol, Donald Scott, Robert Kent. Instr., dept. of chem., Wash. U., 1927-31; prof. of chem., Harris Teachers Coll., 1931-47, pres. 1947 to date. Res. in anthrones & anthraquinones. Mem.: A.C.S., Natl. Ed. Assn. Club: Liberty Country (Horine, Mo.). Hobbies gardening, athletic activities.

NAZZARO, Rocco Michael, pres., Am. Processing Co., 18 Market St., Paterson, N.J.; res. 610 Doremus Ave., Glen Rock, N.J.
Chem.; b. Paterson, N.J., May 4, 1905; s. of Anthony and Eugenia Nazzaro; ed. Royal Tech. Inst. Leonardo da Vinci, Rome, Italy; Univ. of Rome, Italy, Ph.D.; m. Ada Marie de Rogatis, June 7, 1930; ch.: Eugenia Angela, Lois Elaine, Anthony Donald; Victory Finishing Co., chf. chem., secy. 1933-37; Garden St. Chem. Co., pres., chf. chem. 1934-37; Pan-Am. Color and Chem. Co., pres. 1937-40; Am. Processing Co., pres. 1940 to date. Mem.: A.C.S., A.A.C. Color. Club: N.Y.A.C. Hobby: photography.

NEAL, Raymond Elwood, assoc. prof. of chem., Simmons Coll., Boston, Mass.; res. 6 Westminster Rd., Marblehead, Mass.
Assoc. prof. of chem.; b. Lynn, Mass., Oct. 21, 1896; s. of Edward J. and L. Edna (Noyes) Neal; ed. Harvard, S.B., 1919; m. Helen P. Low, Mar. 19, 1921; ch.: Raymond E., Jr. Instr. in chem., 1920-24, asst. prof. of chem., 1924-25, assoc. prof. of chem., 1945 to date, Simmons Coll. Author: "Short Lab. Course in Gen. Chem." 1932, "Chem. in Nursing" 1948; co-author: "Lab. Exercises in Gen. Chem." 1948. Mem.: A.C.S., N.E. Assn. of Chem. Teachers. Clubs: East Lynn Post 291 Am. Legion, Masons (32 deg. & R.A.M.).

NEAL, Roy, chem., W.A. Sheaffer Pen Co., Ft. Madison, Iowa; res. 10 Storms Court, Ft. Madison.
Chem.; b. Ft. Madison, Ia., July 12, 1906; s. of Oscar Steven and Ada McDaniel Neal; ed. B.S., Lombard Coll., Galesburg, Ill.; mem.: Theta Nu Epsilon, Theta Chi Delta; m. Harriet Ada Hobbs, Nov. 12, 1931; ch.: June Carolyn, Linda Jane. Chem., W.A. Sheaffer Pen Co., 1943 to present. Mem.: A.C.S., A.A.A.S., Club: Elks.

NEAMAN, Pearson Ellis, v.p., gen. counsel, Freeport Sulphur Co., 122 E. 42nd St., N.Y. 17, N.Y.; res. 1200 Fifth Ave., N.Y. 29.
Lawyer, exec.; b. Pitts., Pa., Nov. 29, 1903; s. of Harry I. and Sophia F. Neaman; ed. Harvard Coll., A.B. 1924; Harvard Law Schl., LL.B. 1927; mem.: Phi Beta Kappa; m. Annabel B. Neiman, Sept. 15, 1927; ch.: Peter, Sophia. Freeport Sulphur Co., secy., 1930-47, v.p., 1945 to date; mem. of law firm of Battle, Fowler, Neaman, Stokes & Kheel & predecessor firms, 1932 to date. Nicaro Nickel Co. (v.p., dir.). Clubs: Harvard (N.Y.C.), Cloud, Assn. of the Bar of the City of N.Y., N.Y. Co. Lawyers Assn., N.Y. Bar Assn., Am. Bar Assn.

NEAT, Frank Urbane, sr. engr., Consol. Gas, Elec. Light & Power Co. of Balto., Baltimore, Md.; res. Riviera Beach, Pasadena, P.O., Maryland.
Chem. engr.; b. New Albany, Ind., Mar. 2, 1907; s. of Ben C. and Anna Margaret (Jackson) Neat; ed. U. of Louisville, B.S. in Ch.E., 1929; mem.: Theta Chi Delta, Pyramid; m. Esther Marie Nielsen, June 9, 1928; ch.: Esther Marie, Frank Urbane, Jr., Patricia Anne, Alberta Ruth, Richard Louis, Leyden Ford. Plant engr., Sharples Solvents Corp., 1929-33; operator, Mich. Alkali Co., 1933-34; asst. dev. engr., The Girdler Corp., 1934-35; dev. engr., Jefferson Isl. Salt Co., 1935-36; asst. san. engr., Dept. Health, 1936-38, State of Ky.; cons. engr., J.S. Watkins, 1938-40; asst. to supt. of Power Prod. Stations, Consol. Gas, Elec. Light & Power Co. of Baltimore from Jan. 22, 1940; now sr. engr., same co.; holds pat. on dissolving apparatus. Mem.: A.I.Ch.E., Reg. Prof. Engr., Ky. Mem. Ky. State Soc. Prof. Engrs. and of A.F. & A.M.

NECHAMKIN, Howard, asst. prof. of chemistry, Schl of Engrg., Pratt Inst., Bklyn., N.Y.; res. 421 Quentin Rd., Bklyn.
Asst. prof. of chemistry & supervisor chemistry curriculum (eve. schl.); b. Bklyn., N.Y., Aug. 18, 1918; s. of Charles J. and Celia J. (Wiener) Nechamkin; ed. Bklyn. Coll., B.A. 1939, gold medal in chemistry; Poly. Inst. of Bklyn., M.S. 1949; mem.: Phi Lambda Upsilon. R.H. Macy & Co., Inc., N.Y. City, bur. of standards, chem.; Naval Supply Depot, Bklyn., chem.; Hazeltine Electronics Corp., Little Neck, N.Y., hd. chem. res. lab.; Bklyn. Coll., instr. in chemistry; Pratt Inst., Schl. of Engrg., instr. in chemistry, asst. prof. Res. in meth. for systematic identification of commercial plastics; fungicides and tropicalization techniques during war; preparation of rhenium trioxide. Author: "Lab. Problems in Gen. Chemistry," 1947. Mem.: A.C.S., A.I.C. (mem. advisory comm.), Am. Soc. for Engrg. Edn. Hobbies: music, painting, tropical fish, gardening, driving.

NECKERS, James W., prof. of chem., chmn. of chem. dept., Southern Ill. U., Carbondale, Ill.; res. 108 South Maple, Carbondale.
Coll. chem. teacher; b. Clymer, N.Y., Apr. 16, 1902; s. of Albert Jr. and Jennie (Wassink)

Neckers; ed. A.B. cum laude, Hope Coll., 1923; M.S., U. of Ill., 1925, Ph.D., 1927, grad. fellowship 1926-27; mem.: Gamma Alpha, Gamma Pi Upsilon, Phi Lambda Upsilon; m. Jeanette Hoffman, Aug. 3, 1927; ch.: Nancy Anne. 1923-26, grad. assistantship, U. of Ill.; 1927-30, assoc. prof. of chem., 1930 to date, prof. of chem., chmn. of dept., Southern Ill. U., teaching of coll. chem.; res. rare earths, bismuth periodate. Author: "Experimental Coll. Chem." (Thomas Y. Crowell Co., N.Y.) 1940, 2nd edit. 1949. Mem.: A.C.S., A.A.A.S., Natl. Sc. Teachers Assn., Ill. State Acdy. of Sc., Ill. Chem. Teachers Assn., Sigma Xi, Phi Lambda Upsilon, Epsilon Chi, A.A.U.P. Elder, Presbyterian Church. Clubs: Jackson Country, Lions. Hobbies: golf, fishing, amateur photography.

NEE, John W., v.p., tech. dir., Briner Paint Mfgr. Co., 3713 Agnes St., Corpus Christi, Texas; res. 1426 Cambridge Dr., Corpus Christi. Chem., surface coating; b. Bklyn., N.Y., June 25, 1909; s. of Martin F. and Mary Wilkinson Nee; ed. Pratt Inst., Cert. Tech. Chem, 1931, N.Y. Univ., B.A. in Chem., 1941; m. Muriel Smith Nee, Jan. 19, 1936; ch.: John R., David A., Nee, Jan. 19, 1936; ch.: John R., David A. Fraser Drug and Tablet Co., fluid rm. frmn. 1928-29; Valspar Corp., Bklyn., contr. chem., asst. varnish chem., chf. chem., varnish div., 1929-37; Roxalin Flexible Finishes, Inc., Elizabeth, N.J., asst. dir. synth. div. 1937-47; Napko Paint and Varnish Wks., Inc., tech. dir., 1947-49; Briner Paint Mfg. Co., v.p., tech. dir., 1949 to date. Spec. in pet. and chem. plant protection with paint and allied prods. Contrib. extens. sc. and tech. jls., Abstractor, Chem. Abstracts, A.C.S. Mem.: A.C.S., A.I.C. (fellow), N.A.C.E., Houston Engrs. Club, Houston Paint, Varnish and Lacq. Prod. Club. Hobby: fishing.

NEES, Alpheus Russell, supt. res. lab., Great Western Sugar Co., P.O. Box 5308, Terminal Annex, Denver 17, Colo.; res. 2017 Holly St., Denver 7.
Chem. engr.; b. Frankfort, Ind., May 22, 1885; s. of Albert N. and Minda (Choate) Nees; ed. B.A. in chem. 1910, M.A. in chem., 1911, Ind. U.; m. Grace Conover, Sept. 30, 1916 (died Feb. 13, 1940); Elizabeth Driscoll, July 3, 1942. Res. chem., Natl. Lead Co., 1912-18; res. chem., 1918-27, supt. res. lab., 1927 to date, Great Western Sugar Co. Mem.: Alpha Chi Sigma, Sigma Xi, A.C.S., A.I.Ch.E. Club: Teknik. Hobbies: fishing, rose culture.

NEGUS, Sidney Stevens, prof. of biochem., Medical Coll. of Va., Richmond, Va.; res. 4102 Wythe Ave., Richmond.
Biochem.; b. Dudley, Mass., Jan. 31, 1892; s. of Joseph William and Mary Margaret Negus; ed. A.B., Clark U., 1913; M.A., Harvard U., 1917; Ph.D., Johns Hopkins U., 1923; mem.: Kappa Sigma, Gamma Alpha, Alpha Chi Sigma, Chi Beta Pi (hon.), Phi Beta Pi (hon.); m. Dorothy May Watson, Mar. 21, 1925; ch.: Mrs. Kenneth Gray Gentil, Sidney Stevens, Jr. Instr. in sc., Mercersburg Acdy. 1913-15; asst. in org. chem., Harvard U., 1915-17; hd. dept. of chem., Mercersburg Acdy., 1917-21; asst. in anal. chem., Johns Hopkins U., 1922-23; assoc. prof. of org. chem., U. of Richmond, Virginia, 1923-26, prof. 1926-27; hd. dept. of chem., Medical Coll. of Virginia, Richmond, 1927 to date; dir., The Keewaydin Camps, Lake Dunmore, Vt., 1926-39; adm., Richmond Area U. Center, 1947-48; conslt., Va. State Water Control Bd. 1946 to date; sc. ed., Va. State Chamber of Commerce magazine, "The Commonwealth". Popularization of chem. as hon. mem. of Natl. Assn. of Sc. Writers. Author: "Textbook of Biochemistry" (in lithoprinted form) 1931-38. Mem.: A.C.S. (chmn. of Va. sec. 1927; Distinguished Service Award, 1949), A.A.A.S. (dir. of press service 1938 to date), Va. Acdy. of Sc. (pres. 1948-49). Southern Assoc. of Sc. and Indus., Boy Scouts of Am. (pres., Robert E. Lee Council, 1944-46) (Silver Beaver Award, 1938); Dairy Council of Richmond (pres. 1935 to date). Clubs: Harvard Club of Va. (pres. 1947-49), Torch Club of Richmond. Hobby: young people.

NEHER, Harry Trainor, res. supvr., Rohm & Haas Co., 5000 Richmond St., Phila. 37, Pa.; res. 817 Radcliffe St., Bristol, Pa.
Res. chem.; b. Nappanee, Ind., Mar. 30, 1901; s. of Jesse L. and Anna T. Neher; ed. Northwestern U., B.S., 1924, M.Sc., 1925, Ph.D., 1930; mem.: Alpha Chi Sigma, Sigma Xi, Phi Lambda Upsilon; m. Margaret Stineback, Aug. 15, 1925; ch: Barbara Anne, Robert Leonard. Simpson Coll., Indianola, Ia., prof. of chemistry, 1925-26; Mich. State Coll., East Lansing, instr., 1926-28; Northwestern U., Evanston, Ill., res. asst., 1928-30; Rohm & Haas Co., Phila., Pa., res. chem., 1930 to date. Holds patents and is author of arts. on polymeric resins.

NEICE, Bertram Ray, v.p., American Dyewood Co., Belleville, N.J.; res. 332 Sylvan Ave., Leonia, N.J.
Exec. and div. sales mgr.; b. Phoenicia, Ulster Co., N.Y., Aug. 16, 1894; s. of Stanford and Mary Neice; m. Bess B. Krum, Sept., 1919; ch.: Stanford Emery, Ruth Marie. Heller & Merz Co., 1919-30; American Cyanamid Co. (Calco Chem. Div.) 1930-32; American Dyewood Co., 1932 to date. New York Color and Chemical Co., v.p. and sales mgr. Hobby: golf.

NEIDIG, Charles Petersen, supvr. of chem. market res. & dev., chem. prods. sec., The Atlantic Refining Co., 260 S. Broad St., Phila., Pa.; res. Cherry La., Berwyn, Pa.
Chem. engr.; b. Toledo, Ohio, Apr. 5, 1919; s. of William N. (dec.) and Charlotte L. Neidig; ed. B.S. Chem. Engrg., Pa. State Coll. 1940; mem.: Alpha Chi Sigma; m. Dorothy T. Apostle, Nov. 3, 1942; ch.: Patricia Marie, William N. 1940-41, Westinghouse Elec. Co., dev. wk.; 1941-42, Purdue U., fellow; 1942-46, Heyden Chem. Corp., market res. & tech. service; 1946-48, Burrell & Neidig, Inc., ind. chem. conslts.; 1948 to date, The Atlantic Refining Co., chem. prods. sec. Pentaerythritol, an edited bibliography 1946. Mem.: A.C.S., A.I.C., Phi Lambda Upsilon. Club: Chemists'. Hobbies: gardening, color photography.

NEIDLE, Marks, pres. Timeproof Paint Products, Inc., 40 Richards St., Bklyn. 31, N.Y.; res. 9, Prospect Pk., W., Bklyn. 15.
Chem.; b. 1890, Poland; s. of Morris and Anna Neidle; ed. C.C.N.Y., B.S. (cum laude), 1911; Columbia U., M.A., 1912; Ph.D., 1913; mem.: Phi Beta Kappa, Phi Lambda Psi; m. Cecyle S. Neidle, 1923; ch.: Alice, Enid, Alan. U. Pitts, instr. 1913-15; asst. prof. 1915-18; chf. chem., Sterling Varn. Co., Pitts., Pa., 1917-19; chf. chem., L. Sonneborn Sons, Inc, Belleville, N.J., 1919-26; v.p., Timeproof Paint Prods., Inc., Bklyn., N.Y. 1926-27; pres. 1927 to date. Arts. on inorg. colloids, J.A.C.S. 1913-19. Mem.: A.C.S., A.I.C. (fellow), A.A.A.S.

NEIFERT, Ira Edward, prof. of chemistry (Griffith Prof. on Abbott Fndn.), chmn. of dept., Knox Coll., Galesburg, Ill.; res. 755 N. Kellogg St., Galesburg.
Prof. of chemistry; b. June 21, 1891; s. of Edward and Caroline C. Neifert; ed. Knox Coll. B.S., 1915, M.S., 1916; State U. of Ia., Ph.D., 1939; mem.: Sigma Xi, Phi Gamma Delta, Alpha Chi Sigma, Omega Beta Pi, Phi Lambda Upsilon;

m. Martha Gordon Campbell, June 15, 1917. Knox Coll., instr. in chem., 1916-17; U.S.D.A., jr. chem. 1918-20; Knox Coll., asst. prof. of chem., 1920-23, prof. of chemistry and hd. of dept., 1933 to date. Contrib. to sc. and tech. jls. Mem.: A. C.S., Ill. State Acdy. of Sc., A.A.U.P., A.A.A. S. (fellow). Tr. Galesburg Cottage Hosp. Club: Galesburg. Hobbies: photography, cabinet making.

NEILSON, Clarence Albert, chf. chem., mfg. dept., Continental Oil Co., Ponca City, Okla.; res. 1215 E. Central, Ponca City, Okla.
Chem.; b. Boulder, Colo., July 21, 1907; s. of Louis and Amanda Katherine Johnson Neilson; ed. B.S. (Ch.E.) 1929, M.S. (Chem.), 1933, Ph. D. (Phys. Chem.), 1935, U. Colo.; U. Mich. 1932, Johns Hopkins U. 1945-46; mem.: Alpha Chi Sigma, Tau Beta Pi; m. Genevieve Frances Wilbur, July 18, 1936. Anal. chem., du Pont Ammonia Corp., Charleston, W.Va., 1929-30; grad. asst. chem., U. Colo., Boulder, 1930-35; res. chem., Western Cartridge Co., E. Alton, Ill. 1935-36; res. chem. Continental Oil Co., Ponca City, Okla., 1936-41; chf. chem., Pet. Chems., Inc., Baltimore, Md. 1941-45; res. chem., Continental Oil Co., 1947-48; chf. chem. 1948 to date. Res. in pilot plant dev. of syntheses from pet. sources of acety., ethyl., ethanol, vinyl ethers, acetaldeh., alkyl-aryl deterg. interm. Anal. meths. for acety., vinyl ethers, salts in crude oil, acid release from crude oils on distil., helium in gases. Mem.: A.C.S., A.P.I. Hobbies: gardening, photography.

NEIMAN, Robert, dir. of res., Whip-Mix Corp., 411 W. Avery Ave., Louisville 8, Ky.; res. 505 E. Chest St.
Chem. engr.; b. Louisville, Ky., Feb. 10, 1913; s. of Aaron M. and Sarah S. Neiman; ed. Speed Sc. Schl., U. of Louisville, Louisville, Ky., B.S., 1934, M.S., 1935 in chem. engrg. 1935, res. engr., Whip-Mix Corp., Louisville, Ky., 1938 to date, dir. of res. 15 U.S. pats. in refractory investment compositions, alloys, casting meths.; paper on precision investment casting given at A.F.S. Convention in 1944 & pub. in Transactions A.F.S. & foreign magazines. Editing book on precision investment casting as chmn. of Am. Foundrymen's Soc. on this subject; wrote art. on Precision Investment Casting in 1948 Metals Handbook, A. S.M. Mem.: Am. Ceramic Soc., A.C.S., Mineralog. Soc., A.S.M., Am. Foundrymen's Soc. (chmn. precision investment casting comm. & mem. A.F.S. tech. correlation comm.), Matls. Group-Internatl. Assn. for Dental Res. Hobbies: music, violin making.

NELLER, Joseph R., soil chem., Fla. Agr. Exp. Sta., Gainesville, Fla.; res. 1804 N.W. 10 Ave., Gainesville.
Agr. res.; b. Ashby, Minn., Nov. 13, 1891; s. of Edward J. and Nellie W. Neller; ed. B.S. (hon.) Macalester Coll., St. Paul, Minn. 1913; M.S., U. Minn. 1915; Ph.D., Rutgers U., 1921; mem.: Eulogian; m. Irene R. Vellner, June 25, 1929; ch.: John F., Lois Anne. High Schl. Instr., Osakis, Minn. 1913-14; res. chem. Texas Co., Port Arthur, 1920-21; res. chem. Wash. Agr. Exp. Sta., Pullman, Wash., 1921-30; biochem., Everglades Exp. Sta., Belle Glade, Fla., 1930-44; soil chem. Fla. Agr. Exp. Sta., 1944 to date. Res. effect crop. soil nitro., organ. matter, topic; effects borax-lime; bichem. soil microrgan.; refin. oil distillates (patent); oxid. of organ. soils; soil phosphorus; contrib. extens. to Agr. Exp. Sta. Bulletins, sc. arts. 1921-50. Mem.: A.A.S. (fellow), A.C.S., S.S.S.A., Am. Soc. Agron., Fla. Soil Sc. Soc., A.A.U.P., Sigma Xi, Phi Kappa Phi, Phi Lambda Upsilon. Awards: St. Miheil, Meuse Argonne, W.W. I, chmn. Chem. Sec., N.W. Sc. Assoc., 1925-; pres. Fla. Soil Sc. 1942-; chmn. Fla. Agr. Exp. Sta. Pubs. Comm. 1948-; Presbyterian elder. Clubs: Rotary, Athaeneum. Hobbies: photography, travel, fishing, cabinet making.

NELSON, Alfred Clarence, vice-chancellor, University of Denver, Denver 10, Colo.; res. 1021 South Clayton Way, Denver, Colo.
Univ. administration; b. Salt Lake City, Utah, Nov. 14, 1898; s. of Frank O. and Hilma N. Nelson; ed. Denver pub. schls., B.S. in Ch.E., 1920, M.A., 1921, U. of Denver; U. of Ill., 1921-23; Ph.D., U. of Ia., 1926; mem.: Phi Beta Kappa, Kappa Delta Pi, Omicron Delta Kappa, Lambda Chi Alpha, Adpha Chi Sigma, Phi Lambda Upsilon, Phi Delta Kappa; m. Marion Ella Strader, Aug. 29, 1923, died Sept., 1944; ch.: Richard Morton, Carolyn Ruth. Instr., asst. prof., prof. chem., U. of Denver, 1923-29; registrar, U. of Denver, 1929-37; dean, graduate coll., dir. of summer schl. 1937-48; chancellor (interim) 1948-49, U. of Denver; vice-chancellor, 1949 to date. Mem.: A.I.C. (fellow), A.A.A.S. (fellow), A.C.S., Natl. and Colo. Educ. Assns., Schoolmasters Club (Colo.). Pres., Adult Education Council of Denver, v.p. of Region X, Dept. of Adult Education of N.E.A. Clubs: Teknik, Lions.

NELSON, Arthur Frederick, prof. of chem., State Teachers Coll., St. Cloud, Minn.; res. 233 15th Ave. So., St. Cloud.
Teaching; b. Shennington, Wis., May 19, 1901; s. of Charles Holm and Trena Marie (Pedersen) Nelson; ed. St. Olaf Coll., Northfield, Minn., B.A. 1928; State U. of Iowa, Iowa City, Iowa, M.S. 1931, Ph.D. 1932; m. Ruth Paula Rasmussen, June, 1934; ch.: Karen Anne, Alan Holm, Deborah Ruth, Frederic Paul, David Arthur. Asst. in chem., St. Olaf Coll., 1928-29; instr. in chem., Dana Coll., Blair, Nebr., 1929-30; res. asst. in photochem., Harvard U., Cambridge, Mass. 1932-33, 1935-36; prof of chem., Am. Internatl. Coll., Springfield, Mass., 1933-35; asst. chf. chem., Lever Bros. Co., Cambridge, Mass. 1936-42; prof. of chem., Hartwick Coll., Oneonta, N.Y., 1942-47; res. engr., Scintilla Magneto Div., Bendix Aviation Corp., Sidney, N.Y., summers 1943-45; prof. of chem., State Teachers Coll., St. Cloud, Minn., 1947 to date. Vapor pressures of aqueous solutions of lithium nitrate & activity co-efficients of alkali salts and of perchloric acid of high concentrations in aqueous solutions at 25 deg. C.; photoiodination of ethylenic bonds; glycerol determination; prep. & properties of potassium soaps. Mem.: A.C.S., Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma, Minn. Acdy. of Sc., A.A.U P., Natl. Ed. Assn. Hobbies: gardening, amateur astronomy, Boy Scout work.

NELSON, Clyde A., res. dir., Caulk Labs., Milford, Del.; res. 34 Clark Ave., Milford.
Res. dentistry; b. Pawnee Co., Nebr., Nov. 24, 1894; s. of R.W. and Mary Etta Nelson; ed. 1914-15, U. of Kans.; D.D.S., U. of Nebr. Coll. of Dentistry 1918; mem.: S.P.E., Xi Psi Phi; m. Irene Barton, 1920. Mem. of faculty, Operative Dentistry, U. of Nebr., Coll. of Dentistry, 1918-23; res. dept., L.D. Caulk Co., Milford, Del., 1923 to date, res. dir. (dir., v.p.). Mem.: Am. Dental Assn., Del. State Dental Assn., Acdy. of Stomatology, Internatl. Assn. of Dental Res. Kent & Sussex Bldg. & Loan, dir. Clubs: Rehoboth Country, Shrine. Hobby: farming.

NELSON, Earl W., section chf., tech. dept., N. J. Zinc Co. (of Pa.); res. Palmerton, Pa.
Chem. engr.; b. Faribault, Minn., May 27, 1915; s. of Thomas and Hannah Nelson; ed. B.A., magna cum laude, St. Olaf Coll., 1936; M.S., Ph.D., Purdue U., 1939, 1940; m. June E. Roth, 1944; ch.: Judith Marie, Thomas George. N.J. Zinc Co., 1940 to date. Dev. wk. in inorg. chem. & the prod. of pigments. Mem.: Phi Lambda Up-

silon, Sigma Xi, A.C.S., Lehigh Valley Engrs. Club. Deacon of Holy Trinity Lutheran Church, Palmerton. Hobbies: gardening, carpentry, photography.

NELSON, Harlan W., supvr. fuels res., Battelle Memorial Inst., 505 King Ave., Columbus, Ohio; res. 311 Brevoort Rd., Columbus.
Chem. engr., fuels res.; b. Crookston, Minn., May 16, 1906; s. of Chris H. and Pauline Nelson; ed. U. of N.D., B.S. chem. engrg. 1929; U. of Ill., M.S. chem., 1930, Ph.D. chem. engrg. 1933; mem.: Beta Theta Pi, Sigma Xi, Sigma Tau, Phi Lambda Upsilon; m. Afton Manion, Aug. 30, 1931; ch.: Roger M., Stephen M., Susan E. Engrg. asst., Blandin Paper Co., Grand Rapids, Minn., 1929; res. asst., dept. fuel tech., Penn. State Coll., State Coll., Pa., 1933-34, instr. 1934-37, asst. prof. 1937-44; res. engr. fuels div., Battelle Memorial Inst., Columbus, Ohio, 1944-46, asst. supvr. 1946-47, supvr. fuels res., 1947 to date. Author arts. on electrodeposition from non-aqueous solvents, sulfur in coal, ignition temp. of solid fuels, gas producers & gen. arts. relat. to tech. of fuels, contr. sec. on solid fuels, Chem. Engrs. Handbook. Mem.: A.C.S., A.A.A.S., Am. Coke & Coal Chem. Inst., Reg. Prof. Engr. Ohio (chem. engr.).

NELSON, J. Wesley, quality control & res. dir., Nutrena Mills, Inc., div. of Cargill, Inc., 200 Grain Exchange, Minneapolis 15, Minn.; res. 1408 West Iowa, St. Paul 4, Minn.
Nutritionist; b. Mankato, Minn., Feb. 10, 1904; s. of Alfred John and Ellanora Nelson; ed. B.S. 1925, M.S. 1931, Ph.D. 1938, U. of Minn.; major—agr. biochem., minor—bacteriol.; mem.: Alpha Gamma Rho, Phi Lambda Upsilon, Sigma Xi; m. Margarete Louella Swenson, Apr. 24, 1925; ch.: Ronald Wesley, Gene Robin, Carol Janet. Nutritionist, biochem., res. lab., Dry Milk Co., Bainbridge, N.Y., 1925-27; anal. chem., Agr. Exp. Station, U. of Minn., 1928-38, assoc. chem., 1983-43; res. chem., nutritionist, Cargill, Inc., 1943-47; res. dir., Nutrena Mills, Inc., div. of Cargill, Inc., 1947 to date. Mem.: A.C.S., Div. of Agr. & Food Chem., Am. Soc. for Animal Prod., Am. Dairy Sc. Assn., Nutrition Council Am. Feed Mfrs. Assn., Animal Nutrition Res. Council, Poultry Sc. Assn. Clubs: Minnesota "M", 32nd deg. Mason A.F.&A.M., Shrine, A.A.O.N.M.S.

NELSON, John Maurice, emeritus prof. and curator of The Chandler Chemical Museum Dept. of Chem., Columbia U., New York 27, N.Y.; res. 39 Claremont Ave., New York 27, N.Y.
Curator of The Chandler Chem. Museum; b. West Point, Nebr., Oct. 19, 1876; s. of John Peter and Hedda (Lindstrom) Nelson; ed. Oakland, Nebr., H.S.; B.S., U. Nebr., 1901; Ph.D., Columbia, 1907; mem.: Sigma Chi; m. Katharine L. Hunley, 1907; ch.: Mary Van Slyke. Chem., Nebr. Pure Food Commis., 1901-02; instr., Rose Poly. Inst., 1902-04; instr., Rensselaer Poly. Inst., 1907-08; tutor, Columbia, 1908-15; asst. prof., 1915-16; assoc. prof., 1916-22; prof., 1922-48; retired and emeritus prof., 1948; curator, The Chandler Chemical Museum, Columbia, 1948 to date. Pub. sev. papers on early electron valence; best known for pub. of papers on enzymes, invertase and tyrosinase. Mem.: A.C.S., A.A.A.S., A.S.Bio.C.; awarded Nichols Medal by N.Y. Sect., A.C.S., 1940.

NELSON, Oscar, pres., gen. mgr., United Carbon Co., United Carbon Bldg., Charleston 27, W.Va.; res. 1557 Quarrier St., Charleston 1.
Carbon black mfr., natural gas producer; b. Vena, Sweden, Mar. 2, 1879; s. of Eric and Sophia (Carlsson) Nelson; ed. Sweden; m. Harriet Engstrom, Dec. 4, 1918; ch.: Oscar, Jr., Mrs. Charles T. Jones, Thomas A., Eric. Carbon Black Plant operator 1898; pres., United Carbon Co., 1925 to date. United Producing Inc., pres.; Mer Rouge Gas Co. Inc., pres.; Combined Carbon Co., pres.; Eastern Carbon Black Co., v.p.; Kosmos Carbon Co., v.p.; Texas Carbon Industries, Inc., v.p.; Carbon Black Export, Inc., dir.; Natl. Gas Prods. Assn., dir. Clubs: Edgewood Country, Greenbrier Country, Charleston Boat, Newcomen Soc. Hobbies: farming, Morlunda Farms, Lewisburg, W.Va., purebred Hereford breeder.

NELSON, Walter Kenneth, supvr., pigment & chem. dept., Natl. Lead Co., Titanium Div., P.O. Box 58, South Amboy, N.J.; res. 155 Maple Ave., Metuchen, N.J.
Chem., supvr.; b. Providence, R.I., Aug. 15, 1904; s. of Joseph and Fanny Nelson; ed. Brown U., Ph.B., 1925; Sc.M., 1929; Ph.D., 1930; m. Jeanette D. Perlman, June 29, 1929; ch.: Eleanor Ann, Geraldine Rhoda. With Natl. Lead Co., Titanium Div., 1930 to date; res. in organo-silicon cmpds.; mfr. of titanium pigments. Mem.: Sigma Xi, A.C.S., A.I.C. (fellow).

NELSON, Wilbur Lundine, conslt. (pet. refining), hd. dept. pet. refining & chem. engrg., U. of Tulsa; res. 1916 E. 38th St., Tulsa, Okla.
Engrg. conslt.; b. Chanute, Kans., Oct. 1, 1904; s. of Charles Oscar and Mary C. Nelson; ed. B.S. chem. engrg., U. of Mich. 1927, M.S. 1928; mem.: Phi Lambda Upsilon, Phi Delta Chi, Pi Epsilon Tau; m. Marian G. Roe; ch.: Robert A. 1928-30, Smith Engrg. Co., design engr., cost estimator; 1930 to date, conslt., White Eagle O.&R. Co., 1930 & numerous connections to date; 1930 to date, prof., U. of Tulsa; 1936 to date, edit. (mtl. & tech.) Oil & Gas Journal; 1948 to date, conslt., Colombian Govt.; 1950 to date, conslt., Venezuelan Govt. U.S. pat. 1990664 Vacuum Decomposition Process; dir. (civilian) Quartermaster Pet. Schl. 1943-45. Author: "Pet. Refinery Engrg." (McGraw-Hill) 1935, 1941, 1949 (chem. engrg. series); "Refiners Notebook" 1944-48, Oil & Gas Journal; "Costimating" (cost estimating) 1948-49 Oil & Gas Journal. Mem.: A.I.Ch.E., A.C.S., S.A.E., A.S.E.E., C.N.G.A.

NELSON, William L(ionel), sr. fellow, Mellon Inst., Pitts. 13, Pa.; res. R.D. 12, Box 190, Pitts. 29.
Res. chem.; b. Torrington, Conn., Feb. 3, 1896; s. of William H. and Mary Josephine (Young) Nelson; ed. Trinity Coll., Hartford, Conn. B.S. 1920; U. of Pitts., Pitts., Pa., Ph.D. 1926; mem.: Sigma Nu; m. Ethel May James, Sept. 5, 1929; ch.: William James. 2nd Lt., U.S.A. 1917-19; night supt., Crucible Steel Co., Pitts., 1920-22; fellow, Mellon Inst., Pitts., 1926-42; hd., plaster lab., Johnson & Johnson, New Brunswick, N.J., 1942-44; sr. fellow, Mellon Inst., 1945 to date. Constitution of alginic acid from marine algae, carbohydrates, cinchona alkaloids, hypnotics, cosmetics, dev. of syn. rubber base adhesives, coatings, paper, spontaneous heating of coal. Mem.: A.A.A.S., A.C.S., Sigma Xi, Alpha Chi Sigma, Phi Lambda Upsilon. Hobbies: houses, gardens.

NESTY, Glenn Albert, asst. lab. dir., Central Res. Lab., Allied Chem. & Dye Corp., Morristown, N.J.; res. Box 309, Morristown.
Chem.; b. Muncie, Ind., Dec. 23, 1911; s of William H. and Esther (Peakman) Nesty; ed. DePauw U., A.B., Rector Scholar, grad. with high distinction, Phi Beta Kapap; U. of Ill., Ph.D.; Chem. Foundation Fellowship, Phi Lambda Upsilon, Sigma Xi; m. Martha Brooks, July 3, 1936; ch.: Phillip Brooks, Gregory Brian. Solvay Process Div., res. chem., 1937-41, res. group leader, 1941-43; Central Res. Lab., Allied Chem. & Dye Corp., res. group leader 1943-48, asst. dir. 1948 to date. U.S. pat. prep. of acrylonitrile from hydrocarbons & H.C.N. with Frank Porter; U.S.

pat. meth. for simultaneous syn. of butadiene & styrene from benzene & ethylene with W.C. Klingelhofer; U.S. pat. methocrolein oxime from addition prods. of olefins with a nitrosyl halide with J.A. Crowder, M.A. Kise. Contrib. sev. articles to sc. jls. Mem.: A.A.A.S., A.C.S., A.I.C. Hobby: carpentry.

NETZ, Charles Vail, prof., hd. dept. of pharmacy, U. of Minn., 306 Wulling Hall, Minneapolis, Minn.; res. 4728 Aldrich Ave. S., Minneapolis 9. Teacher, researcher; b. Owatonna, Minn., Oct. 13, 1897; s. of Richard H.G. and Lelia (Vail) Netz; ed. U. of Minn., B.S. phar. 1921, M.S. phar. 1924, Ph.D. phar. chem. 1940; mem.: Phi Delta Chi, Sigma Phi Epsilon; m. Gladys M. Westberg, June 15, 1929. U. of Minn., Coll. of Pharmacy, instr. 1922-40, asst. prof. 1940-43, assoc. prof. 1943-47, prof. 1947 to date. Mem.: Rho Chi, Phi Lambda Upsilon, Sigma Xi, A.Phar.A., A.C.S., A.A.A.S., A.A.U.P. Club: Campus. Hobby: photography.

NEUBERG, Frederick A., pres., Enco Chem. Corp., 441 Lexington Ave., N.Y. 17, N.Y.; res. R.F.D. 1, Bedford, N.Y.
Exec.; b. Bklyn., N.Y., Dec. 11, 1898; s. of William and Hermina Neuberg. 1917-18, Buick Motor Co.; 1918-19, U.S.N.; 1920-45, Monarch Chem., Warner Chem. Co., Westvaco Chlorine Prods. Corp. & affiliates, sales mgr., v.p. in chg. of sales, etc.; now pres. Enco Chem. Corp.

NEUBERG, Louis, v.p., dir. sales, Westvaco Chem. Div., Food Machinery & Chem. Corp.; chmn. of bd. of Enco Chem. Corp., 405 Lexington Ave., New York 17, N.Y.
Exec.; b. Bklyn., N.Y., Mar. 29, 1892; ed. H.S.; m. 1st, Nathalie Church Smith, Jan. 24, 1914; m. 2nd, Lyllyan Bauerle, Aug. 30, 1930. Warner Chem. Co., clerk, 1914, purchasing, 1916, asst. mgr., 1917, res. mgr., 1922-30, v.p., dir. sales, 1930 to date (now Westvaco Chem. Div.); Warner Co., instal. chlorine plant; Edgewood Arsenal, 1917-18. Mayor of Woodbridge, N.J., 1919-24. Mem.: Chemists', Union League, Cloud Club, Colonia Country, Plainfield Country, Sewaren Motor Boat, Beach Haven Yacht, Masons (Salaam Temple, Shrine), Elks (Perth Amboy No. 784). Hobbies: boating, fishing.

NEUHAUS, Max., mgr., tech. and res. dept., Jefferson Chem. Co., Inc., 711 Fifth Ave., New York City; res. 143 Great Oak Lane, Pleasantville, New York.
Dir. res., dev. wk.; b. Schulenburg, Texas, Feb. 18, 1907; s. of Henry W. and Laura A. Neuhaus; ed. Wm. M. Rice Inst., B.S. Ch.E., 1927; Tech. Hochschule, Charlottenburg, Berlin, Germany (Hydrog. major) 1929-30; M.I.T., Sc.D. Ch.E. 1933; mem.: Phi Lambda Upsilon; m. Harriet R. Ocker, Dec. 14, 1933; ch.: Laura Sue, Max Henry. Humble Oil & Ref. Co., Baytown, Tex., chem. engr., 1927-29; Texas Co., Signal Hill, Calif., chem. engr., 1932-33; Texas Co., Beacon, N.Y., chem. engr., 1933-37; Texas Co., Port Arthur, Texas, chem. engr., asst., dir. res. dept.; 1940-43 Texaco Dev. Corp., N.Y.C, asst. v.p; 1943-44 Texas Co, Beacon, N.Y., supvr. chem. res. lab.; 1944 to date Jefferson Chem. Co., Inc, dir res, mgr. tech. & res. dept. Res. in industr., pet. and chem. fields. Mem.: A.I.Ch.E., A.P.I., A.C.S., A.S T.M., Assoc. Res. Dirs. Club: Chem. (N.Y.). Hobbies: music, swimming, gardening.

NEUMAN, Edward William, prof. of chem., hd. of chem. dept., Carroll Coll., Helena, Mont.; res. 1105 N. Park Ave., Helena.
Chem.; b. Chelsea, Iowa, Oct. 5, 1904; s. of William and Mary (Vochoska) Neuman; ed. State U. of Iowa, B.A. 1927, M.S. 1928, Ph.D. 1930; m. Kathleen G. Riley, July 24, 1941; ch.: John F., Edward W., Dennis R., Mary H. J.T. Baker fellow in anal. chem., State U. Iowa 1928-29, grad. res. asst. in chem., 1929-30; Natl. Res. Council fellow in chem., Calif. Inst. Tech., 1930-32, res. fellow in chem. 1932-33; Carroll Coll. 1933 to date, co-ordinator C.A.A.-W.T.S. 1941-45, chmn. div. medical arts, 1949 to date. Anal. of precipitates, solubility prod., chrystal structure, chem. bond. Mem.: A.C.S., A.I.C., A.A.A.S., Mont. Acdy Sc, Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, Delta Epsilon Sigma. Dir., Carroll Coll. Observatory. Club: Serra. Hobbies: golf, skiing, swimming, sailing, music.

NEUMANN, Prosper Frederick, mgr. of tech. serv., Hercules Powder Co., 900 Market St., Wilmington, Del.; res. 305 W. Miner St., West Chester, Pa.
Grad. org. chem., mgr. of tech. serv.; b. Burlington, Iowa, July 25, 1903; s. of Robert Arnold John and Emma (Geisendorfer) Neumann; ed. South Hill Schl., Burlington, Iowa; Burlington H.S., Burlington, Iowa; Carthage Coll., Carthage, Ill., B.S.; U. of Iowa, grad. study; Mich. State Coll., M.S.; mem.: Alpha Chi Sigma; m. Florence Ficken, July 20, 1928; ch.: Prosper Frederick, Jr. 1925-29, Wethersfield Twp. H.S., Kewanee, Ill., instr. in sc. & coach; June, 1927-Sept., 1927, Sherwin-Williams Paint Co., Chicago, Ill., chem.; 1929-37, Mich. State Coll., instr. in chem.; June, 1937-Sept., 1938, Hercules Powder Co., Kalamazoo, Mich., chem., 1938-44 serv. engr.; Oct., 1944-Sept., 1945, Hercules Powder Co., Wilmington, Del., sales dev., 1945 to date, mgr. tech. serv. P.M.C. dept. Mem.: Alpha Chi Sigma, Sigma Xi, T.A.P.P.I.

NEUMEIER, Franz M., chf. chem., res. labs., McKesson & Robbins, Inc., Mfg. Div. Bridgeport 9, Conn.; res. 488 Sturges Rd., Fairfield, Conn.
Hd. of res. labs.; b. Frankfurt-Main, Germany, Sept. 4, 1903; s. of Sigmund and Emily Neumeier; ed. Universities of Frankfurt, Germany, Berne, Switzerland, Geneva, Switzerland, Ph.D., U. of Berne, 1929; m. Martha N., in 1930. Asst., phar., chem., U. of Geneva, Switzerland, 1938; res. chem., I.V.C., Vit. Corp., New York, N.Y., 1941; chf. chem., res. labs., McKesson & Robbins, Inc., mfg. div., Bridgeport, Conn., 1943 to present. Res. in phar. chem. Pubs. on Ephedrine-like cmpds. and penicillin. Fellow, A.I.C., fellow, A.A.A.S.

NEVILLE, Harvey Alexander, hd. dept. chemistry & chem. engrg., dean, grad. schl., Lehigh U., Bethlehem, Pa.; res. 316 E. Market St., Bethlehem.
Chem., educator, adm.; b. Millwood, Va., Feb. 18, 1898; s. of Harvey A. and Mary M. Drake Neville; ed. Randolph-Macon Coll., A.B., 1918; Princeton U., M.A., 1920, Ph.D., 1921; mem.: Phi Kappa Sigma, Alpha Chi Sigma, Phi Beta Kappa, Tau Beta Pi, Sigma Xi; m. Ilda Langdon, Dec. 29, 1923; ch.: Robert Geoffrey, Anthony Edward, Mary Alice. Princeton U., grad. asst., 1918-20; du Pont fellow 1920-21; U. of Ill., instr. in chemistry, 1921-24, assoc. 1924-27; Lehigh U., asst. prof. chem., 1927-30, assoc. prof. 1930-39, prof. & hd. dept. chem. & chem. engrg. 1938 to date; dir. inst. of res., 1945 to date; dean, grad. schl., 1949 to date. Contrib. extens. to sc. and tech. journals. Mem.: A.C.S., Amer. Inst. Chemists (fellow), A.A.A.S., Newcomen Soc., Amer. Soc. Engr. Educ. Clubs: Rotary, Saucon Valley C.C., Bethlehem.

NEVIUS, Walter Irving, retired; res. 225 Lindbergh Ave., Frederick, Md.
Chem. & mech. engr.; b. Avondale, Chester Co., Pa., Apr. 9, 1890; s. of J. Kirk and Louise (Jen-

kins) Nevius; ed. Lehigh U., 1912 E.E.; mem.: Tau Beta Pi; m. Elizabeth Major, Aug. 2, 1913; ch.: Louise (Nevius) Bishop, Maintenance & construction, Inland Steel Co., 1912-22; chf. engr., Com. Solvents Corp., 1922-45; consltg. engr., Merck & Co., 1945-46; chf. engr., Alcohol & Solvents Branch, War Prod. Bd., 1942; chf., engineering & planning, special prods. div., C.W.S. (biol. warfare) 1943-45. Design & construction chem. plants for higher alcohols, syn. methanol carbon black, pigments & U.S.A. biol. warfare (Camp Detrick & Vigo Plant C.W.S.). Mem.: A.C.S., A.I.Ch.E., Newcomen Soc. of England. Awards: War Dept. M. for Exceptional Civilian Service, two citations.

NEWELL, Isaac Laird, res. chem., Henry Souther Engrg. Co., 11 Laurel St., Hartford, Conn.; res. 209 Brimfield Rd., Wethersfield 9, Conn. Conslt. chem., engr.; b. Middletown, Conn., Jan. 16, 1901; s. of Isaac G. and Rachel Laird Newell; ed. Wesleyan U., 1918-22; Trinity Coll., B.S. 1924; M.S. 1931; mem.: Delta Upsilon; m. Marie Blinn, Aug. 31, 1923; ch.: I. Laird, Jr. Res. chem., conslt. engr., Henry Souther Engrg. Co., 1925 to date. Contrib. extens. to sc. and tech. jls. Author num. publs. Mem.: A.C.S. (councilor, 1946-48), A.I.Ch.E., Am. Inst. Physics, Oil Chem. Soc., A.E.S., A.S.T.M. (comm. mem.), Natl. Assn. of Corrosion Engrs. Clubs: Hartford Ski, Choral (Hartford), Univ. Glee, Wethersfield Cove Yacht, Lions, St. John's Lodge No. 2 A.F.&A.M. Hobbies: hunting, fishing, boating, skiing.

NEWHALL, Arthur Brock, chmn. of bd., General Latex & Chem. Co., 666 Main St., Cambridge 39, Mass.; res. 87 Edgell Rd., Framingham Centre, Mass. Dir.; b. Lynn, Mass., 1884; s. of Fred M. and Eva M. Newhall; ed. Tufts Coll., 1908, Mech. Engr.; mem.: Zeta Psi, Tau Beta; m. Charlotte Daniels, 1910; ch.: Sally Ann, Jane. Instr., Tufts Coll., instr., Wentworth Inst., Applied Mechanics; Hood Rubber Co., 1915-39; pres., Hood Rubber Co., 1929-39; exec. v.p., Goodrich Rubber Co., 1939-40; Rubber Coordinator and exec. dir., C.R.P.B., Wash., D.C., 1940-43; dir., treas., Dennison Mfg. Co., Framingham, Mass.; chmn. of bd. and dir. of General Latex & Chem. Co. to date, and Cambridge Rubber Co. to date; dir. Second Natl. Bank of Boston, Mass., and Framingham Natl. Bank, Framingham, Mass. Trustee, Tufts Coll.

NEWHART, Claude Jacob, v.p., charge of sales, William H. Rorer, Inc., 901 Drexel Bldg., Phila. 6, Pa.; res. 143 New St., Glenside, Pa. Pharmacist; b. Bangor, Pa., Feb. 19, 1908; s. of Arthur J. and Esther (Griffith) Newhart; ed. Ph.G. (honoris causis), Phila. Coll. Phar. and Sc.; mem.: Kappa Psi; m. Dorris Fox, Nov. 15, 1930; ch.: Frederick A., Elizabeth C. Tech. asst., Llewellyn Labs., Phila., Pa., 1925-27; mgr., Schuenemann Drug, Glenside, Pa., 1928-33; mgr., Jones Drug, Bangor, Pa., 1933-36; sales, The Upjohn Co., Kalamazoo, Mich., 1936-41. Held following positions with William H. Rorer, Inc., Phila.: sales, 1941; sales mgr., 1945; v.p., sales, 1950 to present.

NEWKIRK, William Bentley, tech. advisor, mfg. dept., Corn Prods. Refining Co., Argo, Ill.; res. 204 Sunset Ave., La Grange, Ill. Chem. engr.; b. Fall City, Nebr., Nov. 9, 1888; s. of Adamson Bentley and Eva May Newkirk; ed. U. of Southern Calif., B.A., 1910; m. Gwladys K. Davies, Nov. 16, 1910; ch.: Marjorie Elise McComb, Elizabeth Ann. Chf. chem., Am. Alcohol Co., Los Angeles, Calif., 1910-11; supt., Federal Chem. Co., 1911-14; res. chem., Am. Beet Sugar Co., 1914-18; sugar technologist, Bur. of Stands., 1918-19; res. chem., Corn Prods. Refining Co., 1919-32, dir. of pats., 1932-42, asst. to v.p. in chg. of res., process dev. & engrg. dev. 1942-46, tech. advisor mfg. dept. in chg. refineries 1946 to date; civilian with Office Sc. Res. & Dev. A.A. Dev. of crystallization of rare sugars; com. prod. of dextrose in crystal form as alpha anhydrous, alpha hydrate, beta anhydrous. Thirty odd pats. Mem.: A.A.A.S., A.C.S., A.I.Ch.E., Inst. of Chem., Sigma Xi, Modern Pioneer Award, Honoree Sugar Sec. of A.C.S. 1950. Club: Creve Coeur (Peoria). Hobby: photography.

NEWLIN, Harrison E., res. assoc., Midwest Res. Inst., 4049 Pennsylvania, Kansas City 2, Mo.; res. 7424 Village Dr., Mission, Kans. Res. chem.; b. Haverford, Pa., Nov. 22, 1913; s. of Richard M. and Alice Edith Newlin; ed. A.B. Williams Coll., 1936 cum laude, hon. in chem.; Ph.D. Cornell U., 1941, Sigma Xi; mem.: Kappa Alpha; m. Jane Guilford, Sept. 27, 1941; ch.: John K., Dudley G. Gen. Foods Corp., Central Res. Labs., Hoboken, N.J., 1941-45, res. chem., project leader; Midwest Res. Inst., Kansas City, Mo., 1945 to date, project leader, res. assoc. Nutrition, biochem., food processing, utilization of agr. by-prods. Mem.: A.A.A.S., A.I.C., A.C.S. Hobbies: geology, farming.

NEWMAN, Albert Broadus, prof. of chem. engrg., City College of N.Y., City College, N.Y. 31, N.Y.; res. 120 Cabrini Blvd., New York 33. Chem. engr.; b. Toronto, Canada, May 3, 1888; s. of Albert Henry and Mary (Ware) Newman; ed. U. of Mich., A.B. 1910; B.Ch.E., 1911; M.S. 1926; Ph.D. 1928; mem.: Sigma Chi; m. Esther Edwards, Sept. 2, 1911; ch.: Albert Henry, II, Philip Edwards. Has held positions with: Corn Prods. Refin. Co., chem.; Penn. State Coll., instr.; Natl. Zinc Co., foreman; Amer. Metal Co. Ltd, chem. supt.; Monsanto Chem. Co., wks. mgr.; Thermo Chem. Co., gen. mgr.; Gen. Chem. Co., chem. engr.; Cooper Union, prof. of chem. engrg.; City Coll. of N.Y., prof. of chem. engrg. (dean of engrg. 1941-47); notable wk.: Military Govt. for Germany (U.S.): chf. of Chem. Industry Branch (1945 and 1946); U.S. rep. on 4-Power Comm. on Liquidation of German War Potential (1946); various tech. papers on heat transfer and drying. Mem.: Sigma Xi, Phi Lambda Upsilon, A.A.A.S. (fellow), A.I.Ch.E. (pres. 1948), Am. Soc. for Engrg. Educ., A.C.S. Representative of Chem. Engrg. on Engineers Joint Council. Club: Chemists' (N.Y.).

NEWMAN, Douglas Cook, dir. of sales, Dyestuffs Div., Org. Chems. Dept., E.I. du Pont de Nemours & Co., Wilmington, Del.; res. Hotel du Pont, Wilmington. Exec.; b. Woodstock, Va., Nov. 25, 1896; s. of Edgar Douglas and Mary (Walton) Newman; ed. Randolph-Macon Coll., Ashland, Va., A.B., 1917; mem.: Phi Kappa Sigma, Chi Beta Phi; m. Elizabeth Holloway Brown, Dec. 15, 1917; ch.: Wallace Brown. June, 1917 to Aug., 1918, chem., Fed. Dyestuff & Chem. Corp., Kingsport, Tenn.; Aug. 20, 1918 to date, employed by the Org. Chems. Dept., Dyestuffs Div., E.I. du Pont de Nemours & Co. in following positions and locations: Aug. 20, 1918-Nov., 1922, chem. and tech. demonstrator, Tech. Lab., Deepwater Point, N.J.; Nov., 1922-Dec., 1926, salesman, Providence Off., Providence, R.I.; Jan., 1927-Mar., 1941, asst. sales mgr., Charlotte Off., Charlotte, N.C.; Mar., 1941-Oct., 1946, sales mgr., Charlotte Off.; Oct., 1946-Sept., 1949, sales mgr., Southern Distr., Charlotte, N.C.; Oct., 1949-July, 1950, asst. dir. of sales, Wilmington, Del.; July, 1950 to date, dir. of sales, Wilmington, Del. Mem.: A.A.T.C.C. Clubs: Charlotte Country, Charlotte City (Charlotte, N.C.), Capital City (Atlanta, Ga.), Merchants (N.Y.C.).

NEWMAN, Kenneth Walter, mgr. chem. div., United Sterling Corp., 37 E. 28th St., N.Y.C.; res. 37 Clinton Pl., Mt. Vernon, N.Y.
Chem. engr.; b. Mt. Vernon, N.Y., Dec. 3, 1918; s. of Joseph and Risa Newman; ed. Cooper Union, 1936-42, B.Ch.E.; Columbia U., 1945-48, Ph.D.; mem.: Phi Sigma Omega. 1936-39, Paul Mahler, consltg. chem., lab. asst.; 1939-40, Weiss & Downs, Inc., res. asst.; 1940-42, Gen. Ceramics Co., asst. to chf. engr.; 1942-45, airplane pilot, U.S.N.; 1945-47, Am. Pacific Ind. Corp., v.p.; 1947 to date, United Sterling Corp., mgr. chem. div. United Sterling Corp. (secy., dir.); Ardun Engine Co. Inc. (dir.). Mem.: A.I.C. (fellow), A.C.S., S.C.I. Club: Chemists' (N.Y.C.). Hobby: quarter horses.

NEWMAN, Melvin Spencer, prof., Ohio State U., Columbus, Ohio.
Org. chem.; b. N.Y.C., Mar. 10, 1908; ed. Yale, B.S., 1929 (magna cum laude); Ph.D., 1932; mem.: Zeta Beta Tau; m. Beatrice Crystal, June 30, 1933; ch.: Kiefer, Susan, Beth, Robert. Natl. Tuberculosis Assoc. Fellow, Yale, 1932-33; Natl. Res. Council Fellow, Columbia (P.&S.), 1933-34; res. asst. to L.F. Fieser, Harvard, 1934-36; instr., Ohio State U., 1936-39, Elizabeth Clay Howald Scholar, Ohio State U., 1939-40; asst. prof., 1940-44; prof., 1944 to date. Over 100 papers in sc. and tech. jls. Mem.: Sigma Xi, Phi Lambda Upsilon, Alpha Epsilon Delta, A.C.S., A.A.A.S. Assoc. editor, J. Am. Chem. Soc.

NEWSOM, W. Roy, prof. chem., Whittier Coll., Whittier, Calif.; res. 421 Vale Dr.
Tchr.; b. Calif., Jan. 12, 1912; s. of Will C. and Sarah A. Newsom; ed. A.B., Whittier Coll., 1934; A.M., U. So. Calif. 1935; Ph.D., 1939; m. Alice C. Morgan, 1931; ch.: Herbert C., Janine, Nina. Fellowship, chem. U. So. Calif. 1935-39; instr. chem., Whittier Coll., 1939-40; asst. prof., 1940-41; prof., hd. dept., 1941 to date. Res. in anal. chem. of beryllium. Mem.: A.C.S., Phi Lambda Upsilon, Sigma Xi. Hobby: citrus culture.

NEWSOME, James Wilfred, chf. chem. dev. div, Aluminum Res. Labs., East St. Louis, Ill.; res. 9820 Baltimore, Belleville.
Res. chem.; b. South English, Ia., Nov. 22, 1908; s. of James W. and Almeda Thompson Newsome; ed. U. of Ia., B.S. Ch.E. 1930; M.S. Phys. Chem. 1931; Ph.D. Physical Chem. 1934. Mem.: Tau Beta Pi, Phi Lambda Upsilon, Sigma Xi, Alpha Chi Sigma; m. Julia Jeannette Walsh, Sept. 15, 1935; ch.: Judith Lynn, Patricia Ann. Aluminum Res. Labs., New Kensington, Pa., res. chem., 1934-41; Aluminum Res. Labs., East St. Louis, Ill., sr. res. chem. 1941-47; Alumnium Res Labs., chf., chem. dev. div., 1947 to date. Res. dev. chem. prods. from alumina and meths. of recovering alumina from bauxite. Mem.: A.C.S., A.I.Ch.E. Club: Kiwanis Club. Hobby: golf.

NEWTON, E(dwin) B(ohannon), dir. tech serv. res., B.F. Goodrich Res. Center, Brecksville, Ohio; res. 506 Crosby St., Apt. 6, Akron, Ohio.
Dir. tech. serv. res.; b. Boonville, Ind., June 18, 1901; s. of Dr. Grant Spencer and Nancy Parthenia Bohannon Newton; ed. U. Mo., A.B., 1923, A.M., 1925; mem.: Lambda Chi Alpha, Alpha Chi Sigma, Sigma Xi. B.F. Goodrich Co. 1925, chem.; Gen. Labs., 1926, tire compounder; 1927-32, res. chem., Anode Proc. (Rubber Latex); 1932-34, supvr. Koroseal (vinyl polymer) res.; 1934-41 resid. dir. Malayan Res. Labs., Kuala Lumpur, Malaya; 1942 to date, dir. tech. serv. res. Res. in emulsion polymer. of vinyl chlor.; rate of cure of rubber; cont. coagulation of Hevea Latex; cath. ray vulcaniz. rubber. Author: "Rate of Cure of Rubber," "Cont. Coagula. of Hevea Latex." Mem.: A.C.S., A.A.A.S.

NEWTON, Evans Kendrick, chf. engr., Hooker Electrochem. Co., Niagara Falls, N.Y.; res. 2861 Lewiston Rd., Niagara Falls.
Mech. engr.; b. Charlemont, Mass., Aug. 18, 1882; s. of George C. and F. Elizabeth (Kendrick) Newton; ed. B.S. in M.E., Worcester Polytech. Inst., Worcester, Mass.; m. Carrie T. Bemish, Jan. 12, 1912; ch.: E. Kendrick, Robert G., Ruth M. (Newton) Swartz. 1906-07, engrg. dept., 1907-08 sales dept., 1908-10 engrg. & fld. erecting (Buffalo Forge Co., Buffalo, N.Y.); 1910-14, engrg. dept., 1914-16 operating dept., 1916 to date, engrg. dept., Hooker Electrochem. Co., Niagara Falls, N.Y. Mem.: A.S.M.E., New York State Soc. of Prof. Engrs., Am. Concrete Inst., Armed Forces Chem. Assn. V.p., Niagara Chap., S.A.R.

NEWTON, Harry Paul, asst. dir., So. Regional Res. Lab., 2100 Robt. E. Lee Blvd., New Orleans 19, La.; res. 35 Hibiscus Lane, New Orleans 19.
Chem.; b. Iredell, Texas, Mar. 10, 1896; s. of William Arthur and Della (Westan) Newton; ed. B.A., Baylor U., 1918, M.A., 1919; grad. student in chem., U. of Chicago, Geo. Washington U.; mem.: Pi Kappa Alpha, Alpha Chi Sigma; m. Mildred Frances Grow, Aug. 28, 1930. Instr. chem., Baylor U., 1919-20; prof., hd. of dept. chem., Georgetown Coll., Georgetown, Ky., 1920-24; Gager Lime & Mfg. Co. 1924; Coll. Inn Food Prods. Co., 1925-26; Pure Oil Co. 1926-27; U.S.D.A., Bur. of Agr. & Ind. Chem., Nov. 1, 1927 to date. Friedel & crafts syn., vat dye intermediates, amination by ammonolysis, ind. utilization of farm crops. Brig. Gen. U.S.A.R.; Legion of Merit, Bronze Star, Purple Heart, Croix de Guerre avec Palme. Co-author: "Unit Processes in Org. Syn." edited by P.H. Groggins, publ. by McGraw-Hill. Mem.: La. Engr. Soc., A.C.S., A.O.C.S., A.I.C. Clubs: Army & Navy, Army & Navy Country. Hobbies: golf, bridge, gardening

NEWTON, John Marshall, dir. tech. sales service, Clinton Foods, Inc., Clinton, Iowa; res. 610 14th Ave. N., Clinton.
Chem.; b. Popejoy, Ia., May 20, 1913; s. of George and Fannie P. Newton; ed. B.S., 1936, Ph.D., 1941, Iowa State Coll.; mem.: Phi Lambda Upsilon, Sigma Xi; m. Irene Vogt, Apr. 27, 1941; ch.: Beth Louise, Steven Marshall. Held following positions with Clinton Foods Inc.: res. chem., 1941-42; asst. res. supvr., 1942-46; res. supvr., 1946-49; dir. tech. sales service, 1949 to present. Res. in carbohydrates and enzyme chem. Co-author: 'Chemistry and Industry of Starch," 1944 and 1950. Mem.: A.C.S., T.A.P.P.I., I.F.T., Am. Assn. Textile Chems. & Colorists. Hobbies: gardening, boy scouts.

NEWTON, Roger Hooker, sales & process engr., E.B. Badger & Sons Co., 75 Pitts St., Boston 14, Mass.; res. Winchester, Mass.
Chem. engr.; b. Torrington, Conn., June 17, 1909; s. of Charles H. and Sarah L. (Wadhams) Newton; ed. Yale 1930 B.S. summa cum laude, 1931 M.S., 1933 Ph.D.; m. Mary E. McQueen, June 14, 1933; ch.: Florence W., Mary Jean, Roger H., Jr. 1931-35, instr. of chem. engrg., Yale U.; 1935-40, chem. engr., Tenn. Valley Authority, Wilson Dam, Ala.; 1940-45, dir. of dev., Catalytic Dev. Corp., Marcus Hook, Pa.; 1945 to date, E.B. Badger & Sons Co.; 1946-47, dir.-presidente Badger Servicos Tecnicos da Engenharia, S.A., Rio de Janeiro; 1947 to date Badger, Boston. Res. & pubs. in flds. of applied physical chem., thermodynamics, plant design, prod. of elemental

phosphorus & super-phosphates, instrumentation, prod. of aviation & motor gas., mech. design of catalytic cracking plants, etc. Reg. prof. engr. in State of Mass. Mem.: Sigma Xi, A.C.S., A.I. Ch.E. (active). Clubs: N.Y. Yale, Boston Yale. Hobbies: sailing, photography, painting, furniture making, gardening.

NEWTON, Roy Chester, v.p. in chg. sc. res. labs., Swift & Co., Union Stock Yards, Chicago 9, Ill.
Chem.; b. El Reno, Okla., May 8, 1896; s. of Sylvester Warren and Katie (Webb) Newton; ed. B.S., Okla. A.&M. Coll., 1921; Ph.D., U. of Chicago, 1924; m. Ruth Ellen Watkins, May 22, 1930; ch.: Wanda Lee (Newton) Reed, Roy Maukil, Charles R. Asst. chem., Okla. A.&M. Coll., 1919-21; instr., Purdue U., 1923-24; res. chem., Swift & Co., 1924-32, chf. chem. & chem. engr. 1932-41, v.p. in chg. of res. 1941 to date. Mem.: A.C.S., A.I.Ch.E., I.F.T, A.O.C.S., A.A.A.S. Awards: 1948, Honor Scroll, Chicago Chapter A.I.C.; 1949 Nicholas Appert Award, I.F.T. Trustee, George Washington Carver Foundation; natl. councilor, Ohio State U. Res. Foundation. Clubs: Quadrangle, Saddle & Sirloin. Hobby: farming.

NEWTON, Roy Frederick, advisory scientist, Westinghouse Atomic Power Div., Pittsburgh, Pa.; res. 36 Apache Rd., R.D. 9, Pittsburgh 28.
Chem.; b. Chicago, Ill., June 22, 1896; s. of Thomas J. and Henrietta C. Newton; ed. B.S., Northwestern U., 1916, Ph.D., U. of Calif., 1920; spec. training schl. of nuclear studies, Oak Ridge, 1946-47; mem.: Alpha Chi Sigma; m. Edith Robertson, Dec., 1921; ch.: Thomas William, Anne Mary. Instr., U. of Calif., 1920-21; prof. Antioch Coll., 1921-22; instr., U. of Calif., 1922-23; assoc. dir. metallurgical res., U. of Utah, 1923-26; asst. prof. assoc. prof. and prof., Purdue U., 1926-49; advisory scientist, Westinghouse Atomic Power Div., 1949 to present. Res. on phase rule studies, electromotive forces of cells, heat capacities, third law of thermodynamics. Mem.: A.C.S., A.A.A.S., Sigma Xi, Phi Lambda Upsilon. Hobbies: sailing, mountain climbing, skiing.

NEWTON, Wilbert F., mgr. market res. & dev., Columbia Chem. Div., Pitts. Plate Glass, Pitts. 13, Pa.; res. 2315 Forest Dr., Pitts. 21.
Chem.; b. Norfolk, Va., Sept. 26, 1914; s. of Robert C. and Mary W. Newton; ed. U. of Calif., Berkeley, Calif., B.S. 1937 with honors; m. Edith Mae Johnson, June 10, 1939; ch.: Stephen Edward, James Douglas, Mary Jeanne. Shell Chem., 1937-41; Pitts. Plate Glass, 1941 to date.

NICHOLLS, Charles R., supt., Phila. Quartz Co., Gardenville, N.Y.; res. 178 Ridgewood Rd., Buffalo, N.Y.
Supt.; b. Wilkes Barre, Pa., Aug. 19, 1891; s. of Edward and Minnie Nicholls; ed. Pa. State Coll., B.S. in chem. 1917; mem.: Alpha Chi Sigma; m. Mae Wilkie, Sept. 23, 1930. Atlas Powder Co., 1917-26; Gen. Chem. Co. 1926-27; Phila. Quartz Co., 1927 to date. Club: Rotary of West Seneca, N.Y.

NICHOLS, Herbert Bishop, special asst. to dir., U.S. Geological Survey, Wash. 25, D.C.; res. 710 High Towers, 1530 16th St., Wash. 6, D.C.
Writer on tech. subjects; b. S. Norwalk, Conn., Oct. 21, 1907; s. of Chester Encell and Ethel B. (Bishop) Nichols; ed. Harvard 1932 B.S.; Boston U. for grad. wk., no deg.; m. Ruth Christie, Aug. 20, 1932; ch.: Chester Encell, II, Nancy Evelyn. M. Jessie I. Wharton, Oct. 12, 1950. Regimental Supply Sergeant 1926; (coll. 1928-32) Sc. & Engrg. Editor of Christian Sc. Monitor 1932-49; War Serv.: Btry. Comdr. 87th Armd. F.A.; Public Relations Officer W.A.A.C.; Asst. G-2 & Photo Off. 1st Special Serv. Force; Corps Arty. Intell. Off. XXXVI Corps; Press Intell. Off. Hqrs. U.S. Forces China Theater; Oct., 1949 to date, info. officer, U.S. Geolog. Survey. Followed activities of A.C.S. since 1932 & attended & reported for Christian Sc. Monitor most of newsworthy proceedings. Many reports based largely on matl. furnished by A.C.S. & its affiliated groups. Past pres. Natl. Assn. of Sc. Writers & Bond Astronom. Club of Harvard U., Natl. Quill & Scroll hon. membership 1927; Calvert Round Table Conference winner on Racial Tolerance Essay Contest 1932. Fellow A.A.A.S., fellow Am. Geogr. Soc.; co-winner of Westinghouse Award for Distinguished Serv. to Sc. in fld. of journalism, 1946. 1939-40 advisor to Baypath Inst. Springfield, Mass. Clubs: Nehoiden Lodge, A.F.&A.M., Needham, Mass.; Temple Commandery, Norwood, Mass.; Consistory, Boston Valley; Vermont Botanical Club; Josselyn Botanical Soc. of Me.; Acdy. of Natural Sc. of Phila. Hobbies: philately, crew, hiking.

NICHOLS, James Burton, phys. chem., du Pont Expt. Sta., Wilmington, Del.; res. 1505 River Rd., Wilmington.
Phys. chem.; b. Danbury, Conn., Feb. 25, 1902; s. of James H. and Martha B. Nichols; ed. Cornell, B.Ch. 1923; U. of Wis., M.S. 1924; Ph.D. 1927; U. of Upsala, Sweden, fellow Am. Scand. Found., 1925-26; Int. Educat. Bd., fellow, 1926-27; mem.: Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma; m. Eleanor C. Hansen, July 15, 1925; ch: J. Randall, Courtland G. U. of Upsala, res. chem.; du Pont Co., res. chem., 1924-42; hd. Physics Sect., Chem. Dept. du Pont Expt. Sta., 1942-45; res. chem. (phys. chem. of high polymers) du Pont Expt. Sta., 1945 to date. Author of chapters in following books: J. Alexander's "Colloid Chem.," 1946; A. Weissberger's "Phys. Meths. in Org. Chem.," 1950, on "Determinations with the Ultracentrifuge"; T. Svedberg & K.O. Pedersen's "The Ultracentrifuge," 1940. Mem.: Soc. of Rheology, A.Phys.S. and its Div. of High Polymer Physics (v. chmn. 1950), Am. Crystallographic Assoc., A.C.S. Hobbies: music, flowers, drama.

NICHOLS, Melvin Lorrel, prof. of anal. chem., Baker Lab., Cornell U., Ithaca, N.Y.; res. 3 Strawberry La., Ithaca, N.Y.
Education; b. Dayton, Ohio, Nov. 30, 1894; s. of Joseph W. and Sarah H. Nichols; ed. Cornell U., B. Chem., 1918, Ph.D., 1922; Guggenheim Fellow, 1929-30; mem.: Alpha Chi Sigma, Tau Beta Pi, Sigma Xi, Phi Kappa Phi; m. Mary Bancroft, Aug. 16, 1926; ch.: Sarah Katharine. Instr. anal. chem., 1918-22, asst. prof. anal. chem., 1922-35, prof. anal. chem., 1935 to date, Cornell U. Various phases of anal. chem. Author: "Gas Anal." 1929, "Lab. Manual Quantitative Anal." 1925. Mem.: A.C.S. Clubs: Ithaca Country, Rainbow Falls Hunt, Statler. Hobbies: golf, hunting.

NICHOLS, M(erle) Starr, asst. dir., Wis. State Lab. of Hygiene, prof. of sanitary chem., U. of Wis., State Lab. of Hygiene, Madison, Wis.; res. 2110 University Ave., Madison.
Prof.; b. Fairmont, Mo.; s. of Henry Newton and Ida May (Starr) Nichols; ed. Highland Park Coll., Ph.G.; U. of Wis., B.S., 1916, M.S., 1918, Ph.D., 1926; mem.: Alpha Chi Sigma; m. Bessie V. Hawley, Sept. 19, 1917; ch.: George Starr, Anna May, Jane, Dorothy. State Lab. of Hygiene, asst. 1913-16, chem. & asst. bacteriologist, 1916-26, sr. chem., 1926-49, asst. dir., 1949 to date; U. of Wis., asst. prof. of sanitary chem. 1926-38, assoc. prof. 1938-40, prof. 1940 to date; W.W. I, 2nd Lt. Sanitary Corps with Base Hosp. No. 136, Vannes, France, as Detachment Commander 1918-

19. Swimming pool sanitation; iodized salt; activated sludge studies; anal. meths. studies; biochem. oxygen demand dev.; water quality tests; fluorides in waters; water fluoridation; buffering org. nitrogen mixtures to separate free ammonia; about 35 publs. Co-author: "Public Water Supplies" Turneaure & Russell, 1940. Mem.: Sigma Xi, Phi Lambda Upsilon, A.I.C. (fellow), A.P.H.A. (fellow), A.C.S., S.E.B.M., A.W.W.A., Federation of Sewage Wks. Assn., Central States Sewage Wks. Assn. (pres. 1935), Soc. of Engrg. Ed. Acting trustee Volunteers of Am. Clubs: 32nd deg. Mason, Technical (Madison), Optimist (Madison). Hobbies: gardening, flowers, golf, contract & duplicate bridge.

NICHOLS, Nathaniel Burgess, dir. res., Taylor Instr. Cos., 95 Ames St., Rochester, N.Y.; res. 299 Beresford Rd., Rochester.
Physicist; b. Mt. Pleasant, Mich., Dec. 31, 1914; s. of Samuel Oscar and Florence Edna Nichols; ed. Central Mich. Coll. B.S., 1936; scholar, Mich., 1936-37, M.S. 1937, scholar 1938-39. Mem.: Gamma Alpha, Sigma Xi; m. Catherine Burkhardt, July 1, 1938; ch.: Paul, Gail. Dow Chem. Co., physicist, 1936-38; asst. instr. physics, Mich. 1937-40; Taylor Instr. Cos., Rochester, res. physicist, 1940-42; group leader, radiation lab., M.I.T., 1942-46; Taylor Instr. Cos., res. dir., 1946 to date. Res. in pheumatic and hydrol. servomechanisms; gunfire contr., temp. and press. meas.; autom. contr.; electrochemical anal. "Theory of Servomechanisma," Hubert M. James, Nathaniel B. Nichols, Ralph S. Phillips; M.I.T., Radiation Lab. Series (25), 1947. Mem.: E.S. Franklin Inst. (member), A.C.S., Physical Soc., Soc., Mech. Eng. Inst. Soc. Amer., A.A.A.S. Civilian with Natl. Defense Res. Council, Young Authors Prize. Clubs: Natl. Congr. of Parents and Teachers, Taylor Fellowship Club, Univ. of Mich. Club. Hobbies: fishing, bowling.

NICHOLS, Thomas Steele, pres. and chmn. of the bd., Mathieson Chem. Corp., 60 E. 42nd St., New York 17, N.Y.; res. 1 E. 66th St., New York 21, N.Y.
Exec., chem. ind.; b. Cambridge, Md., May 8, 1909; s, of John P. and Emma H. (Meredith) Nichols; ed. primary and secondary schls. of Cambridge, Md.; attended U. of Pa., and Temple U. night schools; m. Theresa Genetive, Sept. 7, 1945; ch.: Judith Anne, Thomas S., Jr. E.I. du Pont de Nemours & Co. Inc., 1926; v.p. & dir., Prior Chem. Corp., 1937; Chemicals Bur. of W.P.B., State Dept.—member of Harriman Mission to London; Chairman, Sulphuric Acid Operating Committee, 1941; Tech. Industrial Disarmament Comm. on Chemicals, ret. to Prior Chem. Corp. at end of war, 1945; pres., Mathieson Chem. Corp., Apr. 4, 1948, chmn. of bd., July 29, 1948. Mathieson Bldg. Corp., pres. and dir., Mathieson Hydrocarbon Chem. Corp., pres. and dir.; dir. of following cos.: Bigelow Sanford Carpet, Baltimore Natl. Bank., U.S. Fidelity & Guaranty, Friends of the Land, Md. Chapt., Stephen Sanford & Sons, Inc., Western Maryland Railway Co. Clubs: Chemists', (N.Y.), Uptown (N.Y.), River (N.Y.), Maidstone (East Hampton, N.Y.), National Golf Links of Am. (Southampton, N.Y.), Deepdale (Great Neck, N.Y.), Maryland (Baltimore, Md.), Elkridge (Baltimore, Md.), Maryland Jockey (Baltimore, Md.). Hobbies: golf, hunting.

NICHOLS, William Thomas, dir., gen. engrg. dept., Monsanto Chem. Co., 1700 S. Second St., St. Louis 4, Mo.; res. 618 N. Woodlawn Ave., Kirkwood 22, Mo.
Chem. engr.; b. Pitts., Pa., Dec. 26, 1901; s. of William Walter and Maria (Harris) Nichols; ed. U. of Pitts., B.S., B.Chem., 1922; mem.: Alpha Chi Sigma; m. Elizabeth Margaret Austen, June 1, 1927; ch.: Caroline Jane, William Austen. 1922-26, Mellon Inst., Pitts., Pa., jr. fellow; 1926-29, Columbian Rope Co., Auburn, N.Y., res. engr.; 1930-35, Westvaco Chem. Corp., N.Y.C., res. engr., South Charleston, W.Va., dir. of res., 1935-43, N.Y.C., tech. asst. to exec. v.p., 1943-49; 1949 to date, Monsanto Chem. Co., St. Louis, Mo., dir. gen. engrg. dept. Intensive res. & dev. on alkalies, halogens, chlorinated hydrocarbons. Mem.: A.C.S. (held various local sec. offices, incl. chmn. Kanawha Valley Sections), A.I.Ch.E. (chmn. Charleston Sec., var. natl. comms., dir. natl. soc. 1944-46, 1948-50). Clubs: Chemists' (N.Y.), Greenbriar Hills Country, Mo. Athletic. Hobbies: painting, cabinet making.

NICHOLSON, Douglas G., dir., educational serv. dept., Fisher Scientific Co., 717 Forbes St., Pitts. 19, Pa.; res. 854 Newport Dr., Pitts. 34.
Chem.; b. Joliet, Ill., Dec. 29, 1908; s. of John M. and Elizabeth L. Nicholson; ed. B.S., U. of Ill., 1930, M.S., 1931, Ph.D., 1934; mem.: Alpha Chi Sigma; m. Helen F. Gurney, Sept. 17, 1932; ch.: Donald Douglas, Beatrice Elizabeth. Grad. asst. chem. dept., U. of Ill., 1930-34; res. chem., E.I. du Pont, Wilmington, Del., 1934-35; instr. gen. chem., U. of Ill., 1935-37; assoc. gen. chem., U. of Ill., 1937-42; officer Chem. Corps A.U.S., Edgewood, Md., 1942-45; assoc. prof. chem., U. of Pitts., 1945-49; dir. educ. serv., Fisher Sc. Co., 1949 to date. Res. in drying of pigmented oils; reactions in & of titanium tetrachloride; nonaqueous solvent reactions. Writing a text in gen. chem. with Prof. C.R. Naeser of Geo. Washington U. Mem.: Sigma Xi, Phi Beta Kappa, Phi Kappa Phi, Phi Lambda Upsilon.

NICHOLSON, Finley Clayton, mgr., Cincinnati Div., Davison Chem. Corp., 4775 Paddock Rd., Cincinnati 29, Ohio; res. 1110 Springfield Pike, Wyoming, Cincinnati 15.
Chem. engr.; b. Elkhart, Ind., Sept. 30, 1914; s. of Geo. William and Anna Nicholson; ed. Purdue U., B.S. Chem. E., 1937; m. Edith Brown, June 27, 1936; ch.: Margaret Ellen, Ann Elizabeth, Nancy Louise, Janet Carol. 1937-39, chem., Anderson-Prichard Oil Corp.; 1939-42, chem. engr., Gulf Res. & Dev. Corp.; 1942 to date, Davison Chem. Corp., quality contr. supvr., asst. dir. of quality contr., asst. wks. mgr., Curtis Bay, Md.; mgr., Cincinnati div. Mem.: A.I.Ch.E., A.C.S., Cincinnati C.C. Hobby: oudoor sports.

NICHOLSON, Harold Linneous, chem. engr., Ohio Match Co., Wadsworth, Ohio; res. 182 Summit St., Wadsworth.
Chem. engr.; b. Greensboro, N.C., Mar. 13, 1914; s. of Francis H. and Frances (Cole) Nicholson; ed. U. of N.C., B.S.Ch.E., 1936; mem.: Alpha Chi Sigma; m. Ruth E. Parmelee, Aug. 21, 1939; ch.: Edwin Parmelee, Ann Webb. Sherwin-Williams Co., 1936-37, chem., Cleveland, Ohio, 1937-43, chem. engr., Chicago, Ill.; Ohio Match Co., 1944 to date, chem. engr., Wadsworth, Ohio. Mem.: A.I.Ch.E. (active), A.C.S. (active), Reg. Prof. Engr. State of Ohio. Clubs. Rotary (past pres. Wadsworth, Ohio, Club), Mason. Hobby: sports.

NICHOLSON, Hunter, gen. mgr., Dale Chem. Ind. Inc., Box 319, Twentynine Palms, Calif.; res. same.
Chem. engr.; b. Los Angeles, Calif., June 30, 1911; s. of Hunter and Ruth B. Nicholson; ed. B.S., Calif. Inst. of Tech., 1933; m. Mercy E. Phillips, Dec. 11, 1939; ch.: William Hunter, Stephanie Loring, Mercy Ruth. 1933-41, Am. Potash & Chem. Corp., Trona, Calif., various positions in prod. & res. depts.; 1941-42, Dicalite Co., asst. supt.; 1942-45, Firestone Tire & Rubber Co.,

process engr. & factory control chem., 1945-47, Kelite Prods., factory mgr.; 1947-48, Am. Potash & Chem. Corp., asst. to v.p.; 1948 to date, Dale Chem. Ind. Inc., gen. mgr. Am. Sulphate Corp. (asst. secy.). Mem.: A.C.S., A.I.Ch.E., Registered Prof. Engr. State of Calif. Club: Lions Internatl.

NICHOLSON, Kenneth Charles, sr. res. engr., Carborundum Co., Niagara Falls, N.Y.; res. 2440 Niagara Ave., Niagara Falls.
Chem. engr.; b. Monongahela, Pa., Apr. 10, 1894; s. of John Fletcher and Susan Elizabeth Nicholson; ed. Carnegie Inst. of Tech., B.Sc. in chem. engrg., 1914; mem.: Theta Xi, Pi Chapter; m. Dorothy Grier, July 17, 1919; ch.: Lois (Nicholson) MacKay, Ruth Marie, Eleanor Jean, Dorothy Anne. 1914-24, chem., chf. chem., Stand. Chem. Co., Canonsburg, Pa.; U.S.A. 1917; 1924-42, chf. anal., Carborundum Co., Niagara Falls, N.Y.; 1942-46, U.S.A., Lt. Col. C.W.S.; 1946 to date, sr. res. engr., Carborundum Co., Niagara Falls. Pats. in abrasive & refractory fld.; dev. of rocket motor refractories. Mem.: A.C.S., A.A.A.S., Am. Rocket Soc., Am. Ordnance Assn. Award: U.S.A. Commendation Ribbon. Club: Rushford Lake Conservation. Hobbies: hunting, fishing, rifle shooting.

NICKERSON, Mortimer Henderson, chf. chem., DeBell & Richardson, Inc., P.O. Box J, Hazardville, Conn.; res. 310 Fountain St., Springfield 8, Mass.
Chem.; b. Chelsea, Mass., July 22, 1915; s. of Mortimer aind Gertrude Nickerson; ed. M.I.T., S.B., 1937, Ph.D., 1940; m. Lucille E. Cook, July 30, 1940; ch.: Gail Sigrid, Craig Randall. 1940-41, Carbide & Carbon Chem. Corp., dev. chem.; 1941-42, Dewey & Almy Chem. Co., dev. chem.; 1942-45, U.S.A., Chem. Corps, Capt.; 1945 to date, DeBell & Richardson, Inc., chf. chem. Specialist in fld. of high polymer & plastics. Mem.: Sigma Xi, A.C.S., Soc. of Plastics Engrs., Engrg. Soc. of Western Mass. Hobby: photography.

NICKOLLS, Charles Leslie, prof. & acting hd., Schl. of Chem. Engrg., Okla. A.&M. College, Stillwater, Okla.; res. 135 Orchard Lane, Stillwater.
Tchr. & chem. engr.; b. Henry, Ill., May 17, 1895; s. of Joshua Nickolls and Augusta Owen (Caley) Minier; ed. B.S. (chem.) Dakota Wesleyan U., 1917; M.S. (chem.), Okla. A.&M. Coll., 1921; Ph.D. (chem. engrg.), U. Mich., 1934; mem.: Sigma Phi Epsilon; m. Jane Lesley Stone, May 25, 1922, Athens, Ga.; ch.: Charles Leslie, Jr., Walter Richard, Evelyn Katherine (Nickolls) Ball. Civil engr., Dakota Engrg. Co., summers 1914-15; physics asst., Dakota Wesleyan, 1914-16; U.S. Army, Texas & Mex., 1916; exec. tech. engrg., U.S. Army, 1917-19; Dakota Engrg. Co., 1919-20; grad. asst., chem. engrg., Okla. A.&M., 1920-21; instr., 1921; asst. prof. chem. & chem. engrg., 1921-23; assoc. prof., 1923-26; prof. chem. engrg., 1936 to date; acting hd., Schl. of Chem. Engrg., 1949 to date; tech. chem. & engr., 1st, 2nd & 3rd Schls., Natl. Dyers & Cleaners Assn., 1921-23; Fellow, Natural Gasoline Assn. of Am., U. Mich., 1928-29; chem. engr., Phillips Pet. Co., Bartlesville, Okla., 1936 & 1937; Civil Service, P-5, 8th Serv. Command, U.S.A., assigned to wax res., Bareco Oil Co., Barnsdall, Okla., 1943-44, Synthetic org. chems., natural gas & gasoline, gasoline volatility, heat transfer, thermodynam., phase equilibria, micro-crystall. wax. Author: "Element. Course in Natural Gas," Okla. Dept. of Ed., 1930; numerous pubs. in tech. jls. & papers before sc. assns. Regis. prof. engr., State of Okla. Mem.: A.C.S., Phi Kappa Phi, Phi Lambda Upsilon, Sigma Tau, Iota Alpha, Sigma Xi, Okla. Acdy. Sc., Photo. Soc. Am., A.I.Ch.E. Clubs: Civitan, Jr. Ch. of Com., Mason. Hobbies: photography, archaeology (mound bldrs.).

NIEDERHAUSER, Warren Dexter, sr. chem., Rohm & Haas Co., 5000 Richmond St., Phila. 37, Pa.; res. Frankford & Grant Ave., Phila. 14.
Res. chem.; b. Akron, Ohio, Jan. 2, 1918; s. of H.W. and Edna (Dexter) Niederhauser; ed. Oberlin Coll., 1935-39 A.B.; U. of Wis., 1940-43, Ph.D.; m. Floris Eldredge 1949. Metallurgist, U.S. Steel Co., 1939-40, res. asst., Office of Sc. Res. & Dev. 1940-43; sr. chem., Rohm & Haas Co., 1943 to date. Syn. org. chem.; prep. of resins & plasticizers. Mem.: A.C.S., Phila. Org. Chem. Club, Sigma Xi, Phi Lambda Upsilon. Hobbies: golf, fishing.

NIEDERHAUSER, Wendell S(herman), res. lab. mgr., Rohm & Haas Co., 5000 Richmond St., Phila. 37, Pa.; res. 5 West Oak Ave., Moorestown, N.J.
Chem.; b. Canton, Ohio, Nov. 8, 1900; s. of John and Mary A. (Peter) Niederhauser; ed. Oberlin Coll., A.B. 1924 (summa cum laude); A.M., 1926, Princeton U.; Ph.D., 1928; mem.: Phi Beta Kappa, Sigma Xi; m. Linda Belle McElroy, June 27, 1929; ch.: David Peter, Richard William. Brown U., 1928-29, instr.; Oberlin Coll., 1929-30, acting asst. prof.; Williams Coll., 1930-39, instr. and asst. prof.; Resinous Prods. and Chem. Co., 1939-46, res. chem. and lab. hd.; Rohm & Haas Co., 1946 to date, tech. asst. to dir. of res. and res. lab. mgr.; res. in std. cells, synth. resins for coatings, adhesives, on exchange. Mem.: A.C.S., A.A.A.S. Council mem. and commis., B.S.A.; elder, Pres. Ch., Moorestown, N.J.; Adv. Comm. to Chem. Dept., Princeton U. Hobbies: photography, gardening, bee-keeping.

NIEDERL, Joseph B., prof. of chemistry, N.Y.U., Washington Square, N.Y. City.
Prof.; b. Graz, Austria, Aug. 14, 1899; ed. U. of Graz, Ph.D., 1925. At N.Y.U. since 1925. Pres., J. B. Niederl & Assoc., Inc., N.Y.C. Res. in microchemistry, organic chemistry. Author: "Micro Methods of Quantitative Organic Analysis," 2nd ed. 1942 (John Wiley & Sons). Mem.: A.C.S., London Chem. Soc., A.A.A.S., N.Y. Academy of Sc., etc., Draft Bd. Chmn., 1940-46 (Bklyn., N.Y.). Clubs: Numerous, domestic & foreign. Hobbies: lecture tours, travels.

NIELD, Cyril H., dir. of res., Specific Pharmaceuticals, Inc., N.Y.C.; res. 140-71 Ash Ave., Flushing, N.Y.
Chem.; b. England, Feb. 6, 1916; s. of William and Alice Mary (Bradney) Nield; ed. Rutgers U., B.Sc., M.Sc., Ph.D.; m. Helen A. Johnson, May 15, 1943; ch.: William Bradney, Leslie Janet. Res. asst., N.J. Agr. Exp. Sta., 1938-42; res. chem., Calco Chem. Div., 1942-43; res. chem., Vick Chem. Co., 1943-45; dir. of res., Specific Pharmaceuticals, Inc., 1945 to date. Sulfa drugs, antibiotics, sympathomimetics, chleretics, antispasmodics, chromones, nitrogen heterocyclics, etc. Mem.: Phi Lambda Upsilon, Sigma Xi, A.C.S. Hobbies: golf, photography.

NIELSEN, Carl, res. conslt., Abbott Labs., N. Chicago, Ill.; res. R. 1, Box 321, Los Altos, Calif.
Conslt. phar., nutrition & related branches of res.; b. Copenhagen, Denmark, Feb. 22, 1880; s. of Niels Christian and Ellen (Andersen) Nielsen; ed. Cand. Phar., Schl. of Pharmacy, Copenhagen, Denmark; post grad. training, Alfred Jorgensen's Lab. of Physiology & Tech. of Fermentation, Copenhagen, Denmark; m. Adelaide Catherine Banta, Mar. 21, 1912; ch.: Niels Christian, Carl Sherwood, Margaret Ellen. Practiced pharmacy in Denmark, Switzerland, Belgium, Monte Carlo; one of four investigators called to Mexico by Compania Expendedora de

Pulques to study & improve prods. from Agave Americana (Maguay) & dev. by-prods.; tech. dir. of plant & lab., Apam, Hidalgo, Mexico; asst., dept. of agr., Mexico. Came to U.S. 1912, started with Abbott Labs. as asst. in dept. of bacteriology & physiologic assays, initiated, organized & directed pharmacologic control & res., became mem. Comm. on Hypnotics, N.R.C., & of Comm. Pharmacolog. Assals, Am. Drug Mfrs. Assn., organized & directed phar., vitamin & gen. nutrition res. & bioassay control, appointed mem. Comm. Pharmacolog. Assays, Am. Drug Mfrs. Assn. & of Subcomm. on Vitamin Assays of U.S. Pharmacopoeia Revision Comm.; became mem. of bd. of dir., Abbott Labs. 1934 as assoc. dir. of res. & dir. of phar. & nutrition res. Contributed to new & better meths. for comparative study of hypnotics, largely responsible for investigation & ind. dev. of halibut liver oil & other fish liver oils of high vitamin potency, their promotion & use in the phar., nutrition & medical flds.; cooperated in the ind. dev. of syn. vitamin D; initiated dev. of multiple vitamin capsules; first to make natural vitamin K available in practical form for study & use by med. prof.; dev. num. other cmpd. vitamin & nutrition prods. Author of number of papers, princ. pharmacologic, on hypnotics of barbituric acid series, also on ephedrine, benzyl alcohol, local anesthetics, etc. & in cooperation with above comms., on vitamin assays & bioassays of drugs. Mem.: A.C.S., S.E.B.M., A.Phar.A., Natl. Farm Chemurgic Council. Award: decorated in 1947 by His Royal Majesty, Frederik IX, King of Denmark, who conferred Knighthood of the Order of Dannebrog, in recog. of wk. in promot. closer relat. between Denmark & U.S., espec. in sc. flds. related to his profession. For number of yrs. until 1946, v.p. of Lake County Tuberculosis Assn., Ill. Clubs: A.F.&A.M., Scottish Rite, Shrine, Rotary, Am.-Scandinavian Foundation, Mexico Pilgrims. Hobbies: music, travel.

NIEMANN, Carl G., prof. of org. chem., Calif. Inst. of Tech., Pasadena, Calif.; res. 400 S. Berkeley Ave., Pasadena 10.
Prof.; b. St. Louis, Mo., July 6, 1908; s. of Julius H. and Ella Louise (Danner) Niemann; ed. B.S., 1931, Ph.D., 1934, U. of Wis.; m. Mary Grant Parkhurst, Aug. 15, 1934; ch.: Dorothy Louise, Linda Grant. Calif. Inst. of Tech., 1938 to date, prof. since 1945; 1934-38, Rockefeller Foundation fellow, Gen. Ed. Bd. fellow. 100 pubs. in sc. jls. in fld. of org. chem. Mem.: A.C.S., Chem. Soc. (London), A.S.Biol.C., A.A.A.S., Sigma Xi.

NIERMAN, John L., dir. of grad. studies; prof. of chem., Texas Coll. of A. & I. Kingsville, Tex.; res. 716 W. Richard, Kingsville.
Tchg.; b. Howell, Mo., Feb. 11, 1887; s. of John and Maria (Scierbaum) Nierman; ed. B.S., U. of Mo., 1918; B.A., 1919; M.A., 1920; Ph.D., 1924; m. Augusta L. Mueller, Dec. 28, 1910; ch.: Florence Kathryn, Anna May (Mrs. J.R. Tozer), Mary Virginia (Mrs. William P. Stewart). Rural schl. tchr., 1906-08; principal, City Schl., Wentzville, Mo., 1910-14; supt. pub. schls., 1914-17, Hopkins, Mo.; hd. dept. of chem., Sweet Briar Coll., Sweet Briar, Va., 1919-22; hd., dept. of chem., Texas Coll. of A. & I., Kingsville, 1925-50; dean, same coll., 1929-34; acting pres., same coll., 1932, 1934, 1941-42; present position, dir. of grad. studies and prof. of chem. Master's thesis: "The Concentration of Mesothorium-Radium Bromides by Fractional Crystallization"; Doctor's dissertation: "The Mineral Content of the Animal Body as Influenced by Age and Condition." Mem.: A.C.S., Texas Acdy. of Sc., Sigma Xi, Texas State Tchrs. Assoc. Pres. and mem., Bd. of Trustees, Texas Mexican Industrial Inst.

NIKITIN, Alexander Alexis, dir. of agr. res., Tenn. Corp., 900 Roosevelt Hghwy., College Park, Ga.; res. 733 S. Conley St., College Park.
Plant pathologist, chem.; b. Moscow, Russia, June 15, 1894; ed. Moscow Imperial Tech. Inst., Ch.E., 1915; M.I.T., B.S. 1920; Columbia Univ., Ph.D., Chem. Engrg., 1937; mem.: Sigma Xi. U.S. Rubber Co., N.Y., res. chem., 1922-28, N.J., 1928-31; Tenn. Copper Co., 1937-47; Tenn. Corp., dir. of agr. res., 1947 to date; C.W.S., Major, 1942-44; Crop Protection Inst. fellow, Univ. of Delaware, Newark, Del., 1932-37. Res. in dev. of copper fungicides, correction of minor element deficiencies, catalysts used in rubber industry. Mem.: A.A.A.S., A.C.S., Amer. Phytopath. Soc., Amer. Assn. Economic Entomologists, Amer. Soc. Agronomy, Soil Sc. Soc. of Amer., Tenn. Acdy. of Sc., several state horticultural socs. Club: Kiwanis Internatl. Hobby: golf.

NISSEN, Bryn H., dir. Brewing Div. Labs., Anheuser-Busch, Inc., St. Louis 18, Mo.; res. 5875 Walsh St., St. Louis 9, Mo.
Chem.; b. Cathlamet, Wash., Apr. 25, 1896; ed. U. of Wis., 1921, B.S., 1923, M.S.; mem.: Sigma Xi, Phi Lambda Upsilon, Phi Beta Kappa; m. Margaret Wolcott, June 12, 1929; ch.: Courtney, Barbara, Louise. 1923-31, res. chem., Blue Valley Creameries Co., Chicago, Ill.; 1931-35, asst. chf. chem., 1935-46, chf. chem., 1946 to date dir., Brewing Div. Labs., Anheuser-Busch, Inc., St. Louis, Mo.

NOBLE, Arthur Gregg, works mgr. and asst. to v.p., Mutual Chemical Co. of America, 1348 Block St., Baltimore 31, Md.; res. 621 Stevenson Lane, Towson 4, Md.
Chem. engr.; b. Worthington, Pa., Dec. 1, 1907; s. of Orie Gregg and Ora Olive (Kerr) Noble; ed. B.S. in chem. engrg., Carnegie Inst. Tech., 1929, M.S. in chem. engrg., U. of Pitts., 1933, Chem. Res. Offrs. Tech. Schl., M.I.T. grad. 1939; mem.: Phi Sigma Kappa; m. Doris Seedle Coffey, 1934, at Baden, Pa.; ch.: David Gregg, Nancy Roberta, Penelope. Chem. engr., Inspn. Dept., Assoc. Factory Mutual Fire Ins. Cos., 1929-32; grad. asst., dept. chem. engrg., U. Pitts., 1932-33; process engr., Gulf Oil Corp., Pitts., Pa., since 1933; inst. petr. refining, Pa. State Schl. Mineral Industries, Extn. Branch, 1939-41; assoc. with dev. Gulf Polyform Cracking Process; Lt. Col. U.S.A. chf. of chem. mfg. and shell filing plants, Huntsville Arsenal, Ala., chf. res. & dev. branch, O.S.S., 1941-45; tech. & mgt. advisor to chf. C.W.S., for res., procurement and production; chf. engr. Michigan Chem. Corp., St. Louis, Mich., 1946; works mgr. and asst. to v.p., Mutual Chemical Co. of America, 1946 to present. Mem.: A.I.Ch.E., A.C.S., Phi Lambda Upsilon, Scabbard & Blade. Clubs: Chemists' (N.Y.C.), Merchants (Baltimore, Md.). Hobbies: swimming, fishing, golf.

NOBLE, Arthur Herbert, Jr., plant mgr., Arnold Hoffman & Co., Inc., 2130 N. Tryon St., Charlotte, N.C.; res. 1333 Woodland Dr.
Chem.; b. Aug. 2, 1916; s. of Arthur H. and Mary E. (Aker) Noble; ed. A.B. chem, Brown U.; m. Gertrude Kindley, Dec. 27, 1943. Positions held with Arnold Hoffman & Co., Inc.: dye dept., 1938-40; textile aux. dept., 1940-42; res. dept., 1942-43; U.S.N.A., 1943-46; Arnold Hoffman & Co., Inc. res. dept., 1946-47; Charlotte plant, 1947 to date. Mem.: A.C.S., Am. Assoc. Textile Chems. and Colorists.

NOBLE, T. Walter, pres., gen. mgr., Plastics Specialties Co. Inc., 1310 West Rd., Trenton, Mich.; res. 13515 Veronica St., Wyandotte, Mich.
Chem.; b. Windsor, Ont., Can., June 6, 1909; s. of J.H. and Lillian Edith (Blackburn) Noble; ed. Wayne U., B.Sc., 1942; m. Georgia Smith, Dec. 28, 1949. 1936-44, tech. dir., Detroit Wax Paper Co., River Rouge, Mich.; 1944-48, gen. mgr. & tech. dir., plastics div., Fabricon Prods. Inc., River Rouge, Mich.; 1948-49, gen. mgr. & tech. dir., Morart Gravure Corp., Holyoke, Mass.; 1949 to date, pres. & gen. mgr., Plastics Specialties Co., Inc., Trenton, Mich. Mem.: A.C.S., Engrg. Soc. of Detroit, Soc. of Plastics Engrs., Soc. of the Plastics Indus.-reinforced plastics div. Hobbies: archery, photography.

NOFSINGER, Charles William, pres., C.W. Nofsinger Co., 243 Lathrop Bldg., 1005 Grand Ave., Kans. City 6, Mo.; res. 1001 W. 65 St., Kans. City 5.
Chem. engr.; b. Kans. City, Mo., Apr. 26, 1901; s. of Joseph Lewis and Lizzie Kearney Nofsinger; ed. Kansas City Jr. Coll., 1918-20; U. of Ill., B.S., M.E., 1922; mem.: Delta Alpha Epsilon; m. Elizabeth Morris, Mar. 11, 1927; ch.: William Morris, Rowland Lewis. 1922-25 Sinclair Ref. Co., Coffeyville, Argentine, Kans., ref. constr. oper.; 1925-27, Sinclair Ref. Co., E. Chicago, Ill., ref., dev. engr.; 1927-45 M.W. Kellogg Co., Kans. City, Mo., N.Y.C., proc., proj. engr., oil ref. div.; 1945-46 Pet. Adm. for War, Wash., D.C., ref. tech.; 1946-50 conslt. engr., principally for Sinclair Ref. Co., Stratford Engrg. Corp.; 1950 to date pres. & treas. C.W. Nofsinger Co. Res. in synth. toluene, W.W.II; Aviation Gasoline, W.W.II; thermal cracking; co-author: "Cracking" Sect. Inst. Pet.," 3 yr. consecutive yrs., 1937, 1938, 1939 "Annual Reviews of Pet. Tech." Mem.: A.I.Ch.E., A.S.M.E., A.C.S., A.P.I. Club: Rotary. Hobbies: planning, building homes.

NOLAN, Edward J., plant mgr., Merck & Co. Inc., Rahway, N.J.; res. 2231 Coles Ave., Scotch Plains, N.J.
Chem. engr.; b. Boston, Mass., Feb. 7, 1908; s. of Valentine B. and Ellen F. Nolan; ed. M.I.T. 1930 B.S., 1931 M.S., 1936 Ph.D.; m. Irene Murphy, Feb. 26, 1938; ch.: Edward J., Jr., Nancy M., Robert M., Amy L. 1931-33, res. chem., Birdseye Frosted Foods; 1933-34, res. engr., Boston Woven Hose Co.; 1936 to date, prod. div., Merck & Co. Inc. Determination of zirconium by ammonium phosphate, publ. J.A.C.S. 1939. Mem.: A.C.S. Club: Kiwanis. Hobby: sports.

NOLL, Charles A., chf. chem., W.H. and L.I. Betz, Chem. Engrs., Gillingham and Worth, Frankford, Pa.; res. 537 Acorn St., Roxboro, Pa.
Chem. engr.; b. Phila., Pa., Dec. 17, 1908; s. of Roscoe R. and Bessie (Yeager) Noll; ed. Drexel Inst., Phila., Pa.; m. Bernadine M., Nov. 9, 1929; ch.: David C., Eugene Donald, Charles A., Jr., Dale R. With W.H. and L.I. Betz, Chem. Engrs. Holds U.S. pat., and has contrib. numerous arts. to sc. jls.

NORDSIEK, Frederic William, asst. dir., res. service dept., Stand. Brands, Inc., 595 Madison Ave., N.Y. 22, N.Y.; res. 29 W. 64th St., N.Y. 23, N.Y.
Food tech.; b. N.Y.C., June 5, 1909; s. of Charles Louis and Louise Fredericka (Betz) Nortsiek; ed. M.I.T. B.S. in biol. & public health 1931; m. Virginia English, May 24, 1934. Res. bacteriol., Borden Co., N.Y., 1931-34; res. bacteriol. for Dr. L.K. Mobley, 1934-35; exec. secy., N.Y. Diabetes Assn. 1935-38; assoc. dir., nutrition dept., Am. Inst. of Baking, 1938-43; instr., Schl. for Inspectors, N.Y.C. Dept. of Health 1941; asst. dir., res. service dept., Stand. Brands, Inc., 1943 to date; edit. assoc., Technology Review, Cambridge, Mass., 1944 to date. Studies in chem. & microbiol. of foods, dev. of quality control meths., U.S. pat. 2,121,442 "Process of Mfg. Culture." Arts. in Encyclopedia Americana and in Year Books of Encyclopaedia Britannica, num. arts. in periodicals. Mem.: Am. Public Health Assn. (fellow & life mem., mem. of Food & Nutrition Sec. Council 1949-54), I.F.T., Am. Bacteriol. Delta Omega (public health hon.). Club: Adirondack Mountain. Hobbies: mountaineering, nature study, free lance writing, handicrafts, music, dancing.

NOREUS, Robertson Edward, mgr. of tech. serv. dept., Northwest Paper Co., Cloquet, Minn.; res. 509 Chestnut St., Cloquet.
Pulp & paper mfr., chem. engr.; b. Escanaba, Mich., Dec. 5, 1908; s. of Edward John and Margaret A. Noreus; ed. B.S. Ch.E. 1930, Purdue U.; mem.: Phi Lambda Upsilon, Phi Gamma Delta; m. Jane Wilson, Mar. 14, 1932; ch.: Nancy J., Mary A., William R. 1930, Mead Corp., chem. engr.; 1930-40, Northwest Paper Co, chem. engr., 1940 to date, mgr. tech. serv. dept. Chem. wood pulping & bleaching, water clarification, gen. pulp & paper mfg. processes. Mem.: A C.S., T.A.P.P.I., A.W.W.A., Am. Pulp & Paper Mill Supts Assn. Inc. Clubs: Rotary Internatl., Cloquet Chamber of Com., Cloquet Golf. Hobbies: gardens, golf, hunting.

NORMAN, Daniel Phineas, dir. of chem. res., New England Spectrochem. Labs., Ipswich, Mass.; res. County Rd., Ipswich.
Res. chem.; b. Malden, Mass., 1915; s of Jacob P. and Dina B. (Spivak) Norman; ed. Boston U., S.B.; M.A., M.I.T; Harvard U., Ph.D. Partner & res dir. New England Spectrochem. Labs. 1939 to date; v.p. of Skinner & Sherman, Inc. (mem. bd. dirs.), 1949 to date. Archibald Cochrane Chem. Co. (dir.). Spectrographic anal.; polymer anal.; carbohydrate by-prods.; textile polymers; dyes. Mem.: Sigma Xi, A.C.S, A.I.C., A.A.T.C.C., Am. Optical Soc. Club: Harvard of Boston. Hobbies: music (oboe), riding horses, roses.

NORMAN, George Russel, dir. org. res, The Lubrizol Corp., Wickliffe, Ohio; res. 154 E. 214th St., Euclid, Ohio.
Chem. res.; b. Linden, Ind., Dec. 9, 1916; s of Oscar L. and Viola C. Norman; ed. Wabash Coll., A.B.; Johns Hopkins U., Ph D.; mem.: Phi Beta Kappa, Sigma Xi; m. Coral Lee Hendrickson, Oct. 4, 1942; ch.: Sally Lynne, Dudley Kent. Eli Lilly Co., routine chem. synth., summers 1941, 1942; The Lubrizol Corp., res supvr., 1944-49; dir. org. res. 1949 to date; contrib. sc. literature.

NORRIS, Earl R(alph), prof. of biochem., U. of Wash., Seattle 5, Wash.; res. 1132 23rd Ave. N., Seattle 2.
Prof.; b. Minot, N.D., Feb. 12, 1895; s. of James E. and Matilda (Weggenman) Norris; ed. Mont State Coll., Bozeman, Mont., B.S. 1919; Columbia, N.Y., Ph.D., 1924; mem.: Sigma Xi, Phi Lambda Upsilon, Phi Sigma, Gamma Alpha; m. Anna E. Church, June 11, 1938; ch.: Earl Ralph, Jr., Anne Church. Anal., Mont. State Coll., 1919-20; teaching fellow, U. of Minn., 1920-21; teaching fellow, Columbia, 1921-24; instr., U. of Iowa, 1924-27; asst. prof., assoc. prof, U. of Wash., 1927-40, prof. of chem. 1940-50, prof. of biochem. 1950 to date. Res. in biochem. publ. in scientific publ. Mem.: A.C.S., A.S.Biol.C., S.E.B.M., A.A.A.S., Oceanographic Soc. of the Pacific.

NORRIS, Leo Chandler, prof. of nutrition, Rice Hall, Cornell U., Ithaca, N.Y.; res. 150 Pearsall Pl., Ithaca, N.Y.
Nutritional biochem.; b. Canaseraga, N.Y., Mar. 6, 1893; s. of Charles Leslie and Sarah Eva (Chandler) Norris; ed. B.S., Cornell U., 1920, Ph.D., 1924; mem.: Alpha Gamma Rho, Phi Kappa Phi, Sigma Xi. Asst., instr., asst. prof. to prof. of nutrition, Cornell U., 1920 to date. Author & co-author of approx. 150 sc. papers & tech. articles in flds. of nutrition & biochem. with spec. attention to studies on manganese, calcium, phosphorus, riboflavin, pantothenic acid, folic acid & the animal protein factor. Mem.: A.C.S., A.S.Biol. C., Am. Inst. Nutrition (mem. edit. bd. 1943-45), S.E.B.M. (mem. edit. bd. 1945-50), A.A.A.S., Am. Soc. Animal Prod., Am. Dairy Sc. Assn., Poultry Sc. Assn. (mem. edit. bd. 1933-35, Borden Award 1938). Secy., Schl. of Nutrition, Cornell U., 1941-48; mem. Comm. on Animal Nutrition 1943 to date, chmn. 1946 to date, mem. Agr. Bd. 1948 to date, Natl. Res. Council. Clubs: Rotary Internatl., Statler Cornell U., Ithaca Country. Hobbies: hunting, riding, golf.

NORTH, Dexter, with U.S. Govt., Washington, D.C.; res. 4603 Brookview Dr., Washington 16, D.C.
Chem. engr.; b. Brookline, Mass., Oct. 26, 1890; s. of S.N.D. and Lillian S. (Comstock) North; ed. Hamilton Coll., B.S. 1913; M.I.T., S.B. (chem. engrg.) 1916; mem.: Alpha Delta Phi; m. Eloise Brown, Apr. 3, 1924 (dec. May 5, 1950). 1916-21 res. wk. in chem. and proc. industries; 1921-30 chem. expert, U.S. Tariff Commis.; 1930-36 chf., chem. div., U.S. Tariff Commis.; 1937-42 consltg. chem. engr.; Washington conslt. Arthur D. Little, Inc, chems. and engrs. (Cambridge, Mass.); 1942-47 Off. of Alien Property (Wash. D.C.), chf., pat. use and dev. sect.; 1947 to date with U.S. Govt., Wash. D.C. Author num. Tariff Commis. reports on chems.; num. arts. in chem. and other pubs. Mem.: A.C.S , Chem. Engrs. Club of Washington, Chem. Soc. of Washington. Club: Cosmos (Wash. D.C.).

NORTH, Henry Briggs, pres. North Mtl. & Chem. Co., 640 E. Mason Ave., York, Pa.; res. Woodland Rd., Wyndham Hills, York.
Mfr. tungsten & molybdenum comp.; b. Janesville, Wis., Jan. 14, 1879; s. of Henry J. and Ida M. Briggs North; ed. U. Wis., Ph.G., 1902; B.S. 1904; M.A., 1906; D.Sc. U. Paris, 1909; mem.: Alpha Chi Sigma, Phi Gamma Delta, Phi Beta Kappa; m. Harriett E. Clark, Sept. 3, 1908; ch.: Helen Clark Fay. Instr. chem. U. Wis., 1902-07; assoc. prof. chem., Rutgers Coll., 1911-17; res. dir., York Matl. Alloy Co., 1917-21; pres. North Mtl. Chem. Co., 1921 to date; pres. York Bleachery and Dye Wks., 1926 to date. Contrib. extens. to sc. and tech. jls. Author: "Lab. Manual Gen. Chem." 1913, co-author "A Manual of Cement Testing," 1912. Mem.: A.C.S., A.S.M., A.I.C.; form. pres. York Schl. Bd., Bd. Trustees, Millersville St. Tech. Coll. Clubs: Phi Gamma Delta (N.Y.), Chem. (N.Y.), Lafayette Country (York, Pa.). Hobby: minerals.

NORTHEY, Elmore Hathaway, asst. to v.p. in chg. of res., American Cyanamid Co., 30 Rockefeller Plaza, N.Y. 24, N.Y.; res. 310 Hycliff Terrace, Stamford, Conn.
Chem.; b. Stillwater, Minn , July 31, 1905; s. of John Burnham and Effie Hathaway Northey; ed. Univ. of Minn., B.A. cum laude, 1927, Ph.D., 1930; m. Alberta V., July 31, 1936; ch.: Marion C. Scribner, Dorothy L. Wilbur (step daughters). E.I. du Pont de Nemours & Co., organic chem., 1930-32; Calco Chemical Co., organic chem., 1932-36; Calco Chemical Div., Amer. Cyanamid Co., div. chem., 1936-42, asst. dir. of res., 1942-45, adm. dir., Stamford res. labs., 1945-50. Res. in phars., especially sulfa drugs. Contrib. to sc. and tech. jls. Mem.: A.C.S., A.I.C., A.A.A.S., N.Y. Acdy. Sc. (fellow), A.I.Ch.E. (active), Sigma Xi, Phi Lambda Upsilon, Gamma Alpha, Alpha Chi Sigma. Dir. Stamford Good Govt. Assn. Clubs: Woodway Country, Hycliff, Inc. Hobbies: photography, glass-blowing, woodworking, gardening.

NORTHROP, John Howard, mem. Rockefeller Inst., visiting prof. bacteriol., dept. bacteriol., U. Calif.; res. 838 San Luis Rd., Berkeley, Calif.
Chem.; b. Yonkers, N.Y., July 5, 1891; s. of Dr. John I. and Alice (Rich) Northrop; ed. Columbia U., B.S., 1912; A.M., 1913; Ph.D., 1915 (chem. major, biol. minor); Sc.D., Columbia, Harvard, Yale, Princeton & Rutgers; LL.D., U. Calif.; m. Louise Walker, 1917; ch.: Alice Havemeyer (Mrs. Frederick C. Robbins), John. W.B. Cutting Traveling Fellow, Columbia U.; staff, Rockefeller Inst., 1916; mem. of the Inst., 1924 to date; transferred with Inst. lab. to bacteriol dept., U. Calif., 1949, & by special arrangement between U. & the Inst. apptd. visiting prof. bacteriol. Capt., C.W.S., 1917-18; conslt., O.S.R.D., 1941-45. De Lamar Lect., Johns Hopkins Schl. Pub. Health, 1937; Jesup Lect., Columbia U., 1938; Hitchock Lect., U. Calif., 1939; Thayer Lect., Johns Hopkins, 1940. Chandler Medal, Columbia U.; Daniel Giraud Eliot Medal, Natl. Acdy. Sc.; shared Nobel Prize in Chem., 1946. Author: "Crystalline Enzymes," Columbia U. Press, 1939 (2nd edit., 1949); numerous contribs. on physical chem. proteins, agglutinat. bacteria, kinetics enzyme reacts., isolation & chem. nature enzymes; edit. bd. "Jl. Gen. Physiol.," "Experi. Biol. Mgraphs." Mem.: Delta Kappa Epsilon, Sigma Xi, Phi Lambda Upsilon, A.A.A.S. (fellow), Am. Acdy. Arts & Scs., Soc. Experi. Biol. & Med., Harvey Soc., Am. Soc. Biol. Chems., N.A.S., Halle Akademie der Naturforscher, Soc. Philomathique (Paris), Am. Philosoph. Soc., Century Assn., Soc. Gen. Physiolgsts., Chem. Soc. (London, hon.). Hobbies: field shooting, salmon fishing, golf.

NORTON, Arthur Jere, dir., owner, Arthur J. Norton Consltg. Lab., 2919 First Ave. S., Seattle 4, Wash.; res. R.F.D. 1, Vashon, Wash.
Chem., conslt.; b. Boston, Mass., Jan. 1, 1900; s. of Arthur B. and Ethel A. (Littlefield) Norton; ed. Harvard B.S. 1920; mem.: Alpha Chi Sigma; m. Dorothy M. Clapp, Sept. 6, 1924. Res. chem., Norton Co., Worcester, Mass.; res. chem., dept. of pharmacol., Harvard Med. Schl., Boston; asst. to chem. dir., Powers, Weightman, Rosengarten Co., Phila., Pa.; chem. dir., Durez Plastics & Chem. Co., N. Tonawanda, N.Y.; tech. dir., Detroit Paper Prods. Co., Detroit, Mich.; consltg. chem., own lab., Arthur J. Norton Consltg. Lab. 1938 to date. Chemotherapy of org. metallic cmpds., low temp. curing thermosetting resorcin resins, foamed in place isocyanate resins. Mem.: A.C.S., Western Market Res. Soc., Soc. of Plastics Ind., Forest Prods. Res. Soc. Hobby: chemistry.

NORTON, Bayes Marshall, prof. of chem., Kenyon Coll., Gambier, Ohio; res. Gambier, O.
Tchr.; b. Vineyard Haven, Mass., Sept. 23, 1903; s. of Charles S. and Frances M. (Marshall) Norton; ed. B.S. Yale, 1926; B.Sc. Oxon, 1929; Ph.D. Yale, 1934; mem.: Sigma Xi, Delta Psi (St. Anthony); m. Mariette H. Knapp, Sept. 1, 1928; ch.: Bayes M., Jr., James H.K. 1927-28, purch. dept., E.R. Squibb & Sons; 1929-36, instr. in chem., Yale U.; 1933-36 instr. in chem. and a fellow of Davenport Coll. at Yale U.; 1936-37 instr. in phys. and chem., St. Mark's Schl., Southborough, Mass.; 1937-44 assoc. prof. of chem., Kenyon Coll.; 1944-46 principal tech. aide, Rocket Ord. Div., N.D.R.C., O.S.R.D. (Res. N.D. R.C. Off. Caltech.), spec. asst., chmn., N.D.R.C.;

1946 to date, prof. of chem., Kenyon Coll. Managing dir, Norton Bradley Island Transports (Inc.); secy., Martha's Vineyard Hotel Owners Assoc. (1936-39). Author, section on Rocket Ord. in "Rockets, Guns, & Targets" (Little-Brown), 1948. Mem.: A.C.S., New Eng. Assoc. of Chem. Tchrs., Ohio Acdy. of Sc. (fellow), v.p. 1951-52; rec. War & Navy Dept. Cert. of Appreciation. Mem. of Vestry, Harcourt Parish (Epis.). Clubs: Rear Commodore-treas., Vineyard Haven Yacht; Martha's Vineyard Art Workers' Guild. Hobbies: painting, yacht racing.

NORTON, Francis James, res. assoc., Gen. Elec. Res. Lab., Gen. Elec. Co., Schenectady, N.Y.; res. 1133 Eastern Ave., Schenectady.
Physical chem.; b. Ft. Plain, N.Y., Aug 11, 1899; s. of Edwin C. and Minnie (Wendell) Norton; ed. A.B. Yale 1921, Ph.D. 1924, Phi Beta Kappa, Sigma Xi; mem.: Alpha Chi Sigma; m. Dorothy Leonard, June 20, 1924; ch.: James Frederic, Jane Ruth, Thomas Wendell. Res. chem., Solvay Process Co., Syracuse, N.Y. 1924-30; res. assoc., Gen. Elec. Res. Lab., Schenectady, N.Y. 1930 to date. Numerous papers on gases in mtls.; vapor pressure of mtls. & of graphite, surface chem., mass spectrometry. Mem.: A.C.S. Clubs: Yale of N.Y., Whitney. Hobbies: sailing, boat making.

NORTON, Robert Dill, asst. supt. pet. div., Naval Boiler & Turbine Lab., Phila., Pa.; res. Providence Rd., R.D. 1, Media, Pa.
Chem.; b. Midway, Ala., Nov. 2, 1896; s. of Charles T. and Annie B. Norton; ed. Emory U., B.S., 1920, M.S., 1926; U. of N.C., Ph.D, 1929; mem.: Alpha Chi Sigma; m. Dorothy Alexander, Sept. 19, 1939. H.S. instr., Ga., 1920-25; teaching fellow, grad. asst., Rockefeller res. asst., U. of N.C. 1926-29; asst. prof., chem., Syracuse U., 1929-32; res. chem., Naval Res. Lab., Wash., D.C. 1932-34; chem., Naval Boiler & Turbine Lab., Phila., Pa. 1934 to date. Res. in reaction between 4-phenylsemicarbozide and acetylacetone; identific. of mercaptans; fuel oil. Mem.: A.C.S., Sigma Xi.

NORWICK, Braham, lab. dir., Beaunit Mills, 450 Seventh Ave., N.Y. 1, N.Y.; res. 214 Riverside Dr., NY. 25, N.Y.
Chem.; b. N.Y.C., July 6, 1916; s. of Mark and Rose (Ungar) Norwick; ed. 1938 Rensselaer Polytech. Inst., B.S. Chem.; 1946 Université de Besançon, Diplome; mem.: Alpha Psi Omega; m Thérèse Thoisy, May 7, 1939; ch.: Noel Alex. Beaunit Mills 1938 to date. Mem.: A.C.S., A.S.T.M., A.A.T.C.C.

NOTMAN, Donald Otter, asst. gen. mgr. electrochemicals dept., E.I. du Pont de Nemours & Co., Room 3112, du Pont Bldg., Wilmington, Del.; res. 905 Stuart Rd., Westover Hills, Wilmington, Del.
Chem. engr.; b. St. Catherines, Ontario, Canada, Apr. 11, 1900; s. of George P. and Maude May (Secord) Notman; ed. Queen's U., Kingston, Ont., Canada, B.Sc. Chem. Engrg. with honors, 1921 Governor General's M., M.Sc., 1922; m. Elizabeth Brooke Baxter, Sept. 20, 1924; ch.: George Baxter, Nancy Elizabeth. Roessler & Hasslacher Chem. Co., Niagara Falls, N.Y., 1922-30; E.I. du Pont de Nemours & Co., Wilmington, Del., 1930 to date. Mem.: A.C.S. Clubs: Niagara (Niagara Falls, N.Y.), Concord Country (Wilmington, Del.).

NOVAK, Izador J., res. dir., Raybestos Div., Bridgeport, Conn.; res. 147 Church Hill Rd., Bridgeport 19.
Chem.; b. Bridgeport, Conn., Oct. 14, 1899; s. of Samuel and Etta Novak; ed. Yale, B.S., 1919; m. Edythe M. Ezechel, June 16, 1931; ch.: Andrew J., Jane Ellen. With Raybestos since 1919. Holds 60 pats. in asbestos, friction matls., paper, drying oils, phenolic resins. Mem.: Sigma Xi, F.A.I.C., A.C.S. Clubs: Longshore, Mill River. Hobbies: music, gardening, golf.

NOVAK, Leo J., res. dir., Ethicon Suture Labs., 5001 W. 67th St., Chicago 38, Ill.; res. 8538 S. Central Ave., Oak Lawn, Ill.
Res. biochem.; b. June 4, 1914; s. of Joseph John and Helen Barbara Novak; ed. A.B., 1935, M.S., 1939, Ph.D., 1942, U. of Ill.; mem.: Sigma Xi; m. Alice E. Steffo; ch.: Joan M., Donald L. Asst. to chf. chem., W.H. Flood & Co., 1935-37, Chicago; jr. chem., Peoples Gas Co., 1937-42, Chicago; dir., Gen. Service Labs., Libby McNeil & Libby, Chicago, 1942-44; asst. dir. lab., Northwestern Yeast Co., 1944-46, Chicago; res. biochem., Central Soya Co., Ind., 1946-47; tech. dir., Ethicon Suture Labs., Chicago, Ill., 1947 to date. Discovery of vitamins in hair, effervescent drinks. Author: "Water Soluble Vitamin Inter-relationships" 1943. Mem.: A.C.S., A.A.A.S., I.F.T., A.V.C., Am. Leather Chem. Assn. Hobbies: radio, gardening, sc. fiction, ping-pong, bowling.

NOVITSKY, Peter, chf. chem., General Foods Corp., Calumet Div., 4100 Fillmore St., Chicago 24, Ill.; res. 540 Wellington Ave., Chicago 14.
Chem.; b. Grozny, Russia, Jan. 22, 1901; s. of Peter and Barbara Novitsky; ed. Armour Inst. of Tech., B.S. in Chem. Engrg., 1925. 1925-27, anal. chem., Internatl. Harvester Co., McCormick Wks., Chicago, Ill.; 1927-36, control and res. chem., Gen. Foods Corp., Calumet Chem. Co., Joliet, Ill.; 1936-43, Gen. Foods Corp., Calumet Div., control and res. chem.; 1943, chf. chem. Applied res. on heavy chems. and food products. Mem.: A.C.S.

NOYES, Nicholas Hartman, chmn. finance comm., Eli Lilly & Co., 740 S. Alabama St., Indianapolis 6, Ind.; res. 5625 Sunset Lane, Indianapolis 20.
Exec.; b. Dansville, N.Y., Aug. 8, 1883; s. of Frederick W. and Emma (Hartman) Noyes; ed. Cornell U., 1906; mem.: Psi Upsilon; m. Marguerite Lilly, 1908; ch.: Nicholas H., Jr. (dec.), Evan Lilly, Janet (Noyes) Ayres. Crowell Publ. Co. & McClure's Magazine 1906-10; Eli Lilly & Co. 1910 to date, purch. agent, asst. treas., secy. & treas., treas. & v.p., v.p., chmn. of finance comm. since retirement in 1948, bd. mem. since 1913; pres., Paper Package Co., subsid. of Eli Lilly & Co., 1919-47. Federal Reserve Bank of Chicago, dir.; Ind. Bell Telephone Co., Indianapolis, dir.; Bus. Advisory Council of the U.S. Dept. of Com., mem.; Am. Drug Mfrs. Assn., mem. exec. comm.; Lilly Endowment, Inc., Indianapolis, dir.; Second Presbyterian Church, Indianapolis, trustee. Trustee, Cornell U., 1933 to date, also Cornell Investment Comm.; dir., Boys' Clubs of Am., 1947 to date. Clubs: Indianapolis Athletic, Columbia, Cornell, Chicago Yacht. Hobbies: fishing, hunting, sailing, golfing, farming.

NOYES, W(illiam) Albert, Jr., prof. of chem. and editor, Jl. A.C.S., Dept. of Chem., U. of Rochester, Rochester, N.Y.; res. 7 Summit Dr., Rochester, N.Y.
Chem.; b. Terre Haute, Ind., Apr. 18, 1898; s. of William Albert and Flora (Collier) Noyes; ed. Grinnell Coll., Iowa, 1914-16, A.B., 1919; U. of Ill., 1916-17; U. of Paris, France, 1919-20, D.-es-Sc., 1920; U. of Calif., 1920-21; mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon; m. Sabine Onoillon, June 10, 1921; ch.: Claude Charles. 1921-22, U. of Calif., instr.; 1922-23, U. of Chicago, instr., 1923-29, asst. prof.; 1929-35, Brown U., assoc. prof., 1935-38, prof.; 1938 to date, U. of Rochester, prof.; 1939 to date, same U., chmn. Chem. Dept.; 1939-49, editor, Chem. Reviews; 1940-49. Editor, Journal Amer. Chem.

Soc. 1950—. Sect. Chmn., N.D.R.C., U.S. Govt.; 1942-46, Div. Chf., N.D.R.C. and Staff, Chf., C.W.S., U.S. Govt.; 1946-47, conslt., War Dept., U.S. Govt.; 1947 to date, conlst., Chem. Corps, U.S. Govt.; 1947 to date, mem. of Naval Res. Advis. Comm., U.S. Govt.; 1948 to date, conslt., Atomic Energy Commis., U.S. Govt.; 1947 to date, conslt., var. agencies, Dept. of Defense, U.S. Govt.; 1947 to date, chmn., Div. of Chem. and Chem. Tech., Natl. Res. Council; res. in electrochem., vapor pressures, spectroscopy, photochem., reaction kinetics, fluorescence. Author: "Traite de chimie physique" (translation into French of text by E.W. Washburn) with H. Weiss, 1925; "Modern Alchemy" (with W.A. Noyes, Sr.), 1932; "The Photochem. of Gases" (with P.A. Leighton), 1941; "Chemistry in World War II" (editor), 1948. King's Medal for Service in Cause of Freedom (Br.), Medal for Merit; vice president International Union of Chemistry 1947. Mem.: A.C.S., A.A.A.S., A.Phys.S., Natl. Acdy. of Scs., A.Phil. S., N.Y. Acdy. of Scs., Ill. Acdy. of Scs.; hon. D.Sc., Grinnell College, 1946. Trustee, Sloan-Kettering Inst. for Cancer Research. Hobbies: basketball, tennis, piano.

NUCKOLLS, Asa H(opkins), conslt. chem. engr., P.O. Box 607, Wheaton, Ill.
Chem. engr.; b. Springfield, Tenn., Dec. 12, 1880; ed. A.B., Ouachita Coll., 1900; M.I.T., 1904-05; Chicago, part time 1930, 1933, 1934; m. 1914 and Helen G. Gates, 1928; ch.: 3. Chem., Ill. Steel Co., 1905-07; chem. engr. in chg. dept. chem. and high explosive sta., Underwriters' Labs., 1907-46; conslt. to staff, 1946-50; chem. engr., Fires and Explosions, 1946 to date; at present conslt. chem. engr. Res. in propagation of flame in pipes and effectiveness of flame and explosion arresters; carbon tetrachloride extinguisher liquids; life, fire and explosion hazards of refrigerants; ignition temperatures. Mem.: explosive chem. advis. comm., U.S. Ord. Dept., 1942-45; Office Sc. Res. and Develop.; W.P.B. ammonium nitrate; A.C.S.

NUGENT, Robert Logan, prof. of chem., v.p., U. of Ariz., Tucson, Ariz.; res. 1946 E. Speedway, Tucson.
Prof. of chem., v.p.; b. Syracuse, N.Y., Feb. 9, 1902; s. of Paul Cook and Mary Louise (Logan) Nugent; ed. B.S. in chem., U. of Ariz. 1923, M.S., 1925; B.A. (Rhodes Scholar), Oxford U. 1927; Ph.D., Cornell U., 1928; mem.: Sigma Alpha Epsilon, Phi Beta Kappa, Phi Kappa Phi, Sigma Xi, Phi Lambda Upsilon, Alpha Phi Omega, Phi Delta Chi. Res. fellow, U.S. Bur. of Mines, 1924; jr. chem., summer, 1925 (temporary appointment); Heckscher Res. asst., Cornell, 1927-28; physical chem., Gladwyne (Pa.) Res. Lab., 1928-32; instr. biochem., Grad. Schl. of Medicine, U. of Pa., 1930-32; asst. prof. 1932, assoc. prof. 1935, prof., dean of grad. coll. 1940, prof., dean of coll. of liberal arts 1944, prof., v.p. 1947 to date, U. of Ariz. 1943, state gas consultant, Arizona Civilian Defense Council. Clubs: Kiwanis, Old Pueblo (Tucson, Ariz.).

NYGAARD, Edwin Marcus, res. assoc., res. & dev. labs., Socony-Vacuum Oil Co. Inc., Paulsboro, N.J.; res. 104 S. Drexel St., Woodbury, N.J.
Res. chem.; b. Minneapolis, Minn., Feb. 24, 1898; s. of Marcus and Celia Nygaard; ed. 1916-21, U. of Minn., B.S. in chem.; 1927- 31, Harvard U., A. M., Ph.D.; mem.: Alpha Chi Sigma, Phi Lambda Upsilon; m. Alice M. Wilson 1936. 1921-27, asst. chem., Mines Expt. Station, U. of Minn.; 1930-31, private asst. to Prof. E.P. Kohler, Harvard U.; 1931 to date, res. chem., res. assoc., res. & dev. labs., Socony-Vacuum Oil Co. Inc. Grignard reaction with highly phenylated ketones, polynitration of hydrocarbons & nitrohydrocarbons, additives for pet. prods. Mem.: A.C.S. Hobbies: photography, gardening.

NYMAN, Melvin Anton, res. asst., Sloan-Kettering Inst., 444 E. 68th St., N.Y.C.; res. 75-44 263rd St., Glen Oaks, Queens, N.Y.
Org . chem.; b. Lockport, Ill., Mar. 23, 1919; s. of Olaf A. and Adeline Nyman; ed. B.S. chem., U. of Ill., 1941; Ph.D., N.Y.U., 1948; m. Jean Cornwell Geiger, Aug. 12, 1946; ch.: Erik Melvin. N.Y.U. Grad. asst., 1941-44; assoc. chem., Squibb Inst. for Med. Res., 1944-46; Fellow, Coll. of Phys. and Surg., Columbia U., 1946-47; res. asst. Sloan-Kettering Inst. 1947 to date; res. in flds. of penicillin, dipeptide synth., steroids. Mem.: Phi Lambda Upsilon, Sigma Xi, N.Y. Acdy. Scs., A.C.S., A.A.A.S., Swiss Chem. Soc. Hobby: music.

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OAKES, E. T., pres., E. T. Oakes Corp., Commack Rd., Islip, L.I., N.Y.; res. 25 Orient Ave., Douglaston, L.I., N.Y.
Chem., engr.; b. Marlette, Mich., Aug. 3, 1890; s. of George A. and Alberta (Murdick) Oakes; ed. Mich. State Normal Coll., A.B.; Columbia U., M.A., Ph.D.; mem.: Phi Delta Pi, Phi Lambda Upsilon, Sigma Xi; m. Mabel Ruggles, July 18, 1919. 1916-17, instr., chem. engrg., Columbia U.; 1917-19, aeronautical mech. engr.; 1919-22, res. dir., Natl. Biscuit Co., 1922-29 mfg., 1929-32 prod. mgr. shredded wheat, 1932-35 chf. chem., asst. prod. mgr., 1935-38 chg. of prod., engrg. & res.; 1938-45, mfg. & engrg., Sunshine Biscuits, Inc.; 1945 to date, formed The E.T. Oakes Corp. to design & dev. spec. equipt. for baking, candy & other ind. Investigation of hydrogen; iron concentration of pure water; investigation of gelatin properties & mfr.; sterilization of foods & food processing equipt.; design & dev. of continuous mixing equipt. Mem. Trustees, Ottilie Orphan Home, Jamaica, L.I., N.Y.

OAKLEY, Llewellyn Cardiff, Jr., gen. supt., U. S. Phosphoric Products Co., Div. Tenn. Corp., P.O. Box 3269, Tampa 1, Fla.; res. 2612 Jetton Ave., Tampa 9, Fla.
Chem., chem. engr.; b. Nashville, Tenn., Sept. 9, 1904; s. of L.C. Oakley, Sr., and Stella Price Oakley; ed. U. of Ala., U. of Mich., Vanderbilt U., B.E., 1930, M.S. 1931; Vanderbilt U. graduate Fellow, 1931-34; mem.: Kappa Sigma; m. Mary Agnes Herring in 1938; ch.: William Edwin, Mary Lou. Routine chem., du Pont Rayon Co., 1926-30; instr. chem., Vanderbilt U., 1931-34; chem., Swann Chem. Co., 1934; chem. & process dev., du Pont Cellophane Co., 1934-36; chem. & flotation mill supt., Hog Mt. Gold Mining & Milling Co., 1936-37; res. chem., asst. supt., gen. supt., U.S. Phosphoric Products Co., Div. Tenn. Corp., 1937 to present. Dev. and pat. process for prodn. sodium fluosilicate from superphosphate gases which simplified known processes and gave greater yields. Mem.: A.I.Ch.E. Clubs: Palma Ceia Golf (Tampa, Fla.). Hobbies: golf, woodshop.

O'BANION, Elmer Elwood, hd. dept. of natural sc., chmn. dept. of chem., Prairie View A.&M. Coll., Prairie View, Texas.
Teacher of chem.; b. Madison, Ind., June 3, 1913; s. of Louis Sr. and Margaret O'Banion; ed. Ind. U., Ph.D. 1942; Oakridge Inst. of Nuclear Studies (spec. training in Radioisotopes); mem.: Kappa Alpha Psi; m. Lorraine Robbins, Dec. 20, 1941; ch.: Charles Hilliard, Harriet Margaret. Western U., Kansas City, Kan., instr. of chem., 1935-37; Louisville Municipal Coll., instr. of chem., 1937-38; hd. dept. of natural sc., chmn. dept. of chem., Prairie View A.&M. Coll., 1939 to date. Res. on catalytic prep. of niacin. Mem.: A.C.S., Natl. Inst. of Sc., Beta Kappa Chi, Texas Acdy. of Sc., A.A.U.P. Hobbies: gardening, farming.

OBERFELL, George Grover, conslt., Bartlesville, Okla.; res. 1818 Crestview, Bartlesville, Okla. Conslt. pet. indus.; b. Butler Co., Ohio, Aug. 7, 1885; s. of George W. and Louisa Ellen (Howe) Oberfell; ed. Miami U., Oxford, Ohio, 1910 A.B.; Chicago U.; U. of Pitts.; honorary D.Sc., U. of Tulsa; mem.: Phi Kappa Tau; m. Lucille Wimmer, May 24, 1930. Teacher rural schls., 1904-07; instr. in chem., Miami U., Oxford, Ohio, 1910-12; jr. chem., U.S. Bur. of Mines, Pitts., Pa., natural gas by-prods., 1912-16; chem. natural gas indus., Ohio Fuel Supply Co., Columbus, 1916-17; Capt., C.W.S., toxic gases, U.S.A., Wash., D.C., 1917-19; res. engr., natural gas indus., Chestnut & Smith Corp., Tulsa, Okla., 1920-23; partner, Seely-Oberfell Corp., const. engrs., Breckinridge, Texas, 1923; const. designing & sales engr., Hope Engrg. & Supply Co., Tulsa, 1924; 1925-50 in chg. res. & dev., Phillips Pet. Co. under which company's liquefied pet. gas (Philgas) sales activities were dev.; pres., Philgas Co. until liquefied pet. gas activities transferred to parent company, Phillips Pet. Co., Bartlesville, Okla. Co-author: "Natural Gasoline" with Alden, 1924. Mem.: A.C.S., A.S.T.M., A.P.I., A.I.Ch.E., A.I.C., S.A.E., Alpha Chi Sigma. Club: Hillcrest Country. Hobby: hunting.

OBERG, Aaron Gustaf, prof. of chem. engrg., Tex. Tech. Coll., Lubbock, Tex.; res. 2602 23rd St., Lubbock. Teacher; b. Denver, Colo., Jan. 1, 1908; s. of Charles and Olivia Oberg; ed. Univ. of Colo. B. S. in Ch.E. (with spl. honors), 1929, M.S. in Phys. Chem. 1933, Ph.D. in Phys. Chem. 1935; mem.: Theta Xi. du Pont Co., Chem. engr., 1929-30; U. of Colo., grad. student & instr. 1930-36; Tex. Tech. Coll., asst. hd. of chemistry & chem. engrg. 1936 to date. Res. in industrial applications & gen. chem. engrg. & consulting. Mem.: Sigma Xi, Tau Beta Pi, Alpha Chi Sigma. v.p., Lubbock Optimist Club.

OBERG, E. B., res. dir., Carnation Co., 2344 N. Oakland Ave., Milwaukee, Wis.; res. 1119 E. Courtland Pl., Milwaukee. Dir. res., dairy prods., breakfast food cereals, livestock feeds; b. Neponset, Ill., Feb. 16, 1907; ed. B.S., Ill. Wesleyan U., 1928; M.S., 1930, Ph.D., 1933, Northwestern U.; mem.: Theta Chi, Sigma Xi, Alpha Chi Sigma; m. Mildred E. Goers, June 20, 1936; ch.: Joanne L., Gertrude E. U.S. Gypsum Co., res. chem., 1934-37; Glidden Co., res. chem., 1937-39; Central Soya Co., res. dir., 1939-43; Carnation Co., res. dir., 1943 to date. About a dozen pats. & publ. on proteins, sterols, lecithin, etc. Mem.: A.C.S., I.F.T., Am. Dairy Sc. Assn., Nutrition Council of Am. Feed Mfrs. Assn., Am. Soybean Assn., Cereal Chem., Chem. Circle. Club: North Shore Country.

OBLAD, Alex Golden, dir. chem. res., Houdry Process Corp., Marcus Hook, Pa.; res. 115 Scenic Rd., Springfield, Pa. Chem.; b. Salt Lake City, Utah, Nov. 26, 1909; s. of Alex H. and Louie May Oblad; ed. B.A., U. of Utah, 1933, M.A., U. of Utah, 1934, Ph.D., Purdue U., 1937; mem.: Sigma Xi, Phi Lambda Upsilon; m. Bessie Eliz. Baker, Feb. 23, 1933; ch.: Alex Edward, Eliz. Ann, Virginia Lou, John Baker. Res. Chem., Standard Oil Co., Ind., 1937-42; group ldr. chem. res., Magnolia Pet. Co., Dallas, 1942-44, sec. ldr. chem. res., 1944-46, chf. chem. res., 1946; hd. industrial res., Texas Res. Foundation, Dallas, 1947; dir. chem. res., Houdry Process Corp., Marcus Hook, Pa., 1947 to present. Res. in catalysis as applied to pet., pet. anal., chem. thermodynamics, hydrocarbon chemistry, fundamental wk. in catalysis, mechanism of reactions, distillation of hydrocarbons, chemicals from pet., administration of res. Chapter in Vol. III, "Advances in Catalysis" Academic Press, Feb. 1951. Mem.: Sigma Xi, Phi Lambda Upsilon, Sigma Pi Sigma. Hobbies: 4 children.

O'BRIEN, Edmund H., pat. counsel, and hd. of pat. dept., Merck & Co., Inc., 161 Ave. of the Americas, New York 13; res. 197 Shepherd Lane, Roslyn Heights, N.Y. Pat. lawyer; b. N.Y.C. Nov. 18, 1905; s. of John J. and Kathlyn A. O'Brien; ed. B.S. (cum laude), Coll. of City of N.Y., 1925; C.E., Cornell U., 1926; LL.B., Natl. Univ., Washington, D.C., 1930; M.P.L., same U., 1931; spec. study, U. of Maryland, College Park, Md.; mem.: Phi Beta Kappa, Sigma Nu Phi; m. Blanche-Gracieuse de Blois LaBrosse, Sept. 3, 1932; ch.: Michelle, Denise. 1928-30, Examining Corps, U.S. Pat. Off., Washington, D.C.; 1931-34, priv. practice of pat. law, Washington, D.C., assoc. with Conway P. Coe; 1934-44, Legal Dept., E.I. du Pont de Nemours & Co.; 1944-45, priv. practice of pat. law, assoc. with Fish, Richardson & Neave, N.Y.C.; 1945 to date, pat. counsel, Merck & Co. Inc., N.Y.C. Mem. of N.Y. and Dist. of Col. bars, and of var. federal bars incl. U.S. Supreme Ct. Author jl. arts., var. phases of pat. law. Mem.: Amer. Pat. Law Assoc., N.Y. Pat. Law Assoc. (mem. of Bd. of Govs.); Linnaean Society of N.Y.

O'BRIEN, Frank J., pres., Metal & Thermit Corp., 100 E. 42nd St., N.Y.C.; res. 620 Ely Ave., Pelham Manor, N.Y. Exec.; b. Feb. 10, 1888; s. of James and Frances (Minahan) O'Brien; ed. 1909, Dartmouth Coll., A.B.; m. Helen J. Costello, Dec. 26, 1912; ch.: Frank, Jr., Mary Elizabeth, Robert Dennis. High schl. Portsmouth, N.H., teacher 1909-11; Western Elec. 1911-12; Sonneborn & Co., ind. engr., 1912; Arco Co., ind. engr., 1912-13; Mass. Paint & Oil Co., 1913; pres., Southern Can Co., 1914-28; ind. engr., v.p., Continental Can Co., 1928-44; ind. engr., v.p., dir., 1935-45; Metal & Thermit Corp., 1945 to date; Chromium Corp. of Am., pres., 1947 to date. Metal & Thermit Corp., pres., mem. exec. comm., dir.; Chromium Corp. of Am., pres., dir.; United Chromium, Inc., mem. exec. comm., dir.; Hanover Fire Ins. Co., mem. exec. comm., dir.; Tin & Chem. Corp., mem. exec. comm., dir. Adv. Club, Baltimore (pres. 1914); New Rochelle Hosp., governor (current); Pelham Country Club, governor (current). Clubs: Dartmouth of N.Y., Union League, N.Y., Engineers, N.Y., Pelham Country. Hobbies: golf, bowling, bridge.

O'BRIEN, Harold Charles, Jr., pres. & dir., Royston Labs., Inc., 128 First St., Blawnox, Pa.; res. 990 4th St., Beaver, Pa. Res. consultant; b. Beaver, Pa., May 21, 1914; s. of Harold C. and Elizabeth Jean O'Brien; ed. Geneva Coll., B.S., 1935; Duquesne U., M.S., 1941; U. of Pittsburgh, Ph.D., 1945. Jones & Laughlin Steel Co., metallurgy dept. 1936-37; St. Joseph Lead Co., rubber res. chem. 1937-; Royston Labs., Inc., res. dir. 1946, pres. 1949-; U. of Pittsburgh, res. fellow (sr.), dept. physics. 1945-49; consultant: Industrial Hygiene Fndn., Pgh. Plate Glass Co., Lord Mfg. Co., Heppenstall Co. Invention of high speed ultramicrotome and methods in electron microscopic techniques, pigment dispersion methods for electron microscopy. Mem.: Sigma Xi, Phi Sigma, Natl. Assn. Corrosion Engrs., P.A.A.S., A.A.A.S., A.S.M., E.M.S.A., Ceramics Soc., Physical Soc., A.S.T.M. Club: Masons. Hobbies: AM radio, boating, photography.

O'BRIEN, Ruth, asst. chf. Bur. of Human Nutrition and Home Economics, U.S. Dept. of Agric., Wash. 25, D.C.; res. 614 St. Andrews Lane, Silver Spring, Md. Asst. chf. of bureau; b. Taylorsville, Ill., Sept. 19, 1892; d. of Henry and Lena Shirley O'Brien; ed. U. of Nebr., 1914-15, B.S. and M.A.; U. of Chicago, 2 yrs. grad. wk.; Geo. Washington U., 1931, LL.B. 1917-24 instr., asst. prof., assoc. prof. Chem. Dept., Iowa State Coll., Ames, Iowa; visiting prof. on staff of Oregon State Agric. Coll. and U. of Chicago, one summer session each; 1924-44 sr. textile chem., chf. of Div. of Textiles and Clothing, Bur. of Home Economics; 1944 to date asst. chf. of Bur. of Human Nutrition and Home Economics, U.S. Dept. of Agric. Instrumental in dev. the Dept. of Agriculture's program on home use of cotton, wool and other fabrics; active in support of a system of stds. and grade labels to aid consumers in wise selection of clothes and household textiles; dev. consumer specifications for various staple fabrics; originated idea and dir. first lge.-scale sc. measurement of any civilian grp. to provide accurate data for uniform system of sizing clothes and patterns to fit human body. Mem.: Phi Beta Kappa, Sigma Xi, Omicron Nu, and Order of the Coif; A.C.S., A.A.T.C.C., Am. Home Economics Assoc., T.R.I., Phi Delta Delta, Iota Sigma Pi; received Alumni Achievement Award of the Geo. Wash. U., May, 1944.

O'BRIEN, William B., dir. of chem. res., Dodge Chem. Co., 656 Beacon St., Boston 15, Mass.; res. 1018 Beacon St., Brookline, Mass.
Chem.; b. Wallingford, Conn., Jan. 5, 1891; s. of Cornelius B. and Anne (Early) O'Brien; ed. Sheffield Sc. Schl., Yale U., Ph.B., 1911; M.I.T., gtd. alumnus standing, 1934; mem.: Alpha Chi Sigma. Adminis. U.S. Fungicide & Insecticide Act, 1912-13; Philippine Gov., asst. org. chem., bur. sc., and instr. chem., U.P.I., Manila, 1913-15; Synfleur Sc. Labs., chem., 1919; Grasselli Chem. Co., chem., 1920-21; Flash Chem. Co., chem., 1921-24; Dodge Chem. Co., dir. chem. res., 1924 to date; N.E. Inst. Anatomy & San. Sc., prof. chem. 1924 to date. Served U.S. Exp. Forces in Fr., Chateauroux, Issoudun, Orly, Colombey-les-belles, pilot U.S. Air Serv., 1917-19, 1st Lt. U.S. Air Serv., Brev. Pilote-Aviateur, R.F. Author: "Factory Practice in Mfg. Azo Dyes," 1924. Devel. tech. prods. in spec. lines as disinfect. and cosmetics. Mem.: A.C.S., fellow, A.I.C. Clubs: Yale (Boston), Longwood Cricket.

O'BRIEN, William James, v.p., Glidden Co., 1396 Union Commerce Bldg., Cleveland 14, Ohio; res. Berkshire Rd., Gates Mills, Ohio.
Chem. engr.; b. Rosendale, N.Y., Mar. 21, 1888; s. of James and Elizabeth (King) O'Brien; ed. Kingston Acdy., Cornell U. 1906-10, Sigma Xi; m. Helen M. Scott, Feb. 14, 1924; ch.: Shirley. 1911, chem., Geneva Exp. Station; 1912-14, instr., Cornell U.; 1914-17, scientist, Dept. of Agric.; 1917-18, War Dept., 1918-20, res. dir., Grasselli Chem. Co., N.J.; 1920-25, gen. mgr., Chem. & Pigment Co.; 1926 to date, v.p., dir., Glidden Co., Cleveland, Ohio, 1930 to date, v.p. chg. of mfg., 1949 to date, v.p., mem. exec. comm., dir. Res. & writing on anal. of phosphorus in acetylene, new meth. of producing photogenic effects, study of lithopone, process for treating garbage, conversion of ammonia to nitric acid, cadmium reds, ind. uses of soybean. Author num. arts. in sc. jls. Mem.: A.C.S., Shell Comm. of Am. Ordnance Assn. Clubs: Union, Mayfield Country, Chagrin Valley Hunt. Hobbies: golf, all kinds of sports.

O'CONNELL, John Joseph III, asst. dept. hd., Market Dev. Dept., c/o Shell Development Co., 4560 Horton St., Emeryville, Calif.; res. 62 Moline Ave., Mill Valley, Calif.
Chem.; b. N.Y. City, May 30, 1915; s. of John J. and Margaret F. (Stack) O'Connell; ed. Bklyn. Poly., Bklyn. Coll., Columbia U., U. of Calif., U. of Ill. A.B., 1937, U. of Ill. M.S., 1938; m. Doris E. Carter, 1946; ch.: Elaine. Panelyte Corp., sales engr. 1939; Amer. Cyanamid Co., res. chem. then sales corresp. & promotion, 1940-42; U.S.N.R., U.S.M.C.R., enlisted seaman 2/c 1942, dischgd. capt. (naval aviator) U.S.M.C.R., 1946; Shell Chemical Corp., sales dev., hd. offc. 1946-48, mgr. sales dev. west. div., 1949, asst. mgr. mkt. dev., 1950. Mem.: A.I.C. (fellow), A.C.S., Soc. Plastics Engrs., S.P.I., Commercial Chem. Dev. Assn., West. Chem. Market Res. Group. Hobbies: hunting, shooting, photography, flying.

O'CONOR, Daniel J., pres., The Formica Co., 4614 Spring Grove Ave., Cincinnati 32, Ohio; res. 3 Pinehurst Lane, Cincinnati 8.
Exec.; b. N.Y.C., Jan. 5, 1882; s. of Daniel J. and Kathrine (Keller) O'Conor; ed. St. Francis Xavier's Coll., N.Y.C., B.A. (cum laude); 3 yrs. Columbia U., N.Y.C., Eng. and Chem.; m. 1st, Ruth Brever, May, 1915; m. 2nd, Rebecca Walker, May, 1929; ch.: Daniel J., Jr., John Francis, Mrs. Mary Helen Hedges, Dr. Gregory T., Mrs. Rebecca J. Rollman. Engrg. apprentice, chem., engr. in chg. Process Sec., Westinghouse Elec. & Mfg. Co., 1907-13; co-founder and owner of The Formica Co., 1913; v.p. 1913-34; pres. 1934 to date, also dir.; dir. The Fifth-Third Union Trust Co., Cincinnati, Ohio. Mem.: A.A.A.S., Soc. of the Plastics Industry. V.p. and dir., Ohio Mechanics Institute; mem. Lay Advisory Bd., Xavier U.; dir. Cincinnati Industrial Inst. Clubs: Queen City (Cincinnati), Cincinnati Club.

O'DAY, David William, dean of Coll. of Pharmacy, U. of Wyoming, and prof. of pharmacy and pharmaceut. chemistry, College of Pharmacy, U. of Wyoming; res. 402½ Park, Laramie, Wyoming.
Educator, pharmaceut. chem. and pharmacist; b. Lafayette, Colo., Apr. 23, 1901; s. of Michael F. and Anna F. (Schweiger) O'Day; ed. U. of Colo., 1925, pharmaceut. chem. degree; 1926, B.S. in pharmacy; 1928, M.S. in pharmacy; Iowa State U., 1939, Ph.D.; summer session grad. wk. U. of Mich., 1930; attended U. of Chicago, grad. wk. summer quarters, 1935, 1936; mem.: Phi Delta Chi, Sigma Xi, Kappa Delta Pi, Delta Sigma Phi, Phi Lambda Upsilon, Gamma Sigma Epsilon; m. Elizabeth Vaughan, Aug. 14, 1929; ch.: Mary Anne. Instr. in pharmacy, U. of Colo., 1926-29; asst. prof. of pharmacy, 1929-39; assoc. prof. of pharmacy, 1939-46; chmn. of Comm. for Admin., Coll. of Pharmacy, U. of Colo., 1943-46; U. of Wyoming, asst. dean of Coll. of Liberal Arts, dir. Schl. of Pharmacy, and prof. of chem., 1946-48; dean of Coll. of Pharmacy, U. of Wyoming, and prof. of pharmacy and pharmaceut. chem., 1948 to date. Instr. for Engrg., Sc. and Management Defense and War Training Program, 1940-42. Mgr., Mountain Summer Schl. in Biology and Geology, U. of Colo., 1940-42. Author: "A Study of Mandelin's Test for Strychnine"; "Preparation of Soft Soap and Soapy Preparations by a Cold Method"; "A Study of the Glutamic Acid Content of Steffens Waste from Sugar Factories in Colorado and from Sugar Factories in other Beet Sugar Producing Areas" (this wk. in collab. with other chemists), other problems in pharmaceut. chem. Author also of var. arts. in sc. and tech. jls., and of arts. on pharmaceut. law. Offices and State and Natl. Committees: Natl. pres., Phi Delta Chi, 1941-47; secy., Section on Education and Legislation, A. Phar.A., 1949-50; chmn. of Section on Educ. and Legis., A.Phar.A., 1950-51; chmn., Distr. No. 8, Amer. Assoc. of Colleges of Pharmacy, 1944-46; mem. of var. comms.: Amer. Assoc. of Colleges of Pharmacy, 1943-46 and of A.Phar.A., 1945-50; 2nd v.chmn., Sect. on Practical Pharmacy, A.Phar.A. 1946; alternate national councilor, Wyoming Sect., A.C.S., 1948-50; chmn.-elect. Wyoming Sect., A.C.S., 1950; chmn., Wyoming Sect., A.C.S., 1951; winner of Lehn and Fink Medal in Pharmacy, 1926. Mem. of natl. comms., Natl. Assoc. of Retail Druggists, 1947-48 and 1948-49; comm. on Professional Relations and chmn. of comm., Wyoming Pharmaceut. Assoc., 1947-50; mem. also of: A.C.S., A.Phar.A., Wyoming Pharmaceut. Assoc.

Clubs: Colorado Schoolmasters Club, Lions, Knighs of Columbus. Treas., Boulder County, Colo. Chapt., Natl. Found. for Infantile Paralysis, 1943-46. Hobbies: sports, music.

ODDY, Harold Grant, hd. of chem. dept., prof. of chem., U. of Toledo, Toledo 6, Ohio; res. 3027 W. Bancroft Ave., Toledo 6.
Prof. of chem.; b. St. Marys, Ontario, Canada, Aug. 15, 1899; s. of Joseph Henry and Ellen Oddy; ed. B.A., McMaster U., 1920, M.A. 1921; M.A., U. of Toronto, 1922, Ph.D. 1923; m. Helyn Alexander, 1932. Lecturer in chem., U. of Alberta, Edmonton, Alberta, 1923-25; asst. prof. of chem., U. of Fla., Gainesville, Fla., 1925-26; asst. prof. of chem., Ore. State Coll., Corvallis, Ore., 1926-28; instr. in chem., U. of Toledo, Toledo, Ohio, 1928-29, asst. prof. 1929-34, assoc. prof. 1934-42, prof. 1942 to date, bd. of chem. dept. 1944 to date. Tech. pub. on phases of Friedel-Crafts' reaction; thionyldiacetic acid; studies on thiodiacetic acid & analogs & their oxidation prods.; betaine derivatives. Mem.: A.C.S., Ohio Acdy. of Sc. Hobbies: philately, travel.

ODEN, E(arl) Clarence, chf. process engr., Cities Service Refining Corp., Lake Charles, La.; res. 1829 Seventh St., Lake Charles.
Chem. engr.; b. Hanceville, Ala., June 20, 1912; s. of Noah E. and Elizabeth (Ryan) Oden; ed. U. of Ala., B.S. in Ch.E., 1933, Polytech. Inst. of Bklyn., M.Ch.E., 1938; grad. wk. at Cornell summers of 1938 & 1939; U. of Mich., 1940-41 & summers 1941, 1942; mem.: Phi Lambda Upsilon, Iota Alpha, Sigma Xi (all hon.); m. Martha Clara Kirtland, June, 1938; ch.: Betty Lucinda, Earl Clarence, Jr., Carl George. United Color & Pigment Co., asst. chf. engr., Newark, N.J., 1933-34; U.S. Rubber Co., chem. chf. engr., N. Bergen, N. J., 1934-38; N.Y. Agr. & Tech. Inst., instr. of ind. chem., Canton, N.Y., 1938-40; U. of Mich., teach., fellow, grad. student, Ann Arbor, Mich. 1940-41; U. of Detroit, instr. of chem. engrg., Detroit, Mich., 1941-42; Mich. State Coll., asst. prof. chem. engrg., East Lansing, Mich., 1942-43; Mathieson Alkali's Magnesium Plant, chf. engr., Lake Charles, La., 1943-44; Cities Service Refining Corp., chf. process engr., Lake Charles, La., 1944 to date. Sc. articles publ. in Ind. & Engrg. Chem., Oil & Gas Journal, Pet. Refiner. Mem.: A.I.Ch.E., A.C.S., Am. Soc. for Engrg. Ed. Hobbies: gardening, sports of all types.

ODOM, George John, plant supt., Monsanto Chem. Co., Merrimac Div., Everett 49, Mass.; res. 16 Eaton Ave., Woburn, Mass.
Chem. engr.; b. Quincy, Mass., Aug. 15, 1902; s. of John Sidney and Bertha Mae (Clarke) Odom; ed. Colby Coll. B.S. 1923, Phi Beta Kappa; mem.: Lambda Chi Alpha; m. Hazel Frances Simonds, Sept. 26, 1924; ch.: Barbara Jean, Elizabeth, Ruth Margaret. Merrimac Chem. Co., Woburn, Mass. 1923-29: oper. 1923-27, asst. dept. supt. 1927-28, dept. supt. 1928-29; Monsanto Chem. Co., Merrimac Div. (merger) 1929 to date: dept. supt. 1929-42, plant supt. 1942 to date. Mem.: A.I.Ch. E., Former Reserve Officer, C.W.S. Dir., Woburn Y.M.C.A. Clubs: Towanda (Woburn), Andover Country. Hobbies: sports all kinds.

OELKE, William C(hristoff), prof. of chem., chmn. dept. of chem., Grinnell Coll., Park St., Grinnell, Iowa; res. 1003 Tenth Ave., Grinnell.
Teacher of chem.; b. Corwith, Iowa, Oct. 11, 1906; s. of Wm. C. and Mary Alice (Kreutter) Oelke; ed. Grinnell Coll., A.B., 1928; Holy Cross Coll., Worcester, Mass., M.S. cum laude 1929; State U. of Iowa, Ph.D., 1935; m. Martha Blackburn Jones, Sept. 2, 1930; ch.: Mary Elizabeth, Nancy Ann, William Howard. Grad. asst., Holy Cross, 1928-29, instr. 1929-30, lecturer 1930-31; instr., Grinnell Coll. 1931-41, asst. prof. 1941-44, assoc. prof. 1944-47, prof. 1947 to date; res. asst., S.U.I. 1934-35; ind. res., Inst. Paper Chem. summer 1942; res. chem., Process Engrg. Corp., Chicago, summer 1945. Det'n. of solubilities & activity coefficients of lanthanum & cadmium iodates in concd. salt solutions; studies of tests & interference phenomena in semimicro qualitative anal. Author: "Semimicro Qualitative Anal.," D.C. Heath, 377pp. 1950. Mem.: A.C.S., Phi Lambda Upsilon, Sigma Xi, Iowa Acdy. of Sc. Club: Fortnightly. Hobbies: metal work, photography.

OENSLAGER, George, res. chem., priv. lab., and farm owner, 85 N. Wheaton Rd., Akron 13, Ohio; res. same.
Res. chem.; b. Sept. 25, 1873; s. of John and Harriet Oenslager; ed. A.B., Harvard, 1894; A.M. 1896; hon. Sc.D. U. of Akron, 1937; m. Ruth Santer Alderfer, July 15, 1939. Res. chem., S.D. Warren and Co., 1896-1906; res. chem., Diamond Rubber Co., 1906-12; res. chem., B.F. Goodrich Co., 1912-20; tech. dir., Yokohama Rubber Co., of Yokohama, Japan, 1920-22; res. chem., B.F. Goodrich Co., 1922-38; priv. lab., 1938 to date, also farm owner and operator; notable wk.: introd. of the use of accelerators of vulcanization in the rubber industry; dev. of the modern carbon black tread. Mem.: A.C.S., The Rubber Inst. of Gr. Britain, A.I.Ch.E.; recip. of the Perkins M. in 1933 and of the Charles Goodyear M., 1948. Clubs: Portage Country, University, both of Akron, Ohio. Hobbies: photography, farming.

OESPER, Ralph Edward, prof. of anal. chemistry, U. of Cincinnati, Cincinnati 21, O.; res. 2323 Ohio Ave., Cincinnati 21.
Prof.; b. Cincinnati, O., June 14, 1886; s. of Ernest William and Caroline Bolce Oesper; ed. U. of Cincinnati, A.B., 1908, A.M., 1909, Ph.D., 1914; m. Helen Wilson, June 29, 1910; ch.: Peter Frederick. N.Y.U., instr. 1914-17; Smith Coll., asst. prof., 1917-18; U. of Cincinnati, assoc. prof., 1918-38, prof., 1938 to date. Contrib. extens. to sc. and tech. jls. Translations of "Organic Lab. Methods," (Lassar Cohn, 1928); "Chem. Species" (Timmermans, 1936); "Spot Tests," (Feigl, 1949); "Chemistry of Specific, Special and Sensitive Reactions" (Feigl, 1949); "Hist. of Physics (von Laue, 1950), and numerous others. Mem.: Sigma Xi, Phi Lambda Upsilon. Hobbies: hist. of chemistry, recorded classical music, chem. biography.

OESTING, Ralph B(eck), v.p., dir. of res., Paul Lewis Labs., Inc., 4253 No. Port Wash. Rd., Milwaukee 12, Wis.; res. R. 2, Thiensville, Wis.
Chem.; b. Evanston, Ill., 1910; s. of Elmer and Helen (Beck) Oesting; ed. Earlham Coll., Richmond, Ind., A.B.; U. of Chicago, Ill., Ph.D.; mem.: Gamma Alpha, Sigma Xi; m. Rachel Kelsay 1934; ch.: Sarah, David, Jonathan, James. Am. Meat Inst., fellow; Gen. Ed. Bd., fellow at Cornell Med. Coll.; Swift & Co., Chicago, Ill., dir. of nutrition res.; Oscar Mayer & Co., Chicago, Ill., res. dir.; Paul Lewis Labs., Inc., Milwaukee, Wis., v.p., res. dir. Study of endocrine changes at puberty, meat curing, nutrition, dev. of new drugs. Mem.: A.C.S., A.A.A.S., S.E.B.M., A.S.B.C., Inst. Paper Tech., Master Brewers Assn. of Am., Sigma Xi. Past chmn. of Chicago Sec. of Am. Friend Serv. Comm. Clubs: Milwaukee Yacht, Jackson Park Yacht (Chicago), Columbia Yacht (Chicago). Hobbies: sailing, farming.

O'FLAHERTY, Fred, M.D.V., prof. basic science, Grad. Schl., dir., Tanners Council Res. Lab., U. of Cincinnati; res. Box 432 R.R. 12, Cincinnati 33, Ohio.
Res. dir.; b. Cincinnati, Jan. 20, 1893; s. of John and Emma (Lange) O'Flaherty; ed. elementary and secondary schls., premed. U. of Cincinnati; Veterinary Med., Cincinnati Coll. of Vet. Med.; M.D., Eclectic Med. Coll.; m. Emily Bardes, July, 1917; ch.: Patricia Ann. 1924, res. asst.; 1927, res. assoc.; 1931, prof. of basic sc. and dir.

Tanners Council Res. Lab.; 1945, exec. dir., Res. Foundation, U. of Cincinnati. Many pubs. in tech. of tanning, skin histology and pathology. Mem.: Amer. Leather Chem. Assoc. (past pres., secy. and treas.); Amer. Vet. Med. Assoc.; Sigma Xi.

OGBURN, Sihon Cicero, Jr., mgr.; res. & dev., dir. Foote Mineral Co., P.O. Box 576, Berwyn, Pa.; res. 618 Woodleave Rd., Bryn Mawr, Pa. Chem. engr., res. exec.; b. Winston-Salem, N.C., Oct. 8, 1900; s. of S.C. and Emma K. Ogburn; ed. B.S., U. N.C., 1921; M.S., Wash. and Lee U. 1923; Ph.D., U. N.C. 1926, Smith Award Sc. Res. 1926; mem.: Alpha Chi Sigma, Sigma Xi, Pi Mu Epsilon; m. Bettie M. Bell, July 2, 1921; ch.: Hugh B., Jean E. Instr. Chem. Wash. and Lee U. 1921-23; asst. prof. chem. 1923-26; prof., hd., dept. chem. engrg., Bucknell U., 1926-36; chmn., engrg. div., 1933-36; tech. supvr., res. mgr., Gen. Chem. Co., 1936-43; mgr., res. and dev. Pa. Salt Mfg. Co. 1943-48; mgr., res. and dev. Foote Mineral Co., 1948 to date. Contrib. extens. to sc. and tech. jls.; holder U.S. patents fluorine, prod. phosphate chem. Mem.: A.C.S., A.I.Ch.E., S.S., A.S. E.E., Res. Mgt. Group Phila. Hobbies: hunting, fishing, stamp collecting.

OGDEN, Franklin Faxon, chem. engr., Monsanto Chem. Co., 1700 S. Second St., St. Louis, Mo.; res. 2136 Briargate Lane, Kirkwood, Mo. Chem. engr.; b. Quincy, Mass., Mar. 29, 1913; s. of Warren Greene and Patricia Earle (Faxon) Ogden; ed. Culver Military Acdy., grad. 1931, cum laude; Cornell U., 1931-35, A.B. chem.; mem.: Psi Upsilon, Al Djbar; m. Mary S. Gammons, Mar. 21, 1936; ch.: David Warren, Marcia Faxon, Joan Brigham. Monsanto Chem., Merrimac Div., 1935-37, res. chem., 1937-39 tech. serv. dept., 1939-43 asst. sales mgr. N.Y. branch office; U.S.N., 1943-46, Lt. U.S. Naval Air Serv. aboard U.S.S. Manila Bay; Monsanto Chem. Co., Merrimac Div., 1946-50 sales dev. mgr.; Monsanto Chem. Co., St. Louis, Mo., Jan., 1950 to date, chem. engr. gen. dev. dept. (staff). Pioneered fld. application of Santocel insulation (silica aerogel) to tonnage oxygen installations & refrigeration equipt. Mem.: A.C.S. Clubs: Greenbriar Hills Country, Cohasset Yacht. Hobbies: sailing, photography, model making, golf.

OGDEN, Robert Potter, prodn. mgr., Sharples Chemicals, Inc., 4700 Biddle Ave., Wyandotte, Mich.; res. 2565 Rutledge Road, Trenton, Mich. Chem. engr.; b. Elizabeth, N.J., June 11, 1918; s. of Leopold and Irene Ogden; ed. B.Chem., Cornell, 1940, chem. engr. 1941; mem.: Alpha Chi Rho; m. Eloise, Jan. 26, 1946; ch.: Robert P., Jr., Deborah. Chem. engr., Sharples Chemicals, Inc., 1941-42, asst. to v.p. -prod., 1943-47; supt. of Service Dept., 1948-49; prod. mgr., 1950 to date. Mem.: Am. Mtls. Handling Soc. Club: Rotary. Hobbies: sailing, gardening.

OGLESBY, Nicholas Ewing, tech. consultant, mgr. of pat. dept., Behr-Manning Corp., P.O. Drawer 808, Troy, N.Y.; res. Route 57, Troy. Res. chem., chem. engr., reg. pat. agt.; b. Wythe Co., Va., May 25, 1892; s. of John Thompson and Emma Montgomery (Painter) Oglesby; ed. Emory and Henry Coll., Emory, Va., 1909-11; U. of Va., A.B., 1913, A.M., 1917, Ph.D., 1929. Mem.: Raven Soc. (U. of Va.), Alpha Chi Sigma; m. Mary Louise Sandidge, Nov. 4, 1920; ch.: Nicholas Ewing, John Thompson, 2d. H.S. teacher, sc. & math. 1913-15; U. of Va., asst. in chem., 1915-17; Aluminum Co. of Amer., jr. chem. engr., 1917; U. of Va., teach. fellow, 1919-20; Glamorgan Pipe & Fdry. Co., res. chem., 1920; Chem. Div., Chem. Warfare Serv., chf. munitions dept., 1920-24; Chem. Div., asst. chf., 1924-29; Behr-Manning Corp., mfrs. coated abrasives & spl. products, tech. dir., 1929-45, tech. consultant & mgr. pat. dept., 1945 to date. Serv. in ord. dept. & as 2d lt., Chem. War. Serv., U.S.A., 1918. Res. in warfare & abrasives: joint inventor of tear gas grenades used by police & airplane smoke curtains used by Army & Navy; inventor, abrasive processes & products. Mem.: A.A.A.S. (fellow), A.C.S., A.I.Ch.E., N. Y. Acdy. of Sc. Clubs: S.R. (N.Y. State), Mason, Troy Country. Hobbies: hunting, fishing, gardening.

O'HARE, George Alfred, res. supvr., Congoleum-Nairn, Inc., Kearny, N.J.; res. 1133 Prospect Ave., Plainfield, N.J. Res. chem,; b. Salem, Mass., Oct. 9, 1912; s. of George M. and Florence (Mills) O'Hare; ed. Harvard U., A.B., 1934; U. of Pa., Ph.D., 1939; m. Elvina Castle, July 8, 1938; ch.: Anne Florence, Donald Lincoln. 1934-39, dept. of chem., instr., U. of Pa., Phila., Pa.; 1939 to date, res. dept., Congoleum-Nairn, Inc., Kearny, N.J. Fundamental res. in drying oils; fundamental res. in floor coverings. Mem.: A.C.S., A.S.T.M., A.O.C. S., Federation of Paint & Varn. Prod. Clubs (N.Y. Club). Club: Chemists' (N.Y.). Hobbies: sports, bridge.

O'HARE, John J., secy., plant mgr., Fulton Process & Chem. Corp., 97 Second St., Gloversville, N.Y.; res. 48 Woodward Ave., Gloversville. Chem. engr.; b. Gloversville, N.Y., Jan. 10, 1910; s. of Michael and Annie (McCarthy) O'Hare; ed. Pratt Inst., grad. 1930; m. Ellen Ann Sweet, Nov. 10, 1934; ch.: Joyce, Brian, Edward. Fulton Process & Chem. Corp., 1930 to date; founded and organized Fulton Process & Chem. Co. in 1930, one of incorporators of same in Mar., 1931, mem. bd. of dir. & corp. secy. since Mar., 1931. Recovery of degreasing solvents & animal lipids in tanning ind. Mem.: A.C.S. Club: Pinebrook Golf (Gloversville, N.Y., v.p. 1950). Hobbies: golf, bowling.

OHMAN, Maurel Fred, prodn. mgr., Great Western Div., The Dow Chem. Co., P.O. Box 351, Pittsburg, Calif.; res. 708 Central Ave., Pittsburg, Calif. Prodn. mgr.; b. Apr. 17, 1908; s. of Fred C. and Flora Clark Ohman; ed. B.S.Chem.E., S.Dak. Schl. Mines and Tech., Rapid City, S.Dak. 1930; mem.: Sigma Tau; m. Ruby Ione Pitsenberger, Sept. 28, 1930; ch.: Carl Maurel, Candace Jane. 1930-31, The Dow Chem. Co., Midland, Mich., chem. contr. lab.; 1932-34, chem. engr., res. lab., Midland; 1935-36, res. wk. The Dow Chem. Co., Long Beach, Calif.; 1936-41 mgr. iodine & insecticide div., Seal Beach, Calif.; 1941-43, asst. prod. supt., Great Western Div., The Dow Chem. Co., Pittsburg, Calif.; 1944, prodn. supt.; 1945 to date prodn. mgr. Res. in dev. proc. for recovery of iodine from oil field waste waters. Mem.: A.C.S., A.I.Ch.E., E.S. Clubs: Kiwanis, Cercle de L'Union. Hobbies: amateur radio, fishing.

OHSOL, Ernest O., mgr. of process dev., Gen. Elec. Co., Chem. Dept., 1 Plastics Ave., Pittsfield, Mass.; res. 121 Elberon Ave., Pittsfield, Mass. Chem. engr.; b. Wash., D.C., May 28, 1916; s. of Johann G. and Klara E. Ohsol; ed. C.C.N.Y., B.chem. engrg. 1936, magna cum laude; Swiss Federal Polytech. Inst., Zurich, 1934-35, Naumburg fellow; M.I.T., 1939, Sc.D. in chem. engrg.; m. Rosamond Montgomery, June 15, 1940; ch.: Frederick, Richard, Alison. 1939-50, chem. engr., Stand. Oil Dev. Co.; 1947-50, instr. in unit operations, Grad. Schl., Stevens Inst. of Tech.; Feb., 1950, to date, mgr. of chem. process dev., engrg. div., chem. dept., Gen. Elec. Co. Contributory to design of syn. rubber plants. Mem.: A.C.S., A.I. Ch.E., Sigma Xi. Club: Country Club of Pittsfield. Hobbies: golf, skiing.

O'KEEFFE, Andrew E(llis), res. assoc., E.R. Squibb & Sons, Inc., New Brunswick, N.J.; res. 27 Elm Ave., Metuchen, N.J.

Res. org. chem.; b. Newark, N.J., Mar. 4, 1912; s. of James G. and Lessie T. O'Keeffe; ed. B.S., U. of Notre Dame, 1933; M.S. in chem., Polytech. Inst. of Bklyn., 1938; m. Genevieve R. O'Brien, Aug. 22, 1942; ch.: Mary Joseph, Margaret Agnes. Chem., Koppers Co., Kearny, N.J., 1933-39; res. asst., Squibb Inst. for Medical Res., 1939-45; on leave of absence U.S.A., Major, 1941-45; res. assoc., 1945 to date. Continuous meth. for the separation of streptomycins; inhomogeneity of heparin; mercaptoacetylation of aromatic amines; U.S. pat. 2,418,947, Apr. 15, 1947. Mem.: A.C.S. (mem. since 1933), A.A.A.S. (mem. since 1947), Phi Lambda Upsilon (mem. since 1938). Club: Knights of Columbus. Hobbies: photography, golf.

OKEY, Ruth (E.), prof., home economics & biochem. expt. sta., U. of Calif., Berkeley 4, Calif.; res. 1175 Oxford St., Berkeley 7.
University teaching & res.; b. Woodsfield, Ohio; d. of Alfred and Mina (Reinherr) Okey; ed. B.S. chem., Monmouth Coll., Monmouth, Ill.; M.S., 1915, Ph.D., 1918, U. of Ill. Instr. biochem., U. of Ill., 1918-19; asst. prof., State U. of Iowa, 1920-21; asst., assoc., full prof., U. of Calif., dept. of home econ. (nutrition). Res. fld., cholesterol & fat metabolism; publ., Jl. Biol. Chem., Am. Jour. Physiol., Jl. nutrition, Proc. Soc. Exp. Biol., etc. Mem.: A.C.S., A.S.Biol.C., Am. Inst. Nutrition, Am. Dietetic Assn., Am. Home Econ. Assn., A.A.A.S., A.A.U.P., Sigma Xi. House Delegate, A.D.A., State Councilor, A.H.E.A. Women's Faculty Club, Inc., U. of Calif. (dir. bldg. comm.).

OLCOTT, Harold Saft, hd., vegetable processing div., Western Regional Res. Lab., Albany, Calif.; res. 969 Hilldale Ave., Berkeley 8, Calif.
Res. chem.; b. Denver, Colo., July 24, 1909; s. of Jacob and Florence (Saft) Olcovich; ed. U. of Denver, B.S. in Ch.E. 1928, M.S. 1929; U. of Iowa, Ph.D. 1931; m. Bernice Rosenthal, Mar. 15, 1934; ch.: Harold S., Jr., Dana B., James L., Margaret Louise. Natl. Res. Council Fellow in Medicine, 1931-32, Yale U.; res. assoc. in biochem., U. of Iowa, 1932-37; res. fellow, Cotton Res. Foundation Fellowship, Mellon Inst., 1937-41; in chg., Wheat Sec., Western Regional Res. Lab. 1941-48, hd., Vegetable Processing Div., 1948 to date. Autoxidation & antioxidants for fats & oils, vitamin E, cottonseed meal, cereal chem., protein derivatives, egg proteins, food tech. Author: chapter in Greenberg, "Amino Acids & Proteins" 1950. Mem.: A.C.S., A.S.Biol.C., S.E.B.M., I.F.T., A.O.C.S., Award: A.C.S. Eli Lilly in Biochem. 1935. Hobbies: bridge, photography, philately.

OLCOTT, Irwin, exec. chem., Dawe's Prods. Co., 4800 S. Richmond St., Chicago, Ill.; res. Chicago.
Exec. chem.; b. Denver, Colo., July 6, 1911; s. of Jacob and Florence Olcott; ed. U. of Denver, B.S. 1932; State U. of Iowa, M.S. 1933; Pa. State Coll., 1933-35; Bowdoin Coll. 1943; M.I.T. 1943; m. Sylvia Gutstadt, Apr. 9, 1938; ch.: Richard, Judith, Kenneth, Neil. Mem.: A.C.S., A.A.A.S., A.O.C.S., A.A.C.C., I.F.T., Animal Nutrition Res. Council, Assn. of Vitamin Chemists.

OLDACRE, William Henry, pres. & gen. mgr., D.A. Stuart Oil Co. Ltd., 2727 S. Troy St., Chicago 23, Ill.; res. 10043 S. Hoyne Ave., Chicago 43.
Engr.; b. Warren, Ohio, Apr. 7, 1892; s. of Harry D. and Jane (Jones) Oldacre; ed. Hiram Coll., A.B., 1914; mem.: Pi Tau Sigma; m. Florence R. Harsh, May 31, 1917; ch.: Mrs. J. Wendell George, William H. II (dec.). 1914-18, Gen. Elec. Co., safety engr.; 1918-20, Timken Roller Bearing Co., safety engr.; 1920, factory mgr., 1929, v.p., dir. of res., 1940 to date, pres., gen. mgr., D.A. Stuart Oil Co. Ltd. Mem.: Natl. Lubricating Grease Inst., Soc. of Automotive Engrs., Coordinating Res. Council, Independent Res. Comm. on Cutting Fluids, A.S.M.E., A.S.T.M., A.S.M., A.C.S., Am. Iron & Steel Engrs., A.P.I., Am. Soc. for Lubrication Engrs. Trustee, Hiram Coll., Hiram, Ohio. Clubs: Ridge Country, Union League. Hobby: photography.

OLDHAM, Frank Dudley, chmn., prof. of chem. engrg., Coll. of Engrg., U. of Mo., Columbia, Mo.; res. 97 Center Dr., Columbia.
Chem. engr.; b. Murfreesboro, Tenn., June 29, 1911; s. of Bowdon S. and Bessie B. Oldham; ed. Tenn. State Coll., B.S., 1931; U. of Tenn., M.S. in chem., 1933; U. of Mo., Ph.D., Ch.E., 1944; mem.: Alpha Chi Sigma, Kappa Alpha, Sigma Xi; m. Helen Graebner, Sept., 1943; ch.: Linda, Janet. Tenn. Valley Authority, chem. engrg. div., 1933-39; U. of Mo., engrg. expt. station, res. asst., 1939-41, dept. of Ch.E., instr., asst. prof., 1941-44; gas processes div., Girdler Corp., process engr., 1944-45; U. of Mo., dept. of Ch.E., assoc. prof., prof. 1945 to date. Pub. five papers on phosphates; engaged in programs on unit operations, an electrolytic process for calcium, magnesia from dolomite; conslt. to Tenn. Valley Authority & engrg. construction firms. Mem.: A.I.Ch.E. (active), Sigma Xi, A.C.S., A.S.E.E., A.A.U.P. Hobbies: reading in history economics, sciences, gardening.

O'LEARY, Dorman Henrichs, v.p. & dir., Cook Paint & Varn. Co., 1412 Knox, North Kansas City, Mo.; res. 421 W. 62 St., Kansas City 2, Mo.
Paint mfr.; b. Lawrence, Kan., June 23, 1897; s. of Raphael Dorman and Matilda (Henrichs) O'Leary; ed. B.A., U. of Kans., Lawrence, Kans. 1919; M.B.A., Harvard, 1922; mem.: Phi Kappa Psi; m. Kathryn Andrews Shaw, Sept. 19, 1922; ch.: Dorman Shaw, Kathryn Shaw. Fidelity Natl. Bank & Trust Co., Kansas City, Mo., 1919-20; Harris-Forbes & Co., Inc., Boston, Mass. 1922-24; v.p., treas., Fidelity Savings Trust Co., Kansas City, Mo., 1925 to date; v.p., Stern Bros. & Co., investment banking, Kansas City, Mo., 1936-43; v.p., dir., Cook Paint & Varn. Co., 1943 to date; v.p., dir., Lyman-Richey Sand & Gravel Corp., Omaha, Nebr. 1936 to date; dir., Central Coal & Coke Corp., Kansas City, Mo., 1936 to date; v.p., dir., Walnut Realty Co., Kansas City, Mo., 1933 to date; liq. tr., Fidelity Natl. Bk. & Tr. Co., Kansas City, Mo., 1944 to date. Lucky Tiger Combination Gold Mining Co. (dir.). Dir. Municipal Auditorium Advisory Bd., Kansas City, Mo., 1939 to date; v.p., Chamber of Commerce, Kansas City, Mo., 1945 to date; trustee, U. of Kansas Endowment Assn., Lawrence, Kans. Clubs: University, Kansas City Country, River Club of Kansas City, Mo. Hobbies: golf, flying.

OLIN, Hubert Leonard, prof. of chem. engrg., dept. of Chem. Engrg., U. of Iowa, Iowa City, Ia.; res. 321 Blackhawk St., Iowa City.
Chem. engr.; b. Marcus, Iowa, May 10, 1880; s. of Frank W. and Christine (Johnson) Olin; ed. B.A., Iowa, 1908; M.S., Illinois, 1914; Ph.D., 1914; periods of study at Chicago and Columbia Univs.; mem.: Gamma Alpha, Sigma Xi, Alpha Xi Sigma, Phi Lambda Upsilon, Tau Beta Pi; m. Helen Leigh Hanes, June 2, 1917; ch.: Ida Helen (Olin) Karson. Instr. in chem., Illinois, 1914-16; asst. prof. Ohio State U., 1916-18; res. chem., The Barrett Co., 1918; Captain, C.W.S., 1918; assoc. prof. chem. engrg., 1919-29; prof., 1929 to date, U. of Iowa; notable wk. in tchg. of chem. engrg.; res. in chem. and tech. of coal, includ. testing and anal., preparation and washing and utilization of solid fuels; many pubs. in above fld.; also, tech. of bentonite with spec. reference to its use as water purifier; holds sev. pats. Present or past mem. of: A.C.S.; A.I.Ch.E.; Am. Water Wks. Assoc.; Am. Gas Assoc.; S.C.I.; Royal Soc. of Arts (London); Iowa Coal

Inst. (dir.); conslt. to U. of Iowa, the State Planning Bd., the Wabash R.R., the Mexican Govt. and numerous priv. corp. Clubs: present or past mem. of Kiwanis, Executives', Triangle.

OLIVE, Theodore Ristine, sr. assoc. editor, "Chemical Engrg. Magazine," 330 W. 42nd St., New York 18, N.Y.; res. Imperial Park, Westport, Conn.
Editor and writer; b. Cambridge, Mass., Sept. 19, 1901; s. of Edgar W. and Elizabeth W. (Ristine) Olive; ed. Harvard Coll., class of 1923, A.B. (cum laude), in Eng. Sc.; Harvard Engrg. Schl., spec. student 1923-24; mem.: Kappa Gamma Chi (Harvard local); m. first, Dorothy B. Moore, Oct. 3, 1925 (dec.); m. 2nd, Kathryn P. Maxson, July 9, 1935; ch.: Norton Williams, Nancy Maxson. 1924, Natl. Ceramic & Chemical Co., Huron, Ind., res. engr.; 1925, Natl. Aniline & Chem. Co., Buffalo, N.Y., fld. engr.; 1925, Durez Co., North Tonawanda, N.Y., asst. supt.; 1926, du Pont Rayon Co., Buffalo, N.Y., experimental engr.; 1927, Chem. & Metallurg. Engrg. Magazine (now Chemical Engineering), asst. editor; 1934, assoc. editor; 1950, sr. assoc. editor. Author num. arts. on chem. engrg. subjects. Mem.: A.S.M.E. Club: Cedar Point Yacht (Westport, Conn.). Hobby: yachting.

OLIVEROS, Lovell Lott, v.p., treas., A.F. Pringle & Co. Inc., 141 E. Bay St., Charleston, S.C.; res. 35 Gibbes St., Charleston.
Fertilizer mfg.; b. Savannah, Ga., Jan. 9, 1895; s. of Bartolo P. and Caroline (Izlar) Oliveros; ed. Savannah H.S.; m. Evelyn Elizabeth Kenan, Jan. 30, 1918; ch.: Robert Lovell. Asst. supt., Am. Agric. Chem. Co., Savannah, Ga.; asst. secy., treas., Merchants Fert. & Phos. Co., Charleston, S.C.; secy. & treas., A.F. Pringle & Co. Inc., Charleston, S.C.; v.p., treas., A.F. Pringle & Co. Inc., Charleston, S.C. Ashley River Realty Co., Charleston (secy., treas., dir.); East Shore Terminal Co., Charleston (pres., dir.); James Doran Co., Charleston (secy., treas., dir.); Charleston Import & Fur Co., Charleston (pres., dir.); Merco Co. of Florida, Jacksonville (pres., dir.); Merco Co. of Gaffney, Gaffney, S. C. (v.p., dir.); Horry County Fert. Distrs., Conway, S.C. (pres., dir.); Sea Is. Vegetables, Inc., Charleston (v.p., dir.); Pee Dee Fert. Sales Co., Hemingway, S.C. (v.p., dir.); Lake City Fert. Sales Co., Lake City, S.C. (v.p., dir.). Hobbies: fishing, hunting.

OLSEN, Aksel G(ilkrog), dir. proj. planning, Gen. Foods Central Lab., 1125 Hudson St., Hoboken, N.J.; res. 20 Hickory Rd., Summit, N.J.
Food tech.; b. Oct. 26, 1893, Sindal, Denmark; s. of Christian and Maria (ne Nielsen) Olsen; ed. A.B., Nebr. Wesleyan U. 1922; M.S., U. Minn., 1923; Ph.D., 1928; mem.: Sigma Xi, Phi Lambda Upsilon, Phi Kappa Phi, Theta Phi Sigma (local); m. Gretchen Virginia Ransom, Oct. 25, 1924; ch.: Mary Alice, Martha Ann. Res. chem., Battle Creek Lab., Postum Co. (later Gen. Foods Corp.) 1923-33; dir. res., chf. chem. Walter Baker Chocolate Co. 1934-36; res. chem., Battle Creek Lab. of Gen. Foods Corp., 1936-39; div. hd. General Foods Central Labs. 1939-41; dir. food tech. 1941-43; mgr. 1943-48; mgr. appl. res. 1948-50; dir., proj. planning 1950 to date. Res. on rancidity, gelatin, pectin prod., factors influencing jelly formation, volatile flavor, fixation for dessert prods., other food tech. devs. Mem.: A.C.S., A.A.C.C., A.A.A.S., N.Y. Acdy. Sc., I.F.T. (Natl. Councillor 1947-49, 1950-52; chmn. N.Y. sect. 1947-48). Hobby: gardening.

OLSEN, Arloe R., mgr. plastics promotion, Hercules Powder Co., Wilmington, Del.; res. 9 Rolling Rd., Claymont, Del.
Chem. engr.; b. Cedar Falls, Ia., June 28, 1912; s. of Niels and Caroline B. Olsen; ed. B.S. chem. engrg., Ia. State Coll. Ames, Ia.; m. Mamie G. Stracker, Nov. 28, 1936; ch.: Arloe R., Jr., Norberth L., John V. Res. chem., Hercules Powder Co., 1933-37; tech. serv., Hercules Powder Co., 1937-44; product supvr., Hercules Powder Co., 1944-48; mgr. plastics promotion, Hercules Powder Co., 1948 to date. Mem.: Soc. Plastics Engrs., Soc. Plastics Industry. Club: Hercules Country. Hobbies: golf, gardening, woodworking.

OLSEN, Fred, dir. of res. & dev., Olin Ind. Inc., East Alton, Ill.; res. Fairmount, Alton.
Chem.; b. Newcastle on Tyne, England, Feb. 28, 1891; s. of Fred and Elizabeth Olsen; ed. U. of Toronto, B.A. 1916, M.A. 1917; mem.: Sigma Xi, Tau Beta Phi; m. Florence E. Quittenton, Apr. 28 1917; ch.: Fredrich H., F. Elizabeth. 1917-19, Aetna Explosives, chf. res. chem.; 1920-29, Picatinny Arsenal, chem. coordinator; 1929-48, dir. of res., Western Cartridge Co.; 1948 to date, dir. of res. & dev., Olin Ind. Inc. (mem. bd. dirs.); Ecusta Paper Corp. (bd. of dirs.). Contrib. arts. on res. & res. management; explosives; nitrocellulose & propellant powders; extraction of cellulose from wood for paper pulp & high grade cellulose; inventor of Ball smokeless powder. Mem.: A.I.Ch.E., A.A.A.S., T.A. P.P.I., A.C.S., Canadian Pulp & Paper, Sigma Xi, Tau Beta Phi, Am Ordnance Assn. Trustee, Trail Rangers of Am. Clubs: Engineers' (St. Louis), Rock Springs Country. Hobbies: modern art, photography, golf, nature studies.

OLSEN, Robert Thorwald, leader, chem. res. sec., Plymouth Cordage Co., Plymouth, Mass.; res. Center Hill Rd., Kingston, Mass.
Res. chem.; b. Brookfield, Ill., Mar. 10, 1915; s. of Erling and Lillie K. Olsen; ed. B.S. in chem. engrg., 1936, Newark Coll. of Engrg.; M. S. in chem. engrg., 1937, Columbia U.; Ph.D. in org. chem., 1942, M.IT.; m Frances K. Wallburg, July 26, 1941; ch.: Robert E., Kathryn B. Control chem., Murphy Varn. Co., 1934-36; chem., chem. engr., Eastman Kodak Co., 1937-39; teaching fellow, M.I.T. 1939-41; res. chem., Gen. Aniline & Film Corp., 1942-48. Contrib. sc. jls. Holds U.S. Pat.; others applied for. Mem.: Tau Beta Pi, Sigma Xi, A.C.S.

OLSON, Arthur R(ussell), res. & dev. chem., Stratochem. Corp., Rechabite Bldg., Marblehead, Mass.; res. 231 Lowell St., Wakefield, Mass.
Chem.; b. Lawrence, Mass., Jan. 22, 1919; s. of Walter C. and Rose C. (Lundeen) Olson; ed. M.I.T., B.S. 1939; mem.: Alpha Chi Sigma; m. Caroline E. Brownlow, July 7, 1942; ch.: Russell Walter, Alan Douglas, Jean Louise. Hunt-Rankin Leather Co., 1939-42; U.S.A., C. W.S., 1942-46; United Shoe Machinery Corp., 1946-50; Stratochem Corp. 1950 to date (v.p. & dir.); McMillan Lab., 1950 to date (dir.). Several pats. pending & many classified tech. reports. Mem.: A.C.S.

OLT, Theodore F., dir., res. labs., Armco Steel Corp., Middletown, Ohio; res. 410 Aberdeen Dr.
Metallurg. engr.; b. Dayton, Ohio, May 18, 1905; s. of Fred and Laura Olt; ed. U. of Cincinnati, Cincinnati, Ohio, 1923-28, chem. engr.; mem.: Sigma Alpha Epsilon, Alpha Chi Sigma, Tau Beta Pi; m. Marjorie Dill, May 16, 1930; ch.: Robert D., Theo. F., Jr. Armco Steel Corp.. metallurgist (operations) 1928-34, supvr. metallurgist (res.) 1934-40, assoc. dir. of res. 1940-45, asst. dir. res. 1945-47, dir., res. labs. 1947 to date. Mem.: Electrochem. Soc., A.S.M., Am. Iron & Steel Inst., A.I.M.M.E., S.A.E., A.S.T. M., Brit. Iron & Steel Inst., Brit. Inst. of Metals.

OMANSKY, Morris, consltg. chem. & rubber tech., 238 Main St., Cambridge 42, Mass.,

room 508; res. 9 Babcock St., Brookline 46, Mass.
Conslt. to rubber, Naval stores & shoe industries; b. Kieff, Russia, Dec. 24, 1889; s. of Robert Joseph and Bessie (Raiman) Omansky; ed. pub. schls. of Boston, M.I.T., S.B., 1911; m. Ricca Wies, Sept., 1917; ch.: Samuel Isaac, Frieda Sarah (Omansky) Cohen. 1911-17 chem., Boston Woven Hose & Rubber Co., Cambridge, Mass.; 1917-20 chf. chem., Plymouth Rubber Co., Canton, Mass.; 1920-22 chf. chem., Needham Tire Co., Needham, Mass.; 1922-24 chf. chem., Plymouth Rubber Co., Canton, Mass.; 1920 to date consltg. chem. & rubber tech. as well as above positions; 1924-25 gen. mgr., Enterprise Rubber Heel Co., Boston, Mass. Res. & dev. in rubber chem. & tech., also in Naval stores & leather shoe ind.; pats. granted; expert in litigation in state and federal courts; clients in England, Canada, Mexico & Philippine Is. as well as U.S.; lecturer, Mass. Dept. of University Extension; U.S. engrg., sc. & management war time program; Northeastern U. Mem.: A.C.S., A.I.Ch.E., A.A.A.S. Dir., Jewish Vocational Service; bd. of govs., Technion; exec. comm., Rubber Group of N.E. sec. of A.C.S. Club: Boston Stein (bd. of govs.).

O'MARA, Richard Fred, gen. sales mgr., dir., Western Precipitation Corp., 1016 W. 9th St., Los Angeles, Calif.; res. 839 So. Lorraine Blvd., Los Angeles.
Sales engr.; b. Lafayette, Ind., Nov., 1904; s. of William R. and Emma A. O'Mara; ed. Purdue U., B.S.M.E.; m. Janet Ewing, 1936; ch.: Prentiss, William. With devel. dept., Am. Rolling Mill Co., Middletown, Ohio, 1926-27; mgr., Dryer Dept., Raymond Div., Combustion Engrg. Corp., 1927-37; sales mgr., Western Precipitation Corp., Los Angeles, 1937 to date. Pats. on drying, air separation, dust collectors and heat exchangers. Mem.: A.S.M.E. (chmn., Sub-comm., Mech. Separation). Clubs: Jonathan (Los Angeles), Engineers (N.Y.).

OMOHUNDRO, Allen Llewellyn, v.p., sc. dir., McKesson & Robbins, Inc., Bridgeport, Conn.; res. "Whitestone," Chestnut Hill, Wilton, Conn.
Chem., exec.; b. Norfolk, Va., Mar. 25, 1903; ed. U. of Pa. 1925; Phar.D., Conn. College of Pharmacy (Univ. of Conn.); mem.: Sigma Phi Epsilon, Alpha Chi Sigma. Asst. to pres., Frederick Stearns & Co.; v.p., McKesson & Robbins, Inc., 1934 to date. Nine U.S.. pats. & 39 foreign pats. in chem. & pharmaceutical fld. Mem.: A.I.C. (fellow), A.A.A.S. (fellow), A.Phar.A., Convention of U.S. Pharmacopoeia Soc. of Chem. Ind., N.Y. Acdy. of Sc. Advisory Bd. of Trustees, Coll. of Pharmacy, U. of Conn.

ONCLEY, John Lawrence, prof. of physical chem. and mem. University of Physical Chem. Related to Medicine and Public Health, Harvard U., 25 Shattuck St., Boston 15, Mass.; res. 28 Grove Hill Park, Newtonville 60, Mass.
Prof. of chem.; b. Wheaton, Ill., Feb. 14, 1910; s. of Lawrence and Arena Hunsche Oncley; ed. A.B., Southwestern Coll., 1929, Ph.D., U. of Wis., 1932, M.A. (hon.) Harvard U., 1946; m. Genevieve Reese, June 14, 1933; ch.: Genevieve Louise, Nancy Anne. Instr. in chem., Wis., 1934-35; Natl. Res. Fellow in Chem., M.I.T., 1932-34; M.I.T., 1935-43; Res. Lab., General Electric Co., 1935 (summer); Res. assoc., Harvard U., 1939-41; assoc., 1941-43; asst. prof., 1943-46; assoc. prof., 1946-50; prof., 1950 to date. Mem.: U. Lab. of Physical Chem. Related to Medicine and Public Health, 1950 to present. Res. in protein chem. and dielectric properties of liquids and gases. Contrib. extens. to tech., jl. arts. Mem.: A.C.S., Natl. Acdy. of Sciences, Am. Acdy. of Arts and Scs., A.A.A.S., Acdy. of Scs. (N.Y.), Sigma Xi, Alpha Chi Sigma, Phi Lambda Upsilon, Gamma Alpha. Club: Harvard (Boston).

O'NEAL, Glenn Hardt, mgr., St. Louis office, The Dow Chem. Co., 3615 Olive St., St. Louis 8, Mo.; res. 701 Brittany Lane, University City 24, Mo.
Sales; b. Juanita, Indian Territory, Crowder, Okla.; s. of John C. and Minnie S. O'Neal; ed. St. Louis Coll. of Pharmacy 1923-24; m. Hazel A. Malotte, Sept. 22, 1930. The Dow Chem. Co., sales dept., 1924 to date. Mem.: Chicago Drug & Chem. (Chicago, Ill.), Drug, Chem. & Allied Trades (St. Louis), Assoc. Drug & Chem. Ind. of Mo. (past pres., dir.). Clubs: Sunset Country, Missouri Athletic, University, Lions. Hobbies: golf, hunting, fishing.

O'NEILL, John Joseph, Jr., hd. of explosives dept., res. & dev. div., Western Cartridge Co., Div. of Olin Industries, Inc., East Alton, Ill.; res. 214 Chaffer Ave., Roxana, Ill.
Chem. engr.; b. N.Y.C., Sept. 13, 1919; s. of John Joseph and Margaret (Patterson) O'Neill; ed. B.S. in chem. engrg. 1940; m. Irene Ray, Apr. 18, 1940; ch.: Anne Marie. 1940, Joseph E. Seagrams & Sons, chem. engr.; 1941 to date, Western Cartridge Co., Div. of Olin Industries, starting as project engr. & successively, smokeless powder pilot plant supvr., supvr. of smokeless powder dev., asst. hd. of explosives dept., hd. of explosives dept., res. & dev. div. Explosives res. Mem.: Blue Key Fraternity, A.I.Ch. E. Clubs: Knights of Columbus, Toastmasters Internatl. Hobbies: public speaking, golf, stamp collecting.

ONSAGER, Lars, J.W. Gibbs prof. theoret. chem., Sterling Chem. Lab., Yale U.; res. 15 Giles St., Hamden, Conn.
Scientist; b. Oslo, Norway, Nov. 27, 1903; s. of Erling and Ingrid (Kirkeby) Onsager; ed. Norge Teknishe Hoiskole, Trondheim, Ch.E., 1925; Yale U., Ph.D., 1935; m. Margarete Arledter, Sept. 7, 1933; ch.: Erling F., Inger M., Hans T., Christian C. Assoc. in chem., Johns Hopkins U., 1928; instr. chem., Brown U., 1928-33; Sterling Fellow at Yale U., 1933-34; asst. prof. chem., 1934-40, assoc. prof., 1940-45, prof., 1945 to date. Res. in theory of electrolytes, dielectrics, colloids, diffusion, separation of isotopes, transitions of the second kind, reciprocal relations in irreversible processes. Mem.: A.C.S., Natl. Acdy., Conn. Acdy., Sigma Xi, Alpha Chi Sigma; fellow, A.P.S., Amer. Acdy., N.Y. Acdy., A.A.A.S.; foreign mem. Norwegian Acdy. Sc., (Oslo); hon. mem. Norw. Chem. Soc.

OOSTERMEYER, Jan, pres., Shell Chemical Corp., 50 West 50th St., New York 20, N.Y.; res. 277 Park Avenue, New York 17, N.Y.
Exec.; b. Amersfoort, Holland, June 12, 1897; ed. Holland; m. Agnes Kathleen Robertson, Sept. 18, 1926; ch.: Mrs. Bernadine (Oostermeyer) Austin, Jan Stuart. Asiatic Petroleum Co. Ltd., China, 1917-37; Shell Mex Chile, Ltd., Santiago, Chile, 1937-39; Shell Chemical Co., San Francisco, Calif., v.p., 1939-42, pres., 1942-43; exec. v.p., Shell Chem. Div. of Shell Union Oil Corp., San Francisco, 1943-46; Shell Chemical Corp., New York, pres., 1946 to present. Clubs: Holland, Sleepy Hollow Country, Racquet & Tennis (New York); Pacific Union (San Francisco, Calif.).

OPIE, Joseph Wendell, res. chem., sec. ldr., Gen. Mills, Inc., 2010 E. Hennepin Ave., Minneapolis 13, Minn.; res. 2515 W. 52 St., Minneapolis 10.
Org. chem.; b. Roberts Co., S.D., Sept. 27, 1913; s. of Joseph C. and Frances R.W. Opie; ed. B. of chem., U. of Minn. 1935, Ph.D. 1940; mem.: Alpha Chi Sigma; m. Lilias L. Werner, 1940;

ch.: Lee Frederic Joseph. Microanal., teaching asst., U. of Minn. 1935-40, res. chem., Merck & Co. Inc., Rahway, N.Y., 1940-42; res. chem., Texas Co., Beacon, N.Y., 1942-44; res. chem., Wyeth, Inc., Phila., Pa., 1944-46; res. chem., sec. leader, Gen. Mills, Inc., 1946 to date. 12 publ. in fld. of polymethyl benzenes, substituted coumarins & tocopherols. Mem.: Sigma Xi, A.C.S. Hobbies: music, photography.

OPOLONICK, Nicholas, chem., N.Y. State Racing Commis., 148-11 Hillside Ave., Jamaica, N.Y.; res. 68-29 Burns St., Forest Hills, N.Y.
Chem.; b. Selo Kamisheva, Donbas, Russia, Feb. 7, 1889; s. of Ivan Mamontovich and Maria (Petrovna) Opolonick; ed. 1905 grad. five yr. Russian Schl., Kamishevaha; 1916-20 student, Valparaiso U., Ind.; B.S., 1928, M.A., 1929, Columbia, N.Y. 1937-42, chf. chem., Hammond Paint & Chem. Co.; 1942 to date chem., N.Y. State Racing Commis. Reduction of nitrobenzene with dextrose in alkaline solut. (Ind. Eng. Chem. 1935); Azoxybenzene (Org. Syn. 1937); Chem. elements & their atomic nbrs. as points on a spiral (Jour. Chem. Ed. 1935). Mem.: A.C.S., A.I.C., A.A.A.S., Assn. of Official Racing Chem. Club: Flushing Bay Motor Boat. Hobby: motor boating.

OPPEL, Edwin Irving, mgr., dev. prods. div. (pigments), N.J. Zinc Co., 160 Front St., N.Y. 7, N.Y.; res. 19 Patton Pl., Upper Montclair, N.J.
Chem. market res.; b. N.Y.C., Sept. 6, 1910; s. of Rudolph A. and Elizabeth W. Oppel; ed. Columbia U. 1928-29; Colorado Schl. of Mines 1929-31; m. Dorothy D., Aug. 31, 1939; ch.: Susan L. 1931-33 United Color & Pigment Co., res. & color dev. chem.; 1933-36 Witco Chem. Co., asst. to v.p. in chg. of sales; 1936-39 U.S. Ind. Chem., Inc., tech. writer & edit.; 1939 to date N.J. Zinc Co., market dev., ind. adver., new prod. dev., market res. Commercialization of fluorescent & phosphorescent pigments, fireproofing cmpds.; past secy. of Chem. Market Res. Assn.; Daniel Starch winner of ind. adver. Mem.: A.I.C. (fellow); Chem. Market Res. Assn. (councillor), Illuminating Engrg. Soc. Clubs: Deer Lake Club, Boonton, N.J. Hobbies: photography, record collecting, camping.

OPPELT, Walter Hans, chief utilization section, lignite branch, Bur. of Mines, Box LL, University Station, Grand Forks, N.D.; res. H-12 Park Village, Grand Forks, N.D.
Chem.; b. Dresden, Germany; s. of Hans Georg and Elsbeth Margarethe Oppelt; ed. 1904-08 elementary schl., Chemnitz, Germany; 1908-18 high schl., Chemnitz, Germany; 1919-24, U. of Leipzig, Germany, May, 1925, Ph.D.; m. Claire Suther, July 19, 1932; ch.: Wolfgang Walter. 1924-28, chem., Gas Co. "Gosag" Heidenau, Germany; 1928-35, res. chem., Dr. C. Otto & Co., coke oven designers & constructors, Bochum, Germany, 1935-45, chf. chem. in chg. of res. lab. & pilot plants; 1945-47, tech. specialist, conslt. to U.S.A., Wash., D.C.; 1947-50, tech. specialist loaned to Bur. of Mines, Grand Forks, N.D. Dev. of com. processes for low temp. carbonization of coal & oil shale; anal. meth. for determination of naphthalene in gas; dephenolization of waste liquors by brown-coal tar oils; gasification & drying of lignite. Mem.: A.I.Ch.E. (active), A.C.S. (full mem.), Sigma Xi (full mem.), N.D. Acdy. of Sc. Club: Lions. Hobby: reading.

OPPENHEIM, Laurent, Jr., conslt., 30 E. 60th St., New York 22, N.Y.; res. Hotel La Salle, New York, N.Y.
Indust. Management Conslt.; b. N.Y.C., May 7, 1901; s. of Laurent and Amy (Schwartz) Oppenheim; ed. Bovee Schl., N.Y., Taft Schl., Watertown, Conn., Sheffield Sc. Schl., Yale U., Ph.B., 1921; unm. 1921-23, factory exper., Union Carbide & Carbon Corp., Natl. Carbon Co.; 1923-31, invest. banking, Bonbright & Co., Inc.; 1931-34, invest. banking, Shields & Co.; 1935-42, investment and business conslt. (own firm); 1942 to date indust. mgt. conslt. own firm. Chmn. of bd. and dir., Resistoflex Corp., Belleville 9, N.J. Mem.: A.S.M.E. Clubs: Yale (N.Y.), Church (N.Y.), Economic (N.Y.).

ORCHARD, William John, pres., Wallace & Tiernan Prods., Inc., 11 Mill Street, Belleville 9, N.J.; res. 50 Sagamore Rd., Maplewood, N.J.
Sanitary engr., exec.; b. Boston, Mass., Nov. 15, 1888; s. of Edward and Elizabeth (Sayce) Orchard; ed. sanitary engrg., M.I.T., 1911; m. Marie Frances (Singler), Feb. 1, 1913; ch.: John Edward, William, Robert, Sally Orchard Keating, Jane Orchard Stellas. Sanitary engr., with Metropolitan Water Bd., Boston, Mass., and N. J. State Dept. of Health; Wallace & Tiernan Co., Inc., Newark, N.J., 1915 to become gen. mgr. Now pres. and dir. of Wallace & Tiernan Prods., Inc.; secy. & treasurer of Wallace & Tiernan Sales Corp.; v.p., treasurer & dir. of Novadel-Agene Corp. and Industrial Appliance Corp. Author many arts. on chlorination of water and related subjects. Mem.: A.W.W.A. (hon. member) Federation of Sewage Works Assoc., Am. Public Health Assoc. (fellow), Water & Sewage Wks. Manufacturers Assoc. Awarded Roosevelt M. for war wk. by War Manpower Comm. Chmn. of the Bd., Hospital Center at Orange, N.J.; trustee, Essex County Parental Schl., chmn., Maplewood Citizens Comm., Treasurer of Maplewood Community Service. Clubs: Chemists' (New York), Essex (Newark), Maplewood Country, Rotary. Hobbies: music and sailing; author of several musical compositions.

ORCHIN Milton, chf., org. chem. section, Office Synthetic Liquid Fuels, U.S. Dept. of Interior, Bruceton, Pa.; res. 1693 New Haven Ave., Pittsburgh 16, Pa.,
Chem.; b. Barnesboro, Pa., June 4, 1914; s. of Morris and Mary (Revin) Orchin; ed. B.A., Ohio State U., M.A., Ohio State U., Ph.D., Ohio State U.; m. Ruth Wilner, June 4, 1941; ch.: Michael, Morton. Chem., U.S. Food & Drug Adm. 1939-42; chem., U.S. Dept. of Agric., 1942-43; chem., U.S. Dept. of Interior, 1943 to present. Res. in dehydrogenation studies, constitution of coal, synthetic liquid fuels, polynuclear hydrocarbons, molecular complexes. Guggenheim Fellow, 1947. Mem.: Phi Beta Kappa.

ORCUTT, Frederic Scott, prof. of bacteriol. & biochem., biol. dept., Va. Polytech. Inst., Blacksburg, Va.; res. Hillcrest Dr., Blackwood, Blacksburg, Va.
Prof. in chg. of bacteriol., biochem. sec.; b. Sioux City, Iowa, Nov. 27, 1907; s. of Robert W. and Florence W. Orcutt; ed. Antioch Coll. 1 yr.; U. of Wis., B.S. chem. 1931, M.S. biochem. 1933, Ph.D. bacteriol., 1935; mem.: Alpha Kappa Lambda; m. Katharine Krauskopf 1935; ch.: Barbara Sue, F. Scott, Jr. U. of Wis., depts. of anesthesia & pharmacol., res. asst. 1928-31, depts. of agr. bact. & biochem., res. asst. 1931-35, depts. of anesthesia & pharmacol., res. assoc. 1935-36; Va. Polytech. Inst., biol. dept., instr. in bact. 1936-38, asst. prof. of bact. & biochem. 1938-41, assoc. prof. of bact. & biochem. 1941-45, prof. in chg. of div. of bacteriol. & biochem., 1945 to date. 46 publs. in sc. jls., biochem. (bacterial, plant & animal physiol.); grad. A.S.T.P. program training biochems. for Surgeon General's Office; conslt. Contract No. 12, Oak Ridge Institute of Nuclear Studies, Oak Ridge, Tenn. Mem.: S.A.B. (v.p. Va. branch 1942-46; pres. of Va. branch 1946-49; Natl. Councilor from Va. branch, 1950-52), A.A.A.S., Soc. of Am. Plant

Physiol., Va. Acdy. Sc. (chmn. bact. sec. 1946-49). Honors: Legislative scholarships, U. of Wis., 1928-31; Sigma Xi, 1933, U. of Wis.; Phi Lambda Upsilon; Gamma Alpha; Phi Sigma, advisor to Alpha Psi Chapt. Clubs: University (Blacksburg, Va.), Mason, Royal Arch, Commandry. Hobbies: photography, travel.

ORCUTT, James Addison, chf. div. of pharmacol., dept. of res. & dev., Eaton Labs. Inc., Norwich, N.Y.; res. 165 E. Main St., Norwich.
Pharmacol.; b. Mobile, Ala., July 11, 1918; s. of Jas. W. and Irene H. Orcutt; ed. U. of Chicago, S.B., 1939; S.M., 1940, U. of Rochester, Ph.D., 1946; m. Jean Hopkins, Mar. 19, 1944; ch.: Ann, Jeremy. Asst. res. chem., Am. Meat Inst., Chicago, 1940-42; res. asst. in anatomy, U. of Chicago, 1943; res. chem., Cutter Labs., Berkeley, Calif., 1944; asst. in chem., Manhattan Project, Rochester, N.Y., 1944-46; asst. in pharmacol., U. of Rochester, Schl. of Medicine, 1944-45, instr. 1946; chf. div. pharmacol., Eaton Labs. Inc., Norwich, N.Y., 1946 to date. Author: Chapters 8 & 9 of "Pharmacol. & Toxicol. of Uranium Cmpds." edited by Voegtlin & Hodge (McGraw-Hill Book Co., N.Y.), 1949. Mem.: N.Y. Acdy. of Sc., Am. Statistical Assn. Pres., E. Main St. Parent Teacher Assn., 1949-51. Club: Norwich (Norwich, N.Y.). Hobbies: woodworking, woodcarving, painting.

ORD, Robinson, gen. mgr. of sales, organic chems. div., Monsanto Chem. Co., 1700 South Second St., St. Louis 4, Mo.; res. 326 Edgewood Dr., Clayton 5, Mo.
Gen. mgr. of sales; b. Sunderland, England, Aug. 23, 1907; s. of Robinson and Ethel (Wilson) Ord; ed. grade schl., Grange School, Sunderland, England; high school, Bede School, Sunderland, England; college, Pembroke Coll., Oxford U.; m. Jane C. Vincent, Nov. 19, 1932; ch.: Robinson, IV, Jonathan, Nicholas, Timothy. 1930, export mgr., Monsanto Chem. Co., St. Louis, Mo.; 1939, asst. mgr. sales (Organic Div.); 1941, asst. gen. mgr. sales; 1945, gen. mgr. sales. Clubs: Masonic (Grand Lodge of England); Drug Club (N.Y.); University (St. Louis); Chicago Drug & Chem. Assoc.; Bellerive Country (St. Louis); Assoc. Drug & Chem. Ind. of Missouri. Hobbies: gardening, golf.

OREM, Edward Addison, asst. dir. of sales, Grasselli Chemicals Dept., E.I. du Pont de Nemours & Co., Wilmington, Del.; res. Westtown, Pa.
Prof., legal; occupation, sales directing; b. Baltimore, Md., Dec. 10, 1892; s. of John T. and Louisa W. Orem.; ed. U. of Md.; m. Nettie A. Orem, June 2, 1915; ch.: Beverly, Doris, Joyce. Entered du Pont at N.Y. traffic dept. Nov. 13, 1914; traffic dept., Wilmington, Del., Feb., 1915; special asst. in traffic problems at war plants reporting to v.p., Mar., 1915; asst. traffic mgr., Nov., 1916; asst. mgr., magazines & warehousing div., Nov., 1918; asst. sales mgr., acids & heavy chems. dept., Mar., 1920; branch sales mgr., acids & heavy chems. dept., domestic and export, N.Y.C., Apr., 1924; asst. Eastern sales mgr., Grasselli Chem. Co., N.Y.C., Feb., 1929; sales mgr., acids & heavy chemicals, Grasselli Chems. div., du Pont Co., Wilmington, Del., Mar., 1937; asst. dir. of sales, acids & heavy chems., Grasseli Chems. dept., du Pont Co., Wilmington, Del., Apr., 1942; asst. dir. of sales, Ind. Chems., Grasselli Chemicals Dept., du Pont Co., Wilmington. Del., Jan., 1948 to date. W.W.I, in charge of Federal Explosives Regulation Act, Washington, D.C., W.W.II, comm. member of a number of W.P.B. committees, Washington, D.C. A number of Federal certificates for activity with W.P.B. during W.W.II. Clubs: du Pont Country, Concord Country, Wilmington Country, Maryland (Baltimore), Uptown. Hobbies: riding, farming, golfing.

ORNFELT, John R., res. dir., Am. Home Food, Inc., Morris Plains, N.J.; res. 12 Midland Dr., Morristown, N.J.
Chem. engr.; b. Gothenburgh, Sweden, July 27, 1897; s. of Victor and Anna Ornfelt; ed. Chalmers Inst. of Tech., Sweden, diploma engr.; m. Birgit Peterson, Apr. 11, 1931; ch.: Sten. Gen. Foods Corp., 1928-41; Andrew Jergens Co., 1941-44; Am. Home Foods, Inc., 1944 to date. Res. on coffee, oils & soaps. Mem.: A.C.S., I.F.T., Am. Soc. of Swedish Engrs. Hobbies: gardening, golf.

ORR, William G., tech. supt., U.S. Rubber Co., Syn. Rubber Div., Port Neches, Texas.
Exec.; b. Ardmore, Okla., Aug. 8, 1920; s. of Thad B. and Tillie G. Orr; ed. Okla. A.&M. Coll., Stillwater, Okla., 1937-42, B.S. in chem. engrg.; mem.: Sigma Chi; m. Laura Allene Precure, Jan. 12, 1943; ch.: Susan Jean, William Donald. U.S. Rubber Co., 1942, Gen. Labs., Passaic, N.J., chem. engr.; 1943, Syn. Rubber Div., Naugatuck, Conn., process engr.; 1943-47, Syn. Rubber Div., Charleston, W.Va., 1943-44 process engr., 1944-46 process control dept. hd., 1946-47 chf. chem.; 1947-Nov., 1950, Syn. Rubber Div., Borger, Texas, 1948 process engr., 1949 chf. chem., 1950 tech. supt.; Nov., 1950 transferred to syn. rubber plant, Port Neches, Texas. Club: Borger Lions. Hobbies: hunting, fishing, woodworking, bowling.

ORT, John M., dir. of res., C.D. Smith Pharmacal Co., New Brunswick, N.J.; res. R.D. 4, Somerville, N.J.
Chem.; b. Saylor Park, Ohio, May 31, 1896; s. of G.L. and Hettie A. (Mouk) Ort; ed. B.Ch.E., 1918, M.S., chem. engrg., 1919, Ph.D., physical chem. physics, 1924, Ohio State U.; m. Florence A. Dolby, June 6, 1918; ch.: Robert L., Walter E., Louise A. Instr. in chem., Case Schl. Applied Sc., 1919-22; asst. prof. biophysics, Mayo Foundation, U. of Minn., 1924-32; physical chem., Swift & Co., Chicago, 1932-33; operating hd., dev. dept., E.R. Squibb & Sons, 1933-34; dir. of labs., Am. Pharmaceutical Co., 1944-46; 1946 to date, dir. of res., C.D. Smith Pharmacal Co. Oxidation-reduction & membrane potentials, oxidation of sugars, bound water & edema, pharmaceutical res. & dev. Mem.: Sigma Xi, A.C.S., Am. Phar. Soc., A.I.C., Am. Soc. Biochemists, N.Y. Acdy. of Sc., Am. Men of Sc. Hobbies: books, fishing, camping.

ORTHMANN, August Caesar, pres., Orthmann Labs., Inc., 922 N. 4 St., Milwaukee, Wis.; res. 1913 N. 48 St., Milwaukee.
Chem.; b. Milwaukee, Wis., Feb. 3, 1888; s. of Julius and Hannah (Wolffe) Orthmann; ed. public schls., tutored in chem. for 4 yrs.; m. Hattie Mabel Voight, June 19, 1909; ch.: Audrey Louise. U.S. Glue Co., chem. asst., 1901; Pfister & Vogel Leather Co., asst. chem. 1908, asst. chf. chem. in chg. of anal. lab. 1913, chf. chem. 1922; organized Orthmann Labs. (due to liquidation of Pfister & Vogel Lab. in 1929) and operated it ever since; organized Panda Corp. in 1947 and still operates it. Res. wk. in leather chem. 1913-29; written many arts., most pub. in A.L.C.A.; dev. tanning process for vegetable tanning; conventional meth. for this required 6 to 8 weeks, but new process dev. put in use in 1942, reduced that time to 7 hrs. for tanning same leather. Author: "Leather Process" (Rumpf Publ. Co., Chicago, Ill.), 1945; contrib. to Encyclopaedia Britannica, contrib. to World Book. Mem.: A.S.T.M., A.O.C.S., Engrs. Soc. of Milwaukee, Forest Prods. Res. Soc., Natl. Farm Chemurgic Council, Am. Interprofessional Inst., T.A.P.P.I. Past pres. of Wis. Humane Soc.; hon.

v.p., Am. Humane Soc. Clubs: Milwaukee Athletic, Milwaukee Assn. of Com., Milwaukee Rotary, Milwaukee Y.M.C.A. Officer: Orthmann Labs., Inc. (pres., founder), Panda Corp. (pres., founder).

ORTYNSKY, Roman Leo, chf., Air Force Munitions Br., Munitions Div., Tech. Command, Army Chem. Center, Md.; res. Bel Air, Md.
Chem. ordnance engr.; b. Buffalo, N.Y., Mar. 23, 1913; s. of Rev. John and Stephania L. Ortynsky; ed. M.I.T., Cambridge, Mass., S.B., 1932-37; mem.: Phi Kappa, Alpha Chi Sigma; m. Bernadette M.J. Grenier, Feb. 17, 1942; ch.: Suzanne Marie, Daria Julie. Shell Dev. Co., Emeryville, Calif., lab. asst. 1937-40; Shell Oil Co., Wood River, Ill., sr. chem. res. lab. 1940-42; Edgewood Arsenal, Md., lt., capt., C.W.S., munitions dev. engr. 1941-46; Shell Oil Co., Wood River, Ill., res. chem., 1946; Tech. Command, Army Chem. Center, Md., chf. Air Force Munitions Br., 1946 to date. Res. in synthetic asphalts, incendiary bomb dev., fillings and munitions. Mem.: A.C.S., A.A.A.S. Hobbies: gardening, sports—tennis.

OSBORN, Gerald, chmn. of chem. dept., Western Mich. Coll. of Ed., Kalamazoo, Mich.; res. 727 Campbell Ave., Kalamazoo.
Teacher; b. Tangier, Ind., Apr. 11, 1903; s. of Luther and Mary Elizabeth (Hadley) Osborn; ed. A.B., Mich. State Normal Coll. 1927; M.S. 1929, Ph.D. 1939, U. of Mich.; mem.: Kappa Delta Pi, Phi Lambda Upsilon, Phi Kappa Phi, Sigma Xi; m. Dorothy Dunlap, Aug. 25, 1927; ch.: James Maxwell, Arthur Hadley. H.S. Sc. teacher, principal, Homer, Mich., 1924-27; instr. in chem., 1927-29, asst. prof., 1929-39, Mich. State Normal Coll., Ypsilanti; prof. of chem., chmn. of chem. dept., Western Mich. Coll. of Ed., 1939 to date. Rate of dissociation of penta-arylethanes, free radicals, energies of activation, chem. education. Mem.: A.C.S., A.A.A.S., Mich. Coll. Chem. Teachers Assn., Central Assn. of Sc. & Math. Teachers, Natl. Sc. Teachers Assn. Club: Kiwanis. Hobby: gardening.

OSBORN, Merritt J., pres., Economics Lab. Inc., Guardian Bldg., St. Paul, Minn.; res. 2233 Summit Ave., St. Paul 5, Minn.
Exec.; b. Buchanan, Mich., Feb. 14, 1879; s. of William and Charlotte Osborn; ed. Buchanan H.S. Had number of yrs. in sales with both Parke Davis & Co. & Eli Lilly & Co.; m. Susan Bartley, Dec. 17, 1901; ch.: Stephan A., Edward Bartley.

OSBORNE, R(obinson) Quayle, prof. of chemistry, dept. chemistry, Emory U., Emory University, Ga.; res. 1307 Emory Circle N.E., Atlanta, Ga.
Prof. of chem.; b. Cleveland, O., Dec. 15, 1898; s. of William and Lucy Robinson Osborne; ed. Swarthmore Coll., A.B. 1919; Harvard U., M.A. 1921; Johns Hopkins, 1924; mem.: Delta Upsilon, Alpha Chi Sigma, Gamma Alpha, Omicron Delta Kappa; m. Zaidee T. Miller, June 22, 1922; ch.: Nancy Elizabeth (Mrs. Benj. Smith, Jr.), Louise Tevis (Mrs. W.W. Kling). Emory U., asst. prof., 1924-27, assoc. prof., 1927-31, prof., 1931 to date. Res. in surface tension & parachor, mechanism esterification, small strained rings, organic syntheses. Mem.: A.C.S., A.A.A.S., Ga. Acdy., Phi Beta Kappa, Sigma Xi. Awards: Jefferson M., Herty M.

OSBORNE, Stanley de Jongh, v.p., treas., Mathieson Chem. Corp., Mathieson Bldg., Baltimore 3, Md.; res. Manor Rd., Glen Arm, Baltimore County, Md.
Exec.; b. San Jose, Costa Rica, Mar. 27, 1905; s. of Edmund A. and Lilly (de Jongh) Osborne; ed. Phillips Acdy., Andover, 1918-22; A.M., cum laude, Harvard U., 1926; Harvard Bus. Schl., 1926-27; m. Elizabeth Ide, Oct. 28, 1929; ch.: Mary Ide, Richard de Jongh, Cynthia Adams. Old Colony Corp., Boston, 1928-29; Atlantic Coast Fisheries Co., Boston, Mass., 1929-42, v.p., treas.; Office of Rubber Dir., special asst., Wash., D.C., 1942-44, $1 per yr.; Eastern Air Lines, N.Y.C., 1944-50, v.p. traffic & sales; Mathieson Chem. Corp., Mar., 1950 to date, v.p., treas. Mathieson Hydrocarbon Chem. Corp. (secy., treas.). Governor, Boys' Athletic League, N.Y. Clubs: Harvard (N.Y.), Maryland (Baltimore, Md.), Cohasset Yacht (Cohasset, Mass.), Cohasset Golf, Rockefeller Center Luncheon (N.Y.).

OSER, Bernard L(evussove), v.p., dir., Food Res. Labs. Inc., 48-14 33rd St., Long Is. City 1, N.Y.; res. 70-47 Harrow St., Forest Hills, N.Y.
Biochem.; b. Phila., Pa., Feb. 2, 1899; s. of Harris Elias and Frances Oser; ed. B.S. in chem. U. of Pa., 1920, M.S., 1925; Ph.D., Fordham U., 1927; mem.: Alpha Epsilon Pi, Sigma Xi; m. Clara de Hirsch Kotkin, May 27, 1923; ch.: Zelda B. Zelinsky, Alan S. Asst. dept. physiol. chem., Jefferson Med. Coll., 1920-21; biochem., Phila. Gen. Hosp. & instr. biochem. grad. schl. med. U. of Pa. 1922-26; asst. dir., Food Res. Labs. Inc., 1926-34, dir., 1934 to date, v.p. 1939 to date. Secy., Assn. Cons. Chem. & Chem. Engrs. 1934-40; chmn., Div. Agr. & Food Chem., A.C.S., 1947; pres., Am. Council of Com. Labs. 1948-49; chmn., Gordon Res. Conference on Food & Nutrition 1950-51; editorial advisory bds., "Anal. Chem." & "Food Tech." Co-author: "Practical Physiolog. Chem." Hawk, Oser & Summerson (Blakiston) 1947. Mem.: A.A.A.S. (fellow), A.I.C. (fellow), N.Y. Acdy. Sc. (fellow), A.C.C.C.E., A.C.S., I.F.T., Am. Council of Com. Labs., A.A.Cl.C., Soc. Chem. Ind., Am. Inst. of Nutrition, Biometric Soc., Soc. of Am. Bacteriologists. Club: Chemists' (N.Y.). Hobbies: music, photography.

OSMOND, Charles Hodgson, chem. engr., Charles H. Osmond Oil Operations and Charles H. Osmond, Ltd., Fort Worth Natl. Bank Bldg., Fort Worth 2, Tex.; res. 6111 Curzon St., Fort Worth 7.
Exec.; b. Elkview, Chester Co., Pa., Aug. 26, 1893; s. of John Lambert and Elva (Jones) Osmond; ed. Swarthmore Coll.; Temple U., B.S. 1914; Grad. Schl., U. of Pa., 1916; mem.: Sigma Pi; m. Florence Marie Conrad, April, 1920. With U.S. Signal Corps, A.E.F., 1917-18; C.W.S., Puteaux Lab., France; Atlantic Refin. Co., phys. chem., chem. engr., 1919-25; 1925-45, assoc. with Roderic Crandall under firm name of Crandall & Osmond, cons. petroleum engrs.; since May 1, 1945 to date, partner Charles H. Osmond Oil Operations and Charles H. Osmond, Ltd. Mem.: A.I.M.E. Clubs: Fort Worth Club, Fort Worth Boat Club, River Crest Country. Hobbies: golf, fishing.

OSOL, Arthur, prof. of chem., dir. of the chem. dept., Phila. Coll. of Pharmacy & Science, Phila. 4, Pa.; res. 128 Colwyn Lane, Cynwyd, Pa.
Chem. prof., editor; b. Riga, Latvia, Dec. 1, 1905; s. of Peter and Caroline Irbit Osol; ed. Ph. G., Phila. Coll. of Phar. & Sc., 1925, B.Sc., in chem., 1928, M.Sc. in chem. 1930, M.S., U. of Pa., 1931, Ph.D., 1933; awarded var. prizes and scholarships; mem.: Phi Delta Chi; m. Amelia Virginia Lebo, Dec. 28, 1928. Asst. in chem., Phila. Coll. of Pharmacy & Sc., 1928-30; instr., 1930-33, asst. prof., 1933-34; assoc. prof., 1934-37; prof. since 1937; dir. of chem. labs., 1937-43; dir. of chem. dept., since 1943; scientific dir., Raymer Pharmacal Co., since 1931 (dir. & sec.); tech. ed., American Druggist Mag., 1933-45. Collab. res. on methods of anal., of opium and coca for League of Nations Health Comm., 1933-37. Sc. Advisory Comm., Smaller War Plants Corp., during W.W.II. Solubility determinations, spectro-

photometric studies, etc. "United States Dispensatory," assoc. ed., 22nd ed., 1937 and supplement 1940; co-editor 23rd ed., 1943 and supplement 1944; editor-in-chief 24th ed., 1947; "New Gould Medical Dictionary" 1949; assoc. ed., Remington's Practice of Pharmacy," 8th ed., 1936, 9th ed. 1948, 10th ed. 1950. Mem.: A.C.S. (chmn., Phila. Sec., 1943-44; councilor, dir.), E.S. (chmn., Phila. Sec., 1949—; treas.), A.Phar.A. (pres. Phila. Sec. 1939-40, dele.), Phila. Sc. Council (v.p. 1949—), Revision Comm., U.S. Pharmcopoeia (1950-60), A.A.A.S. (fellow), A.I.C., Franklin Inst., Sigma Xi. Dir., Phila., Science Council. Clubs: Rotary Intl. (Phila.), Metachemical, Llanerch Country. Hobbies: travel, music.

OSRI, Stanley M., gen. production mgr., Kraft Foods Co., 500 Peshtigo Ct., Chicago, Ill.; res. 4100 N. Kenneth Ave., Chicago.
Chem. engr.; b. Chicago, Ill., July 30, 1916; s. of Morris and Margit Osri; ed. B.S. in chem. engrg., Armour Inst. of Tech. (now Ill. Inst. of Tech.) 1938; mem.: Pi Nu Epsilon; m. Blanche Dillon, Dec. 12, 1944; ch.: Margit Mary. 1938-40, plant supt., Electroplating Co.; 1940 joined Kraft Cheese Co., ind. engr.; 1941-45, Army Air Force, Engrg. Officer, spent 3 of these yrs. overseas; 1945 to date, Kraft Foods Co., spent 2 yrs. in res. div., then made gen. prodn. mgr. of Krafts Whey Operations. Mem.: A.I.Ch.E., Am. Dairy Sc. Assn., licensed prof. engr. in State of Ill. Club: Toastmasters Internatl. Hobbies: golf, antique refinishing.

OSTERHOF, Gerard Gordon, prof. of chem., hd. of chem. dept., South Dakota Schl. of Mines and Tech., Rapid City, S.D.; res. 920 Franklin St., Rapid City.
Teacher; b. Greenleafton, Minn., Aug. 22, 1899; s. of Albert and Johannah (Van Ark) Osterhof; ed. A.B., cum laude, Hope Co., Holland, Mich., 1920, M.Sc., Ohio State U., Columbus, O., 1921, Ph.D., 1923; mem.: Phi Lambda Upsilon, Sigma Xi, Alpha Chi Sigma, Gamma Alpha; m. Adah M. Dick, Aug. 4, 1926; ch.: Gordon Dick, Gretchen. Student asst., Hope Coll. 1918-20; grd. asst., Ohio State U., 1920-22; Natl. Lime Assoc. Fellow, Ohio State U., 1922-23; asst. prof. chem. S.D., Schl. of Mines and Tech., Sept. 1923-26; assoc. prof., Sept. 1926-June, 1938, prof. Sept. 1928—, hd. of chem. dept., Sept., 1942 to present. A few publs. of gen. character in Black Hills Engrg., a local publ. One publ. while in grad. schl. in J.A.C.S. Mem.: A.C.S., Am. Soc. for Engrg. Educ., Sigma Xi. Hobbies: gardening, fly fishing.

OSTERHOF, Harold Judson, mgr., res. div., The Goodyear Tire & Rubber Co., Akron, Ohio; res. R.D. No. 7, Box 84A, Smith Road, Akron.
Res. chem.; b. Greenleafton, Minn., Nov. 27, 1897; s. of Albert and Johanna Osterhof; ed. U. of Mich., Ann Arbor, Mich., Ph.D.; mem.: Sigma Xi, Gamma Alpha, Alpha Chi Sigma, Phi Lambda Upsilon; m. Dorothy, Dec. 22, 1928. Dept. of Engrg. Res., U. of Mich.; res. sec. hd., The Goodyear Tire & Rubber Co.; asst. mgr. Res. Div.; mgr. Res. Div. Mostly administrative wk.; papers: Res. on Meths. for Evaluation of Interfacial Tensions Betw. Solids and Liquids and the Wet-ability of Solids by Liquids. Mem.: Amer. Ordn. Assoc., Armed Forces Chem. Assoc., Akron Rubber Grp., A.C.S., Alpha Chi Sigma. Hobbies: horticulture, golf.

OSTERMAYER, Robert W. Sr., pres., Pa. Industrial Chem. Corp.; res. 525 Mitchell Ave., Clairton, Pa.
Chem. engr.; b. Camden, N.J., Nov. 26, 1895; s. of Lawrence J. and Anne Marie (Boehringer) Ostermayer; ed. Pa. State Coll., B.S. 1917; mem.: Chi Phi, Sigma Tau, Phi Lambda Upsilon; m. Marguerite Morris Paschall, Sept. 1, 1920; ch.: Robert W., Jr., Arta C.

OTHMER, Donald Frederick, prof. of chem. engrg. dept., Polytech. Inst. of Brooklyn, 85 Livingston St., Bklyn. 2, N.Y.; res. Coudersport, Pa., and 140 Columbia Heights, Bklyn., N.Y.
Prof. of Chem. Engrg. and hd. of Dept.; conslt. chem. engr.; b. Omaha, Nebr., May 11, 1904; s. of Frederick George and Fredericka Darling (Snyder) Othmer; ed. Armour Inst., Chicago, 1921-23; B.S., U. of Nebr., 1924; M.S., U. of Mich., 1925; Ph.D., U. of Mich., 1927. Dev. engr., Eastman Kodak Co., and Tenn. Eastman Corp., 1927-31; instr., Polytech. Inst. of Bklyn., 1932-33, prof., since 1933, Hd. of Dept. of Chem. Engrg. since 1937; licensed chem. engr. in N.J., N.Y., Penn. and Ohio; conslt. chem. engr. since 1931 to cos. in U.S., Canada, Sweden, Spain, France, England, Belgium, Switzerland, Italy, India, S.Africa, Japan, Mexico, Philippine Islands, Central and South America in flds. of chem. mfr., refrigeration and heat transfer, petroleum refin. and petro-chems., fermenting, penicillin, solvents, distilling, wood util., engrg. equip., synth. rubber, plastics, rayon, sugar; also to C.W.S., U.S.A.; W.P.B., Inter-Amer. Dev. Commis., Inst. de Fomento Industrial (Colombia, S.A.); Special Devices Div. of U.S.N. Senior gas officer of Bklyn. Citizens Def. Corps; designer of plants and proc. for num. corps. in U.S. and foreign countries; holds abt. 100 U.S. and foreign pats. on meths., proc., and engrg. equipment in mfg. of rayon, plastics, wood distillation, refrigeration, etc.; co-inventor of Smith-Othmer wallboard made from wood and other cellulosic wastes; contrib. over 150 arts. to Amer. and foreign tech. jls.; co-editor, Kirk-Othmer, Encyc. of Chem. Technology (12 vols.); lecturer on engrg. and sc. subjs.; 1948 lecturer in Swiss Univs. sponsored by Amer.-Swiss Found. for Sc. Relations. Lecture Tour for The Chem. Inst. of Canada, 1950. Fellow, A.A.A.S.; fellow, A.I.C.; mem. A.I.Ch.E. (chmn. of N.Y. Sect. 1944); A.C.S. (mem. Council, 1945); S.C.I. (mem. Exec. Comm. 1947 to date); A.S.M.E. (chmn. of Proc. Indust. Div., 1949); Am. Soc. for Engrg. Educ.; Sigma Xi, Tau Beta Pi, Phi Lambda Upsilon, Iota Alpha, Chi Sigma, Lamda Chi Alpha. Club: Chemists' (N.Y.).

OTT, Emil, dir. res., Hercules Powder Co., Wilmington, Del.; res. Sedgely Farms, R.D. 1.
Dir. chem. res.; b. Zurich, Switzerland, May 19, 1902; s. of Emil and Anna Goldinger Ott; ed. D.Sc. Nat. Swiss Inst. Tech. 1927; mem.: (hon.) Sigma Xi, Phi Lambda Upsilon; m. Dorothy Aiken Wright, Oct. 2, 1933; ch.: John W., Joan N., Peter R., Dorothy A., David E. Chem., Stauffer Chem. Co., San Francisco, 1927-28; Am. Pet. Inst. fellow, Johns Hopkins U., Balt., Md., 1928-29; asst. prof. chem. 1929-33; conslt. Hercules Powder Co., Wilmington, Del. 1933; res. chem., dev. dept. 1933-37; hd. res. Hercules Exp. Sta. 1937-39; dir. res. for entire co., 1939 to date. Res. in com. prods., proc.; cellulose, cellulose, derivatives; plastics; rosin, terpene chems.; synth. resins; high polymers; papermaking chems.; intermediates, explosives. Ed.: "Cellulose & Cellulose Derivatives," 1943. Mem.: A.C.S. (bd. dirs., 1948 to date; adv. bd., Ind. Engrg. Chem.); A.A.A.S., (fellow, chmn. mgt. comm., Gordon Res. Conf. 1948-50; mem. com. on macromolecules, Natl. Res. Council, Internatl. Union Chem.; Food & Agric. Org. United Nations; A.I.C. (fellow), S.C.I. (exec. comm. 1947-50); Inst. of Physics (fellow); Physical Soc. (fellow); Soc. X-Ray & Electron Diffraction; A.I.Ch.E., A.P.I., Engrg. Coll. Res. Assn. (assoc.), Textile Res. Inst. (assoc.), Armed Forces Chem. Assn., A.S.T.M., T.A.P.P.I., N.A.M. Clubs: Chem., Concord Country, Hercules Country, Wilmington Drama League.

OTTE, Burton John Herny, assoc. prof., curator, chem. dept., Leigh Hall, U. of Fla.; res. 1115 S.W. 13th St., Gainesville, Fla.

Chem.; b. Northfield, Minn., Jan. 21, 1897; s. of John C. and Mary Ellen Otte (now Mrs. G.A. Southworth); ed. Carleton Coll., A.B. 1918; U. of Fla., M.S. 1930; m. Bernice L. Bishop, June 24, 1922; ch.: Richard Burton, Mary Ann. C.W.S., 1918-19; high schl. teacher & coach, 1919-20; farming, 1920-25, Northfield, Minn.; curator, chem. dept., U. of Fla., 1925 to date, assoc. prof. 1938 to date. First to discover & state that longleaf pine gum has higher percentage of turpentine than slash pine; worked on shark repellants during W. W.II. Mem.: Phi Kappa Phi, A.C.S. (secy. 7 yrs., chmn. & v.chmn. Fla. sec.). Mem. local bd., Selective Serv., 1940-46. Clubs: Am. Legion, 40 et 8, Mason, Knights Templar. Hobby: maintaining a nice large lawn.

OTTING, Herbert Edwin, chf. chem., M. & R. Dietetic Labs., 8 E. Long St., Columbus, Ohio; res. 2701 Minerva Lake Rd., Columbus 11.
Chem.; b. Warren, Ohio, July 28, 1889; s. of Edward H. and Sarah Adeline (Wanamaker) Otting; ed. Warren, Ohio, H.S. 1909; Ohio State U., B.S. in agric. 1913; mem.: Delta Theta Sigma; m. Jeanette Buller, Dec. 22, 1922; ch.: Edward A., Carolyn Jean, Linda Elaine. 1913, John Wildi Evaporated Milk Co., Columbus, Ohio, to Apr. 1917, when combined with Nestles Food Co., N.Y.C., chf. chem. both cos. until 1921; 1921-23, chf. chem., Mohawk Condensed Milk Co. (sub. Carnation Co.), Corry, Pa.; 1923-29, chf. chem., Moores & Ross Co., Columbus, Ohio; 1929 to date, chf. chem., M.&R. Dietetic Labs. (mem. bd. dirs.). Carried on extens. res. on base exchange treatment of milk result. in 7 pats. on processes & prods.; several pats. on spec. whole milk powders & 3 pats. on flavoring chocolate & margarine; 2 pats. on concentrated ice cream mixes. Mem.: A. C.S., Am. Dairy Sc. Assn., A.O.C.S., I.F.T. Clubs: University Faculty, Mason. Hobbies: fishing, hunting, golfing.

OTTO, Belle, prof. of chem., Goucher Coll., Baltimore, Md.; res. Goucher Coll., Towson, Baltimore 4.
Chem.; b. Sayville, N.Y., Jan. 1, 1905; d. of Louis A. and Belle De Graff Otto; ed. A.B., Barnard Coll., Columbia U., A.M., Mt. Holyoke Coll., Ph.D., The Johns Hopkins U. Instr., asst. prof., assoc. prof., prof. of chem. at Goucher Coll.; chem., Frankford Arsenal, U.S. Army, 1942-43; instr., The Johns Hopkins, Schl. of Nursing, 1944- Councillor (Md. sec.) A.C.S., "The Chesapeake Chemist" (editor, 1945 to present), A.C.S. (secy., council standing comm. on membership affairs). Mem.: A.A.A.S., A.C.S., Phi Beta Kappa, Sigma Xi.

OTTO, Cliff Ray, chmn., dept. of Sc., Central State Coll., Edmond, Okla.; res. 300 E. 4th St., Edmond.
Chem.; b. Monte Vista, Colo., Dec. 24, 1892; s. of L.S. and Leo Seavey Otto; ed. Southwestern Coll., Weatherford, Okla., B.A., U. of Okla., 1919, M.S., 1923; m. Ethel McKenney, Feb. 28, 1915; ch.: Cliff Max, Mildred Glee, Marion George, Eleanor Jean. Principal Schls., Stafford, Okla., 1915-17; supt. schls., Arapaho, Okla., 1917-19; assoc. prof. chem., Central State Coll. 1919-20; chmn. dept. sc., and prof. of chem., Central State Coll., 1920 to date. Res. in feeding of balanced minerals, control of heart disorders by feeding, control of blood pressure by feeding. Mem.: A.C. S., Acdy. of Sc. (Fellow, Okla.), Amer. Men of Sc. Club: Kiwanis. Hobbies: livestock feeding, economics.

OTTO, Earl Maurice, chem., Natl. Bur. of Stands.; res. 5401 New Hampshire Ave., Wash. 11, D.C.
Chem.; b. Covington, Ky., Aug. 8, 1899; s. of Sherman Tecumseh and Ida (Norris) Otto; ed. U. of Cincinnati, A.B., 1919, A.M., 1920, Ph.D., 1931; m. Marguerite Perrelet, Oct. 18, 1929; ch.: Rosalie Ida, David Pierre. Grad. asst. lab. instr., U. Cincinnati, 1919-20; jr. chem., Edgewood Arsenal, 1920-21; prof. chem., Nantung (China) Tech. Schl., 1921-25; Twitchell Fellowship, U. of Cincinnati, 1926-27; asst. prof. chem., Clemson, 1927-28; prof. chem., Albright, 1928-29, Asland Coll. 1929-31, Cotner Coll. 1931-33; hd. quality control, Natl. Carbon Co., Shanghai, China, 1934-41; res. chem., Naval Ordnance Lab., Wash., D. C., 1941-42; Natl. Bur. of Stands., 1942 to date. Res. dry batteries. Mem.: A.C.S., E.S. Hobbies: gardening, civic associations.

OVER, Warner Russell, treas., secy., Penn. Salt Mfg. Co., 1000 Widener Bldg., Phila. 7, Pa.; res. 6405 Overbrook Ave., Phila. 31, Pa.
Exec.; b. Phila., Feb. 19, 1886; s. of David Andrews and Mary (Ford) Over; ed. Phila. H.S. Connected with Penn. Salt Mfg. Co. since Dec. 7, 1904; at present, treas. and secy.

OVERMAN, Ralph Theodore, chmn., special training div., Oak Ridge Inst. of Nuclear Studies, Oak Ridge, Tenn.; res. 107 Decatur Rd., Oak Ridge.
Res. chem.; b. Clifton, Ariz., Aug. 9, 1919; s. of Cecil Vaughn and Elva (Cole) Overman; ed. Chanute (Kansas) Jr. Coll., 1937; Kan. State Teachers Coll., A.B., 1939, M.S., 1940; Ph.D., Louisiana State U. 1943; m. Frances Elizabeth Henson, June 30, 1945; ch.: Ralph Theodore, Jr., Ann Frances. Plant chem., Flintkote Co., 1942; hd. of sc. dept., Dean of Men, Louisiana Coll., Pineville, La., 1943; plant supt., thermal diffusion process of uranium separation, Manhattan Dist. Project, 1944; sr. res. chem., Clinton Lab. (taken over by Monsanto Chem. Corp.), 1945; chmn. of spec. training div., Oak Ridge Inst. of Nuclear Studies, Inc., 1948 to date. Radiochem. & calibration of radioisotopes. Mem.: Natl. Res. Council's Com. on Nuclear Sc. (mem. sub-com. on radiochem.), A.C.S., Sigma Xi, Phi Lambda Upsilon. Trustee, First Baptist Ch., Oak Ridge, organist, mem. of bldg. comm.; chmn., comm. on schls. (O.R. Adv. & Plan'g. Commis.), active Boy Scout wk. Club: Rotary Internatl. Hobbies: music, boys work.

OVERMYER, Calvin Jennings, v.p., Elliott Paint & Varn. Co., 4525 Fifth Ave., Chicago 24, Ill.; res. 510 N. Grove Ave., Oak Park, Ill.
Chem.; b. Lindsey, Ohio, Feb. 13, 1897; s. of John C. and Ida C. Overmyer; ed. Fremont, Ohio H.S.; Mich. State Coll., B.S., 1918; Oxford U., England, Rhodes Scholar, Ph.D., 1923; m. Barbara E. Buxton, Oct. 24, 1923; ch.: Margaret Elizabeth (Overmyer) McBride. Devoe & Raynolds Co. Inc., 1923-41; v.p., Elliott Paint & Varn. Co., 1946 to date; 2nd lt., Inf. U.S.A. 1918; Col., Chem. Corps, U.S.A. 1941-46. Res. in paint & varn. Mem.: Sigma Xi. Award: Legion of Merit, U.S.A.

OWEN, Benton Brooks, prof. of chem., Sterling Chem. Lab., Yale U., New Haven, Conn.; res. 966 Prospect St., New Haven.
Chem. prof.; b. Richmond, Va., Aug. 11, 1900; s. of Thomas Ernest and Agnes Eliza (Walker) Owen; ed. Ch.E., U. of Va., 1922, Sorbonne, 1923-24, Ph.D., Yale U., 1930; mem.: Alpha Chi Sigma, Tau Beta Pi, Sigma Xi; m. Katharine Gallup Slocum, Feb. 26, 1931; ch.: Sarah Brooks, Virginia Slocum. Res. chem., Ethyl Gasoline Corp., 1924-25; Sterling Fellow Yale, 1929-30; dir. tech. chem., Honors Schl., U. of Punjab, India, 1926-28; instr. in chem., Yale U., 1930-35; asst. prof., 1935-40; assoc. prof., 1940-47; prof. 1947 to present; res. chem. Natl. Defense Council, 1942-44; responsible investigator, 1944-46. Res. in thermodynamics, electrochem., and pressure effects. Co-author, with Herbert S. Harned, "The Physical Chemistry of Electrolytic Solutions," "American Chemical Society Monograph No. 95" (Reinhold

Publishing Corp., N.Y.), 1943-50. Mem.: A.C.S., A.A.A.S., Acdy. of Sc. (Virginia), N.Y. Acdy. of Sciences (fellow).

OWEN, Gwilym Emyr, prof. physics, assoc. in quartz res., Antioch Coll., Yellow Springs, O.; res. 215 E. Whiteman St., Yellow Springs.
Physicist and teacher; b. Bangor, Wales, Jan. 9, 1897; s. of Thomas and Jane E. (Williams) Owen; Ph.B. Lafayette Coll., in 1919, Ph.D., U. of Pa., 1928; mem.: Acacia; m. Edith Harvey, July 1, 1922; ch.: Elsie Jane, Thomas, and Gwilym. Instr., Williams Coll., 1919-20; instr., U. of Pa., 1920-29; asst. prof. assoc. prof., then prof. and chmn. of physics dept. at Antioch Coll., since 1929; visiting lecturer U. of Wales, Cardiff, 1938-39; visiting lecturer, Harvard U., 1949-50. Res. in nature of water solutions at high pressure and temperature, growth of quartz crystals in lab. Mem.: A.A.A.S., Am. Phy. Soc., Amer. Assoc. of Physics Teachers. Hobbies: photography, fishing.

OWEN, Randolph Joscelyn, prodn. mgr., E.L. Patch Co., 38 Montvale Ave., Stoneham 80, Mass.; res. 62 Green St., Stoneham.
Chem.; b. Stoneham, Mass., May 5, 1900; s. of Charles A. and Elizabeth B. Owen; ed. Boston U., B.S., 1927; m. Miriam I. Hodgman, Sept. 15, 1934; ch.: Marilyn J., Ruth E. E.L. Patch Co., 1923 to date.

OWENS, A. Bingham, mgr., Atlanta off., organic chems. dept., E.I. du Pont de Nemours & Co., 1206 Spring St., N.W., Atlanta, Ga.; res. 28 Brighton Rd., N.E.
Mgr.; b Oxford, N.C., Aug. 22, 1901; s. of Rev. R.B. and Laura Bingham Owens; ed. U. N.C., B.S. Chem. 1921; m. Lillian D. Braswell, 1929; ch.: James B., Duval, Bingham, Laura. E.I. du Pont de Nemours & Co., org. chems. dept., 1921-25; chem., tech. demonstrator, Charlotte, N.C., 1925; chem., tech. demon., Shanghai, China; 1926-35, branch mgr., Tientsin, China; 1936-44, asst. exp. mgr., Wilmington, Del.; 1944-46 mgr. sales dev., dyestuff div.; 1946 to date mgr., Atlanta off., org. chems. dept.

OYLER, James Russell, tech. dir., Knouse Foods, Inc., Peach Glen, Pa.; res. 146 Seminary Ave., Gettysburg, Pa.
Chem.; b. Biglerville, Pa., Aug. 7, 1915; s. of Harvey J. and Gertrude O'Brien Oyler; ed. Mt. St. Mary's Coll., 1937 B.S. Chem. (cum laude); U. Pa., 1938; Pa. St. Coll. 1940, M.S.; 1942, Ph.D.; mem.: Alpha Chi Sigma; m. Gail Louise Dinwiddie, Aug. 20, 1940; ch.: Patricia Gail, James Russell, Jr., John Stephen. Gen. Mills, Inc., fellowship, Pa. St. Coll., 1941-42; Nutrition Found. Fellowship, Columbia U., 1942-45; Knouse Corp., dir. res., 1945-47; Natl. Fruit Prods., Inc., tech. dir., 1947-49; Knouse Foods, Inc., tech dir., 1949 to date. Res. in foods and nutrition. Co-author of sev. pubs., "Aviation Nutrition Studies"; "Observations on the Effect of Pre-Flight Meals upon Altitude Tolerance." Mem.: Phi Lambda Upsilon, Gamma Sigma Delta, Phi Kappa Pi, Sigma Xi, A.C.S., Inst. Chem., I.F.T., A.A.A.S., Pa. Acdy. Sc. Hobbies: mineralogy, photography.

P

PACSU, Eugene, prof. of chem., asst. dir., Textile Res. Inst., Chem. Dept., Princeton U.; res. 2 Winant Rd., Princeton, N.J.
Prof.; b. Budapest, Hungary, July 13, 1891; s. of George and Anna (Lahm) Pacsu; ed. Royal Hungarian U., Budapest, Ph.D., 1914; m. Martha Gergely, June 5, 1926; ch.: Anne Gregory, Margaret Gregory. Adjunct prof., 1919-30, Royal Hungarian U., Budapest, privat Docent, 1925 to life; Internatl. Ed. Bd. Fellow, 1928-29, Bur. of Stand. & Natl. Inst. of Health, Wash., D.C.; asst. prof., Princeton U., 1930-33, assoc. prof. 1934-46, prof. 1947 to date, asst. dir., textile res. inst., 1945 to date. About 100 publ. in Hungarian, German, English & Am. chem. jls. Mem.: A.C.S., Fiber Soc., Sigma Xi, A.A.A.S., A.A.U.P., Phi Lambda Upsilon (assoc. mem.).

PADGITT, Frank L., Supvr. process dev., Ethyl Corp., Baton Rouge, La.; res. Box 7413 L.S.U., Baton Rouge.
Process dev.; b. Winslow, Ariz., March 31, 1913; s. of Frank L. and Martha Lykins Padgitt; ed. S.W. Mo. St. Coll., A.B., 1935, La. St. U., M.S., 1939, Ph.D., 1941; m. Mary Morrow Padgitt, Apr. 13, 1938. Chem. Mercury Producers, Inc. 1935-36; soil surveyer, Soil Conservation Serv., Hope, Ark., summer, 1936; Chem. instr., Hope High Schl., 1936-37; grad. asst., La. St. U., 1937-41; chem. process dev., Ethyl Corp., Baton Rouge, 1941-46; supvr., process dev., Ethyl Corp., 1946 to date. Mem.: A.C.S., A.A.A.S., Alpha Chi Sigma, Phi Lambda Upsilon. Club: pres., Jefferson Country. Hobbies: boating, photography, fishing.

PAGE, George E., v.p., Barada & Page, Inc., 26 N. Guthrie, Tulsa, Okla.; res. 1603 E. 21st. Tulsa.
Exec.; b. Kansas City, Mo.; s. of George S. and Pauline (Arnold) Page; ed. U. of Missouri, 1920-24, A.B.; mem.: Phi Beta Kappa, Beta Theta Pi; m. Margaret Gibson, Oct. 16, 1926; ch.: Dan G., Deborah. Since 1924 with Barada & Page, Inc. Club: Tulsa.

PAINE, Harold William, dir. Arlington Chem. Div. Lab. of du Pont Co., 626 Schuyler Ave., Arlington, N.J.; res. 14 Elston Rd., Upper Montclair, N.J.
Res. on Plastics; b. Warwick, R.I.; s. of Andrew J. and Emma R. (Wilcox) Paine; ed. Brown U. Ph.B., 1907; M.I.T., B.Sc. 1909; mem.: Chi Phi; m. Beatrice Sturdy, Nov. 14, 1910; ch.: Cecile B. Simmons, Rolf Sturdy, H. William, Jr. Electroplating plant mgr., 1909-13; O'Bannon Corp., guncotton plant, 1913-15; Fiberloid Corp., res. chem. 1915-20; Viscaloid Corp., res. chem. 1920-24, chem. supt. 1924-29, du Pont Plastics Dept., asst. dir. res. from 1929; dir. Arlington Chem. Div. Lab. of du Pont Co. to date. Mem.: A.C.S. (Rubber Sect., Paint, Varnish, Plastics), A.I.Ch. E., A.A.A.S., A.S.T.M., Franklin Inst., N.Y. Acdy. of Scs., N.Y. Rubber Grp., S.P.I., Amer. Stds. Assoc., Instrument Soc. of Amer., Natl. Res. Council (Div. Engrg. and Indust. Res.), Plastics Pioneers Assoc., Soc. of Rheology, Plastics Institute, Societe Suisse de Chimie. Club: Upper Montclair Country. Hobbies: golf, bridge, painting, swimming.

PALEY, Charles, dir. of labs., Certified Labs., Inc., 19 Hudson St., New York 13, N.Y.; res. 1531 E. 29th St., Brooklyn 29, N.Y.
Chem.; b. New York City, Aug. 28, 1897; s. of Abraham and Anna Paley; ed. B.S. Columbia U., 1919, M.S., 1938, Temple Bar Coll., Ph.D., 1939, LL.B., St. Johns U., 1928; mem.: Zeta Beta Tau; m. Martha Salzmann in 1920; ch.: George Edward, M.D., Barbara Lee. Chem., Electrosynth. Chem. Co., 1919-20; chem. New York City Health Dept., 1920-22; chem., Food Sales Mfg. Co., 1922-23; inspector of Foods, N.Y. C. Health Dept., 1923-26; chem., dir. of labs., Certified Labs., Inc., 1926 to present; assoc. and dir. of labs., Shirley W. Wynn Pub. Health Labs., 1938-43, F. & P. Chemical Corp., Brooklyn, N.Y., treas. Designed Paley Test Bottle for hard or viscous fatty substances to determine percent fat. (Kimble Glass Co's Dairy Catalogue). Mem.: A. C.S., Inst. of Food Technologists, Am. Dairy Sc. Assn., Am. Public Health Assn., Am. Inst. of Chems., N.Y.S. Assn. of Dairy and Food Sanitarians, Am. Soc. of Bacteriologists (N.Y.C. branch).

PALMENBERG, Oscar W., anal. and fuel engrg. chem., 50 Church St., N.Y. City; res. 30 Engle St., Tenafly, N.J.

Propr.; b. N.Y. City, 1876; s. of Joseph R. and Mary F. Palmenberg; ed. Tech. H.S., Gratz, Austria, 1898; Columbia U., B.S. 1901; m. Elsa S. Von Ramdohr, 1904; ch.: Marion, Dorothy, Oscar, Jr. Interboro Rapid Transit Co., chf. chem. 1902-08; propr. Oscar W. Palmenberg Labs., 1908 to date. Referee to Cons. Edison Co. in fuel wk. and other pub. utils. Contrib. extens. to sc. and tech. jls. Mem.: A.C.S. Hobbies: gardening, mechanics, minerals.

PALMER, Carleton Humphreys, chmn. of bd., E. R. Squibb & Sons, 745 Fifth Ave., N.Y. 22, N. Y.; res. 435 E. 52 St., N.Y. 22.
Exec.; b. Bklyn., N.Y., Mar. 21, 1891; s. of Lowell Mason and Grace Humphreys (Foote) Palmer; ed. Lawrenceville Schl. and abroad; m. Antoinette Johnson (2nd marriage), Mar. 28, 1942; ch.: Lowell Mason, Winthrop P. Boswell, Rosalind Thompson, Frederick Timothy. Joined E.R. Squibb & Sons in 1910, elected pres. 1915, chmn. 1941 to date. E.R. Squibb & Sons Ltd. (dir.), E.R. Squibb & Sons Argentina, S.A. (dir.), E.R. Squibb & Sons Internatl. Corp. (chmn. of bd., dir.), E.R. Squibb & Sons of India, Ltd. (chmn. of bd., dir.), Squibb Properties Corp. (chmn. of bd., dir.), Jones Estate Corp. (dir.), Lentheric, Inc. (dir.), Lentheric of Canada, Ltd. (dir.), Lentheric, Ltd. (dir.), L.I. Railroad Co. (dir.). Mem.: Natl. Soc. for Prevention of Blindness, Health Info. Foundation, Am. Drug Mfrs. Assn. (pres.). Clubs: Metropolitan, River, Piping Rock, Seawanhaka Corinthian Yacht, Wyandanch, Lake Placid.

PALMER, George, v.p., Alexander Herbst & Co., 514 Oxford Pl., Knoxville, Tenn.; res. 103 Westover Dr., Knoxville.
Chem.; b. N.Y.C., Feb. 4, 1918; s. of Harry and Rose Palmer; ed. B.S., C.C.N.Y., 1938; M.S., U. of Minn. 1939, Ph.D., 1943; m. Alice K. Herbst, Dec. 31, 1939; ch.: Alexandra G., Kenneth H. 1940-41, U.S. Dept. Agric., jr. soil surveyor; 1941-42, U. of Minn., res. asst.; 1942-44, T.V.A., res. chem.; 1944-46, U.S.A.; 1946-48, T.V.A., res. chem.; 1948 to date, Alexander Herbst & Co., Paul Vallette Watch Co. (v.p., treas.). Res. on physical, chem. & biolog. properties of soils, incl. X-ray diffraction technics; influence of experimental fertilizers on properties soils. Mem.: Sigma Xi, A.A.A.S. Club: Jr. Chamber of Com., Knoxville.

PALMER, George David, Jr., prof. and hd. dept. org. chem., Chem. Bldg., U. of Alabama; res. 704 11th St., Tuscaloosa, Ala.
Org. chem.; b. Helena, Ark., Dec. 7, 1897; s. of George David and Sophie (Ladd) Palmer; ed. B.S., Clemson Coll., 1919; M.A., 1921, and Ph.D., 1924, Johns Hopkins U.; m. Maude Roberts Collins, Des. 28, 1928; ch.: George David, III. Army S.A.T.C. 1918; lab. asst., Bur. of Stds., Wash., D.C., 1919; hd. Dept. of Chem., Guilford Coll., 1921-22; asst. prof. org. chem., Kans. State Agric. Coll., 1924-27; chem., Swann Chem. Co., 1942; prof. org. chem., U. of Ala., 1927-48; prof. and hd. dept. of org. chem., 1948 to date, U. of Ala. Twenty arts. pub. in sc. jls. on chem. of sulfur org. cmpds. and lignin, besides many pamphlets on sc. Founded Southern Assoc. of Sc. and Indust., which stimulated estab. of Southern Res. Inst. and Indust. Res. Inst. of Chattanooga. Author of Hydrolysis Chapt. in "Unit Processes in Org. Synth.," (McGraw-Hill Book Co.) 1938 and 1939; chapt. in "Collateral Readings in Inorg. Chem., (D. Appleton-Century Co.) 1942, (Plastic and Allotropic Forms of Sulfur); also sev. lithoprinted texts of org. chem. (elementary). Mem.: A.C.S., A.A.A.S., A. I.C., Ala. Acdy. of Sc. (pres. 1941), S.A.S.I. (pres. 1941), Ala. Educ. Assoc., Sigma Xi; awarded first Southern Assoc. of Sc. and Indus. award as founder, and hon. mem. of Chamber of Commerce of South for promotion of sc. and industry. Trustee, S.A.S.I. (sec.). Club: Rotary (Tuscaloosa), pres. 1942. Hobbies: fishing, hunting.

PALMER, Henry F., general manager, Kentucky Synthetic Rubber Corporation, Louisville, Kentucky; res. 2419 Brighton Drive, Louisville 5, Kentucky.
Chemist, executive; b. July 2, 1899, Lynn, Mass.; s. of Henry F. and Annie P. (Roscoe) Palmer; ed. A.B., Dartmouth, 1921 (Atherton Greek prize, 1918); M.S., Ohio S.U., 1922; Ph.D., Ohio S.U., 1925 (U. scholarship 1923-24; Grasselli Fellow, 1924-25); Ch.E., Ohio S.U., 1938; mem.: Alpha Chi Sigma, Gamma Alpha, Phi Lambda Upsilon, Sigma Xi; m. first, Lucille I. Fischer, June 13, 1923; m. second, Evelyn W. Anderson, Feb. 28, 1948; ch.: Henry F., III, Neal R. Instr. chem., part time, Ohio S.U., 1921-22; instr. chem., Dartmouth, 1922-23; The Firestone Tire & Rubber Co., Akron, 1925-46; res. chem., 1925-26; chf. chem., Xylos Rubber Co. subsid., 1926-42; asst. chf. chem., 1942; prod. mgr. (on loan), syn. rubber plants, Rubber Reserve Co., Wash., D.C., 1942-44; asst. dir. chem. labs., 1944-46; private practice, rubber tech. conslt., 1946-50; general manager, Kentucky Synthetic Rubber Corporation, Louisville, Ky., 1950 to date. Licensed prof. engr. Ohio (1937), Colorado (1949). 28 pubs. and pats. in rubber reclaiming, synthetic rubber, etc.; co-author (with George E.P. Smith, Jr.), "Some Aspects of the Amer. Chem. Industry" (booklet), The Firestone Tire & Rubber Co., 1944. Mem.: A.C.S. (chmn., Akron sec., 1928; exec. comm., rubber div., 1930; director, rubber div., 1950-52); A.I.Ch.E.; A.I.C. (fellow); Soc. Prof. Engrs. (Akron distr., dir., exec. comm.; chmn. public relations comm., 1947-48; Ohio, mem. pub. relations & publicity comm., 1948, 1949; Natl.); The Akron Rubber Group (sec.-treas., 1946-47; v.chmn., 1947-48; chmn., 1948-49; exec. comm., 1949-50). Clubs: Torch (Akron; treas., 1938-39; secy., 1939-40); Chemists' (N.Y.). Hobbies: spectator sports, home workshop.

PALMER, John W(arren), dir. biol. dev., E.R. Squibb & Sons, New Brunswick, N.J.; res. 113 S. Adelaide Ave., Highland Park, N.J.
Biochem.; b. Marshalltown, Ia., July 27, 1908; s. of John D. and Lettie Williams Palmer; ed. U. Ia., B.A., 1928; M.S., 1929; Columbia U., Ph.D., 1933; mem.: Alpha Chi Sigma; m. Virginia Light, Sept. 8, 1931; ch.: Nancy Elizabeth, Martha Virginia, John Robert. Asst. chem, eye serv., Pres. Hosp., N.Y.C., 1933-36; asst. biochem. Coll Physicians & Surgeons, Columbia U., 1933-36; instr., 1936; biochem., antitoxin & serum purification, E.R. Squibb & Sons, New Brunswick, N.J., 1936-42; asst. dept. hd., protein fractionation, 1942-44; dept. hd., 1944-48; dir. biochem dev. 1948-49; dir. biol. dev. 1949 to date. Res. in fields of antitoxin, antiserum purification, bacterial antigens (part. carbohydrates). Mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, A. C.S., A.A.A.S., Am. Assn. Immunol., N.Y. Acdy. Sc. Hobbies: photography, music, amateur dramatics.

PALMER, Louis Calvin, project engr., asst. to engrg. v.p., Mutual Chem. Co. of Am., 1348 Block St., Baltimore 31, Md.; res. 910 Kingston Rd., Baltimore 12, Md.
Chem. engr.; b. Jackson, La., Mar. 2, 1913; s. of William Warren and Leona (Austin) Palmer; ed. B.S., chem. engrg., 1936, La. State U., Baton Rouge, La., M.S., chem. engrg., 1939; m. Ettie Corcoran, June 22, 1939; ch.: Carolyn Ann, Barbara Gail, Louis Calvin, Jr. 1939-40, Southern Kraft Corp., Georgetown, S.C., chem. engr.; 1940-45, C.W.S., Edgewood Arsenal, Md., design engr., chf. plant design div.; 1945 to date, Mutual Chem. Co. of Am., Baltimore, Md., project engr., asst. to engrg. v.p. Design of several plants for prod.

of chem. agents & filling of same into munitions & supervision of design & construction of plant for mfr. of sodium bichromate. Mem.: A.I.Ch.E. (active), Alpha Chi Sigma, Omicron Delta Kappa, Tau Beta Pi, Alpha Lambda Upsilon. Hobbies: golf, swimming, baseball.

PALMER, Morris Hill, plant supt., Durkee Famous Foods, Elmhurst, N.Y.; res. 167-10 Crocheron Ave., Flushing, N.Y.
Factory mgmt. and vegetable oil chem. and processor; b. Bellefontaine, O., Dec. 25, 1912; s. of Warren W. and Josephine (Hill) Palmer; ed. Stanford U., A.B., 1934; M.B.A., 1936; mem.: Phi Gamma Delta; m. Martha E. Rollins, Apr. 17, 1943; ch.: Mary Dianne. Procter & Gamble Co., foreman, Veget. Oil Refin., 1936-40; Durkee Famous Foods, Div. of The Glidden Co., div. supvr., 1940-45; plant supt., 1945 to date. Mem.: A.O.C.S., Amer. Management Assoc., Natl. Assoc. of Foremen. Clubs: Stanford (N.Y.), Phi Gamma Delta (N.Y.), Rotary. Hobbies: sports, stamp collecting.

PALMER, Ralph M., pres., Ferro-Nil Corp., 381 Fourth Ave., N.Y. 16, N.Y.; res. 60 Gramercy Park, N.Y.C.
Chem. engr.; b. Oswego, N.Y.; s. of Rev. William H. and Jennie (Mallory) Palmer; ed. Brown U., Ph.B., 1910; Columbia U., M.A., 1926. With Gen. Chem. Co. 7 yrs. in design constrn., operation & maintenance of chem. plants & chem. processes; du Pont Co. 4 yrs. in same wk.; cons. chem. engr., 1922 to date; pres., dir., Ferro-Nil Corp., 1927 to date. Contr. to sc. jls. Mem.: A.C.S., A.S.T.M., A.W.W.A., New England W.W.A., A.S.M.E., S.C.I., E.S., Am. Soc. of Refrigerating Engrs., fellow, A.A. A.S., fellow, A.P.H.A. Alumni trustee, Brown U., 1936-42; past pres., Alumni Assn. of Grad. Schls. of Columbia U., Brown Engrg. Assn., Brown U. Club of N.Y. Recipient Columbia U. Alumni M., 1941, Brown Bear Award of Brown U. Alumni 1946. Clubs: Chemists', Brown U. of N.Y., U. of Providence.

PAPPENHAGEN, Louis Abell, prof. of chem., hd. of dept., Mt. Union Coll., Alliance, Ohio; res. 705 W. State St., Alliance, Ohio.
Prof. of chem.; b. Perrysburg, N.Y., Feb. 27, 1895; s. of Charles L. and Mary L. Pappenhagen; ed. B.Sc., Allegheny Coll., 1915; M.Sc., Northwestern U., 1916; Ph.D., Ohio State U., 1925; mem.: Alpha Chi Rho, Phi Beta Kappa, Sigma Xi, Alpha Chi Sigma, Phi Lambda Upsilon, Phi Mu Alpha; m. Hazel Petrie, Aug. 23, 1917; ch.: Mary Catherine, James Meredith. 1917, tchr. of sc., Oil City, Pa., High Schl.; 1918, chem., Natl. Transit Co., Oil City, Pa.; 1918-25, asst. prof. chem., Ohio Wesleyan U.; prof. of chem., hd. of dept., Mt. Union Coll., Alliance, Ohio, 1925 to date. Pubs. in J. Chem. Ed. & A.C.S.; metallic silver as ultimate volumetric standard; dielectric constants; indicator electrodes in non-aqueous solvents. Mem.: A.C.S., Ohio Acdy. of Sc. (fellow), A.A.A.S. (fellow). Clubs: Rotary (dir., v.p.), Mason. Hobbies: Boy Scouts of Am., chmn. of District Committee (silver beaver).

PARDEE, Arthur McC., hd. dept., prof. chem., U. So. Dak., Vermillion, S. Dak.; res. 415 Canby St.
Tchr., chem.; b. Rochester, N.Y., Mar. 27, 1885; s. of Jno. Myron and Westanna McC. Pardee; ed. 1907 Wash. & Jefferson Coll., B.A.; 1916, The Johns Hopkins U.; mem.: Kappa Sigma; m. Gladys Marshall Stevenson, Sept. 14, 1910; ch.: Jno. Marshall, Genevieve Elizabeth Johnson. 1907-18 instr., prof. chem., Tarkio Coll.; 1918-20 prof. chem., dept. hd., Wash. & Jefferson Coll.; 1920 to date, hd. dept. chem., U. So. Dak.; 1928-36, dir. of grad schl.; 1936-49, dean Coll. arts & sc. U. So. Dak. Res. in esterification, pyrolysis, saponification. Mem.: A.C.S., So. Dak. Acdy. Sc. (pres. 1922). Hobby: bee keeping.

PARDEE, William Augustus, Jr., chem. engr., new processes sec., chem. div., Gulf Res. & Dev. Co., P.O. Box 2038, Pitts. 30, Pa.; res. 305 Pasadena Dr., Fox Chapel, Pitts. 15.
Chem. engr.; b. Valdosta, Ga., Sept. 12, 1914; s. of William A. and Frances Ross (Burton) Pardee; ed. B.S. chem., Emory U., 1936; D. Eng. chem. engrg., Yale U., 1941; mem.: Sigma Alpha Epsilon, Pi Alpha, Gamma Alpha; m. Mary Marguerite Ensign, Dec. 25, 1941; ch.: William Hearne, Loring Ensign. Summers 1937 & 1938, Naugatuck Chem. Co., summer 1939, Conn. Water Commis. (at Yale); Jan., 1941 to date, Gulf Res. & Dev. Co. Co-author several arts. sc. jls. Holds 3 U.S. pats. on "Alkylation of Benzene," "Method of Catalytic Cracking," "Preparation of Silica-Alumina Catalyst"; pats. pending on catalysts & catalytic cracking. Mem.: A.C.S. (pres. comm. on natl. meetings 1947; council 1948-50; council standing comm. on natl. meetings & div. activities, 1948-52; secy., treas., div. of ind. & eng. chem., 1943-49; chmn.-elect, div. ind. eng. chem., 1950; chmn., div. ind. eng. chem., 1951); A.I.Ch.E. (active mem.); reg. prof. engr. Pennsylvania; Sigma Xi. Hobbies: tennis, music, gardening.

PARENT, Eugene Joseph, dir. purchases, Mathieson Chem. Corp., Mathieson Bldg., Baltimore, Md.; res. Wyman Park Apts., Baltimore.
Purchasing; b. Menominee, Mich., Mar. 27, 1890; s. of Joseph and Mary Jane Parent; ed. U. Ill.; m. Clara Louise O'Hearn, June 30, 1927. Mich. Electro Chem. Co., accting. purch. dept., sales 1916-19; Mathieson Chem. Corp. & Assoc. Cos., clerk, purch. dept., purch. agt., gen. purch. agt., dir. purchases, 1919 to date. C.W.S., 1918-19. Mem.: Natl. Assn. Purchas. Agts. (pres., Buffalo Assn. 1922). Clubs: Niagara Falls Country, Niagara, N.Y.A.C., Winged Foot Golf, Baltimore Country, Auto. Club N.Y. Hobbies: golf, bridge.

PARENT, Joseph Dominic, ednl. dir., Inst. of Gas Technology, 34th and State, Chicago, Ill.; res. 5334 N. Magnolia, Chicago.
Ednl. dir.; b Boston, Mass., Aug. 4, 1910; s. of Joseph E. and Mary D. Parent; ed. Catholic U. of Amer., B.S. in Ch.E., 1929; R.P.I., M. S., 1931; Ohio State U., Ph.D., 1933; mem.: Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma, Alpha Delta Gamma; m. Margaret M. Madden, Feb., 1941; ch.: J. Dennis, Mary M., Margaret A., Gerald T., Ellen M. D.C. Paper Mfg. Co., jr. chem. 1929-30; Ohio State U., jr. instr. in chem. engrg. 1932-33; U.S. Coast & Geod. Survey, photographic wk., 1934-35; Loyola U., Chicago, asst. prof. of chem., 1935-42; Kan. State Coll., assoc. prof. of chem. engrg., June, 1942-Dec., 1942; Inst. of Gas Technology, ednl. dir., Dec., 1943 to date. Contrib. extens. to sc. and tech. jls. Mem.: A.C.S., Amer. Gas Assn.; former mem. Electrochem. Soc. and A.A.A.S. Hobbies: photography, sports.

PARISEAU, Paul R., gen. mgr., Pacific Chem. Co., Div. of Am.-Marietta Co., 114 W. College St., Los Angeles 12, Calif.; res. 1219 Saginaw, Los Angeles 41.
Chem. engr.; b. Daggett, Mich., July 27, 1903; s. of Paul and Mary Pariseau; ed. 3 yrs. chem. engrg., Marquette U., Milwaukee, 1920-23; 1 yr. Tri State Coll., Angola, Ind., B.S., 1924; m. Helen Louise Barker, 1926; ch.: Helen M., Paul G. Asst. chem., W.T. Raleigh, Freeport, Ill., 1926-29; chf. chem., W.T. Raleigh, Ltd., Montreal, Canada, 1929-37; chf. chem., prod. mgr., 1937-46, gen. mgr., 1946 to date, Pacific Chem.

Co. (v.p., prior to Pacific Chem. Co. being made a div. of Am.-Marietta Co.). Var. dev. in detergent fld. Mem.: A.C.S., Chem. Market Res. Group of So. Calif., I.FT., Soc. of Aircraft Matls. & Process Engrs. Clubs: Jonathan, Chemists' (Los Angeles). Hobbies: sports.

PARK, James Grant, v.p. & dir. in chg. of operation, Enjay Co. Inc., 15 W. 51st St., N. Y. 19, N.Y.; res. 439 Bronxville Rd., Bronxville 8, N.Y.
Exec.; b. Brooklyn, N.Y., Mar. 14, 1896; s. of James H. and Charlotte (Grant) Park; ed. Bklyn. Poly., B.S. in chem., 1919, M.S. 1928 (coll. interrupted by 21 mos. service W.W. I); m. Ruth Haynes, Oct. 23, 1926; ch.: Ruth Patricia. Entire career with Stand. Oil Co. (N.J.); 1921-24, S.O. Brazil; 1925-35, salesman, 1935-38, sales mgr., 1938-44, v.p. in chg. of sales; Standard Alcohol Co, 1944 to date, v.p. in chg. of operations. Mem.: Alpha Chi Rho, Salesmen's Assn. of Am. Chem. Ind., Chem. Market Res. Assn., A.I.C., Soc. of Chem. Ind., Comm. Chem. Dev. Assn. Clubs: Chemists', Cosmos, Economic of N.Y., Rockefeller Cen. Lunch Sales Exec. of N.Y.; Gramatan Lodge (F. & A.M.).

PARK, John Kenzler, mgr. textile res. & dev. lab., Owens-Corning Fiberglas Corp., Ashton, R.I.; res. 244 Williston Way, Pawtucket, R.I.
Chem. engr.; b. Bozeman, Mont., July 29, 1911; s. of John Curtis and Louise (Kenzler) Park; ed. Purdue U., 1933, B.S. in chem. enrg.; mem.: Pi Kappa Alpha; m. Marguerite Price, Sept. 3, 1937. 1933-38, Owens-Ill. Glass Co., res. engr.; 1938-42, Owens-Corning Fiberglas Corp., 1 yr. as res. engr., 3 yrs. mgr. acct. & budget; 1942-46, serv. with U.S.A., Lt. Col.; 1946-47, Owens-Corning Fiberglas, adm. asst. to v.p. in chg. of res., 1947-48, 2 yrs. mgr. of prodn. dev., 1949 to date mgr. of textile res. & dev.

PARKER, Francis Milton, sales mgr., Merck & Co. Inc., Rahway, N.J.; res. Colonia, N.J.
Chem.; b. South Bend, Ind., Aug. 9, 1907; s. of Frank R. and Evelyn Parker; ed. U. of Dubuque, A.B., 1929; U. of Chicago, Ph.D., 1932; m. Helen Dersch, 1932; ch.: James Joseph, John Francis. Merck & Co. Inc.: tech. dir., Gen. Sales Dept., 1934-48; mgr., Gen. Sales Dept., 1948-50; sales mgr., 1950 to date. Vitamins and Nutrition—Food and Feed. Mem.: A.C.S., A.A.C.C., I.F.T. Club: Chemists'.

PARKER, Ivy May, field tech., Plantation Pipe Line Co., P.O. Box 423, Bremen, Ga.; res. 70 Maple St., Carrollton, Ga.
Chem.; b. Tucumcari, New Mexico, Sept. 11, 1907; d. of S.E. and Myrtle E. Parker; ed. 1928, B.A. West Texas State Coll.; 1931, MA., U. of Texas, 1935, Ph.D. Awarded Garvan Essay Prize at West Texas State Coll. 1927, 1928-30, chem. tutor, U. of Texas; 1930-31, A.P.I. Fellowship; 1931-34, tutor, U. of Texas; 1934-35, asst. prof., Mary Hardin Balor Coll.; 1936-43, chem., Shell Oil Co., Houston, Texas; 1938-39, instr., U. of Houston Evening Schl.; 1942-43, instr., U. of Houston Evening Schl.; 1943-45, chem., J.S. Abercrombe Refinery; 1945 to date, field technologist, Plantation Pipe Line Co. Water treatment, inhibiting prods. pipe line & filtration. Parker Cattle Co. (dir.). Mem.: A.C.S., A.I.C., Natl. Assn. of Corrosion Engrs., edit. of official pub. "Corrosion," chmn. of publ. comm. Club: Business & Professional Womens.

PARKER, Joseph Lloyd, southwestern rep., The Girdler Corp., 311 Tuloma Bldg., Tulsa, Okla.; res. 1957 E. 35 Pl., Tulsa.
Sales engr.; b. Equality, Ala., Nov. 22, 1913; s. of Leroy Monroe and Clara (Lee) Parker; ed. B.S. Ala. Polytech. Inst., Auburn, Ala.; M.S., Ph.D., U. of Nebr.; mem.: Sigma Alpha Epsilon; m. Katherine Louise Hendy, Aug. 24, 1941; ch.: Leroy Monroe, II, Joseph Lloyd, Jr. 1940-42, res. E.I. du Pont de Nemours, 1942-45 production; 1945-46, engrg., Girdler Corp., Louisville, Ky., Nov., 1946 to date, sales & engrg. Res. in org. arsenicals, res. in polymerization. Mem.: Sigma Xi, Tau Beta Pi, Phi Lambda Upsilon. Club: Tulsa Country.

PARKER, Lee Allen, coordinator of chem. engrg. & chem. market res.; Shulton, Inc., State Highway 6, Clifton, N.J.; res. 3 Macopin Ave., Upper Montclair, N.J.
Chem engr.; b. Cordele, Ga., Dec. 17, 1905; s. of L.A. and Mary E. Parker; ed. 1926, B.S., Ga. Schl. of Tech.; 1930, M.S., Ohio State U., 1932, Ph.D.; mem.: Sigma Phi Epsilon, Sigma Xi; m. Dorothy Farrington, June 3, 1939. Chem. engr., Procter & Gamble Co., 1926-29; asst. instr., dept. of chem. engrg., Ohio State U. 1929-32, hon. fellow 1932-33; chem. engr., M.W. Kellogg Co. 1933-38; plant mgr, Dodge & Olcott, Inc. 1939-49; coordinator chem. engrg. & chem. market res., Shulton, Inc., 1949 to date. Mfr. of purified pyrethrum extract, syn. org. chem. (aromatics & insecticides), edible oils, lubricating oil refining. Mem.: A.C.S., A.I.ChE., A Phar.A. Clubs: Chemists', Westchester Country.

PARKER, Maynard Lee, asst. wks. mgr., Oldbury Elec. Chem. Co., Niagara Falls, N.Y.; res. 302 S. 91 St., Niagara Falls.
Chem.; b. Edon, Ohio, Dec. 17, 1907; s. of A.R. and Lola B. Parker; ed. B.A. (maj. chem) Ohio St. U., Columbus, Ohio, 1929; mem.: Sigma Xi; m. Mary L. Headley, 1928, m. (second) Frances W. Ewart, 1947; ch.: Robert E., Maynard Lee, Jr. 1929-36, res. chem., Oldbury Elect. Chem. Co.; 1936-49 prod. mgr., 1949 to date, prod. mgr., asst. wks. mgr., asst. secy. (dir.). Mem.: A.C.S., E.S., A.I.Ch.E. Clubs: Niagara (Niagara Falls). Hobbies: fishing, photography.

PARKER, Milton Ellsworth, dir., prof. food engr., Ill. Inst. Tech., Chicago 16, Ill.; res. R.R. No. 3, Box 240, Barrington, Ill.
Food engr. b. New Bedford, Mass., Oct. 26, 1899; s. of Franklin B. and Martha H. (Dahl) Parker; ed. S.B., M.I.T., 1923; m. Louise R. Smith, July 18, 1925; ch.: Brian P., Oriana J. Res. assoc. M.IT. 1924; lab. dir., Walker-Gordon Lab. Co. 1925; lab dir., Phila. Dairy Prods. Co. 1926-27; dairy tech., res. labs., Natl. Dairy Prods. Corp. 1928-36 mgr. prod., Beatrice Foods Co., 1936-44; counselor food prod. dev. (self employed) 1944 to date; dir., prof. food engr., Ill. Inst. Tech. 1948 to date. Res. in dev. acid cleaner for use in dairy plant sanitation, adv. chem. proc., matls. handling of plant foods, 13 U.S. patents; author: "Food Plant Sanitation," 1948. Mem., councilor, founding mem. I.F.T. (past chmn. Chicago sect. 1943); A.P.H.A. (fellow); A.C.S., A.S.M.E.; Am. Dairy Sc. Assn. (form. dir.).

PARKER, Robert Prescott, asst. res. dir., Calco Chem. Div., Am. Cyanamid Co., Bound Brook, N.J.; res. 80 Prospect St., Somerville, N.J.
Res. chem.; b. West Hartford, Conn., Oct. 19, 1904; s. of Robert Prescott and Ruth (Whitmore) Parker; ed. Williams Coll., B.A., 1926, M.A., 1928; Yale U, Ph.D., 1933; mem.: Kappa Alpha, Sigma Xi; m. Joyce Ripley, Sept. 2, 1933; ch.: Robert P., Jr., Lewis P., Stephen R. Gen. Elec. Co., 1928-29, chem.; Calco Chem. Div, Am. Cyanamd Co, 1933 to date: group leader, 1938-44, asst. sec. dir. 1944-46, asst. to res. dir. 1946-47, asst. res. dir. 1947 to date; chem. investigator, Fld. Info. Agencies Tech., U.S. Dept. of Com., Germany, 1946. Res. on dyestuffs, pigments, rubber chem. & pharmaceutical chem.

Mem.: A.C.S., A.I.C., A.A.A.S., N.Y. Acdy. of Sc. Club: Chemists'.

PARKHURST, George Leigh, v.p., Stand. Oil Co. of Calif., 225 Bush St., San Francisco, Calif. res. 1075 Winsor Ave., Piedmont 10, Calif.
Responsibility for res. & chem. prods.; b. Evanston, Ill., Jan. 10, 1907; s. of George T. and Jessie (Furness) Parkhurst; ed. Armour Inst. of Tech., B.S., 1927; U. of Chicago, 1927-30; De Paul U., J.D. 1934; mem: Alpha Chi Sigma, Tau Beta Pi, Phi Lambda Upsilon, Delta Theta Phi; m. Margaret Sarles, July 2, 1932; ch.: Peter, Perry, Paul. Chem., chem. engr., pat. attorney, Stand. Oil Co. (Ind.), 1927-41; asst. dir. of refining, contract officer, Pet. Adm. for War, Wash., D.C., 1941-45; pres., Oronite Chem. Co., San Francisco, Calif., 1946-50; v.p., Stand. Oil Co. of Calif, 1949 to date. Calif. Res. Corp. (chmn. of bd.), Calif. Res. & Dev. Co. (chmn. of bd.), Oronite Chem. Co. (chmn. of bd.). Holder of U.S. pats., contrib. arts. to tech. pubs. Mem.: A.C.S., Soc. of Exploration Geophysicists. Mem., bd. of trustees, Ill. Inst. of Tech. Club: Chemists' (N.Y., Chicago).

PARKINSON, Laurel Gorham, district sales mgr., Atlas Powder Co, Ind. Chem. Dept., 135 S LaSalle St., Chicago, Ill; res. 2606 N. Kedzie Blvd., Chicago.
Sales mgr., chemicals; b. Kent, Ohio, Dec. 26, 1914; s. of George A. and Ruth Parkinson; ed. Kent State U., Kent, Ohio, B.S. 1937; grad. wk. Ohio State U.; mem.: Sigma Tau Gamma; m. Henrietta Leebrick, 1942; ch.: Ann, Karl Clayton. Johnson Rubber Co., 1937-39, chem.; Atlas Powder Co., 1941 to date, chem., sales. Mem.: A.C.S., A.A.C.C., I.F.T. Club: Mason. Hobby: philately.

PARKS, Clarence E., mgr. dev. lab., B.F. Goodrich Chem. Co., 324 Rose Bldg., Cleveland, Ohio; res. 24311 Lake Rd., Bay Village, Ohio.
Chem.; b. Garrard Co., Ky.; s. of Lorenza Dow and Grace Parks; ed. Georgetown Coll., A.B. 1931; U. Louisville, M.S. 1939; mem.: Gamma Sigma Epsilon; m. Dorothy Murphy, Sept. 16, 1933; ch.: Patricia Lynn, Gerald Wayne. 1931-41 Jefferson Co. Bd. Ed., teacher; 1941-42 Louisville Bd. Ed., teacher; 1942 to date, B.F. Goodrich Chem. Co., Cleveland, Ohio, Geon-vinyl plastics.

PARKS, George Sutton, prof. of chem., dept. of chem., Stanford U., Stanford, Calif.; res. 665 Alvarado Row, Stanford, Calif.
Instr. and res. in phys. chem.; b. Tacoma, Wash., Jan 7, 1894; s. of Clarence M. and Emma (Sutton) Parks; ed. U. of Wash., B.S. 1915, M.S. 1916; U. of Calif., Ph.D., 1919; mem.: Alpha Chi Sigma; m. Anne Scott Ireland, June 18, 1927; ch.: Lydia Anne (Parks) Wintemute; George Sutton, Jr. Instr. in anal. chem., Calif. Inst. of Tech., 1919-20; instr. in chem., Stanford, 1920-25; asst. prof., 1925-30, assoc. prof., 1930-37, prof., 1937 to date; acting hd. of Chem. Dept., 1942-45; res. in flds. of chem. thermodynamics, properties of the glassy state, and physical-chem. properties of org. cmpds. Author: "The Free Energies of Some Org. Compds.," A.C.S. Monograph, No. 60 (with Hugh M. Huffman), Chem. Catalog Co., N.Y., 1932. Mem.: A.C.S., A.A.A.S., Sigma Xi, Phi Beta Kappa, Phi Lambda Upsilon. Dir. of Stanford U. Bookstore. Club: Stanford Faculty. Hobbies: camping, fishing.

PARKS, Harold Coburn, chf. chem., E. & F. King & Co., 640 Pleasant St., Norwood, Mass.
Chem., paints, varn., artists matls.; b. Cleveland, Ohio, Sept. 24, 1894; s. of Alfred M. and Lucy (Johnston) Parks; ed. Yale (Sheff.) 1917, Ph.B.; mem.: Phi Sigma Kappa; ch.: Alfred M. II. Inst. Paint & Varn. Res., Wash., D.C. 1920-25; Congoleum Nairn, Inc., Kearny, N.J., 1925-28; Devoe & Raynolds Co., Newark, N.J., 1928-41; Peerless Tube Co., Bloomfield, N.J., 1941-44; Valspar Corp., N.Y.C. 1945-48; E. & F. King & Co., Norwood, Mass., 1948 to date. Mem.: A.I.C. (fellow). Clubs: Maplewood Country (Maplewood, N.J.), Dedham Country & Polo (Dedham, Mass.).

PARKS, Lloyd McClain, prof. of pharmaceutical chem., U. of Wis., Schl. of Pharmacy, Madison 6, Wis.; res. 4237 Wanda Pl., Madison 5.
Teacher; b. Scottsburg, Ind., Mar. 21, 1912; s. of Othello C. and Mary E. Parks; ed. Purdue U., B.S. pharmacy, 1933, M.S. pharmacy, 1936; U. of Wis., Ph.D. pharmaceutical chem., 1938; mem.: Kappa Psi; m. Irene Marie Comiskey, Aug. 2, 1940; ch.: Regina Marie. U. of Wis., instr. 1938-40, asst. prof. 1940-42, assoc. prof. 1942-46, all pharmaceutical chem., prof. 1946 to date; on leave of absence from U. of Wis. 1941-45, serving as Lt. Col., C.W.S., U. S.A. Approx. 20 res. papers publ. in J. Am. Chem. Soc. & J. Am. Phar. Assoc. on pharmaceutical & phytochem. res. on alkaloids, glycosides, volatile oils, etc. Co-author: "Inorg. Chem. in Pharmacy" (Lippincott) 1949. Mem.: A.C.S., A.Ph.A., A.A.A.S., Sigma Xi, Rho Chi, Phi Lambda Upsilon. U.S.P. Rev. Comm. Award: Bronze Star M. Hobbies: flower gardening, square dancing.

PARKS, Lytle Raymond, prof. of chem., dir. of chem. labs., Pa. State Coll., State College, Pa.; res. 141 E. Fairmount Ave., State Coll.
Prof. of chem. b. Aurora, Ind., Apr. 13, 1890; s. of Joseph G. and Julia (Ross) Parks; ed. B.S. in chem. engrg., Purdue U. 1912; M.S. Pa. State Coll. 1914; Ph.D. Cornell U, 1927; mem.: Alpha Chi Sigma; m. Mabel Pauline Boyer, Sept. 2, 1915; ch.: Lytle Raymond, Sara Jean, Mabel Overholt. Instr. in chem., Pa. State Coll., 1913-16, asst. prof. 1916-20, assoc. prof. 1920-27, prof. of chem., dir. of chem. labs. 1927 to date. Parks Dairies, Camden, N.J. (dir., pres.). Pubs. in chem. jls. on colloids, classif. & properties of dyes, theory of dyeing, standard cellulose, theory of stick antimony electrode, appl. of glass & antimony electrode to dairy prods., chem. of hide protein. Author: "Chem. Calculations for Gen. Chem. & Qualitative Anal." 1949; "Study Questions Gen. Inorg. Chem. & Qualitative Anal." 1949, "Systematic Coll. Chem." 1950. Mem.: A.C.S., Sigma Xi, Phi Lambda Upsilon. Clubs: Acacia (Williamsport, Pa.), Center Hills Country (State College, Pa.), Mason (K.T., 32nd. deg., Shriner). Hobby: golf.

PARKS, W. George, prof. of chem., hd. of dept., R.I. State Coll., Kingston, R.I.; res. 30 Lower College Rd., Kingston.
Prof. of chem., ind. conslt.; b. Rockwood, Pa., Dec. 20, 1902; s. of George and Ruby Parks; ed. A.B., U. of Pa., 1926; M.A., Columbia U., 1928, Ph.D., 1931; m. Margaret Mather Merriman, Nov. 24, 1928; ch.: Ann Mather, George Merriman. Instr., Drexel Inst., Phila., Pa., 1926; asst. in chem., Columbia U., 1927-30; lecturer in chem., Columbia U., 1930-31; asst. prof. of chem., R.I. State Coll., 1931-36, assoc. prof. 1936-39, prof. of chem., 1939 to date, hd. of dept. 1950 to date, dir. of summer session 1941; exec. dir., Natl. Res. Council Advisory Bd. on Q.M. Res. & Dev., 1943 to date; dir., Gordon Res. Conferences, A.A.A.S., 1947 to date; ind. conslt. 1930 to date. Catalytic vapor phase oxidation of org. cmpds., textile res., fire resistance of textiles, solvent extractions, org. syn. Sc. papers pub. in var. tech. & sc. jls. Mem.: A.C.S, A.I.Ch.E., A.I.C., A.A.T.C.C., Electrochem. Soc., N.Y. Acdy. of Sc., Providence Engrg. Soc., Sigma Xi, Phi Lambda Epsilon, Phi Kappa Phi.

Clubs: Chemists' (N.Y.C.), University (Providence, R.I.). Hobbies: golf, fishing.

PARMELE, Harris B., dir. of res., P. Lorillard Co., 111 First St., Jersey City, N.J.; res. 120 Stonehouse Rd., Glen Ridge, N.J.
Chem.; b. Rockford, Ill., Oct. 18, 1901; s. of Arthur Gilbert and Blanche (Barnum) Parmele; ed. U. of Wis., B.S. 1923, M.S. 1924, Ph.D. 1927; mem.: Alpha Gamma Rho, Sigma Xi, Alpha Zeta, Phi Lambda Upsilon; m Louise Turner, June 22, 1929; ch.: Sallie Virginia, Harris B., Jr. 1923-24, U.S.D.A., Madison, Wis.; 1924-27, U. of Wis., half time res. asst.; 1928-29, Gen. Labs., Madison, Wis., 1929 to date, P. Lorillard Co., res. chem., dir. of res. Fermentation res. on sauerkraut (U. of Wis.), chem. weed killers (U.S.D.A.), dairy sanitation (Gen. Labs.), ind. & tobacco chem. (P. Lorillard). Mem.: A.C.S., A.A.A.S.

PARMENTER, George Freeman, conslt., emeritus prof. of chem., Colby College; res. 7 Sheldon Place, Waterville, Maine.
Chem.; b. Dover, Mass., Mar. 26, 1877; s. of Freeman A. and Lucy E. (Goulding) Parmenter; ed. U. of Mass. and Boston U., B.S., 1900; Brown U., M.A. and Ph.D., 1903; mem.: Sigma Xi; hon. D.Sc. (Colby) 1916; D.Sc., U. of Mass., 1950; Phi Sigma Kappa; m. (1st.) Martha E. Ellis, Nov. 26, 1903; m. (2nd.) Lillian E. Evans, Apr. 2, 1942; ch.: Ellis F. Instr. chem., Brown U., 1900-03; assoc. prof. of chem., Colby Coll., 1903-04; prof. of chem. and hd. of dept. same coll., 1904-47; conslt. in pulp and paper. Mem.: A.C.S., A.A.A.S. (fellow). Club: Masonic. Hobbies: hunting and fishing, photography, gardening.

PARRETT, Arthur N., chem. dir., Rayonier, Inc., Shelton, Wash.; res. Shelton, Wash.
Chem.; b. Marshalltown, Iowa, July 7, 1896; s. of Arthur N. and Margaret (Trotter) Parrett; ed. U. of Minn., 1916-22, B.S., Ch.E.; U. of Pitts., 1922-25, Ph.D.; mem.: Alpha Chi Sigma; m. Doreen Aldwell, Apr. 9, 1940. 1925-30, res. chem., E.I. du Pont de Nemours & Co., Wilmington, Del.; 1930-32, asst. dir. chem. res., A.O. Smith Corp., Milwaukee, Wis.; 1932 to date, chem. dir., Rayonier, Inc., Shelton, Wash. Paint, varn. & lacq. res., wood cellulose mfr. & purification, cellulose derivatives. Mem.: Tau Beta Pi, Phi Lambda Upsilon, A.I.Ch.E., A.C.S., A.A.A.S. Club: Rainier (Seattle). Hobby: golf.

PARSEGIAN, V(ozcan) Lawrence, dir., div. tech. advisers, U.S. Atomic Energy Comm., N.Y. Operations Off., 70 Columbus Ave., New York, N.Y.; res. 101 Ocean Parkway, Bklyn., N.Y.
Physicist; b. Van, Armenia (Turkey), May 13, 1908; s. of Lillian Mooradian; ed. M.I.T., 1933; Wash. U., St. Louis, Mo., 1934-35; N.Y.U., Ph.D., 1948; mem.: Sigma Pi Sigma; m. Varsenig Parsegian, Apr. 17, 1938; ch.: Adrian V., Elsa Varsenig. C.J. Tagliabne Mfg. Co., 1936-37; physicist; dir. physical res. Kellex Corp., 1947-50; U.S. Atomic Energy Comm., N.Y. Operations Off., dir. tech. advisers, 1950 to date. Res. in instrument res. and dev. for process industries; Pyrometry; pubs. on instrument problems of radiochem. potentiometers, neutron physics, nuclear physics. Mem.: A.Phys.S., A.I.Physics, past mem. A.I.E.E., I.R.E. Hobbies: music, photography, gardening.

PARSONS, John Langdon, res. dir., Hollingsworth & Whitney Co., Waterville, Me.; res. Waterville.
Chem.; b. Rye, N.H., June 3, 1895; s. of L.B. and Annie L. Parsons; ed. B.S., M.I.T., 1917; Ph.D., Yale, 1925; mem.: Kappa Sigma, Alpha Chi Sigma, Sigma Xi; m. Blanche Gilliatt, Oct. 14, 1921; ch.: Robert D., Donald G., Priscilla L. Instr. chem., M.I.T., 1918-19; instr. chem., Boston U., 1918-20; chf., res. dept., Hammermill Paper Co., 1920-45; res. dir., Hollingsworth & Whitney Co., 1945-50; tech. dir. Northern Mills, 1950; Empire State Res. Assoc. (v.p.). Cellulose, pulp bleaching. Mem.: A.C.S., T.A.P.P.I.,; Tech. Sec., Canadian Pulp & Paper Assn.; R.E.S.A., A.I.C. (fellow), A.A.A.S. (fellow), Forest Prods. Res. Soc. Club: Rotary. Hobbies: hunting, firearms, Boy Scouts of Am.

PARSONS, Llewellyn B., mgr. Basic Labs. Div., Lever Bros. Co., 164 Broadway, Cambridge, Mass.; res. 7 Bellevue Rd., Arlington 74, Mass.
Chem.; b. Saginaw, Mich.; s. of Edward L. and Maude W. Parsons; ed. Syracuse U., B.S., chem., (cum laude), 1919; U. of Wis., M.S., 1921, Ph.D., 1923; mem.: Sigma Chi, Alpha Chi Sigma, Phi Kappa Phi, Phi Lambda Upsilon, Sigma Xi; m. Edna M. Claflin, June 15, 1921. Cudahy Packing Co., supvrg. chem., 1923-33, dir. of labs., 1933-39; Lever Bros. Co., supvr. of res., 1939-41, chf. chem., 1941-48, mgr. basic labs. div., 1948 to date. Res. in biochem. of ham souring & curing; hydrogenation of fats and oils; glue dev.; mineral feeds & fertilizers; edible & inedible fat and oil production; soap, detergent & glycerine production. Mem.: A.C.S., Amer. Oil Chems. Soc., A.A.A.S., Tr. Arlington (Mass.) Pub. Library. Hobbies: gardening, reading.

PARSONS, Robert A., adm. asst., Jefferson Chem. Co., Inc., 711 Fifth Ave., N.Y. 22, N.Y.; res. 147 E. 37th St., N.Y. 16.
Lawyer; b. N.Y.C., Aug. 10, 1913; s. of Charles E. and Louise (Weber) Parsons; ed. George Washington U., A.B.; Southeastern U., LL.B., 1941. Fed. Bur. of Investig., U.S. Dept. of Justice, 1935-46, special agent; Jefferson Chem. Co., Inc., 1946 to date, adm. asst. Hobbies: golf, swimming.

PARTRIDGE, Edward Graffam, dir. of res., Am. Anode, Inc., 60 Cherry St., Akron 8, Ohio; res. 139 Edgewood Dr., Stow, Ohio.
Chem.; b. Sivas, Turkey, Apr. 27, 1902; s. of Ernest C. and Winona G. Partridge; ed. A.B., Oberlin Coll., 1924, major in chem.; Ph.D., U. of Ill., 1927, physical chem.; mem.: Gamma Pi Upsilon; m. Eleanor Terry, Aug. 21, 1926; ch.: Ann Louise, Ellen Terry. Res. chem., B.F. Goodrich Co., 1927-41; res. chem., Am. Anode, Inc., 1941-44, dir. of res., 1944 to date. Wk. in flds. of rubber & latex tech., pats., lectures & papers in these flds.; paper on plastisols & organosols. Mem.: Phi Beta Kappa, Sigma Xi, A.C.S., A.S.T.M. Served on Stow Local Schl. Bd. 8 yrs., 2yrs. as chmn. Club: Akron Franklin. Hobby: tennis.

PASSINO, Herbert Jos., assoc. dir. res., M.W. Kellogg Co., 225 Broadway, New York, N.Y.; res. 593 Ridgeland Terrace, Englewood, N.J.
Res. chem.; b. Malone, N.Y., Mar. 22, 1914; s. of Clifford L. and Lea M. Passino; ed. Franklin Acdy., Malone, N.Y.; Cornell U., B.A., 1936; Pa. St. Coll., M.S., 1937; Pa. St. Coll., Ph.D., 1940; mem.: Lambda Chi Alpha, Phi Lambda Upsilon; m. Frances M. Schuettler, 1938; ch.: Herbert J., Jr., Barbara Joyce, Christine Marie. M.W. Kellogg Co., res. chem., 1940-41; supvr. chem. res., 1941-45; assoc. dir. res., 1945 to date. Res. in catalytic alkylation and isomerization; refining of glycerides; concentration of vitamins A and D; petroleum refining. Mem.: Sigma Xi, A.C.S., A.O.C.S., Phi Lambda Upsilon. Clubs: Cornell (N.Y.), Cornell (Bergen County). Hobbies: tennis, bridge, bowling.

PATCH, James Alfred, v.p., The E.L. Patch Co., Stoneham, Mass.; res. Bedford Rd., Carlisle, Mass.

Chem. engr. (retired); b. Apr. 20, 1876; s. of Edgar L. and Matilda (Ferguson) Patch; ed. M.I.T., class of 1900, S.B.; mem.: Delta Upsilon; m. (1st.) Caroline Mackie (dec.); m. (2nd.) Harriet Bates, Apr. 16, 1937; ch.: Ralph Douglas, Margaret Matilda, Helen Elizabeth, Dorothy, Mary Beryl. 1900-20, instr., lecturer, prof. of chem., dir. dept. of chem., Amer. Univ. of Beirut (formerly Syrian Protestant Coll.), Beirut, Lebanon; 1921-46, prod. mgr., res. chem., The E.L. Patch Co., Stoneham, Mass.

PATELSKI, Ray Arthur, coordinator, New Products Dev., Chas. Pfizer and Co., 11 Bartlett St., Bklyn., N.Y.; res. 15 Whistler Rd., Manhasset, N.Y.
Chem.; b. Aurora, Ill., Dec. 28, 1905; s. of Frank E. and Mayme A. (Josephson) Patelski; ed. B.S., U. Mich., 1927; M.S., U. Mich., 1933; Ph.D., U. Mich., 1936; mem.: Alpha Chi Sigma; m. Gae Froisness, Sept. 15, 1937. Asst. chem., Ill., 1927-29; org. chem. Detr. Testing Labs., 1929-30; instr. org. chem., Ill., 1930-34; Pfizer-Monsanto fellow, Mich., 1936-38; mem. res. dept., Chas. Pfizer & Co., Bklyn., 1938-42; coordinator res. and production, 1942-45; asst. supt., 1945-49; coordinator new products dev., 1949 to date. Mem.: Sigma Xi, Phi Lambda Upsilon, Rho Chi.

PATRICK, Walter A., prof. of chem., Johns Hopkins U.; res. The Terraces, Mt. Washington, Baltimore, Md.
Chem.; b. Syracuse, N.Y., Jan. 6, 1888; s. of W.A. and Mary (Manning) Patrick; ed. B.S., Syracuse U., 1910; Ph.D., Göttingen, 1914; D.Sc., Syracuse, 1935; mem.: Kappa Sigma; m. Gertrude Leech, 1915; ch.: Virginia, Patrice, Shirley. Resident asst., M.I.T., Boston, 1910-12; resident asst., University Coll., London, 1914-15; instr., M.I.T., 1915-16; instr., Syracuse, 1916-17; assoc. prof., Johns Hopkins, 1917; prof., 1924 to date; officer in Davison Chem. Corp., Balt., Md. Devel. and appl. of silica gel; colloidal studies; electrochemistry. Mem.: A.C.S., Chem. Soc. of Gr. Brit. Clubs: Baltimore Country, Johns Hopkins Faculty. Hobbies: music (cello), golf.

PATTEN, Andrew Jarvis, dir. of res., Huron Milling Co., Harbor Beach, Mich.; res. Harbor Beach.
Chem.; b. Cherryfield, Me., July 1, 1874; s. of Frank W. and Martha (Campbell) Patten; ed. U. of Me., B.S. 1897; grad. study Heidelberg U., Germany, 1902-03; mem.: Alpha Tau Omega; m. Helena Dyer, May 1, 1911. Me. Agr. Expt. Station, asst. chem., 1897-1900; N.Y. Agr. Expt. Station, asst. chem., 1900-05; Mich. Agr. Expt. Station, chf. chem., 1905-27; Huron Milling Co., res. dir., 1927 to date. Res. on amino acids, crystine, separation of arginine & histidine, glutamic acid & mono-sodium glutamate. Mem.: A.C.S., A.A.A.S., Assn. Off. Agr. Chem. (pres. 1923-24). Clubs: Rotary, Mason. Hobby: bridge.

PATTERSON, Austin M(cDowell), prof. emer. of chem., Antioch Coll., 221 N. King St., Xenia, Ohio.
Chem.; b. Damascus, Syria, 1876; s. of John Fulton and Belle McD. Patterson; ed. A.B., Princeton, 1897; Ph.D., Johns Hopkins, 1900; m. Anne Elizabeth Bailey, May 31, 1911; ch.: James Fulton, Nancy Elder. Instr. in chem., Centre Coll., Ky., 1900-01; Rose Polytech. Inst., 1901-03; editor for chem. and allied terms, Webster's New Internatl. Dictionary, 1903-07; consulting editor for chem., 1907 to date; assoc. editor of "Chemical Abstracts," 1908-09, editor, 1909-14; chem., C.W.S., 1917-19; prof. of chem., Antioch Coll., 1921-41; v.p., 1930-41; sr. specialist, and later principal specialist in chem. education, U.S. Off. of Education, 1941-43. Notable wk. in chem. literature and nomenclature. Mem. of Commis. on Nomenclature of Org. Chem., Internatl. Union of Pure and Applied Chemistry; chmn. or mem. of var. natl. nomenclature comms. Author: "A German-English Dictionary for Chemists," 1917, 1924, 1935, 1950; "A French-English Dictionary for Chemists," 1921; "A Guide to the Literature of Chemistry" (with E.J. Crane), 1927; "The Ring Index" (with L.T. Capell), 1940. Mem.: Phi Beta Kappa, Sigma Xi, A.A.A.S. (fellow), A.C.S.; Austin M. Patterson Award in Documentation of Chemistry, 1949; Sc.D., Antioch Coll., 1944; mem. of Natl. Res. Council, 1932-41; Councilor, Internatl. Union Pure & Applied Chem., 1925-31, 1936-38. Trustee, Antioch Coll., 1941-45. Clubs: Cosmos (Washington), Kiwanis.

PATTERSON, Gordon Derby, res. suprv., chem. dept., E.I. du Pont de Nemours & Co., Exper. Sta., Wilmington, Del.; res. 4503 Wash. Blvd., Brandywine Hills, Wilmington, Del.
Chem. res.; b. Meadville, Pa., Dec. 7, 1897; s. of Thomas McCobb and Lena (Derby) Patterson; ed. Allegheny Coll., Meadville, Pa., B.S. 1919 (cum laude); Ohio State U., Columbus, O., M.S. 1920; Ph.D. 1923; (Grasselli Fellowship 1922-23); mem.: Alpha Chi Rho, Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi, Phi Beta Kappa; m. Ethel Mae Beard, Aug. 17, 1921; ch.: Gordon Derby, Jr., David Alan. Grad. asst., Ohio State U., 1919-20; tchg. asst., same U., 1920-22; res. chem., E.I. du Pont de Nemours & Co., Wilmington, Del., 1923-26; res. div. ldr., same co., 1926-45; res. supvr., same co., 1945 to date; res. in varied aspects of applied phys. and colloid chem. and phys., for the most part dealing with surface phenomena, fine structure and physical processing, in relation to functional properties. Mem.: Phi Beta Kappa, Sigma Xi, A.C.S., A.A.A.S., N.Y. Acdy. of Scs.; Modern Pioneer Award, Natl. Assoc. Mfrs. 1940. Club: du Pont Country. Hobbies: hiking, collecting miscellany, reading.

PATTERSON, Ian David, tech. coordinator; Goodyear Tire & Rubber Co., Akron 16, Ohio; res. 245 Merriman Rd., Akron 3.
Chem. engr.; b. Eckford (near Homer), Mich.; s. of Louis K. and Eva Blair Patterson; ed. A.B., 1919, Albion Coll.; B.S.E., 1920; U. Mich.; mem.: Sigma Nu; m. Frances Marsh, June 10, 1922; ch.: Marilyn, Joanne. 1920 chem. engr., C.W.S., Edgewood Arsenal, Edgewood, Md.; 1921-27, chem. engr. & compounder, Goodyear Tire & Rubber Co., Akron, O.; 1927-39, chf. chem. & dev. mgr., Goodyear Tire & Rubber Co. (G.B.), Ltd., Wolverhampton, England; 1939-42, gen. supt., St. Mary's mfg. div., Goodyear Tire & Rubber Co., St. Mary's, O.; 1942-45, asst. mgr. Military Prods. Engr., proc. dev., chem. prods., dev., Goodyear Tire & Rubber Co., Akron 16, O.; 1946-47, mgr., chem. prods. dev.; 1948 to date, synthetic rubber coordinator. Mem.: A.C.S., A.I.Ch.E. (past chmn., Akron Sec.), Inst. Rubber Industry (British, fellow), Elder-Westminster Pres. Ch.

PATTERSON, James R., West Coast mgr., chemicals div., Gen. Elec. Co., 1211 N. Olive St., Anaheim, Calif.
Chem. mgmt.; b. Morrisville, Pa., July 14, 1908; s. of Thomas S. and Sarah W. Patterson; ed. Lafayette Coll., Easton, Pa., B.S., chem., 1930; mem.: Alpha Chi Sigma; m. Viola Van Laak Patterson, June 15, 1935. Gen. Elec. Co., chem. trainee, 1930, res. lab., 1931, chemicals div. engrg., 1933, chemicals div., sect. engr. 1945, West Coast mgr., 1950. During W.W.II did consulting wk. on organic finishes for Army, Navy & Maritime Comm. Lecturer and contrib. to sc. & tech. jls. Mem.: A.C.S.

PATTERSON, John Alexander, process engr., Rust Process Design Co., 575 Sixth Ave., Pittsburgh, Pa.; res. 917 Reihl Rd., Pittsburgh.
Chem. engr.; b. Phila., Pa., Sept. 17, 1901; s. of John A. and Mary (Swift) Patterson; ed. Lehigh U., B.S. Ch.E., 1924; U. Pa., Ph.D., chem., 1934; m. Doris Hurff Patterson, April 6, 1927; ch.: Elaine Ann, John Hurff, Margaret Rae. Atlantic Ref. Co., res. chem. and chem. engr., 1924-28; E.I. du Pont de Nemours & Co., ammonia dept., chem. engr., 1928-30; U. Pa., asst. instr. chem., 1931-34; Continental Distilling Corp., chem. engr. and res. chem., 1934-38; Standard Oil Dev. Co., chem. engr., 1938-45; Publicker Industries, Inc., dev. engr., 1945-47; the Rust Engineering Co., chem. engr., 1947-48; Rust Process Design Co., chem. engr., 1948 to date. Lecturer, Columbia U., 1944-49; civilian with Office Rubber Reserve, 1942-44. Mem.: A.C.S., A.I.Ch.E., Sigma Xi.

PATTERSON, Wilfred Ernest, mgr. of tech. dev., Merck & Co., Limited, 560 de Courcelles St., Montreal 30, Canada; res. 4578 Michel Bibaud St., Montreal, Quebec.
Chem. engr. b. Vancouver, B.C., Canada, Jan. 16, 1900; s. of William Edward and Margaret (Cowan) Patterson; ed. Queen's U., Kingston, Ontario, B.Sc. in chem. & metallurg. engrg., 1924; m. Violet Jeanne Craid, Nov. 29, 1924; ch.: Rosemary Louise, Margaret Jean. 1924-30, chf. chem., G.F. Sterne & Sons, Ltd., Brantford, Ont.; 1930-40, v.p., gen. mgr., Sternson Labs., Ltd., Brantford, Ont.; 1940-42, Allied War Supplies Corp., Dept. of Munitions & Supply; 1942 to date, mgr. tech. dev., Merck & Co., Ltd., Montreal, Quebec. Chem. process dev., ind. water treat., soil stability, refractories; supervised processes for prod. of initiating explosives, e.g. azides, specialized fuze powders, military explosives, incendiaries & smoke compositions; past councilor, Assn. of Prof. Engrs. of Ontario & Chem. Inst. of Can. Mem.: Chem. Inst. of Can. (fellow), Engrg. Inst. of Can., A.I.Ch.E. (active), A.C.S., S.C.I., Prof. Engr. Ontario & Quebec. Clubs: University (Montreal), Chemists' (N.Y.), Canadian. Hobbies: carpentry, gardening, boats.

PATTON, Carl William, mgr. coating & adhesive matls., Bakelite Div. of Union Carbide & Carbon, 30 E. 42nd St., N.Y.C.; res. Mt. Vernon, N.Y.
Admin.-plastics; b. Knoxville, Iowa, 1909; ed. Marietta Coll., Marietta, Ohio, A.B. 1932; mem.: Alpha Sigma Phi. Entire career to date with Union Carbide & Carbon Corp., starting 1932, chem., Res. & Dev. Labs., 1932-37; U.C.C. Fellowship-Mellon Inst., 1937-40; Sales Dev. and Admin. Wk., 1940 to date; holds several pats. in connection with vinyl resins. Mem.: Phi Beta Kappa, A.C.S., A.A.A.S. Club: Chemists'. Hobby: sailing.

PATTON, Elmo Logan, hd., Naval Stores Res. Div., 2100 Robert E. Lee Blvd., New Orleans 19, La.; res. 1510 Wakefield Pl., Apt. D., New Orleans.
Chem. engr.; b. Galax, Va., Mar. 18, 1903; s. of Stephen Friel and Hannah Alverta (Kenny) Patton; ed. 1927 B.S. chem. engrg., Ga. Schl. of Tech.; mem.: Square & Compass; m. Mary Lee Harris, Oct. 16, 1928; ch.: Edward Logan. Coronet Phosphate Co., anal. chem.; Ga. Pine Turpentine Co., chem. engr., asst. mgr.; Am. Bakeries Co., asst. dir. of res.; Buckeye Cotton Oil Co., pulp plant, res. chem. engr.; Naval Stores Station, chem. engr., res. process dev.; Naval Stores Res. Div., hd. of div. Dev. process & equipt. for gum cleaning, steam distillation; one of unit receiving Superior Service Award from Secy. of Agric. for this accomplishment. Author number of arts. pert. to gum naval stores res. & dev. Mem.: A.I.Ch.E. (active), A.C.S. Hobbies: golf, horseback riding.

PATTY, Frank Arthur, dir. indust. hygiene, Gen. Motors Res. Labs., 485 Milwaukee Ave., Detroit, Mich.; res. 8273 S. Riverside Dr., Marine City, Mich.
Indust. Hygiene; b. Lawrence, Kans., Jan. 11, 1897; s. of Frank B. and Nancy Ann Patty; ed. U. Kans. B.S. Phar. 1920; mem.: Alpha Chi Sigma; m. Ruth Irene Boyles, Sept. 1, 1920; ch.: Eleanor Irene. Instr. U. Wash. (Seattle) 1920-21, chem., phar.; res. rapid chem. meths. breadmaking Continental Baking Co. 1922-24; bakery mgt. Collinsville, Okla. 1925-27; asst. chem. health sect. U.S. Bur. Mines, Pgh. 1928-32; assoc. chem. chg. gas mask approval testing 1932-36; dir. ind. hyg. Fidelity & Casualty Co. of N.Y. 1936-44; dir. ind. hyg. Gen. Motors Corp., Detroit, 1944 to date. Res. in meths. anal. for atmosp. contaminants, toxicity, physiolog. effects of atmosp. contaminants, field studies of atmosp. in and surrounding ind. plants. Meths. of reduc. or contr. contaminants. Author: "Indust. Hyg. and Toxicology," vol. I, 1948, vol. II, 1949. Mem.: A.A.A.S. (fellow), A.P.H.A. (fellow), A.C.S., A.I.H.A. (past pres. and bd. of dirs.), N.Y. Acdy. Sc., Nat. Safety Council, Detr. Engrg. Soc. Hobbies: photography, woodworking, boating, fishing.

PATUREAU, Arthur M., sales promotion mgr., Fischer and Porter Co., Hatboro, Pa.; res. R. D. 1, Kintnersville, Bucks Co., Pa.
Chem. engr.; b. Beaumont, Texas; s. of A.M. and Gertrude Brammer Patureau; ed. U. Tex., B.S. Ch.E., 1933-43; m. Clara Davis, Dec. 24, 1934. 1943-44 chem. engr., Southern Alkali Corp., Corpus Christi; 1944-46 chf. process engr., Gasoline Plant Const. Corp.; 1946-48 chf. process engr., Fomac Engrs. (McCarthy Chem. Co.), Houston; 1948-50 chf. application engr., Fischer and Porter Co., Hatboro, Pa.; 1950 to date sales promotion mgr. Res. in 1944-48 responsible for portion of dev. of industrial oxidation of pet. fractions (celanese Corp. of Am. Bishop, Texas and McCarthy Chem. Co.); Arts. in tech. jls. Mem.: I.S.A., A.I.Ch.E., T.A.P.P.I. Hobbies: oil painting, tennis, photography.

PATZIG, Monroe L., proprietor, Patzig Testing Labs., 2215 Ingersoll Ave., Des Moines, Iowa; res. 680 44th St., Des Moines.
Testing, anal., inspection, conslt., res.; b. Le Mars, Iowa, May 22, 1885; s. of Louis Edward and Mary Elizabeth (Clos) Patzig; ed. grade & West H.S.; I.C.S. Electrical Engrg. & Chem. Engrg.; mem.: Sigma Phi Epsilon; m. Lucile E. Cutler, Oct. 12, 1910; ch.: Monroe L., Jr., Gretchen Jane. Engrg. dept., City of Des Moines, 1903-04; engrg. dept., C.G.W. Ry., 1904-06; engrg. practice under John W. Budd, 1906-08; city chem., City of Des Moines, 1908-12; partner, Monarch Engrg. & Inspection Co., 1912-14; prop., Patzig Labs., 1914 to date. Determined causes for shoving of asphalt pavements, dev. of asphalt brick, assisted in creating Ia. Engrs. License Law, portable asphalt plant. Many pubs. on spec. tech. and sc. interests. Mem. of Comm. of Engrs. appointed to study & determine amount of damage trolley & motor buses cause to street pavements & report to State Legislature. Mem. & past pres. Am. Council of Com. Labs. Mem.: A.S.T.M., Assn. of Asphalt Paving Technologists, A.C.S., Concrete Inst., Am. Road Builders Assn., A.A.A.S., A.P.W.A., Ia. Engrg. Soc. (past pres.), Des Moines Engrs. Club (secy., treas. and pres.). Hobbies: wood and metal work, bridge. Clubs: A.C.C.L. Pres., Professional Men's, Caravan, Engrs., Shrine.

PAUL, Dr. Henry E., chf., div. of biol., Norwich Pharmacal Co., Eaton Ave., Norwich, N.Y.; res. 119 N. Broad St., Norwich.
Res. biochem.; b. Los Angeles, Calif., May 21, 1908; s. of Frank G. and A. Paulina Paul; ed. B.S. Chem. Engrg., Okla. A.&M. Coll. 1934; Ph. D., nutrition & biochem., Cornell U., 1938, with

minors in spectroscopy & microscopy; mem.: Sigma Tau, Phi Kappa Phi, Phi Lambda Upsilon; m. Mary Frances Crowell, 1937; ch.: Denny Kent, Barbara Jean, Ellen Crowell. Res. asst., Cornell U., 1936-38; chf., div. of biol., Norwich Pharmacal Co., 1938 to date. Res. on metabolism of nitrofurans; dev. & assay of vitamin prods.; num. pub. in tech. jls. Mem.: A.C.S., N.Y. Acdy. of Sc., A.A.A.S., Sigma Xi. Clubs: Rotary, Elks. Hobbies: photography, building optical instruments (telescopes, special cameras).

PAUL, John C., asst. mgr., tech. & res. dept., Jefferson Chemical Co., Inc., 711 5th Ave., New York 22, N.Y.; res. 2834 Heath Ave., New York 63, N.Y.
Chem. engr.; b. New York City, May 29, 1909; s. of John and Minnie Paul; ed. New York U., B.S., C.C.N.Y., 1932; mem.: Delta Sigma Phi; m. Grace E. Paul, 1938. Chem., Feedwaters, Inc., N,Y., 1931-33; chem. engr., M.W. Kellogg Co., 1934; plant chem., Durkee Famous Foods, Inc., 1935-36; res. chem. engr., West Virginia Pulp & Paper Co., 1936-40; project engr., E.R. Squibb & Sons, 1940-45; asst. mgr., tech. & res. dept., Jefferson Chem. Co., Inc., 1945 to date. Mem.: A.C.S., A.I.Ch.E. Hobbies: sports, music, landscape gardening.

PAULING, Linus (Carl), prof. of chem., dir. of Gates and Crellin Labs. of Chem., and chmn. of the Div. of Chem. and Chem. Engrg., Calif. Inst. of Tech., Pasadena 4, Calif.; res. 3500 Fairpoint St., Pasadena 8, Calif.
Univ. prof.; b. Portland, Oregon, Feb. 28, 1901; s. of Herman William and Lucy Isabelle (Darling) Pauling; ed. grammar schl. Condon, Ore. and Portland, Ore.; H.S., Portland, Ore.; B.S. in Chem. Engrg., Oregon State Coll., 1922; Ph. D., Calif. Inst. of Tech., 1925; Sc.D., Oregon State Coll., 1933; U. of Chicago, 1941; Princeton U., 1946; Cambridge U., U. of London, Yale U., 1947; Oxford U., 1948; M.A., Oxford U., 1948; D.Hon.Caus., U. of Paris, 1948; U. of Toulouse, 1949; Doctor of Humanities, U. of Tampa, 1949; U.J.D., U. of New Brunswick, 1950; post-doctorate study at Univs. of Munich, Copenhagen, and Zurich, 1926-27; mem.: Tau Beta Pi, Sigma Xi, Sigma Tau, Phi Lambda Upsilon, Alpha Chi Sigma, Phi Kappa Phi, Delta Upsilon, Scabbard and Blade; m. Ava Helen Miller, June 17, 1923; ch.: Linus Carl, Jr., Peter Jeffress, Linda Helen, Edward Crellin. Full-time asst. in quantitative anal., Oregon State Coll., 1919-20; part-time asst. in chem. and in mechanics and matls., Oregon State Coll., 1920-22; grad. asst., Calif. Inst. of Tech., 1922-23; tchg. fellow, 1923-25; res. assoc., 1925-26; Nat. Res. Fellow in Chem., 1925-26; Fellow of John Simon Guggenheim Memorial Found., 1926-27; asst. prof. of chem., Calif. Inst. of Tech., 1927-29; assoc. prof., 1929-31; prof., 1931 to date; chmn. of the Div. of Chem. and Chem. Engrg. and dir. of the Gates and Crellin Labs. of Chem., 1937 to date; author of abt. 200 sc. pubs. in flds. of experim. determ. of structure of crystals by diffraction of x-rays and interpretation of these structures in terms of radii and other properties of atoms; appl. of quantum mechanics to phys. and chem. problems, incl. dielectric constants, x-ray doublets, momentum distrib. of electrons in atoms, rotational motion of molecules in crystals, van der Waals forces, etc.; structure of metal and intermetallic compds.; the nature of the chem. bond, incl. the resonance phenomenon in chem.; experim. determ. of structure of gas molecules by diffraction of electrons; structure and properties of hemoglobin and related substances; structure of antibodies and nature of serological reactions; and misc. subjects, such as devel. of a new instrument for determ. partial pressure of oxygen in a gas. Co-author (with S. Goudsmit), "The Structure of Line Spectra," 1930; (with E. Bright Wilson, Jr.), "Introduction to Quantum Mechanics, with Appl. to Chem.," 1935; author of "The Nature of the Chem. Bond," 1939, 2nd ed. 1940; "Gen. Chem.," 1947; "College Chem.," 1950. Mem.: Natl. Acdy. of Scs. (chmn. Chem. Section, 1940-43); A.Phil.S.; Am. Acdy. of Arts and Scs.; A.C.S. (pres. 1949); A.Phys.S. (fellow); A.A.A.S. (pres., Pacific Div. 1941-46); hon. fellow, Chem. Soc. of London; hon. mem. Royal Inst. of Gr. Britain; foreign mem. The Royal Soc.; hon. mem. Swiss Chem. Soc.; corresp. foreign mem. of the Accademia Benedettina (Acdy. of Scs. of Bologna); correspondent of Inst. of France, Acdy. of Scs. (Sect. of Mineralogy); hon. fellow, Indian Acdy. of Scs.; hon. fellow, Royal Soc. of Liege; foreign mem. Norwegian Acdy. of Arts and Letters. First recip. of A.C.S. Award in Pure Chemistry (Langmuir Prize), 1931; William H. Nichols M. of N.Y. Section of the A.C.S., 1941; J. Williard Gibbs M. of Chicago Section of the A.C.S., 1946; Theodore William Richards M. of Northeast Section of the A.C.S., 1947; Davy M. of Royal Soc., 1947; M. for Merit, 1948.

PAULSEN, Grover Cleveland, Jr., secy., Am. KAT Corp., South Ave., Garwood, N.J.; res. 554 Lenox Ave., Westfield, N.J.
Chem. sales, tech.; b. Savannah, Ga., July 10, 1916; s. of Grover C. and Lucile (Epting) Paulsen; ed. 1934-38, Clemson Coll., B.S. in chem.; 1938-40, M.I.T., M.S. in chem.; mem.: Sigma Phi; m. Jeanette Adams Stevens, Nov. 15, 1940; ch.: Grover C. III, Nancy Jean. 1940-46, Merck & Co. Inc., res. & dev. chem.; 1946-47, Avia Co. of N.J., mgr.; 1947-48, Hargrove Co., partner; 1948-49, Magnus Chem. Co., tech. sales; 1949 to date, Am. KAT Corp., secy., dir. Syn. of some olefins by sodium condensations; pats. quinolinic acid decarboxylation; process for prod. of tropic acid. Mem.: A.C.S., A.A.A.S., Natl. Assn. of Power Engrs., N.J. Supplymen's Assn. Clubs: M.I.T. of Northern N.J. (treas.), Clemson Metropolitan Alumni, Valhalla. Hobbies: coins, stamps, music, golf.

PAULSEN, Robert Marshall, mgr. resinous prods. dev., U.S. Rubber Co., Mishawaka, Ind.; res. 116 S. Wenger St., Mishawaka.
Chem. engr.; b. Chicago, Ill., Oct. 24, 1914; s. of Marshall and Hattie Paulsen; ed. 1936, B.S. in Ch.E., Armour Coll. of Ill. Tech.; mem.: Alpha Chi Sigma, Tau Beta Pi, Black Knight, Phi Lambda Upsilon; m. Margaret E. McCarvell, Mar. 24, 1939; ch.: Marshall John. 1936-42, North Shore Coke & Chem., holding of Wm. A. Baehr org., consltg. engrs., as res. engr., sales dev. engr., 1942 to date, U.S. Rubber Co., plastic laminating tech., managing new prods. project. Spec. in processing of polyester resins in continuous laminating for optimum physical properties. One U.S., one Canadian pat. issued. Sc. papers. Mem.: A.I.Ch.E., A.C.S., Deacon, Presby. Church. Clubs: Engineers (South Bend), Turners' (South Bend), Masonic affiliations. Hobbies: music, golf.

PAULUS, Peter V., pres., Paulus, Inc., Helen & Robb Sts., McKees Rocks, Pa.; res. 1501 Merrick Ave., Pitts. 26, Pa.
Chem.; b. Newark, N.J., Feb. 14, 1914; s. of James and Helen Paulus; ed. Ohio State U., A. B., 1937; U. of Cincinnati, M.A., 1939, Ph.D., 1941; mem.: Sigma Epsilon Phi; m. Josephine Thompson, Mar. 13, 1943; ch.: Marsha Lynn. Lab. instr., U. of Cincinnati, 1937-41; res. chem., Mine Safety Appl. Co., 1941-46; pres., Paulus, Inc., 1946 to date.

PAUSTIAN, Albert F., tech. dir.. Shedd-Bartush Foods, Inc., Detroit 6, Mich.; res. 19167 Steel Ave., Detroit 35.
Chem. engr.; b. Mayville, Wis., June 23, 1906; s. of Albert F. and Louise Paustian; ed. U. of Wis., B.S.Ch.E., 1928; mem.: Alpha Sigma Phi; m. Lucille Jenkins, Feb. 20, 1932; ch.: Kurt.

1929-45, chem. div., Procter & Gamble Co., Cincinnati, Ohio, sr. chem. engr. upon leaving; Jan., 1945 to date, tech. dir., Shedd-Bartush Foods, Inc. Oil & fats, food res. & mfr. Mem.: A.O.C.S., I.F.T.

PAVLIS, Frank E., tech. sales dir. and treas., Air Prods., Inc., P.O. 538, Allentown, Pa.; res. 2145 Livingston St., Allentown, Pa.
Engr. b. Buckley, Mich., Oct. 29, 1916; s. of Frank N. and Anna A. Pavlis; ed. B.S. chem. engrg. 1938, Mich. Coll. of Min. and Tech.; M. S. chem. engr. 1939, U. of Mich.; m. Ethel A. Piehl, Nov., 1947. 1939-40 res. engr. with Mr. L. P. Pool, Detroit, Mich.; 1940-43 chf. engr. with Air Prods. Inc., Detroit, Mich.; 1943-48 tech. dir. Air Prods. Inc., Detroit, and Chattanooga, Tenn.; 1948 to date tech. sales dir. Air Prods., Allentown, Pa.; 1949 to date treas. same firm; res., design, dev., pertaining to the generation of gaseous and liquid oxygen. Author of sev. books written for armed services on generation of oxygen. Mem.: A.C.S., A.I.Ch.E., Am. Soc. Refrig. Engr. Club: Brookside Country.

PAYNE, Andrew A., pres., Ohio-Apex, Inc., 1510 Kanawha Valley Bldg., Charleston, W.Va.; res. Charleston.
Lawyer; b. Charleston, W.Va., Sept. 4, 1901; s. of W.D. and Margaret A. Payne; ed. Washington & Lee, LL.B., 1926; mem.: Phi Kappa Psi; m. Anastasia Dickinson, 1929; ch.: Anne D., Andrew A., Jr., John L.D. Practice law 1926-37; v.p., Central Trust Co., 1937-47; pres., Ohio-Apex, Inc., 1936 to date, also dir. Mem. firm of Payne Minor & Ray, lawyers; Dunbar Glass Corp., treas., dir.; Kanawha Valley Bank, dir.; Nitro Indus. Corp., pres., dir. Clubs: Chemists' (N.Y.C.), Canadian, Edgewood Country (Charleston, W.Va.). Hobbies: golf, shooting.

PAYNE, John Howard, hd. of sugar tech. dept., Expt. Staton, H.S.P.A., Honolulu, Hawaii; res. 2149 Lanihuli Dr., Honolulu.
Chem.; b. Hartford City, Ind., Aug. 21, 1906; s. of William E. and Katharine (Curry) Payne; ed. Butler U., B.S.; U. of Cincinnati, M.A., Ph. D.; mem.: Alpha Chi Sigma; m. Eelene Roberts, Aug. 18, 1932; ch.: Katharine, Elizabeth, John. 1930-32, chem. res. dept., E.I. du Pont de Nemours & Co., Niagara Falls, N.Y.; 1932-40, asst. prof., U. of Hawaii, Honolulu; 1940-48, dir. of res., Pacific Chem. & Fertilizer Co., Honolulu; 1948 to date, hd. of sugar tech. dept., Expt. Station, H.S.P.A., Honolulu. Carbohydrate chem., sugar tech., ion exchange. Mem.: A.C.S., A.A.A.S., A. I.C., Sigma Xi.

PAYNE, V(irgil) F(rancis), hd., chem., deputy chf., components and matls. branch, Signal Corp Engrg. Labs., Fort Monmouth, N.J.; res. 400 Atlantic Ave., Long Branch, N.J.
Chem.; b. Callaway Co., Mo., Jan. 28, 1893; s. of John Baxter and Lily Booth Payne; ed. Westminster Coll. (Mo.) A.B. 1916; U. Mo. M.A. 1921; U. Chicago, U. Ky. Ph.D. 1931; m. Wilsie Burnett, June 5, 1917; ch.: John Burnett, Mary Elizabeth, Marciadene. Principal, High Schl., Houston, Mo. 1916-17; asst. agric. chem., U. Mo. 1917; U.S.A., Inf., Chem. Warfare, 1917-18; asst. prof. chem., N.M. Agric. & Mech. Coll. 1918-20; hd. sc., Palmer Coll. (Mo.) 1920-23; hd. chem. dept., registrar, chmn. faculty, Transylvania Coll. (Ky) 1923-42; chem., Signal Corps. Engrg. Labs. 1942 to date. Res. in chem. ed., matls., hist. chem. Co-author: "Outline of Organ. Chem."; "The Quadri-Service Manual of Organ. Chem."; Collaborator "Fundamental Organic Chem." Mem.: A.C.S. (past local sect. chmn., council, secy.), A.A.A.S. (fellow), E.S., Ky. Acdy. Sc. (past pres.), Ky. Assn. Chem. Tchrs. (past pres.), A.S.T.M., Cer. Assn. of N.J. Hobby: gardening.

PAYNE, Willard Arthur, supt. tech. sect., E.I. du Pont, Charleston, Box 993, W. Va.; res. 604 Churchill Dr., Charleston 4.
Chem. engr.; b. Salamanca, N.Y., Feb. 12, 1908; s. of Arthur and Effie J. Payne; ed. Oberlin Coll., A.B., 1931; U. of Rochester, M.A., 1933, Ph.D., 1936; m. Lucy A. Northrup, Aug., 1932; ch.: Mary Lee, Arthur Jeffrey. U. of Rochester, asst. in chem. dept., 1931-36; Oberlin Coll., teacher org. chem., 1936-37; E.I. du Pont, at Belle, W. Va. plant 1937 to date. Mem.: A.C.S., A.I.Ch.E., Sigma Xi. Clubs: University, Hunting and Fishing. Hobbies: sports, gardening.

PAYTASH, Peter Leonard, prof. of chem., hd. dept. of chem., dir. sc. div., Xavier U., Palmetto & Pine Sts., New Orleans, La.; res. 2033 Adams St., New Orleans.
Prof. of chem.; b. Dunlo, Pa., Aug. 5, 1905; s. of Peter and Susan (Kramer) Paytash; ed. St. Vincent Coll., Latrobe, Pa., B.S. in chem., 1925-29; Loyola U., New Orleans, La., 1929-30; U. of Pitts., Pitts., Pa., 1932, 1940; U. of Colo., 1933; La. State, M.S. in chem., Baton Rouge, La., 1934-37, 1938-39; Tulane U., New Orleans, La., 1939-40; m. Alys Riette, June 8, 1933. Instr. in chem. & biol., 1929-36, prof. of chem. 1936 to date, dir. of sc. div. 1937 to date, hd. dept. of chem. 1937 to date, Xavier U., New Orleans, La. Contrib. to periodicals A.C.S.; org. cmpds. as anal. reagents; fractional precipitation of fibrin & pyrrolidones. Co-author: "Reaction of Itaconic Acid with Primary Amines" J.A.C.S. Mem.: A.A.A.S., A.A.U.P., A.C.S., A.I.C. (fellow, Feb. 9, 1949). Hobbies: baseball, fishing.

PEABODY, William Alden, chem. dir., v.p., Valentine's Meat-Juice Co., 1600 Chamberlayne Ave., Richmond 9, Va.; res. 2510 Hawthorne Ave., Richmond 22.
Biochem.; b. Ellisburg, Pa., May 10, 1900; s. of Albert Francis and Beulah (Johnston) Peabody; ed. Colo. Schl. of Mines, Ch.E., 1923; U. of Colo. (Schl. of Medicine), M.S., 1926, Ph.D., 1929; U.S. Naval Acdy., 1918-19; M.I.T., 1919-20; mem.: Delta Upsilon; m. Alice M. MacKay, Dec. 25, 1930; ch.: Alice MacKay, William Alden, Jr. Metallurg. chem., Denver Rock Drill Mfg. Co., 1923-24; grad. asst., dept. of biochem., U. of Colo. Schl. of Med., 1925-29; assoc., dept. of chem., Medical Coll. of Va., Richmond, 1929-32; Valentine's Meat-Juice Co., 1932 to date, successively chem., res. dir., chem. dir. A few publ. pert. to creatine, creatinine, meat & liver extracts. Mem.: Sigma Xi, A.C.S., A.I.C. (fellow), Va. Acdy. of Sc., A.A.A.S. Club: Northside Lions (Richmond, Va.). Hobbies: photography, gardening.

PEACOCK, William Henry, res. group leader, Calco Chem. Div., Am. Cyanamid Co., Bound Brook, N.J.; res. 83 Grove St., Elizabeth 2, N.J.
Chem., colorist; b. Manchester, England, Sept. 7, 1894; s. of Thomas Pierce and Mary Ann Peacock; ed. Drury Acdy., North Adams, Mass.; Cooper Union for Sc. & Art, N.Y., B.S.; post grad. courses at Columbia U., Bklyn. Polytech. Inst., Rutgers U. Chem., Read Holiday & Sons, Ltd., N.Y.C., 1913-15; asst. supt., dye prod., Holliday, Kemp Co., L.I.C., N.Y., 1915-21; chem., Sandoz Chem. Wks., N.Y.C. 1922; tech. service & application res. lab. mgr. & group leader, Calco Chem. Div., Am. Cyanamid Co., 1923 to date. Carried out much of pioneer wk. on application of coloring agents to plastics, crayons, food, drugs, cosmetics, lacquers, inks, & many other misc. prods.; given lecture courses on plastics at Rutgers U., also on color & colorants for Bd. of Ed., N.Y.C. Publ. num. tech. treatises & arts. on applications of colorants & properties of color. Mem.: A.A.T. C.C. (Bibliography Comm.); A.C.S. (and Div. of Rubber Chem. & Div. of Paint, Varn. & Plastics

Chem.); S.C.C., Soc. of Plastics Engrs. (prof. mem.); Soc. of Plastics Ind. (and its Group III —Res. Comm.). Club: Chemists' (N.Y.). Hobbies: bridge, chess, organization of industrial recreational activities.

PEAKES, Ralph Ware, conslt., res. 3613 Appleton St. N.W., Washington 8, D.C.
Chem.; b. Boston, Mass., May 6, 1884; s. of Charles A. and Amelia (Ware) Peakes; ed. U. of Mass., B.Sc., 1906; Harvard U. Grad. Schl., 1906-07; mem.: Q.T.V.; m. Mimika Dietrich, Oct. 18, 1930. 1907-08, chem., Ellis-Foster Co.; 1908-20, chf. chem. Merrimac Chem. Co.; 1920-21, supt. floor cov. plant, Bird & Son; 1922-47, princ. chem., C.W.S.; retired, 1947; conslt. to date; res. in nitranilins,—nonshrinking wool; Chem. Warfare investgations. Mem.: A.C.S. Hobby: ornithology.

PEARCE, Dennis Wiffen, asst. to the mgr., tech. divs., Gen. Elec. Co., Richland, Wash.; res. 1814 Hunt Ave., Richland.
Chem.; b. Alberta, Can., Apr. 24, 1908; s. of Edward Jackson and Frances Wiffen Pearce; ed. U. British Columbia, B.A., (honors) 1929, M.A., 1930; U. of Ill., Ph.D., 1934; m. Marguerite LaF. Thomas, Sept. 1, 1933; ch.: Terence Edward, Denise Alice. Danville Jr. Coll., Danville, Ill., hd., phys. scs., 1933-35; Purdue U., instr., asst. prof., assoc. prof., hd. div. inorganic chemistry, 1935-47; geol. surv., Can., chf. geol. aide, summer 1935; Gen. Elec. Res. Lab., res. assoc. (Hanford div.), chf. anal. sect., asst. to the mgr., tech. divs. (Richland, Wash.) to date. Sr. res. consultant, Manhattan dist., U.S.A.C.E., 1944-46. Author: "Chemical Equilibrium & Qualitative Anal. (1941-42-43-44-46); Qualitative Anal. Lab. Record Bk. (1946). Mem.: A.C.S., A.A.A.S., Mineralogical Soc. of Am., Sigma Xi, Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Pi Sigma. Tr.: Richland Community Council (1949), Boy Scouts of Am. Hobbies: fishing, hunting, mountain climbing.

PEARCE, George Whitenack, assoc. prof. of chem., N.Y.S. Agric. Exper. Station, Geneva, N.Y.; res. 310 Lafayette Ave., Geneva.
Res. chem.; b. State Coll., Pa., Mar. 21, 1907; s. of Diemer T. and Cora R. (McMahon) Pearce; ed. B.S., 1929, Penn. State Coll., M.S., 1930; Ph.D., 1946; m. Sara M. Mallory, June 20, 1931; ch.: Mallory, Peter Jon, Penelope Annette. Control chem., summers 1928, 1929, H.J. Heinz Co., Pittsburgh, Pa.; asst. in res., 1930-37; asst. prof. chem. 1937-44; assoc. prof. chem., 1945 to date, Div. of Chem., N.Y.S. Agric. Exper. Sta., Cornell U., Geneva, N.Y. Contrib. extens. to chem. of calcium and other arsenicals; contrib. extens. to relation of chem. constitution of hydrocarbs. to their insecticidal properties; has pub. 38 sc. papers. Mem.: A.C.S., Am. Assoc. of Econ. Entomology, Sigma Xi, Phi Lambda Upsilon, Gamma Sigma Delta. Club: University. Hobbies: golf, other sports and music.

PEARCE, William Tudor, chem., conslt. on org. coatings, 62 Lodges Lane, Bala-Cynwyd, Pa.; res. same.
Chem.; b. Norfolk, Va., Sept. 3, 1890; s. of Samuel Ferebee and Mary Holmes (Dabney) Pearce; ed. A.B. Randolph-Macon Coll., 1910; M.S. U. of Ky., 1912; Ph.D. U. of Chicago 1916; m. Elizabeth Townes, Sept. 22, 1914; ch.: Mildred Dabney, Elizabeth Townes, Mary Holmes, Margery Virginia. Instr. in chem., Clemson Coll., S.C., 1912-13, asst. prof. 1913-14; asst. prof., N.D. State Coll. 1916-18, prof. of physical & ind. chem. 1918-24, dean schl. of chem. 1924-26; dir. of res., Valentine & Co., paint & varn. mfrs. 1926-30; in chg. of varn. res., Resinous Prods. & Chem. Co., 1930-43; conslt. org. coatings, 1943 to date. Contrib. many arts. in Jl. of A.C.S., Ind. & Engrg. Chem. Official Digest of Paint & Varn. Clubs., & other sc. jls. Mem.: A.C.S. (secy. of paint & varn. div., 1924-26, chmn. 1927); A.S.T.M. (chmn. Comm. D-1, 1944 to date); Sigma Xi.

PEARSALL, David E., dir., Bickford Res. Labs. Inc., Avon, Conn.; res. Avon.
Chem. engr.; b. Brookville, Pa., Feb. 2, 1899; s. of Elmer E. and Ada (Edelblute) Pearsall; ed. U. of Pa., B.S. in Ch.E. 1922, Ch.E. 1930; mem.: Sigma Pi; m. Flora M. MacSweyn, Aug. 20, 1928; ch.: David E. II, Martha Ann, Mary Flora, Donald M. Atlas Powder Co., Tamaqua, Pa., 1922-23, res. chem. engr.; Vulcan Detinning Co., Pitts., Pa., 1923-26, plant frmn., chem. engr.; Western Elec. Co., Chicago, Ill., 1926-30, dev. chem. engr.; Mellon Inst., Pitts., Pa., 1930-41, Ensign—Bickford Co. Ind. Fellow; Bickford Res. Labs. Inc., Avon, Conn., 1941 to date, dir. (secy., treas.). Blasting fuses, explosives, thermal aerosols, plastic water proofings & insulations, hard rubber; reg. prof. chem. engr. in Pa. & Conn. Author chapter of book "Chemist at Work" by Grady & Chittum; pub. arts. on hard rubber, explosives, insecticidal smokes, domestic & foreign pats. Mem.: A.C.S., A.I.Ch.E., Am. Inst. of Physics, A.S.T.M., Franklin Inst., Conn. & Natl. Soc. Prof. Engrs., N.Y. Acdy. Sc., Textile Res. Inst.

PEARSON, B. Baxter, branch mgr., Monsanto Chem. Co., 421 S.W. 6th Ave., Portland 4, Ore.; res. 3847 N.E. 23rd Ave., Portland 12.
Salesman; b. Birmingham, Ala., Sept. 5, 1912; s. of J.C. and Margaret (Mitchell) Pearson; ed. Washington U., St. Louis, Mo.; U.S.C., Los Angeles, Calif.; m. Betty Campbell, June 14, 1942; ch.: Ronald Kent. 1931, Monsanto Chem. Co., started as office boy, mgr. order & billing dept.; 1939, sales, San Francisco; 1940, sales, Los Angeles; Mar. 15, 1948 to date, branch mgr., Portland (opened Portland sales office at this time). Mem.: A.A.T.C.C., Pac. N.W. P. & Varn. Prod. Club. Club: Multnomah Athletic (Portland, Ore.). Hobby: horseback riding.

PEARSON, Charles W., pres., Buflovak Equipment Div., Blaw Knox Co., 1543 Fillmore Ave., Buffalo, N.Y.; res. 57 Longleat Dr., Eggertsville 21, N.Y.
Exec.; b. Fremont, Mich., Sept. 4, 1886; s. of Charles A. and Mary E. Pearson; ed. Fremont pub. schls., Grand Rapids, Mich. Business U.; m. Florence Stickland, Aug. 15, 1908; ch.: Doris E. Bookkeeper and cashier, G.E. Hain Co., Fremont, Mich., 1903; bookkeeper and cashier, W. W. Pearson & Reber Bros., Fremont, Mich., 1904; gen. off. wk., Union Carbide Co., Niagara Falls, N.Y., 1905; bookkeeper to pres., Buffalo Fdry. & Mach. Co., Buffalo, N.Y., 1905-45; pres. Buflovak Equipment, 1945 to date.

PEARSON, Paul B., chf. biol. branch, Atomic Energy Comm., 1901 Constitution Ave., Washington, D.C.; res. 1531 41 St., S.E., Washington, D.C.
Res. and Adm.; b. Oakley, Utah, Nov. 28, 1905; s. of Levi and Ada Brown Pearson; ed. B.S., Brigham Young U., 1928; M.S., Mont. St. Coll. 1930; Ph.D., U. Wis., 1937; m. Emma S. Pearson, 1933; ch.: Paula, Marilyn; 1929-30, asst. prof. Mont. St. Coll.; 1932-35 res. assoc. U. Calif.. 1937-41; prof. A.&M. Coll. Texas, distinguished prof. 1941-47; 1947-49, hd. dept. biochemistry and nutrition, dean of grad. schl.; 1949, chf. biology branch Atomic Energy Comm.; 1950, res. assoc., Johns Hopkins University; res. in intermediary metabolism, vitamins, proteins, amino acids, fats and minerals; methods; contrib. extens. to sc. and tech. journals. Mem.: A.C.S., A.S.Biol.C., A.I.N., S.E.B.M., Biochem. Soc. of London.

PEASE, Robert N(orton), prof. chem., Frick Chem. Lab., Princeton U., Princeton, N.J.; res. 71 Battle Rd., Princeton.
Instr.; b. Burlington, Vt., Apr. 12, 1895; s. of Frederick S. and Mary (Henry) Pease; ed. U. Vt., B.S. 1916; Princeton U., Ph.D., 1921; mem.: Sigma Phi, Phi Beta Kappa, Sigma Xi; m. Margaret Perkins, Dec. 21, 1929; ch.: Margaret Jane, Clement. Part-time asst. Princeton, 1916-17; 2nd Lt. Chem. War Ser. 1918-19; Fellow Princeton, 1919-21; Nat. Res. fellow, Princeton, 1921-22; asst., assoc. prof. U. Va., 1922-26; res. assoc. Princeton, 1926-31; assoc. prof., 1931-47; prof., 1947 to date. Mem. sub.-comm. combust. N.A.C.A., 1946 to date; propulsion panel, appld. physics lab., Johns Hopkins 1945 to date; combust. panel, proj. squid., Princeton 1946 to date. Res. on cataly., react. kin., hydrocarbons, combust., abt. 60 publ. papers 1920 to date. Author: "Equilibrium, Kinetics of Gas Reactions, 1942." Mem.: A.C.S., A.A.A.S. (fellow), N.Y. Acdy. Sc. (fellow).

PECHUMAN, L(aVerne) L(eRoy), dist. mgr., Calif. Spray Chem. Corp., Lyndonville, N.Y.; res. 7 Davison Rd., Lockport, N.Y.
Entomologist; b. Lockport, N.Y., Oct. 18, 1913; s. of Henry J. and Ann (Brege) Pechuman; ed. B.S., 1935, M.S., 1937, Ph.D., 1939, Cornell U., Ithaca, N.Y.; m. Berta Christman, Oct. 14, 1939; ch.: Patricia Ann, Jean Karen. Res. asst., Cornell U., 1935-39; Calif. Spray Chem. Corp., 1939 to date. Mem.: Sigma Xi, Entomological Soc. (Ontario), Entomological Soc. (Amer.), Am. Assn. Economic Entomologists. Director, Niagara County Historical Soc. (Lockport, N.Y.). Hobby: history Western N.Y.

PECK, A. G., pres., Peck's Prod. Co., 610 E. Clarence Ave., St. Louis 15, Mo.; res. 8305 Knollwood, Normandy 25, Mo.
Chem. engr.; b. Rome, N.Y., Jan., 1913; s. of G.P. and Marian M. Peck; ed. U. of Mo., Columbia, Mo., 1931; Wash. U., St. Louis, Mo., 1932-33; m. Lucille Jordan 1941; ch.: Helen, Marian. 1934 to date, pres., Peck's Prod. Co. Org. detergents, soaps. Mem.: A.C.S., A.O.C.S., Assn. of Soap & Glycerine Mfrs. (dir.).

PECK, Albert Carleton, chf. chem. sec., Central Res. Dept., Food Machinery & Chem. Corp., 333 W. Julian St., San Jose, Calif.; res. R. 2, Box 47, Los Catos, Calif.
Chem. engr.; b. Berkeley, Calif., July 7, 1912; s. of Myron Hall and Mary (Moore) Peck; ed. U. of Calif., B.S., 1934, M.S., 1936; mem.: Alpha Kappa Lambda; m. Evelyn Elizabeth Knapp, June 27, 1936; ch.: Mary Evelyn, Judith Lucille, Kathleen Gail, Christine Knapp. 1934-35, Shell Oil Co., refinery control chem.; 1936-38, Union Oil Co., control chem., pilot plant operator, supvr., 1938-41 asst. supt. distillation & cracking, Los Angeles Refinery; 1942-46, Permanente Metals Corp., asst. chf. process engr.; 1946 to date, Food Machinery & Chem. Corp., chf. chem. sec., Central Res. Dept. Dev. of magnesium paste incendiary fuels for chem. warfare; dev. of furnace for thermal fixation of nitrogen. Mem.: A.C.S. Trustee, Lakeside Schl. District, Santa Clara Co. Club: San Jose Engrs. Hobbies: sailing, swimming.

PECK, Carroll W., pres., treas., George Mann & Co., Inc., Providence, R.I.; res. 80 Catlin Ave., Rumford, R.I.
Exec.; b. Mar. 20, 1892; s. of Charles H. and Anna Crossman Peck; ed. Lowell Text. Inst., Lowell, Mass., grad. 1913, chem., dyeing; mem.: Omicron Pi; m. Olive Eveleth, 1924. 1914-17, Brewer & Co., Worcester, Mass., salesman; 1917-19, U.S.A. Military Aviation Pilot Balloon; 1920, Ritter Chem., Amsterdam, N.Y.; 1921 to date, George Mann & Co., Inc., sales, exec. (pres. treas.); dir. G.E. Wilson Co. Clubs: Turks Head, (Providence), Wannamoisett Country. Hobby: golf.

PECK, Edward Bates, adviser, Stand. Oil Dev. Co., Box 121, Linden, N.J.; res. 180 Lincoln Ave., Elizabeth 3, N.J.
Chem.; b. Essex, Vt., Aug. 13, 1891; s. of Albert F. and Elizabeth Bates Peck; ed. Ph.B., Brown U., 1912; S.M., M.I.T., 1914; Ph.D., Clark U., 1916; (hon.) D.Sc. 1947; mem.: Zeta Psi, Sigma Xi; m. Mary Pinkham, Dec. 12, 1917; ch.: Elizabeth Bates Robertson, Dana F. Instr. chem., U. Minn. 1916-17; Lieut., Chem. Warfare Serv. 1917-19; res. chem., Roessler & Hasslacher Chem. Co. 1919-22; Stand. Oil Dev. Co. 1922 to date; loaned to gov. serv. in F.E.A., P.A.W., interdept. comms. for economic studies of enemies ability to make war. Served on Anglo American Working Comitee that set bombing priorities and currently evaluated their strategic effect. Org. and serv. with oil mission to Germany at close of war. Res. in dev. of tetra ethyl lead, physical chem. properties of pet., retrograde condensation cracking, hydrogenation, shale, synth. oil, abt. fifty U.S. and foreign patents. Mem.: A.A.A.S., A.C.S., A.I.Ch.E., Esso Res. Club; Elder, 1st Pres. Ch., Elizabeth, N.J.

PECK, Robert Lawrence, sr. chem., Merck & Co., Inc., Rahway, N.J.; res. 939 Madison Ave., Plainfield, N.J.
Chem.; b. Southern Pines, N.C., Aug. 25, 1914; s. of Clarence Milton and Lucile A. Peck; ed. Duke U., B.S., 1936; Ph.D., 1939; Columbia U.-Coll. Physicians & Surgeons, summer, 1937, Nov.-Dec. 1938; mem.: Keys Club; m. Helen Elizabeth McLean, Aug. 26, 1937; ch.: Mary Helen, Robert Lawrence, Jr., Sally Jane. Natl. Tuberculosis Assn. Fellow, 1939-41 Yale U.; Sterling Chem. Lab., chem. studies on tubercle bacilli; Merck & Co., Inc., 1941 to date, chem., then sr. chem. Res. in struct. studies on lipids of tubercle bacilli; chem. of penicil.; chem. of streptomy.; chem. studies on components of pathog. fungi. Mem.: A.C.S., A.A.A.S., A.S.Biol.C., N.Y. Acdy. Sc., Sigma Xi, Phi Beta Kappa. Hobbies: photography, fishing, golf.

PECKHAM, George Taylor, Jr., res. dir., Clinton Foods Inc., Clinton, Iowa; res. 415 Oakhurst Dr., Clinton, Iowa.
Chem.; b. St. Louis, Mo., June 6, 1906; s. of George Taylor and Bessie Davis Peckham; ed. U. Mo., B.S. in Agr., 1927; mem.: Alpha Gamma Rho, Alpha Chi Sigma, Alpha Zeta; m. Mildred A. Smallfeldt, June 29, 1929; ch: Nancy Elizabeth, Robert Smallfeldt. 1927, Roxana Pet. Corp., Stillman helper; 1928, Graver Corp., chem.; 1930, Clinton Foods, Inc., asst. shift supt.; 1933, personnel dept.; 1935, res. supvr.; 1946, res. dir. Mem.: A.C.S., A.A.S., A.A.C.C., A.Leather C.A.; I.F.T., S.Chem.Ind., Assoc.Ref. A.O.A.C., Corn Collaborator, U.S.No.Reg.Res.Lab.

PEDLOW, J. Thomas, prof. of biochem., U. of Me., Orono, Me.; res. 57 College Ave., Orono.
Chem.; b. Red Bank, N.J., Aug. 31, 1902; s. of William and Mary (Grimison) Pedlow; ed. Pa. State Coll., B.S. in chem., 1925, Ph.D. in biochem., 1934; Rutgers U., M.S. in soil sc., 1926; m. Marie Heindel, 1928; ch.: Philip Heindel. 1926-28, E.I. du Pont, Phila., Pa., paint & varn. dev.; 1928-32, Depauw U., Greencastle, Ind., teaching chem.; 1934-36, Burroughs Wellcome & Co., Tuckahoe, N.Y., trypanosome metabolism studies; 1936-44, 1946 to date, U. of Me., Orono, Me., teaching biochem.; 1944-46, A.U.S., nutrition officer (Capt.). Mem.: A.C.S., A.A.A.S., Sigma Xi, Phi Lambda Upsilon.

PEIERLS, Edgar S., pres., Resistoflex Corp., Belleville 9, N.J.; res. 3 Old Quarry Rd., Upper Montclair, N.J.
Mfg.; b. N.Y.C., Nov. 27, 1905; s. of Siegfried and Jennie Peierls; ed. 1920-22 Phillips Acdy., Andover, Mass.; 1923 Cheshire Acdy., Cheshire, Conn.; 1927 Yale U., Ph.B.; supplementary courses at La Sorbonne, 1925, Grad. Bus. Schl. Harvard, 1927, Columbia Bus. Schl., 1928-29; m. Ethel F., Sept. 20, 1936; ch.: E. Jeffrey, Brian Eliot; also two ch. by prior marriage, Barbara G., Emily A. Invest. banking 1928-30 Shields & Co. statistician. Apprenticeship, internatl. banking, 1930-31. Lazard Fréres, Paris, various, Japhet & Co., London, various, Swiss Bank, London, various, M.M. Warburg, Hamburg, various, C.I.T.-A.G. Berlin, various, C.I.T.-Societe Anonyme Brussels, various; Gen. Finance & Credit 1931-35, C.I.T. Financial Corp. & subs., from installment collector to jr. exec.; mfg. 1936 to date, Resistoflex Corp., founder, pres., dir. Instigated & supervised dev. & appl. of compar, a new elastomer, to Am. market, incl. several unique prods. for armed services; est. Co. based on new chem. approach, devoted to providing spec. engineered, flexible, resistant prods. to ind. During past 12 yrs. contrib. signed & unsigned articles to tech. trade pubs. Mem.: S.A.E. (assoc. mem.). Senior Trustee, Unity Church, Montclair, N.J.; chmn., Cub Pack No. 7, Boy Scouts of Am., Montclair. Clubs: Belleville Rotary (past pres.), Yale of N.Y., Yale of Montclair. Hobbies: sailing, fishing, photography.

PEIKER, Alfred Louis, assoc. dir., application res. dept., Am. Cyanamid Co., Calco Chem. Div., Bound Brook, N.J.; res. 526 Central Ave., Bound Brook.
Chem.; b. West Orange, N.J., Aug. 27, 1903; s. of Louis R. and Charlotte May Skinner Peiker; ed. Trinity Coll., B.S., 1925; M.S., 1927; McGill U., Montreal, Ph.D., 1930; mem.: Sigma Nu, Sigma Xi; m. Mildred Marie Abrahamson, June 16, 1931; ch.: Alfred Stephen, Susan Marie; grad. student and lab. dem. Trinity Coll. 1925-27; grad. student, McGill U., 1930; instr. chem., Trinity Coll., 1930-34; Res. chem., Calco Chem. Div., Am. Cyanamid Co., 1934-41; asst. dir., physical chem. res., Calco, 1941-45; mgr. dyes tech. serv. lab., 1945-49; assoc. dir., application res. dept., 1949 to date. Mem.: A.C.S., A.A.T.C.C., S.D.C. (England), T.A.P.P.I., C.C.D.A., v.pres. Bd. Ed. Clubs: Eastern Star Lodge, F. and A.M. Hobbies: gardening, fishing, woodworking.

PELLETIER, Paul E., tech. dir., Pelron Corp., 7740 W. 47th St., Lyons, Ill.
Chem. exec.; b. Bogota, Ill., July 26, 1914; s. of Paul E. and Grace C. Pelletier; ed. grade & high schls., Auburn, Ill.; U. of Ill., B.S.; grad. study, Ill. Inst. of Tech.; m. Alberta F., June 30, 1936; ch.: Paul E., III, Vincent E., Nelson E. Victor Chem. Wks., res. chem., 1941-44; Continental Can Co., res. chem., 1944-45; L.R. Kerns Co., res. chem., 1945-46; Chemco Prods. Co., tech. dir., pres., 1946-50; tech. dir., Pelron Corp. (successor to Chemco), to date. Mem.: A.C.S., A.S.M., Am. Soc. for Lub. Engrs., Am. Electroplaters Soc., Am. Foundrymen's Soc.

PENCE, James Orville, dir. of lab., Ranco Inc., 601 W. Fifth Ave., Columbus, Ohio; res. 41 W. Bridge St., Dublin, Ohio.
Chem. engr.; b. Mar. 9, 1912; s. of James R. and Catherine Ann (Bradshaw) Pence; ed. U. of Idaho; Ohio State U., Ph.D. Ch.Engr.; mem.: Sigma Xi. Assoc. prof., Ohio State U., to 1948; at present dir. of lab., Ranco Inc.; res. in vapor pressure and gas purity. Mem.: A.I.Ch.E. Club: Foreman's (Columbus), N.A.F.

PENHALIGEN, Charles, auditor, Midland, Mich.; res. Sugnet Rd.
Accountant; b. Bay City, Mich., July 26, 1901; s. of James Andrew and Mary Caroline Penhaligen; ed. Bay City, Mich. pub. schl.; Bay City, Mich. Bus. Coll.; m. Mary E. Kempf, Nov. 5, 1927; ch.: Charles Robert, Mary Ann. Dowell, Inc., org. Mar., 1936, as accountant, 1940 elect. treas., dir.; 1941, auditor, The Dow Chem. Co., auditor and dir., Internat. Cementers, Inc., a Dowell assoc. co., since its founding 1940, auditor, The Dow Chem. Co., Canada, Ltd., June, 1942 to date. Mem.: Inst. Internal Auditors, Trustee Parents', Children's Schl,. Midland, Mich. Clubs: Midland F.&A.M., St. John's Episc. Ch., Midland Council for Youth, Adv. Bd., local Salvation Army, Midland Country Club.

PENICK, Sydnor Barksdale, chmn. bd., S.B. Penick and Co., 50 Church St., New York, N.Y.; res. 74 Highland Ave., Montclair, N.J.
Chmn. bd.; b. Mar. 26, 1882; s. of Giles Albert and Werta Dorset Penick; ed. Va. priv. schls.; m. Margaret Henry Dabney, Apr. 26, 1904; ch.: Sydnor Barksdale, Jr., J. Dabney, Albert D., Margaret Penick Nuttle, Florence Penick St. Clair. Strother Drug Co., Lynchburg, Va. and Bristol, Tenn., 1898-1905; Botanical drug bus. N.Y., until 1914; pres. S.B. Penick and Co., 1914-42; chmn. bd. 1942 to date; dir. and treas. Health Inf. Found.; dir. and treas., Am. Found. Pharmaceutical Ed. Clubs: Chem., Union League, Drug and Chem., Railroad-Machinery, Montclair Golf, Seabright Beach, Rumson Country.

PENNINGTON, William Alvin, chf. chem. and metallurgist, Carrier Corp., Syracuse, N.Y.; res. 204 Huntleigh Ave., Fayetteville, N.Y.
Physical chem.; b. Halls, Tenn., Dec. 9, 1904; s. of Marvin and Minnie Pennington; ed. Union U., B.S. with maj. in chemistry (cum laude), Nestor hon. club; Iowa State Coll., Ph.D. physical chemistry; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi; m. Carolyn Palmer McClanahan, Dec. 20, 1930; ch.: Carolyn Palmer. Spring Hill H.S., Trenton, Tenn., prin. & teacher of chemistry, 1925-29; Ia. State Coll., Ames, Ia., asst., chemistry & metallurgy, 1929-33; instr. 1933-34; Union U., Jackson, Tenn. prof. of math., 1934-35; E.I. du Pont de Nemours & Co., Wilmington, Del., res. chem., 1935; Armco Steel Co., Middletown, O., res. engr., 1935-40; Mellon Inst. of Industrial Res., Pittsburgh, Pa., industrial fellow 1940-44; present position 1944 to date. Discovered mechanism for decarburization of solid steel; application of math. princ. to operation of cupola furnace; anal. meth. for refrigerants; dev. of new refrigerant known as Carrene 7. Mem.: A.C.S., A.S.M., E.S., Amer. Soc. of Refrigerating Engrs., A.I.C. (life mem.), A.I.Ch.E. (act. mem.), A.A.A.S. (fellow); Howe M. for paper in Trans. A.S.M. (1947); publn. comm. A.S.M. Hobbies: handball, tennis, fishing, vegetable gardening.

PERKINS, Alfred Thomas, prof. of chem. & soil chem., Kansas State Coll., Manhattan, Kans.; res. 1616 Humboldt St., Manhattan.
Res. chem.; b. Lansdowne, Pa.; s. of James Alfred, Jr. and Ella Chamberlain (Thomas) Perkins; ed. B.S. Pa. State Coll. 1920; M.S., 1922, Ph.D., 1923, Rutgers U.; m. Elizabeth Carter Warren, July 25, 1925; ch.: Caroline Jean, Elizabeth Thomas, Mary Frances. Chem., Wm. S. Merrill Co., 1923-25; Kansas State Coll., 1925 to date. Res. in soil chem., base exchange, phosphate fixation, soil clay minerals formation & decomposition, mineral solubility. Mem.: A.C.S., Soil Sc. Soc. Am., Agronomy Soc., Kansas Acdy. Sc., A.O.C.S., Sigma Xi, Gamma Sigma Delta, Phi Lambda Upsilon. Clubs: Kiwanis, Manhattan Country. Hobbies: golf, photography.

PERKINS, George, dir. Products and Applications, Reynolds Metals Co., 2500 S. 3 St., Louisville, Ky.; res. Glenbrook Rd., Anchorage, Ky. Metallurg. engr.; b. La Grange, Ind., Mar. 20, 1917; s. of Roy and Opal Perkins; ed. Purdue U., B.S.Ch.E., 1937; Ph.D. 1940; mem.: Tau Beta Pi, Phi Lambda Upsilon, Sigma Xi; m. Helen Matsko, Apr. 25, 1940; ch.: George Gary, Gay Helen. June, 1937-Sept., 1937, Aluminum Co. Am., New Kensington, Pa., metallurg.; 1937-39 Purdue U., Lafayette, Ind., grad. engr.; 1939-41, Saunders P. Jones Assoc., Louisville, Ky., res. engr.; 1941-42 Standard Oil Ind., Whiting, tech. serv.; 1942-44 Bohn Al. & Brass Corp., Detroit, Mich., metallurg.; Sept., 1944-Nov., 1944 self-employed, Detroit; 1944 to date, Reynolds Mtls. Co., tech. serv. dept., dir. 1947-50, dir. products and applications 1950—. Res. and dev. proc. for prod. paper back foil by electroplating. Mem.: A.S.M. (Louisville chpt.), A.A.A.S.

PERKINS, Granville Akers, dir. res., Carbide and Carbon Chem. Div., Union Carbide and Carbon Corp., 30 E. 42 St., N.Y.C., N.Y.; res. 628 Orienta Ave., Mamaroneck, N.Y. Chem.; b. Lin Ching, China, Oct. 2, 1891; s. of Henry P. and Estella Akers Perkins; ed. A.B., Cornell U., 1913; Ph.D., U. Pittsburgh, 1917; mem.: Sigma Xi; m. Marie H. Waring, Aug. 20, 1920; ch.: Barbara Standish, Ann Waring. Inst. chem., U. Porto Rico, 1913-15; U. Pittsburgh, 1915-17; chem. War Serv. 1917-18; Bur. Sc., Health Ser. Philippine Islands, 1919-27; Inst. Am. Meat Packers, 1927-29; Carbide and Carbon Chem. Div., Union Carbide and Carbon Corp. since 1929. Dir. res. 1944 to date. Res. in chem. for treatment of leprosy. Patents on indust. organ. chem. Mem.: A.C.S., A.A.A.S. Clubs: Larchmont Yacht, Orienta Beach. Hobby: tennis.

PERKINS, Ralph Parker, asst. dir., org. res. lab., Dow Chem. Co., 20A Bldg., Midland, Mich.; res. 1020 W. Park Dr., Midland. Chem.; b. Ocoee, Fla., July 6, 1901; s of E.D.M. and Della (Parker) Perkins; ed. B.S. Ch.E., U. of Fla., 1923; M.S., Pa. State Coll., 1926; Ph.D. (org. chem.), Northwestern U., 1929; mem.: Phi Lambda Upsilon, Alpha Chi Sigma; m. Hazel Clark, July 5, 1933; ch.: Lindsey Sanders, III, Nancy Elizabeth. 1927-28, instr. chem., Northwestern U.; 1929-45, chem., Dow Chem. Co.; 1945 to date, asst. dir., org. res. lab., Dow Chem. Co. Org. mercury cmpds.; comm. res. & dev. in org. chem. Mem.: A.C.S., A.I.Ch.E.

PERKINSON, Jesse D., Jr., sr. sc., Oak Ridge Inst. Nuclear Studies, P.O. Box 117, Oak Ridge, Tenn.; res. 185 Calif. Ave. Biochem.; b. Etowah, Tenn., Oct. 24, 1914; s. of Jesse D., Sr. and Clara Bedell Perkinson; ed. U.Tenn., B.S.Chem., 1939; U. Rochester, M.S. Biochem., Physiol., 1942; (all wk. for M.S., completed 1939-40; Ph.D., Biochem., Physiol. 1943; mem.: Lambda Xi Alpha, Alpha Xi Sigma; m. Dorothy Brumby, Aug., 1943; ch.: Clara, Lula. 1944-46, Lt. (jg) U.S.N.R., res. aviation med.; 1946-49, asst. prof. zoology dept. biol., U. Ga., Athens, Ga.; 1949 to date, sr. sc. (biochem.) med. div., Oak Ridge Inst. of Nuclear Studies. Mem.: Sigma Xi, Alpha Xi Sigma, A.C.S., A.A.A.S.

PERKINSON, Lewis C., treas., dir., Amer. Cyanamid Co., 30 Rockefeller Plaza, New York.

PERLEY, George Arthur, asst. to dir. of res., Leeds & Northrup Co., 4901 Stenton Ave., Phila. 44, Pa.; res. 120 Waverly Rd., Wyncote, Pa. Chem. engr.; b. Goffstown, N.H., Nov. 21, 1886; s. of Nathaniel H. and Jennie (Stinson) Perley; ed. U. of N.H., B.S., 1908; Cornell U., A.M., 1910; m. Muriel E. Murray; ch.: J. Dwight, Judith Ann. Asst. electrochem., Cornell U., 1909-10; wks. mgr., Albany Lubricating Co., N.Y.C., 1910-11, asst. & assoc. prof. of chem., U. of N.H., 1911-17; 1st Lt., Capt. & Major, Ord. Dept., 1918-19; assoc. prof. of phys. chem., U. of N.H., 1919-29; chf. chem. div., res. dept., Leeds & Northrup Co. 1929 to date; civilian, Natl. Defense Res. Comm. Num. publ. in scientific journals. Mem.: Alpha Chi Sigma, Sigma Xi (Cornell), Phi Kappa Phi (N.H.), A.C.S., A.I.Ch.E., A.I.C. (fellow), Electrochem. Soc., A.S.T.M. (comm. mem.). Awards: Meritorious Award, New Hampshire, 1928; War-Navy Cert. of Appreciation W.W.II. Health officer, Town of Durham, 1926-29; alumni secy., U. of N.H. 6 yrs. Clubs: A.F.&A.M., N.H. Consistory, Bektash Temple A.A.O.N.M.S., Phila. Metachemical. Hobbies: skiing, bird photography, fly fishing, coach winter sports U. of N.H., 1922-28.

PERLICH, Robert W., chf. chem., anal. sect., central res. dept., Minn. Mining & Mfg. Co., 900 Faquier, St. Paul, Minn.; res. 574 Montrose Lane, St. Paul. Anal. chem.; b. Minneapolis, Minn., Dec. 6, 1915; s. of Edward A. and Agnes Perlich; ed. B.Ch., U. Minn. 1937; M.S., 1938; m. Viola E. Gebauer, Aug. 21, 1939; ch.: Mary E., James R., Jean L. Jan.-May, 1939, Rock Anal. Lab. U. Minn.; 1939-42, Mines Exp. Sta., U. Minn.; 1942 to date Minn. Mining and Mfg. Co., St. Paul. Gen. res. in anal. chem. Mem.: A.C.S., Sigma Xi. Clubs: St. Paul Rifle and Pistol, 3-M Male Chorus. Hobby: photography.

PERLMAN, Isadore, prof. of chem., dept. of chem., U. of Calif., Berkeley 4, Calif.; res. 527 Colusa Ave., Berkeley 6, Calif. Teacher, chem.; b. Milwaukee, Wis., Apr. 12, 1915; s. of Harry and Bella (Karpman) Perlman; ed. 1932-34, U. of Calif., Los Angeles; 1934-36 U. of Calif., Berkeley, B.S., 1937-40, Ph.D.; m. Labelle Grinblat, July 26, 1937; ch.: Judith Anne, Alice Lenore. 1940-41, Upjohn Res. Fellow working with Prof. I.L. Chaikoff, U. of Calif., Berkeley; 1942-46, sr. chem., Manhattan Project, Berkeley, Calif., Chicago, Ill., Oak Ridge, Tenn., Hanford, Wash.; 1946-49, assoc. prof. of chem., U. of Calif., Berkeley, 1949 to date, prof. of chem. Application of tracers in biochem. studies; chem. separation procedures used in mfg. of plutonium at Oak Ridge, Tenn. & Hanford, Wash.; discovery & interpretation of fission of elements in region of bismuth; experimental & interpretative wk. on alpha-decay systematics; experimental & interpretative wk. on mechanism of high energy nuclear reactions; first isolation of the element curium in pure macroscopic form. Mem.: A.C.S., A.A.A.S., Sigma Xi, A.Phys.S., Phi Beta Kappa, Sub-comm. on Radiochem. of Comm. on Nuclear Sc. of the N.R.C. Club: Faculty, U. of Calif., Berkeley. Hobby: golf.

PERLMAN, Lester Joseph, sales mgr., The Edwal Labs., Ringwood, Ill.; res. 1374 E. 47th Pl., Chicago 15, Ill. Chem.; b. Chicago, Ill., Dec. 24, 1914; s. of Michael and Sadie (Gladstone) Perlman; ed. U. of Chicago, B.., chem., 1940; grad. schl., U.S. Naval Acdy., Annapolis, Md., qualified aerologist, 1945; m. Ethel Shanas, May 17, 1940; ch.: Michael Stephen. Physical chem., Radium Service Corp., Chicago, to 1940; chem., consltg. div., The Edwal Labs., Chicago, to 1941; hd. Dairy & Poultry Lab., U.S. Dept. of Agr., Agricultural Marketing Adm., Chicago, Ill., to 1942; engrg. officer, U.S. Naval Reserve, June, 1942-Dec., 1945; adm. asst. to 1947, at present, chem. sales mgr., Edwal Labs., Inc., Ringwood, Ill. Work: a method for prepartion of Radon ointment. Mem.: A.C.S., A.I.C., A.A.A.S., Chicago Tech. Socs. Council, Chicago Perfumery, Soap and Extract Assoc., Intl. Assoc. Blue Printers and Allied Industries, and C.M.R.A.

PERNERT, John C., dir. of res., Oldbury Electro-Chem. Co., Niagara Falls, N.Y.; res 8668 Rivershore Dr., Niagara Falls.
Chem.; b. St. Louis, Mich., Oct. 15, 1898; s. of John C. and Mary Pernert; ed. U. of Mich., B.S., 1923, M.S., 1924, Ph.D., 1925; mem.: Sigma Xi, Phi Lambda Upsilon; m. Maragaret Rachor, 1929; ch.: Katrina. Anal., Mich. Smelting & Refining Co., 1918-20; res. chem., Phosphorous Cmpds. Co., 1925-27; res. chem., 1927-47, res. dir. 1947 to date, Oldbury Electro-Chem. Co. Methly biphenyls, trivalent carbon, phosphorous & derivatives, chlorates, perchlorates, etc. Mem.: Prof. Assn., A.A.A.S., A.C.S., Electro-chem. Soc., Soc. of Chem. Ind.

PERRI, Joseph Mark, chem. dir., Natl. Foam System, Inc., West Chester, Pa.; res. M.R., West Chester, Pa.
Chem.; b. Philadelphia, Pa., June 3, 1917; s. of Joseph Mark and Susan Perri; ed. B.S., P.C.P. & S., Ph.D., U. of Pa.; m. Alma Del Rossi, May 20, 1943; ch.: Joseph Mark, Jr., Susan. Pl. chem., J. Evanson & Sons (div. Wilson Co.); U. of P., post-doctoral res. scholarship; chem. dir. Natl. Foam System, Inc. Res.: protein hydrolysis, surface activity, lyophilic systems, and Fire Control. Mem.: Sigma Xi, Franklin Institute, A.C.S., National Fire Protection Assn., Amer. Assoc. Textile Chem. & Colorists, past member of Natl. Chemurgic Council, Amer. Soybean Assn., A.A. A.A. Hobbies: water color painting, wood work, fishing.

PERRY, Albert Dean, treas., asst. secy., The Harshaw Chem. Co., 1945 E. 97 St., Cleveland 6, O.; res. 14607 Shaker Blvd., Shaker Hts., O.
Chem. industry; b. Cleveland, O., Nov. 29, 1909; s. of Drake T. and Katharine Lee Perry; ed. Phillips Exeter, 1927; Harvard, A.B., 1931; Harvard Schl. of Bus. Adm., M.B.A., 1933; mem.: Pi Eta Club, Speakers' Club; m. Helen Greene, Jan. 14, 1939; ch.: Allen Wade, Edward Lee. Allied Prods. Co., Cleveland, O., treas., 1933-39; Harshaw Chem. Co., Cleveland, O., credit mgr., 1940-41; U.S.A.F. (army), Lt. Col., 1941-45; Harshaw Chem. Co., asst. secy., asst. treas., 1946-49, treas., asst. secy., 1950 to date; Union Bank of Commerce, Cleveland, O., (dir.); Medusa Portland Cement Co., Cleveland, O., (dir.); The John Huntington Benevolent Trust, Cleveland, O., (dir.); trustee, The Children's Fresh Air Camp, Cleveland, O. Clubs: Union, Chagrin Valley Hunt, Tavern, Kirtland, Harvard (all Cleveland). Hobbies: athletics.

PERRY, Charles William, process conslt., Phillips Chem. Co., Bartlesville, Okla.; res. 2084 Dewey Ave., Bartlesville.
Chem. engr.; b. Taunton, Mass., Oct. 1, 1910; s. of Charles Henry and Grace (Wood) Perry; ed. B.S., Northeastern U., 1934; M.S., M.I.T., 1935; Dr. Engrg., Johns Hopkins U., 1940; mem.: Tau Beta Pi; m. Elizabeth Nichols, Nov. 23, 1943. 1935-37, refinery technologist, Shell Oil Co., Chicago, Ill.; 1937-40, dev. engr., U.S. Ind. Chem. Inc., Baltimore, Md.; 1941-42, design engr., Merck & Co., Inc., Rahway, N.J.; 1943-44, chf., Polymer Dev. Branch, Office of Rubber Dir., Wash., D.C.; 1944 to date, process conslt., Phillips Pet. Co., Bartlesville, Okla. Assisted materially in success of W.W.II syn. rubber program by coordinating sc. wk. on polymer dev. Mem.: A..S. (active), A.I.Ch.E., A.A.A.S. Hobbies: music, photography.

PERRY, Drake Thorndyke, v.p., secy., The Harshaw Chem. Co., 1945 E. 97th St., Cleveland 6, O.; res. 2572 Guilford Rd., Cleveland Hts. 18, O.
V.p., secy.; b. Cleveland, O., Oct. 19, 1874; s. of Allen T. and Lydia Potter Perry; ed. Univ. Schl., Cleveland, O.; Harvard U., A.B., 1897, magna cum laude, LL.B., 1900, cum laude; mem.: Phi Beta Kappa, Theta Delta Chi; m. Nell Turley, Feb., 1948; ch.: Allen T., Albert Dean. Law, Buffalo, N.Y., 1900-02; Cleveland Branch Barrett Co., sales mgr., mgr., 1902-22; The Harshaw Chem. Co., secy., treas., 1923-50, v.p., secy., 1950 to date. Clubs: Union, Kirtland, Harvard (Cleveland), Harvard (N.Y.), S.A.R.

PERRY, James Whitney, assoc. prof., rm. 14-S-312, M.I.T., Cambridge, Mass.; res. 28 Albemarle Rd., Newtonville 60, Mass.
Res. prof. in center for sc. aids to learning; b. Oct. 7, 1907; s. of H. Judson and Lettie Leora Andrus Perry; ed. N.C. State, B.S., M.S. (high hons.), Ch.E., 1927-28; M.I.T., S.M. (chem. engr., 1931); grad. exch. stud. Technische Hochschulen Stuttgart and Berlin, Germany, 1932-33; m. Ruth Dorothy Weber, Sept. 10, 1934; ch.: Krista Ann, Marla Jean. Res. chem., Natl. Aniline div., Allied Chem. and Dye Corp., Buffalo, N.Y., 1933-42; ballistician, Aberdeen Proving Ground, Md., 1942-45; library fellow chem., M.I.T., Cambridge, Mass., 1945-49; assoc. prof., 1949 to date. Res. in meths. using automatic electronic equip. for searching sc. literature; meths. for studying foreign languages with particular attention to Russian, Russian chem. nomenclature. Author: "Chem. Russian Self-Taught" 1948; "Surface Active Agts., Their Chem., Tech.," (co-author), 1949; "Sc. Russian, an introd. Text," 1950; "Punched Cards, Their Appl. in Sc. Inds." (co-editor), 1951. Mem.: A.I.C. (fellow), A.C.S., Spec. Liby. Assn., A.S.L.I.B., Nederlandse Chemische Vereniging, Gmelin Inst. für Anorganische Chemie und Grenzgebiete (conslt.), chmn., A.C.S., comm. on punched cards and comm. sc. aids to literature searching, 1946, chmn., prog. comm. chem. literature group, div. of chem. lit. A.C.S. since 1945; chmn. elect. 1950, chmn. 1951 div. chem. lit. A.C.S.; mem. Am. Delegation, International Union Pure and Appl. Chem., London, 1947. Club: Chem. (N.Y.C.). Hobby: language study.

PERRY, John H(oward), member, dev. dept., E.I. du Pont de Nemours & Co., Wilmington, Del.; res. Martin Lane, Monroe Park, Wilmington.
Chem. engr.; b. Hampden, Maine, Nov. 10, 1895; s. of J.D. and M.E. (Boober) Perry; ed. B.S., U. of Maine, 1917; M.S., Northwestern U., 1920; Ph.D., M.I.T., 1923; mem.: Delta Tau Delta, Alpha Chi Sigma, Sigma Xi; m. Mae A. Watson, Apr. 3, 1923; ch.: Robert H(oward). Maine State Experiment Station, 1916-17; American Agricultural Chemicals Co., 1917; U.S. Army, 1918; U.S. Ord. Dept., 1919; Northwestern U., 1919-20, asst. in chem.; Hearst Papers, N.Y., 1922-23; U.S. Bur. of Mines, 1923-25; E.I. du Pont de Nemours & Co., 1925 to present. Num. arts. and book reviews in var. sc. and tech. mags.; num. U.S., Canadian, and British pats. Editor and co-author "Chemical Engineers' Handbook" 3rd ed. 1950. Mem.: A.I.Ch.E., A.C.S., A.A.A.S., Amer. Soc. for Engrg. Education. Club: Chemists' (New York). Hobby: fishing.

PERRY, Leslie Lovell, dept. chf. chem., Calco Chem. Div., Am. Cyanamid Co., Bound Brook, N.J.; res. 44 Woodbine Ave., Plainfield, N.J.
Res., dev. chem.; b. Pawtucket, R.I., Nov. 16, 1894; s. of Frederick H. and Edith M. Lovell Perry; ed. Brown U., Ph.B., 1917; grad. wk. Wesleyan U., Sept., 1917-Mar., 1918; mem.: Sigma Nu; m. Julia K. Bicking, Oct. 4, 1919; ch.: Evelyn S. Priv., Chem. Warfare Serv., Mar., 1918-Dec., 1918; res. chem., Calco Chem. Co., Jan.1,

1919 to date; dept. chf. chem. misc. dyes and intermediates, 1934-44; dept. chf. chem. basic colors, 1944 to date. Mem.: A.C.S., A.I.C. Hobby: golf.

PERRY, Lloyd H., res. dir., Union Bay State Chem. Co., Cambridge, Mass.; res. 32 Bertwell Rd., Lexington, Mass.
Chem.; b. Nashua, N.H., Mar. 8, 1916; s. of Lloyd M. and Laura H. Perry; ed. Wesleyan U., (distinction in chem.), B.A., 1938; U. of N.H., M.S., 1940; M.I.T., Ph.D., 1946; mem.: Phi Sigma Kappa, Sigma Xi; m. Barbara Fawcett, May, 1943; ch.: Lloyd F., James M. U. of N.H., instr., 1939-40; M.I.T., tchg. fellow, 1940-42, res. assoc., 1942-46; Union Bay State Chem. Co., group leader 1946-50, res. dir. 1950-. Mem.: A. C.S. Hobbies: golf, gardening.

PERRY, Margaret Campbell, chem., Columbia Hospital, Milwaukee 11, Wis.; res. 2562 N. Prospect Ave., Milwaukee.
Chem.; b. Joliet, Ill., Apr. 9, 1894; d. of Joseph Ferris and Elizabeth (Bond) Perry; ed. A.B., U. of Ill., 1915, A.M., U. of Ill., 1917, some add. grad. wk.; mem.: Alpha Delta Pi, Iota Sigma Pi. Grad. asst. in chem., 1915-17; taught Joliet Township H.S., 1917-18; bacteriol. Ill. State Water Survey, July, 1918-Jan., 1922; Columbia Hosp., 1922 to present. Pubs. in field of clinical chem. and bacteriol. Mem.: A.C.S., A.I.C. (fellow), A.A.Cl.C., S.A.B., A.A.A.S. (fellow), Am. Soc. Med. Technologists. Clubs: Altrusa International, D.A.R., Amer. Assoc. Univ. Women, and City Club of Milwaukee.

PERSONS, Ralph C., v.p., Sun Chem. Corp., 10-10 44th Ave., Long Island City 1, N.Y.; res. 20 Garden Pl., Hempstead, N.Y.
Exec.; b. Chicago, Ill., Mar. 25, 1896; s. of William F. and Nellie P. Persons; ed. Cleveland Coll.; m. Mildred King Persons, June 7, 1916; ch.: Joanne, Mrs. Victor H. Goepfert. Gen. mgr., Eagle Printing Ink Co.; gen. mgr., Geo. H. Morrill Co. General Printing Ink Corp. of Canada, Ltd., pres. dir.; Michigan Res. Labs., Inc., v.p., dir.; Fuchs & Lang De Mexico, S.A. De C.V., pres., dir. Clubs: New York Athletic, N.Y. Sales Executive.

PESCATORE, Joseph J., dir. of chem. res., Nuclear Instrument & Chem. Corp., 223-233 W. Erie St., Chicago, Ill.; res. 9148 S. Lafln St., Chicago.
Chem.; b. N.Y.C., Apr. 25, 1917; s. of Carlo and Antonette Pescatore; ed. St. Johns U., B.S.; N.Y. U.; Oak Ridge Inst. of Nuclear Studies; Polytech. Inst. of Bklyn.; mem.: Alpha Iota Delta; m. Josephine I. Greico, June 6, 1943; ch.: Mary, Annette. 1940-45, Army C.W.S., lab. technician; 1945-47, Public Serv. Testing Co., anal. chem.; 1947-50, U.S. Testing Co. Inc., chf. radiochem.; 1950, Radioactive Prods. Inc., chf. radiochem.; dir. of chem. res., Nuclear Instrument & Chem. Corp. Found many applications of radioisotopes in indus. Mem.: Soc. of Applied Spectroscopy, A.C.S. Hobbies: golf, coin collector.

PETER, John Parke Custis, special asst. to deputy dir., Office of Rubber Reserve, Reconstruction Finance Corp., 811 Vermont Ave., Washington, D.C.; res. 2945 Upton St., S.W., Washington 8, D.C.
Chem. engr.; b. Radford, Va., Dec. 23, 1898; s. of John Custis and Gertrude Landon Pyle Peter; ed. U. of Va., Charlottesville, Va., chem. engr.; also attended lectures at Geo. Washington U., Washington, D.C.; mem.: Alpha Chi Sigma, Tau Beta Phi, Epsilon Soc., Raven Soc.; m. Minnie Catherine Heider, Nov., 1926; ch.: Elizabeth Ann, Eleanor Parke Custis. Chem., Kanawha Drug Co., Charleston, W.Va., 1921-22; chem. engr. and prodn. supt., Belle Alkali Co., Belle, W.Va., 1922; res. chem. engr., Fellowship at Natl. Bur. of Standards, Wash., D.C., supported by The Gypsum Assoc., Chicago, Ill.; chem. engr. and chf. chem., Universal Gypsum and Lime Co., Chicago, Ft. Dodge, Iowa, and Rotan, Texas, 1926-29; chem. engr., sales engr., Am. Cyanamid and Chem. Co., synthetic rubber div., 1929-43; chem. engr., W. P.B., Office of Rubber Director, 1943-44; Reconstruction Finance Corp., Office of Rubber Reserve, chem. engr. and special asst. to deputy dir., Oct., 1944 to present. Res.: 1. Revised Emley Plastosimeter to permit use in measuring workability of sanded plasters; 2. determined adhesion of gypsum plasters to various backings; 3. mem. of comm. that designed continuous polymerization synthetic rubber system; 4. chmn. of comm. that designed "cold rubber" system for synthetic rubber; 5. prepared procedures for placing Copolymer Plants in standby. Mem.: Alpha Chi Sigma, Tau Beta Phi, The Raven Soc., A.I.Ch.E., The Rubber Group of Washington, D.C. Hobbies: golf, bridge, woodworking, gardening.

PETERS, Charles Adams, emeritus prof. of chem., U. of Mass.; res. 16 South Sunset Ave., Amherst, Mass.
Retired prof. of anal. chem.; b. Worcester, Mass., June 29, 1875; s. of John L. and Mary Frances (Eddy) Peters; ed. B.S., Mass. Agric. Coll., 1897; B.S., Boston U., 1897; Ph.D., Yale, 1901; mem.: Alpha Sigma Phi; m. Mary Dame Kittredge, June 29, 1905; ch.: Andrew Kittredge, Lovett Chase, Charles, Jr., Maude Kittredge. Hd. Chem. Dept., U. of Idaho, 1901-08; Lehramtsassistant Oberrealschule, Berlin, 1908-10; prof. inorg. and soil chem., 1911-45, U. of Mass. Notable wk.: analyt. chem.; insecticides; indicators. Author of "Preparation of Substances Important in Agriculture," (John Wiley Sons Co.), 1918. Mem.: A.A.A.S. (fellow, 1933); A.C.S. (chmn. Conn. Valley Section, 1941-42); Sigma Xi (pres. Mass. State Coll. Chapt., 1941-42); Phi Beta Phi. Treas. local Epis. Ch., 1927-47. Hobby: gardening.

PETERS, Fredus N., Jr., v.p., chem. res., The Quaker Oats Co., Merchandise Mart Plaza, Chic. 54, Ill.; res. 2512 Hurd Ave., Evanston, Ill.
Res. exc.; b. Kansas City, Mo., Jan. 30, 1897; s. of Fredus N. and Margaret C. (Maupin) Peters; ed. U. of Mo., A.B., 1920, A.M., 1922, U. of Wis., Ph.D., 1925; mem.: Alpha Chi Sigma, Gamma Alpha; m. Helen Moulton, June 25, 1918; ch.: Fredus N., III. Asst. city chem., Kansas City, Mo., 1917-19; Miner Laboratories, res. chem., 1925-31; The Quaker Oats Co., tech. div., 1931-36, dir. of res., 1936-46, v.p., chem. res., 1946 to present. Mem.: Sigma Xi, A.C.S., I.F.T.

PETERS, Henry Frederick, project engr., Scientific Design Co., Inc., 2 Park Ave., N.Y.; res. 82 Bay Pkwy., Bklyn. 9, N.Y.
Chem. engr.; b. Bklyn., N.Y., Jan. 5, 1918; s. of August and Rose Peters; ed. Cooper Union, N.Y., B.S. Ch.E.; m. Mary F. Flynn, June 8, 1940; ch.: Walter F., Rosemary, Clair. Caye Construction Co., Inc., asst. fld. supt.; E.I. du Pont Co., Inc., constr. engr.; M.W. Kellogg Co., Inc., mech. engr., process design engr.; Scientific Design Co., Inc., process design engr., project engr. Res. in light hydrocarbon processing. Licen. prof. engr. Club: Cooper Union Alumni Assn. Hobby: farming.

PETERS, Rolland I., tech. dir., Ditzler Color Div., Pitts. Plate Glass Co., 8000 W. Chicago, Detroit 4, Mich.; res. 17559 Annchester, Detroit 19.
Paint chem.; b. Kansas City, Mo., Jan. 14, 1911; s. of Eldredge R. and Florence (Erlewine) Peters; ed. U. of Ill., B.S.Ch.E. 1932, Phi Lambda Upsilon, Omega Chi Epsilon; m. Margaret Caroline Ross, 1935; ch.: William, Kathryn. 1932-36, Cook

Paint & Varn. Co.; 1936 to date, Ditzler Color Div. Mem.: Detroit Paint & Varn. Prod. Club, A.S.T.M. Hobbies: golf, bowling, fishing.

PETERSON, Arthur F., in chg. of sales and distribution, Pharmaceut. Div., Geigy Co. Inc., 89-91 Barclay St., New York 8, N.Y.; res. 20 Old Quarry Rd., Cedar Grove, N.J.
Chem., pharmacist; b. Brainerd, Minn., Apr. 17, 1899; s. of Toger and Pauline (Gulbrandsen) Peterson; ed. Valparaiso U., Ph.G., 1920; Ph.C., 1921; U. Minn., B.S., 1927 and post grad. studies; mem.: Alpha Epsilon, Phi Delta Chi (honorary mem.); m. Delma D. Coovert, Jan. 31, 1920; ch.: Vivian Rozmund (Mrs. Gilbert R. Wolter). Dist. mgr., E.R. Squibb & Sons, N.Y.; mgr. Domestic Sales Div., Schering Corp., Bloomfield, N.J.; mgr. Biologics Div., Heyden Chem. Corp., N.Y.; formerly marketing & management conslt., now in chg. sales and distrib., Pharmaceut. Div., Geigy Co. Inc., N.Y.C. Numerous pub. papers on pharmaceut. selling and marketing. Author: "Pharmaceutical Selling, 'Detailing' and Sales Training," 1949, McGraw-Hill Book Co. Inc., N.Y. Mem.: A.F.&A.M., A.A.O.N.M.S., A.Phar.A., Pharmaceut. Advertising Club of N.Y., Sales Executives Club. of N.Y. Hobbies: music, writing.

PETERSON, Ben Harrison, prof. chem., chmn. div. of physical sc. & math., Coe Coll., Cedar Rapids, Ia.; res. 2132 Grande Ave., S.E., Cedar Rapids.
Prof. chem.; b. Macedonia, Ia., June 6, 1893; s. of Martin Peter and Nellie A. Peterson; ed. Coe Coll., B.Sc., 1918; U. of Ia., M.S., 1924, Ph.D., 1926; m. Eda A. Swanson, Dec. 21, 1921; ch.: Roger Franklyn. Prof. chem., Coe Coll., 1926 to date. A.E.F., Base Lab., base sect. No. 1, 1917-19. Mem.: Iowa Acdy. of Sc. (pres. 1942), A.C.S., Phi Lambda Upsilon, Phi Kappa Phi, Sigma Xi, A.A.U.P.

PETERSON, Charles James, chf. chem., Indus. Prods., Inc., Box 1226, Greenville, S.C.
Chem.; b. Beaumont, Tex., June 9, 1904; ed. Tex. A.&M., B.S. 1926; Iowa State, Ph.D. 1930; m. Lillian A. Adams, Dec. 26, 1927; ch.: 1 son. Asst. chf. engr. with Gulf Ref. Co., 1926-27; Iowa State Coll. res. fellow, 1927-30; Stein Hall & Co. res. chem., 1930-33; Indus. Prods., Inc., chf. chem., 1933 to date; res. in prod. cellulosic pulp from corn stalks; wall boards, etc., from corn stalks; application of var. starches to text. indust., var. starches to furniture and adhesives indus.; mfg. starch from sweet potato; applic. fats and oils to text. Mem.: A.C.S., Sigma Xi.

PETERSON, Earl A., area engr., Visking Corp., 6732 W. 65th St., Chicago, Ill.; res. Lincolnshire, Crete, Ill.
Chem. engr.; b. Emerson, Iowa, Mar. 1, 1914; s. of Ferdinand and Hilda Peterson; ed. Red Oak Jr. Coll., 1931-33, Ia. State Coll., B.S. in Chem. E., 1934-37; m. Lorraine Jacobson, Oct. 12, 1940; ch.: Karen, Judith, Robert. Chem. engr., Sherwin-Williams, 1937-41; area. supt., same co., 1941-43; chem. engr. dev., same co., 1943-50; area engr., Visking Corp., 1950 to present. Mem.: A.I.Ch.E. Club: Lincolnshire Country. Hobbies: golf, woodworking.

PETERSON, Floyd Charles, asst. to gen. mgr. and mgr. of the Cellulose Prods. Div., The Dow Chem. Co., Midland, Mich.; res. P.O. Box 266, Midland, Mich.
Chem. engr.; b. Canajoharie, N.Y., Jan. 13, 1902; s. of George C. and Kathryn (Teegartner) Peterson; m. Gladys B. Kretsler, June 24, 1926; ch.: Patricia A., Jerry D. 1925-26, Elmira, N.Y., Schl. Bd., instr. in chem., Eastside H.S.; 1926-32, N.Y. State Coll. of Forestry, Syracuse U., instr. in pulp and paper mfr.; 1932-37, asst. prof. pulp and paper mfrg., N.Y. State Coll. of Forestry; (the year 1936-37 was spent as res. conslt. on cellulose derivatives at The Dow Chem. Co., Midland, Mich.); 1938-40, res. chem., The Dow Chem. Co., Midland, Mich.; directed wk. of lab. grp. on proc. and prod. dev. of cellulose ethers; 1940-43, dir. of res. and dev., Cellulose Prods. Div., same co.; 1943-48, asst. mgr. same div., same co.; 1948-50, mgr., same div. and co.; 1950 to date, asst. to gen. mgr. of The Dow Chem. Co., mgr. Cellulose Prods. Div., same co. Contrib. num. arts. to sc. and trade jls.; author also of "Recent Developments in Cellulose and Lignin Plastics" to be reprinted in Bulletin, N.Y.S. Coll. of Forestry; also contrib. (with Lewis E. Wise) chapters in Vols. 3 and 4 of "Annual Survey of Amer. Chemistry," on Cellulose and Paper," and (with Phillip Hammer) chapt. in Vol. 5, of same series, entitled "Paper." Mem.: Pi Mu Epsilon, A.I.Ch.E., Midland Engrg. Soc. Clubs: Kiwanis, Alpha Xi Sigma, Sigma Xi, Alpha Chi Sigma, Midland Country, Elks.

PETERSON, Howard R., v.p. and mgr., sales dept., Indoil Chem. Co., 910 S. Michigan Ave., Chicago 80, Ill.; res. 5834 Stony Island Ave., Chicago 37, Ill.
Exec.; b. Hampton, Neb., July 12, 1898; s. of R. and Christina Peterson; ed. B.Sc., U. of Neb., 1922, U. of Chicago; mem.: Kappa Sigma, Alpha Kappa Psi; m. Mildred Othmer Aug. 25, 1923. Salesman and sales engr., Standard Oil Co. Ind., 1933-36; engr., sales tech. service dept., Standard Oil Co., Indiana, 1936-45; sales mgr. chem. prods. dept., Standard Oil Co. Ind., 1945-49; v.p. & mgr. sales dept., Indoil Chem. Co., Jan. 1, 1949 to present. Mem.: A.C.S., Am. Assn. of Textile Chems. and Colorists. Clubs: Mason (32 deg.), Shrine, Quadrangle (Chicago), Chemists' (New York). Hobbies: philately, travel.

PETERSON, Joel Bigelow, tech. conslt., spec. prod. div., Standard Brands, Inc., 595 Madison Ave., New York; res. 42 Oakland Pl., Summit, N.J.
Chem.; b. Chicago, Ill., Apr. 3, 1897; s. of Charles W. and Sarah Bigelow Peterson; ed. Denison U., B.Sc., 1919; Ohio St. U., 1920, M.Sc.; Ph.D., 1923; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi, m. Vivian Hamilton, Aug., 1926; ch.: Charles Calvert, Thomas Lowe, Joel Burt, Don Hamilton. Am. Med. Assn., chem., 1924-38; Frederick Stearns & Co., dir. res. 1938-40; Standard Brands, Inc., 1940 to date.

PETERSON, John Booth, hd. dept. agronomy, Purdue U., Lafayette, Ind.; res. 633 Russell St., W. Lafayette.
Agronomist; b. Salem, Ore., July 18, 1905; s. of Victor A. and Bertha M. Peterson; ed. Ore. St., B.S., 1928; Iowa St. Coll., M.S., 1929; Ph. D., 1936; U. Cal., Natl. res. fellow, 1939-40; mem.: Delta Upsilon, Alpha Zeta, Sigma Delta Chi, Sigma Xi; m. Elizabeth L. Fogel, June 7, 1930; ch.: John Robert, Mary Jean Bertha; instr., res. as teaching fellow, instr., asst. prof., assoc. prof., Ia. St. Coll. 1928-48; natl. res. fellow geography and geology, U. Calif, 1939-40; cooperative agent res. and training S.C.S., 1936-40; hd. dept. agronomy, Purdue U., 1948 to date. Res. in studies of mechanics of soil aggregation, particularly influence of organic molecules and cations in binding clay crystals. Mem.: A.S.A., S.S.S.A., W. S.S.S. Winner Stevenson Award, res. in soils, 1948.

PETERSON, Merlin Dewey, prof. and hd., dept. of chemistry, Vanderbilt U., Box 123 Vanderbilt U., Nashville 4, Tenn.; res. 2007 Castleman Dr., Nashville 4.
Teacher; b. Provo, U., 1910; s. of Joseph and Rhoda R. (Robinson) Peterson; ed. Vanderbilt U., A.B., 1931 (magna cum laude); U. of Calif.,

Ph.D., 1936; m. Marian N. Sarquis, 1933; ch.: Carolyn Lois, Janice Ann, Joseph Richard. U. of Calif., Berkeley, teaching fellow, 1931-35, Shell res. fellow, 1935-36, instr., 1936-37; du Pont Co., ammonia dept. Wilmington, Del., chem., 1937-43; U. of Chicago, metallurgical lab., chem. & group leader, 1943; Clinton Labs., Oak Ridge, Tenn., group leader, 1943-44, chf., process dev. sect., tech. div., 1944-48; Oak Ridge Nat. Lab., dir. tech. div. 1948-49; Vanderbilt U., Nashville, Tenn., prof. & hd., dept. of chemistry, 1949 to date. Res. in carbon monoxide purification; high pressure syntheses; purification & hydrogenation of benzene; polymerization of ethylene; purification & separation of U, Pu and radioisotopes; U. Reactor dev. Mem.: A.C.S., A.I.Ch.E., A.A.A.S., Tenn. Acdy. of Sc., Phi Beta Kappa, Sigma Xi, Army & Navy "E." Clubs: Kiwanis, Nashville Engrg., Nashville Tennis. Hobbies: tennis, badminton, instrumental music.

PETERSON, Walter John, prof. & hd., chemistry dept., N.C. State Coll., Raleigh, N.C.; res. 1121 Harvey St., Raleigh.
Chemist; b. Negaunee, Mich., June 21, 1909; s. of Fred and Hulda Larson Peterson; ed. Mich. State Coll. cum laude, B.S., 1930, M.S., 1933; U. of Ia., Ph.D., 1935; mem.: Alpha Chi Sigma; m. Helen Jane Bosman, Aug. 30, 1934; ch.: John (age 14), Mary (age 11). Kan. State Coll., inst. of chem., 1935-36, asst. prof. of chem. 1936-42; N.C. State Coll., prof. & hd., nutrition res. 1942-49, prof. & hd., chem. dept. 1949 to date. Contrib. extens. to sc. and tech. jls. Author: chapt. in "Biological Symposia," Vol. 12 (1947). Mem.: A.C.S. (exec. comm., agr. & foods sect.), Amer. Men of Sc. (1935, 1940, 1945), A.A.A.S., Sigma Xi (pres., N.C. chapt. 1950-51). Hobbies: foreign languages—abstracter for "Chem. Abstracts" from German, French, Swedish since 1933.

PETERSON, Warren Stanley, hd. physical chem. and process metallurgy depts., Kaiser Al. & Chem. Corp., P.O. Box 1451, Spokane 6, Washington; res. Liberty Lake, Washington.
Res. chem.; b. Worcester, Mass., Nov. 1, 1917; s. of Fritz G. and Gerda S. Peterson; A.B., Clark U., 1939, M.S., Virginia Polytechnic Inst., 1940, Ph.D., Polytechnic Inst. of Brooklyn, 1942; mem.: Alpha Kappa Pi; m. Ruth Stansfield, June 26, 1943; ch.: Karin S., Todd S. Res. chem., Aluminum Res. Labs., Aluminum Co. of America, 1942-45; res. supvr., same co., 1945-46; asst. chf., process met. div., 1946-47; asst. project supvr., Air Reduction Co., 1947; hd. physical chem. & process met. depts., Div. of Metallurgical Res. Kaiser Al. & Chem. Corp., 1948 to date. Mem.: A.C.S., Sigma Xi, Phi Lambda Upsilon, Electrochemical Soc. Club: University (Spokane). Hobbies: hunting, fishing.

PETERSON, Wesley R(asmus), res. supvr., Kellex Corp., 233 Broadway, N.Y.C.; res. 25 Greenwood Ave., Chatham, N.J.
Chem.; b. Irene, So. Dak., Mar. 10, 1904; s. of Christian N. and Johanne Peterson; ed. U. So.Dak., A.B. 1926; U. Ill., M.S. 1927; U. Wis., Ph.D. 1929; mem.: Sigma Xi; m. Margaret Elizabeth Neil, Aug. 30, 1930; ch.: Karen Elizabeth, Alan Neil. Res. fellow, Harvard U., 1929-31; res. chem., exp. sta. E.I. du Pont de Nemours & Co. 1931-45; asst. patent counsel, Gen. Aniline & Film Corp., 1945-48; res. supvr., Kellex Corp., 1948 to date. Registered patent agent. Res. in dev. of synth. linear condensation poly. Mem.: A.C.S., Natl. Mod. Pioneer (for nylon dev.). Hobbies: photography, gardening.

PETERSON, Willard D., conslt. chem., Arthur D. Little, Inc., Cambridge, Mass.; res. 17 Crafton St., Arlington, Mass.
Res. & dev.; b. Council Bluffs, Ia., Feb. 12, 1906; s. of Ernest W. and Ada Merriam Peterson; ed. Ia. St. Coll., B.S., 1927; Harvard U., M.S., 1928; Ph.D., 1931; m. Julia D. Sweeney, July 7, 1933. Res. & dev. chem., Kodachrome dept., Eastman Kodak, 1934-42; hd. res., dev. org. chems., Ozalid div., Gen. Aniline & Film Corp., 1942-46; assoc. dir. res. & dev., J.T. Baker Chem. Co., 1946-48; chem. conslt., Assoc. of Conslt. Chems. & Chem. Engrs., Inc., 1948-; Arthur D. Little, Inc., conslt. chems., chem. engrs., 1949 to date. Conslt. chem. and chem. engr. in fields of fine chemicals; dyes for color photographic proc.; dev. of dry printing diazo-type proc.; num. pats. in these fields. Mem.: A.C.S., A.I.C., Soc. Chem. Ind. (London), A.C.C.C.E., Alpha Chi Sigma. Club: Chem. (N.Y.C.). Hobbies: gardening, sailing, photography.

PETERSON, William Harold, prof. biochem., Biochem. Bldg., U. Wis., Madison, Wis.; res. 304 Princeton Ave., Madison.
Biochem.; b. Libertyville, N.Y., Nov. 14, 1880; s. of P. John and Clara S. Peterson; ed. Wesleyan U., B.S. (hon.) 1907; Columbia U., M.A. 1909; Wis. U., Ph.D., 1913; mem.: Phi Nu Theta; m. Mary K. White, Aug. 10, 1913, (second) Mary L. Shine, Jan. 30, 1926. Asst. chem., Columbia, summer, 1910, 1911; asst. biochem., Wis., 1909-10; instr., 1910-14; asst. prof., 1914-18; assoc. prof., 1919-25; prof., 1925 to date. Fellow Kaiser Wilhelm Inst. 1919; collaborator Forest Prod. Lab. 1943; Northern Regional Res. Lab. 1944-50; C.W.S., U.S.A. 1918, Civilian War Prod. Bd., Off. Prod. Res., dev. 1944-45. Res. in penicillin, War Prod. Bd. 1944-45; biochem. of microorgan. growth factors for bacteria; antibiotics. Author: "Elements of Food Biochem.," 1943. Mem.: A.A.S., A.C.S., S.B.C., S.A.B., S.E.B.M.; hon. mem. Harvey Soc. British Biochem. Soc. Club: University (Madison). Hobbies: tennis, bird spotting, figure skating, swimming.

PETKE, Frederick Edward, res. dir., Ander Chem. Co., 3324 Beekman St., Cincinnati 23, O.; res. 5515 Glengate Lane, Cincinnati 13, O.
Res. chem.; b. East Paterson, N.J., July 8, 1913; s. of Edward and Frieda (Schumacher) Petke; ed. Thomaston, Conn. H.Schl., 1930; B.S. Bates Coll. 1934; magna cum laude, Phi Beta Kappa; M.A., Clark U., 1935; m. Marie Elizabeth Wissemann, June 8, 1940; ch.: Frederick David, Kenneth Edward. Res. chem., Calco Chem. Co., 1935-39; assoc. chem. dir., Hilton-Davis Chem. Co. 1940-49; res. dir. Ander Chem. Co. 1948 to present. Res. theoretical study of alkyd resin reactions; dispersible dyestuff powders; pigment dispersions, flushed color development; printing ink and printing ink vehicle-formulations; surface active agents. Mem.: A.C.S., Federation of Paint and Varnish Prod. Clubs, C.D.I.C. Paint and Varnish Production Club, Cincinnati Club of Printing House Craftsmen, Amer. Assoc. of textile Chems. and Colorists. Sigma Xi. Elder, Kennedy Heights Pres. Ch., Cincinnati, O. Hobby: fishing.

PETREE, Louis G., mgr., customer res., Pacific Div., Continental Can Co., Inc., 685 "A" St., Hayward, Calif.; res. 849 Bridge Rd., San Leandro, Calif.
Chem. (food) tech.; b. Kidder, Mo., Dec. 16, 1904; s. of John E. and Clara M. Petree; ed. William Jewell Coll., Liberty, Mo., 1921-25, A.B. in Chem.; Stanford U., grad. wk. 1927-28; m. Carol E. Rahskopf, Oct. 14, 1931; ch.: Joanne E., Donald K. Fed. Food & Drug Admin., San Francisco 1925-27, jr. inspec., jr. chem., Seattle Sta. 1928-30; Nat. Canner's Assn., west. br. lab., San Francisco, 1930-34; Continental Can Co., Inc., Oakland & Hayward, Calif., assoc. res. chem., canning tech., res. dept. 1934-38, mgr. customer res., Pacific Div. 1938 to date. Res. in method of preparation of glycogen; study of glycogen of abalone, Haliotis Rufescens, Swainson, Gutzeit

meth. for arsenic, hydrogen springers in canned fruits. Author: num. arts. on canning tech. Mem.: A.C.S. (since 1929); I.F.T. (charter); N.C.A. Processing comm. for Canned Foods in Metal Containers. Club: San Leandro Tennis (San Leandro, Calif.). Hobbies: tennis, bowling, coin collection.

PETROCELLI, J(oseph) V(incent), lab. dir., Patent Button Co., 41 Brown St., Waterbury 88, Conn.; res. 91 Briarcliffe Ave., Waterbury 83.
Physical chem.; b. Middletown, Conn., Jan. 7, 1910; s. of Dr. G.G. and Theresa (Mennillo) Petrocelli; ed. Wesleyan U., Conn., B.A., 1934, M.A., 1936; Yale U., Conn., Ph.D., 1943; mem.: Sigma Nu; m. Jane A. Haywood, 1940; ch.: Joseph Gerard, Jane Theresa. Asst. in chem., Wesleyan U., 1934-36; chem. 1936-39, lab. dir. 1939 to date, Patent Button Co. Several pubs. in tech. jls. Mem.: Am. Electroplaters Soc., Electrochem. Soc., A.C.S., A.I.M.E., A.A.A.S., Sigma Xi.

PETTIJOHN, Earl, prof. anal. chem., U. Tulsa, Tulsa, Okla.; res. 1614 S. Boston.
Chem.; b. St. Peter, Minn.; s. of E.S. and S.E. Hughes Pettijohn; ed. Minn. U.; mem.: Acacia, Alpha Chi Sigma; m. Clara M. Anderson, June 10, 1913; ch.: Clare Elizabeth, Carol Marie, Lucile Carmen, Patricia. Undergrad. degrees Minn. U., also Ph.D., 1918; Bur. Stands. 1915-18; Firestone Steel Prods., Akron, Ohio, 1918-25; Mo. Valley Coll., 1925-42; Tulsa U., 1942 to date. Cont. sc. pubs. Mem.: A.C.S.

PETTY, Gerald McKinney, asst. chf. chem. chg. analyt. dept., Arkansas Co., Inc., 185 Foundry St., Newark, N.J.; res. 373 Union Ave., Scotch Plains, N.J.
Chem.; b. Excello, Mo., Dec. 6, 1901; s. of Velpeau Cadmus and Ada Byron (McKinney) Petty; ed. Columbia, Mo., H.Schl., 1914-18, B. S. in Education, U. of Mo., A.M., U. of Mo., 1927, Ph.D., U. of Pittsburgh, 1933; m. Stella Young, Aug. 20, 1928; ch.: Alice Sue, Geraldine Young. Taught var. high schls., Mo. and Pa., 1922-25, 1929-32; instr., S.W. Baptist Jr. Coll., 1925-27; asst. chem., U.S. Bur. Mines, Pittsburgh, 1928-29; chem., Vanadium Corp., of America, 1934-37; asst. chem., lab. of Industrial Hygiene and Toxicology, Fidelity & Casualty Co. of New York, 1937-43; res. chem., res. lab., Johns Manville Corp., 1943-44; chf. anal. chem., Heyden Chem. Co., 1944-45; asst. chf. chem., Arkansas Co., 1945 to date; asst. prof., Rutgers U. (Newark Colls.), 1946-47; abstractor "Chemical Abstracts" 1929-. Mem.: A.C.S., Amer. Physical Soc. Bd. of Trustees, Scotch Plains Baptist Church. Hobby: genealogy.

PETTYJOHN, Elmore Shaw, dir., Inst. of Gas Tech., 17 W. 34th St., Chicago 16, Ill.; res. 635 Forest Ave., Evanston, Ill.
Chem. engr.; b. Alma, Mich., Apr. 12, 1897; s. of Elmore Sloan and Ada Ernst (Lozier) Pettyjohn; ed. A.B. 1918, B.S.E. & M.S.E. in Ch. E. 1922, Chem. engrg. 1930, U. of Mich., Ann Arbor, Mich.; mem.: Phi Delta Theta, Phi Lambda Upsilon, Iota Alpha, Sigma Xi, Tau Beta Pi; m. Isabel Bender Nairn, June 25, 1922; ch.: Nairn. Relief frmn., Semet-Solvay Co., Detroit, Mich., 1919-20; spl. tests, Ford Motor Co., River-Rouge, Mich., 1920; jr. blower, Ill. Steel Co., S. Chicago, Ill., 1922-23; gen. plant frmn., By-Prod. Coke Co., Chicago, Ill., 1923-27; res. engr., U. of Mich., Ann Arbor, Mich., 1927-33, assoc. prof. of gas engrg. 1929-33; sales & dev. engrg., Leader Ind. Inc., Decatur, Ill., 1933-36; chf. engr., Mervin Bldg. Corp., St. Charles, Ill., 1936-37; asst. prof. chem. engrg., U. of Mich., 1937-39, assoc. prof. 1940-45 (in absentia); Navy Liaison Officer, Mich. Selective Serv. Hdqrs., 1940-41; Amphibious Force, So. Pacific, 1941-43; O. in C. Amphor Boat Pool Tulagi BSI 1943; O. in C. Amphor Boat Pool Noumea, N. Cal.; O. in C. Special Fuel Sec., Bur. of Ships, U.S.N., 1944-45; O. in C. Oil Sec., Nav. Tech. Mission in Europe, 1945; dir., Inst. of Gas. Tech., 1946 to date. Mem.: A.A.A.S., A. A.U.P., A.C.S., A.C.C.C.I., A.G.A., A.I.Ch.E., A.I.M.E., A.S.E.E., A.S.T.M., N.A.C.E., W.S. E., Blast Furnace & Coke Assn., Midwest Ind. Gas. Council. Clubs: Armour Faculty, University Club of Chicago.

PETZE, Charles Louis, Jr., chmn., Delaware Res. & Dev. Corp., P.O. Box 110, New Castle, Del.; res. 17 The Strand, New Castle.
Chem. & mech. engr.; b. Wilmington, Del., Oct. 14, 1902; s. of Charles L. and Florence W. Petze; ed. M.I.T., B.S., M.S.; mem.: Sigma Nu, Pi Delta Epsilon, Theta Tau; m. Marlette Plum, June 24, 1939; ch.: Charles L., III, Frederic W., Christine Frances. 1927-29, mem. of staff, M.I. T.; 1930-47, E.I. du Pont de Nemours & Co., electrochems., fabrics & finishes, org. chem. depts. Del. Res. & Dev. Corp. (dir.); Dutch Village, Inc. (v.p., dir.). Internal combustion engine fuels, engine design; fungicidal agents; dev. of market res. techniques; dielectric matls.; resin compositions. Author: "Evolution of Celestial Navigation" 1948. Mem.: A.C.S., S.A.E., A.A.A.S. In "Who's Who in Engrg." V.-chmn., bd. of mgrs., Friends Schl., Wilmington, Del. Clubs: U.S. Power Squadron, Rotary Internatl. Hobbies: sailing, teaching navigation, handcrafts.

PFANN, Harry F., mgr. prod. dev., Pitts. Coke & Chem. Co., 1905 Grant Bldg., Pitts., Pa.; res. 9 Terraceview Ave., Pitts. 16.
Chem.-tech. sales; b. E. Orange, N.J., May 5, 1915; s. of Harry and Emma (Dickman) Pfann; ed. B.S. in chem., June 1938, Duke U.; M.S. in chem. 1942, Polytech. Inst., Bklyn., N.Y.; 1945-47, grad. studies, U. of Pitts.; mem.: Lambda Chi Alpha; m. Harriet Joy Britton, June 13, 1943; ch.: John Britton, Harry Dickman. 1937 summer, Bell Tel. Labs., N.Y.C., lab. asst.; 1938-42, Am. Cyanamid Co., Stamford Res. Labs., Stamford, Conn., res. chem.; 1942-45, Koppers Co. Inc., Butadiene Div., Monaca, Pa., sr. chem.; 1945-46, Mellon Inst. of Ind. Res., Pitts., Pa., res. fellow, Koppers fellowship; 1946-49, Koppers Co. Inc., Chem. Div., Pitts., Pa., mgr. chem. dev.; 1949 to date, Pitts. Coke & Chem. Co., Pitts., Pa., mgr. prod. dev. Res. in flds. of drying oils, syn. resins, vapor phase catalysis, meths. of org. anal. & org. syn. described in tech. publ. & issued U.S. pats. Mem.: Commercial Chem. Dev. Assn., Armed Forces Chem. Assn., A.C.S., Chem. Market Res. Assn., S.O.C.M.A., Soc. of Plastics Ind., Soc. of Plastics Engrs. Club: Pitts. Chemists', The Chemists' (New York).

PFANNMULLER, Julius (F.W.), chf. chem., Wallerstein Co., Inc., 180 Madison Ave., New York, N.Y.; res. 15 Myrtle Ave., No. Plainfield, N.J.
Chem.; b. Munich, Germany, Nov. 22, 1889; s. of Carl and Elizabeth Pfannmuller; ed. Dr. Ingenieur, Munich, 1912; m. Emmy H. Haas, May 10, 1921; ch.: Elizabeth, Walter H. Instr., Inst. Stoll, Munich, 1913; res. under Dr. R. Mandelbaum, 1918-19; res. chem., Agfa Chem. Co., Germany, 1919-24; chf. chem., Wallerstein Co., Inc. 1924 to date. Res. in electroly., physical, organ. chem.; enzyme res.; leath. res., tech. process and prod. for leath. ind.; unhairing and bating patents; antibiot., biochem. Mem.: A.C.C.C.E., A. A.C.C., A.C.S., A.L.C.A. Club: Kiwanis.

PFEIFER, Carl Edward, Sr., mfg. supt., J.F. Queeny Plant, Monsanto Chem. Co., 1700 S. Second St., St. Louis 4, Mo.; res. 6151 McPherson Ave., St. Louis 12.
Chem. engr.; b. St. Louis, Mo., Nov. 21, 1904; s. of Herman J., Sr. and Pauline Wuerpel Pfeifer; ed. Wash. U., St. Louis, B.S. in Ch.E., 1927;

mem.: Pi Kappa Alpha, Alpha Chi Sigma; m. Mary Lois Dodge, Oct. 3, 1931; ch.: Carl Edward, Jr., Gordon Dodge, Donald Dodge. Monsanto Chem. Co., res. chem. 1927-39, res. group leader, chg. of pilot plant, 1939-44, dev. supt., J.F. Queeny plant, 1944-49, mfg. supt., 1949 to date. Mem.: A.C.S. (1927), A.I.Ch.E. (1941). Hobbies: reading, bridge.

PFISTER, Karl, 3rd, dir. Synthetic Medicinals Res. Dept., Res. & Devel. Div., Merck & Co. Inc., Rahway, N.J.; res. 2250 Old Raritan Rd., Westfield, N.J.
Organic chem.; b. Bklyn., N.Y., Jan. 4, 1919; s. of Karl H.T. and Edna H. Pfister; ed. S.B., 1940, Ph.D., 1942, M.I.T.; mem.: Theta Delta Chi; m. Margaret K. Wetjen, Mar. 23, 1946; ch.: Margaret E., Karl T. Sr. chem., Developmental Res. Dept., Merck & Co. Inc., 1942-50; dept. hd. 1950 to date. Synthesis of threonine, developmental res. on sulfa drugs, vitamins, steroids, alkaloids. Mem.: Sigma Xi, Alpha Chi Sigma, A.C.S., A.A.A.S., N.Y. Acdy. Sc. Hobbies: gardening, sailing, archery.

PFISTER, Karl H.T., retired org. chem.; res. 22 Llewellyn Rd., Summit, N.J.
Org. chem.; b. Freising, Bavaria, Apr. 21, 1881; s. of Karl and Mina (Rau) Pfister; ed. U. Munich, Ph.D., 1909; m. Edna Halbach, Apr. 10, 1915; ch.: Karl, 3rd. U. Munich, dept. org. chem., prof. asst. 1908-09; Badische Co., res. chem. 1909-11, text. chem. 1911-19; G. Siegle Corp. of Am., chf. chem. 1919-24; Rohm & Haas Co., chem. org. res. and devel. 1924-27; Gen. Dyestuff Corp., 1927 to Jan. 1, 1950. Res. on dyes. Mem.: A.C.S., A.A.A.S.

PFLAUM, Daniel J., chf., materials & inform. br., div. of res., U.S. Atomic Energy Comm., 1901 Constitution Ave., N.W., Washington, D.C.; res. 408 Gilmoure Dr., Silver Spring, Md.
Chem.; b. Cedar Rapids, Nebr., Feb. 24, 1910; s. of Jerome and Catherine Leary Pflaum; ed. Creighton U., A.B., 1931; U. of Notre Dame, M.S., 1932, Ph.D., 1934; m. Mary Louise Cummins, June 8, 1935; ch.: Julia Ann, Janice Louise, Timothy Daniel, Margaret Mary, John Michael. Siena Heights Coll., Adrian, Mich., prof. chem., 1934-37; Regis Coll., Denver, Colo., asst. prof., 1937-39, assoc. prof., 1939-41; U.S. Army, chem. warfare serv. 1941-43, Manhattan Dist., 1943-45; Manhattan Dist., Atomic Energy Comm., act. chf., chem. sect., res. div. 1945-47; deputy chf., materials & information br., div. of res., 1948-49; chf., 1949 to date. Res. in dipole moments of acetylene compounds. Mem.: A.C.S., A.A.A.S. Hobby: philosophy of science.

PFLAUMER, Robert Eugene, v.p. in chg. of res. & dev., American-Marietta Co., 43 E. Ohio St., Chicago 11, Ill.; res. 1162 Tower Rd., Winnetka, Ill.
Chem.; b. Phila., Pa., June 26, 1911; s. of Eugene G. and Dr. Anne M. Pflaumer; ed. Princeton, B.S., 1933, summa cum laude, M.A., 1934, summa cum laude; Lincoln Coll., Oxford, Rhodes Scholar, B.Sc., 1937; mem.: Sigma Xi; m. Katrina C. Wilson, Dec. 5, 1941; ch.: Michael W., Katrina C. U. of London, res. assoc., 1937-39; Rohm & Haas Co., Phila., Pa., res. dept., 1939-41; chf. chem., Bridesburg plant, 1942-45, divsnl. sales mgr., Phila., 1945-48; Amer.-Marietta Co., Chicago, Ill., v.p. in chg. of res. & dev., 1948 to date. Mem.: A.C.S., T.A.P.P.I. Clubs: Princeton (Chicago), Bachelors Barge (Phila.).

PFLUGER, Helmuth L(ouis), textile specialist, dept. res. and dev., Merck and Co., Inc., Rahway, N.J.; res. 907 Carnegie Ave., Plainfield, N.J.
Chem.; b. N.Y. City, Oct. 30, 1908; s. of Heinrich and Minna (Henkel) Pfluger; ed. Columbia Coll., A.B. 1929; Columbia U., M.A., 1931, Ph.D., 1933; Cutting traveling fellow, U. of Copenhagen, Denmark, 1934-35; mem.: Phi Lambda Upsilon, Phi Beta Kappa, Sigma Xi; m. Aileen Kelley, Apr. 9, 1944; ch.: Charles H(enry) K(elley), John C(arr). Columbia U., asst. in chem. 1928-34; Kendall Co. Slatersville, R.I., res. chem., 1936-41; Ludlow Mfg. & Sales Co., Ludlow, Mass., res. chem. 1942-45; Quaker Chem. Products Corp., Conshohocken, Pa., dir. textiles res., 1945-49; Merck & Co., Inc., textile and physical chem., 1949 to date. Res. in reaction kinetics and relative acidity in non-aqueous solutions; effect of structure upon catalysis; cellulose tech. (incl. dev. of Wis. hemp during World War II); fiber microscopy; textile specialties; polymerization. Mem.: A.C.S., A.I.C. (fellow; chmn. Penn. chapt. 1948-49), Amer. Assn. of Textile Chemists & Colorists. Hobbies: music, literature.

PFUND, Marion Caroline, prof. of food and nutrition, Coll. of Home Economics, Cornell U., Ithaca, N.Y.; res. 38 Belleayre Apts., Ithaca.
Tchr.; b. Boston, Mass., Nov. 16, 1897; d. of Philip Frederick and Caroline Augusta Pfund; ed. Simmons Coll., B.S., 1919; Vassar Coll., M.A., 1921; Yale U., Ph.D., 1928. Vassar Coll., asst. chem., 1919-23, instr., 1924-25; Yale Schl. Nursing, instr., 1925; Calco Chem. Co., chem. secy., librarian, 1927-28; Cornell, asst. prof. foods and nutr., 1928-33, prof. 1933 to date. Appl. of chemistry to fld. of experimental cookery and food preparation; res on culinary qual. of apples, potatoes and custards. Author of planographed manual: "Chemistry and Food Preparation," rev. 1948. Mem.: A.C.S., A.A.A.S., A.I.C., I.F.T., Phi Kappa Phi (officer in Cornell U. chap., 1937-48; pres. 1944-45), Sigma Xi, Sigma Delta Epsilon, Iota Sigma Pi, A.A.U.P. (secy. Cornell chapt. 1947-49), Am. Home Ec. Assoc. V.p., 1950-51, Internatl. Assoc. of Ithaca, New York, Inc. Hobbies: travel, bridge, work with foreign students (faculty adviser to the Hindustan Assoc.).

PHAIR, Robert Aiken, secy., tech. dir., H. Kohnstamm & Co. Inc., 87 Park Pl., N.Y.C.; res. 754 Franklin Tpke., Allendale, N.J.
Chem. and admin.; b. Bklyn., N.Y., Feb. 18, 1891; s. of William Wood and Margaret (Gau) Phair; ed. Bklyn. Polytech. Inst., 1915, B.S. chem.; m. Alice Sabens, Sept. 27, 1915; ch.: Robert, William, Daniel, Dorothy, Alice. 1907, asst. chem. Geisenheimer & Co.; 1910, asst. chem. Central Dyestuffs Co.; 1911, asst. chem. Kirkman & Son; 1912 to date, with H. Kohnstamm & Co., Inc., chem. to tech. dir., dir. and secy. of corp.; res. in oils, detergents, laundry chems.; also other flds. in chem. Author of chapter on Laundry Problems in Alexander's "Colloid Chemistry," Vol. 6. Mem.: A.C.S., A.O.C.S., A.I.C., A.I.Ch.E. Hobbies: fishing, gardening, hiking.

PHELAN, Earl Walter, prof. of chem., Valdosta State Coll., Valdosta, Ga.; res. 1200 N. Toombs St., Valdosta, Ga.
Prof. of chem.; b. Rahway, N.J., Sept. 24, 1900; s. of Daniel Walter and Annie (Boothroyd) Phelan; ed. B.chem., Cornell, 1921; U. of Wis., 1921-23; Cornell, 1926-28, Ph.D., 1928; mem.: Gamma Alpha; m. Alice Dolan, Aug. 9, 1930; ch.: Margaret Anne, Caroline Alice. Asst. in chem., U. of Wis., 1921-23; instr., Oregon State Coll., 1923-26; asst., Cornell, 1926-28; instr., Western Reserve, 1928-30; prof. and hd. of dept., Valdosta State Coll., 1930 to date; tech. aide, N.D.R.C., 1943-46; mem. of comm. on exams. and tests, div. of chem. educ. Mem.: A.C.S.; A.A.A.S. (fellow); A.A.U.P. Hobbies: photography, travel.

PHELAN, Robert Kimball, asst. res. dir., Beech-Nut Packing Co., Canajoharie, N.Y.; res. 66 Otsego St., Canajoharie.

Chem.; b. Boston, Mass., Jan. 1, 1909; s. of Joseph W. and Florence B. Phelan; ed. M.I.T., B.S., 1931; mem.: Delta Psi; m. Sally Scates, 1940; ch.: Joseph Warren, Richard Scates, Samuel Prescott. Atlantic Gelatin Co., Woburn, Mass., chem. 1931-35; M.I.T., Cambridge, Mass., res. asst., 1935-36; Beech-Nut Packing Co., Canajoharie, N.Y., chem., 1936-37; Chicle Dev. Co., Singapore S.S., gen. mgr., 1937-40; Beech-Nut Packing Co., Canajoharie, N.Y., chewing gum mfg., 1941-45, asst. res. dir., 1945 to date. Res. wk. in nutrition, toxicology, bacteriology of foods and confections. Mem.: A.C.S., A.A.A.S., Am. Geog. Soc., I.F.T., N.Y. Chemists' Club Tr., Canajoharie Libr. and Art Gallery. Club: St. Anthony (New York). Hobbies: boating, small animal breeding.

PHILBROOK, Warren R., industrial relations dir., Westvaco Chlorine Products Corp., chem. div., 405 Lexington Ave., New York 17, N.Y.; res. 100 Toms Rd., Stamford, Conn.
Industrial relations; b. Santa Rosa, Calif., Nov. 7, 1908; s. of Louis H. and Elsie Philbrook; ed. Stanford U., A.B. in Engrg. 1930, metallurgical engr., 1932; mem.: Sigma Xi; m. Mary Kennison, Nov. 22, 1936; ch.: Marilyn Jean, William Richard. Barium Products Ltd., Modesto, Calif., engr., 1933-36; Westvaco Chlorine Products Corp., Charleston, W.Va., engr., 1937, Carteret, N.J., supt., 1938-40, asst. mgr., 1940-41, mgr., 1941-44, present post since 1944. Mem.: A.C.S., A.I.M.E. Hobbies: photography, electronic reproduction of music, fishing, gardening.

PHILLIPS, Arthur Welch, prof. of chem., U. of Bridgeport, Bridgeport, Conn.
Prof.; b. Mass., 1893; s. of John C. and Mary F. (Welch) Phillips; ed. Tufts Coll., B.S. 1915; Harvard Coll., A.M. 1921; mem.: Alpha Chi Sigma, Sigma Tau Alpha; m. Elisabeth W. Round, 1924; ch.: John C. II. Tufts Coll., anal. chemistry; Colgate-Palmolive-Peet Co., lab. dir.; War Production Bd., chf. consultant; Oxford Paper Co., res. chem. Lt. U.S.N. Mem.: A.C.S., A.A.A.S., A.O.C.S., A.S.T.M., A.T.C.C., T.A.P.P.I. Dir. Boy Scouts (Maine), Jersey City Exec. Club. Hobbies: photography, painting, wood working.

PHILLIPS, Benjamin Austin, res. supvr., res. dept., Servel, Inc., Evansville 20, Ind.; res. R.R. 6, Box 282, New Green River Rd.
Res. engr.; b. El Paso, Texas, Aug. 22, 1912; s. of B.D. and Dolores C. Phillips; ed. Texas Coll. of Mines, B.A., 1934; U. Texas, M.A., 1935; B.S., 1939; Ph.D., 1939; m. Margaret Whitehouse, 1941. U. Texas, chem. instr., 1935-38; City of Austin, Texas, plant operator, chem., 1938-39; Servel, Inc., unit engr., res. supvr., 1939 to date. Mem.: A.C.S., A.I.Ch.E., Am. Soc. Refrigeration Engrs., Phi Lambda Upsilon, Tau Beta Pi, Sigma Xi.

PHILLIPS, Charles R(ush), chf. protective branch biolog. dept., Chemical Corps, Dept. of Army, Camp Detrick, Frederick, Md.; res. 225 Lindbergh Ave., Frederick, Md.
Chem.; b. Blackville, S.C., June 13, 1912; s. of John A. and Alma (Free) Phillips; ed. B.S., Clemson Coll., 1933; M.S., Pennsylvania State Coll., 1936, Ph.D., 1938; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi. Res. instr. Penn. State Coll., 1937-41; commodity standards specialist, Office of Price Administration 1941-43; U.S. Army 1943-45; present position 1946 to date. Res. on dyestuffs, detergents, insecticides, and bactericides. Mem.: A.C.S., A.A.A.S., Am. Assoc. of Textile Chems. and Colorists, Soc. of Amer. Bacteriologists, Scientific Res. Soc. of Amer., Royal Horticultural Soc., American Plant Life Soc. Hobbies: horticulture and plant genetics.

PHILLIPS, Paul Horrell, prof. of biochem., dept. of biochem., U. of Wisconsin; res. RFD 1, Middleton, Wis.
Biochem. and nutritionist; b. Johnston City, Ill., Oct. 13, 1898; s. of Thomas and Minnie D. (Horrell) Phillips; ed. B.S., Washington State Coll., June, 1923, Ph.D., U. of Wis., 1933; mem.: Beta Theta Pi, Alpha Zeta; m. Marjorie M. McBean, July 30, 1933; ch.: Anne Lee, Thomas Malcolm. Near East Relief, 1926-29; U. of Wis., 1931 to present. Res. studies on toxicity of fluorine, sperm preservation, pathology of nutritional deficiencies, and role of trace mineral elements in nutrition. Mem.: Phi Kappa Phi, Gamma Alpha, Sigma Xi, Am. Inst. of Chems. (fellow). Hobbies: farming and purebred livestock.

PHILLIPS, Ralph F., asst. scientific dir., Sugar Res. Fndn., 52 Wall St., N.Y. 5, N.Y.; res. 135 W. 12th St., N.Y. 11.
Organic chem.; b. Eureka, Calif., Feb. 3, 1908; s. of Charles Michael and Minnie Ruth Phillips; ed. U. of Nebr., A.B. 1930; U. of Calif., Berkeley, M.Sc., 1932; M.I.T., Ph.D., 1939; mem.: Alpha Chi Sigma. Pan Amer. Petrol Corp., Aruba, Dutch W.I., chem., 1930-31; Shell Oil Co., Houston, Tex., res. chem. 1933-36; Standard Oil Dev. Co., Elizabeth, N.J., res. chem. 1939-40; M.I.T., res. assoc. 1941-42; U.S. Rubber Co., Naugatuck Chem. Div., Naugatuck, Conn., in chg. process dev. res. 1942-43; U. of Utah, asst. prof. org. chem., 1943-45; Sugar Res. Fndn., asst. sc. dir., 1945 to date. Res. in identif. of organic compounds; composition of gasoline; surface properties of bitumen; derivatives, uses & biochemistry of sucrose. Mem.: A.C.S., Soc. of Chem. Ind., A.I.C. (fellow), Phi Beta Kappa, Sigma Xi, N.Y. Acdy. of Sc., Audio Engrg. Soc., Am. Soc. Psychic Res., Phi Lambda Upsilon, Mu Phi Epsilon. Club: Chemists' (N.Y.). Hobbies: recording and reproduction of sound.

PHILLIPS, Ralph Oliver, Capt., U.S.N.R., Christmas Tree Farm, Londonderry Vermont; res. same.
Consltg. chem. and chem. engr.; b. Somerville, Mass., Feb. 2, 1892; s. of John Crane and Mary Francis Phillips; ed. Tufts Coll., B.S., 1915; M.S., 1916; mem.: Sigma Tau Alpha; m. Dorothy Button, Aug. 24, 1935; ch.: Virginia Dorothy M. Pittsburgh Plate Glass Co., chem. supt.; Picatinny Arsenal; U.S.A. Schl. for Inspectors of Powder and Explos., instr. in chg.; U.S.N. asst. inspector powder; Barrett Co., chem.; Tannin Corp., chf. chem.; Natal Tanning Extract Co., Pietermaritzburg, S. Africa, tech. conslt.; Calder & Mersey Extract Co., Liverpool, Eng., tech. dir.; Forestal Land, Timber & Rys. Co., Ltd., tech. consult., London, Eng., and Buenos Aires, Arg.; chf. chem. same co.; Lt. U.S.N., 1917-19; hd. Air Raid Warden, (outskirts of London), 1939-40; mem. United Kingdom Tech. Mission to U.S.A., 1940-41; Capt. U.S.N., Off. in Charge, U.S. Naval Ord. Lab., Silver Spring, Md.; admin. asst. to the dir.; 1941-46 res. and dev. div., Bur. of Ord., Navy Dept.; sect. chf., Bur. of Ord., Navy Dept.; res. in pulp and paper; leather and tanning extracts; explosives, powder and munitions; plastics; rubber; oils and lubrication; paints, varnishes and lacquers; ceramics; etc.; has written many tech. arts. Order of the Brit. Emp.; U.S. Navy Commendation M. Mem.: A.C.S., T.A.P.P.I., A.S.T.M., Amer. Leather Chem. Assoc., Inst. Chem. Engrg. (London), A.A.A.S., U.S. Naval Inst., hon. mem. Soc. of Plastics Engrs., Reserve Officers Assoc. of U.S., Natl. Rifle Assoc., etc. Club: Falmouth Yacht. Hobbies: yachting, target shooting, dogs.

PHILLIPS, Ray, tech. dir., Horsman Dolls, Inc., Trenton 10, N.J.; res. R.D. 5, Trenton.
Chem.; b. Lebanon, Ill., Aug. 30, 1919; s. of Russell S. and Mabel C. (Daubs) Phillips; ed. B.S., Rutgers U., 1940; M.S., Stevens Inst. of Tech., 1949; mem.: Tau Kappa Epsilon; m. Mary Harrison Davis, Oct. 19, 1941; ch.: Eric Gordon. 1940-49, Celanese Corp. of Am., res. engr., asst.

supt., chem. dept.; 1949 to date, Horsman Dolls, Inc., tech. dir. Mem.: A.C.S., A.I.Ch.E. Hobby: color photography.

PHILLIPS, Thomas G(uthrie), prof. agric. & biol. chem. & chemist, Agric. Experimental Station, U. of New Hampshire, Durham, N.H. Chem.; b. West Derby, Vt., Nov. 18, 1887; s. of Jeremiah and Altie Fowler (Wright) Phillips; ed. B.S.A. Ohio State U., 1912, M.S. 1913; Ph. D. U. of Chicago, 1918; mem.: Alpha Zeta, Gamma Alpha; m. Genevieve Kirkbride, Dec. 26, 1921. Instr. to prof. of agric. chem., Ohio State U. 1912-25. Present position 1925 to present. Res. var. contrib. to plant biochem. Author: "Fundamentals of Organic and Biological Chemistry" (D. Appleton Co.), 1923. Mem.: A.A.A.S. (fellow), A.C.S., Botany Soc. of Am., Am. Soc. of Plant Physiology, Acdy. of Sc. (New Hampshire), Sigma Xi, Phi Kappa Phi, Phi Lambda Upsilon.

PHILLIPS, William Edward, pres., William E. Phillips, Inc., 410 N. Michigan Ave., Chicago, 11, Ill.; res. 573 Lakeview Terrace, Glen Ellyn, Ill. Chem. sales; b. Natchitoches, La., Oct. 24, 1897; s. of Edward and Joanna Lach Phillips; ed. La. St. U., A.B. 1919; mem.: Alpha Chi Sigma; m. Helen Marie Archer, Feb. 10, 1934; ch.: William E., II, Nancy. Chem. Armour Soap Wks., 1920; chem. Clinton Foods, Inc., 1921-25; sales-tech., Mathieson Chem. Corp., 1925-28; Western sales mgr., 1928-43; v.p., Merchants Chem. Co. 1943-47; pres., William E. Phillips, Inc. 1947 to date.

PHIPPS, Harris E., prof., dept. hd., chem. dept., Eastern Ill. State Coll., Charleston, Ill.; res. 205 Grant St., Charleston. Chem. prof.; b. Elyria, Ohio, Oct. 29, 1902; s. of Edwin Eugene and Ida (Howell) Phipps; ed. A.B., Oberlin Coll., 1926, M.A., 1928; Ph.D., U. of Ill., 1931; m. Ethel Kingsley Scott, Dec. 22, 1926; ch.: Phyllis Elaine. Res. chem., Eastman Kodak Res. Lab., 1926-27, summers of 1928, 1929, 1930, 1943; instr., Eastern Ill. State Coll., 1931-34, assoc. prof., dept. hd., 1934-40, prof., dept. hd., 1940 to date. Pub. arts. on plasticity, polymorphism & chem. education; abstractor, Chem. Abstracts, 1935-50. Mem.: A.C.S., Phi Lambda Upsilon, Sigma Xi. Mem. exec. comm. of Coles Co. Chapter of Am. Cancer Soc. Hobbies: travel, music appreciation, photography.

PHIPPS, Thomas Erwin, prof. of physical chemistry, U. of Ill., 172 Noyes Chem. Lab., Urbana, Ill.; res. 908 S. Busey Ave., Urbana. Teacher; b. Stony Point, Tenn., Oct. 24, 1895; s. of Joshua and Ann Ro (Tadlock) Phipps; ed. U. of Tex., B.A. 1915, M.A., 1916; U. of Calif., Ph.D., 1921; mem.: Alpha Chi Sigma; m. Mary Eleanor Morgan, June 30, 1923; ch.: Thomas Erwin, Jr. U. of Ill., teacher phys. chem. in successive ranks of instr., assoc., asst. prof., assoc. prof., 1921-37; prof. 1937 to present. Guggenheim Fellow at U. of Hamburg, Germany, 1930-31. On leave, 1944-45, for wk. on Manhattan Proj. at U. of Chicago. Res. in fields of molecular rays, surface ionization, gas kinetics. Mem.: Sigma Xi, Phi Beta Kappa, A.C.S. Club: Chaos.

PICK, Ernest Peter, assoc. pharmacol., The Mt. Sinai Hosp., 5th Ave. & 100th St., N.Y., N.Y.; res. 19 E. 98th St., N.Y. 29. Pharmacol.; b. Taromervel, Bohemia, May 18, 1872; s. of David and Eleonore (Schick) Pick; ed. German U. of Prague, M.D. 1896; U. of Strassburg, biochem. res. 1896-99; m. Margaret Rikea Janssen, Aug. 1, 1927. State Inst. for Serum-Therapy, Vienna, asst. & adjunct 1899-1911; U. of Vienna, asst. & assoc. prof. biochem. Med. Faculty 1904-11; asst. & assoc. prof. pharmacol. U. of Vienna 1911-23; prof. pharmacol. & toxicol. & hd. of Phar. Inst., Govtl. Dept. for Drug-Control, Vienna 1924-38; clin. prof. pharmacol. Columbia U. 1938-46; present position 1938 to date. Res. in chem. isolation of albumoses, peptones, serum-proteins, englobulin and pseudoglobulin; chem. of antigens and proteins; liver-sluice mechanism; pharmacol. of hypnotics, diuretics, thyreoidea, etc. Contrib. to foreign sc. and tech. journals. Author num. writings on pharmacology and Textbook of Exper. Pharmacol. (with H.H. Meyer), 9th edit. 1936. Mem.: N.Y. Acdy. of Sc. (fellow), N.Y. Acdy. of Med. (corresp.), Acdy. Scs. in Vienna (corresp.), Harvey Soc. of N.Y. (honor), German Pharmacol. Soc. (honor.), S.E.B.M., Am. Soc. of Pharmacol. & Therapeu., Soc. of Pharmacol. y Therapeu. de la Assoc. Med. Argentina (honor.). Conslt. Merck Inst. Therapeu. Res., Rahway, N.J.

PICKARD, Maurice Hunt, tech. dir., 100 Park Ave., New York 10, N.Y. Exec.; b. Bath, Me., Oct. 21, 1901; s. of Alfred and Edna Pickard; ed. Tufts Coll. 1923, B.S. Chem., Medford, Mass.; mem.: Delta Tau Delta; m. Edith Cochrane, Aug. 16, 1924; ch.: Robert, Edwin. Chem., chf. chem. Am. Smelting and Refining Co., Mexico; instr. sc. math.; Tech. Dir., Pacific Coast Borax Co., div. Borax Consolidated, Ltd.; mem.: A.C.S., A.Cer.S., A.I.M.E., Wire Ann., O.C.S., A.W.P.A., A.O.A., C.M.R.A., Comm. Chem. Dev. Assn. Club: Chem. Hobbies: painting, stamp collecting, woodworking, golf, fishing.

PICKENS, Russell M., v.p. in chg. of Sales, Rayonier Inc., 122 E. 42nd St., New York 17, N.Y.; res. 77 Park Ave., New York 16, N.Y. Sales dir.; b. Lincoln, Nebr., Apr. 17, 1898; s. of Lopez W. and Janette (McDermand) Pickens; ed. B.S., Montana State Coll., 1920; M.S., Iowa State Coll., 1922; Ph.D., 1925; D.Sc., Montana State Coll., 1950 (honorary); mem.: Sigma Alpha Epsilon, Phi Lambda Upsilon, Phi Kappa Phi, Sigma Xi; m. Thelma G. Miles, Sept., 1935. From res. chem. to chem. dir., du Pont Rayon & Cellophane Cos., Buffalo, N.Y., 1925-30; tech. dir., Rayonier Incorporated, 1930-44; tech. sales dir., same co., 1944-49; v.p. in chg. of Sales, Sept., 1949 to date. Mem.: A.C.S., A.I.C., A.I. Ch.E., A.A.A.S., T.A.P.P.I. Clubs: Chemists' (N.Y.), St. Andrew's Golf (Hastings-on-Hudson, N.Y.), Rainier (Seattle, Wash.), Washington Athletic (Seattle).

PICKETT, Lucy Weston, prof. chem., Mt. Holyoke Coll., South Hadley, Mass.; res. 11 Wright Pl., South Hadley. Prof. chem.; b. Beverly, Mass., Jan. 19, 1904; d. of George E. and Lucy A. Weston Pickett; ed. B.A., Mt. Holyoke Coll., 1925; M.A., 1927; Ph.D., U. Ill., 1930; Instr. chem., Goucher Coll., 1927-28; instr. Mt. Holyoke Coll., 1930-34; asst. prof., 1934-40; assoc. prof., 1940-45; prof., 1945 to date; visiting prof., U. Calif. 1947; Principal investigator, res. proj. under O.N.R., 1948-50; mem.: A.C.S., N.Y. Acdy. Scs., Phi Beta Kappa, Sigma Xi.

PICKETT, Oscar Asa, mgr. of tech. literature, Hercules Powder Co., Del. Trust Bldg., Wilmington, Del.; res. 108 Briar Lane, Newark, Del. Writer, editor; b. Durham Co., N.C., Oct., 1889; s. of Irving M. and Josephine (Gottschall) Pickett; ed. Trinity Coll., (Duke U.), 1911-13; U. of N.C. 1913-16, B.S. in chem. engrg. 1916; mem.: Alpha Chi Sigma; m. Ethlynne Graham, June 24, 1926; ch.: Oscar Asa, Jr., John Irving, Jane & Joan (twins). Res. chem., Southern Cotton Oil Co., 1916-17; Hercules Powder Co., 1917-23, 1926 to date; newspaper & advertising 1923-26. Dir., Hercules Experiment Station 1933-

41. Mem.: A.C.S., A.A.A.S. Hobbies: gardening, mineralogy, refinishing old furniture, U.S. stamps.

PIERCE, Alan E., chem. mfr., Pierce Chem. Co., P.O. Box 117, Rockford, Ill.; res. 3237 Louise St., Rockford.
Chem. mfr.; b. Howell, Mich., 1912; s. of E.B., M.D. and Julia F. Wilcox Pierce; ed. U. of Chicago, B.S., 1932, Ph.D., 1934; m. Barbara L. Wiggins, 1940; ch.: David, Rebecca, Joel, Martin. Amer. Cyanamid Co., Calco Chem. Div., res. chem. 1935-43; Johnson and Johnson, New Brunswick, N.J., res. group leader, 1943-44; W.A. Erickson, Chicago, res. chem. 1944-48; Midwest Extraction Co., Rockford, Ill., chf. chem. 1948-50; Pierce Chem. Co., owner 1950 to date. Mem.: A.C.S., Sigma Xi. Hobby: music.

PIERCE, Alvah Henry, retired mgr. Boston Off., Gen. Dyestuff Corp.; res. 691 Boylston St., Brookline 46, Mass.
Retired exec.; b. Hyde Park, Mass., Feb. 28, 1883; ed. Harvard, A.B. 1900-04; Harvard Grad. Schl., 1904-06; m. Helen Holbrook Claflin, Sept. 10, 1908; ch.: 1 son, 2 daus. Avery Chem. Co., asst. mgr., 1906-11; Bayer Co., mgr. Boston Off., 1911-25; Grasselli Chem. Co., dyestuff dept., 1918-25 (sales mgr. 1921-25); Gen. Dyestuff Corp., asst. sales mgr. (N.Y.) 1925-26, mgr. Boston Off. from 1926 to retirement, Dec. 31, 1949. Mem.: A.A.T.C.C. Clubs: Duxbury Yacht, Drysalters of New England.

PIERCE, David Eugene, chf. engr., Gen. Aniline & Film Corp., 230 Park Ave., New York 17, N.Y.; res. 8364 Glen Rd., Elkins Pk., Pa.
Chem. engr.; b. Sept. 21, 1892; s. of Eugene H. and Anna F. Pierce; ed. Ph.B., Coll. of Wooster, 1914, S.B. in Chem. Engrg. M.I.T., 1917; mem.: Delta Tau Delta; m. Lola Randall, Sept. 24, 1918; ch.: David Eugene, Jr., Lola Suzanne. Chem. engr., dev. wk., E.I. du Pont de Nemours & Co., 1917-24; chem. engr., dev. wk., Atlantic Refining Co., 1924-27; chf. engr., Rohm & Haas Co., 1927-42; division, chf. engr., Gen. Aniline & Film Corp., 1942-47; corporation, chf. engr., Gen. Aniline & Film Corp., 1947 to date. Author: "Chemical Engineering for Production Supervision," 1942. Mem.: A.I.Ch.E., A.C.S. Hobbies: pencil sketching and oil painting.

PIERCE, Harold Barnard, prof. biochem., chmn. dept. biochem., Coll. of Med., U. Vermont, Burlington, Vt.; res. 360 College St., Burlington.
Instr., res., med. biochem.; b. Kansas City, Mo., Oct. 15, 1894; s. of Sibley and Harriet N. Pierce; ed. U. Mass. 1917, B.S.; Pa. St. Coll., 1921, M.S.; U. Rochester, 1928, Ph.D.; mem. Alpha Gamma Rho; m. Mary S. Prindle, 1917. 2nd. Lieut. Inf. 1917-18; asst. chem., Mass. Exp. Sta. 1918-19; instr., asst. prof. agr. and biol. chem., Pa. St. Coll. 1919-26; Fleischmann Res. Fellow, U. Rochester, 1926-27; assoc. prof. Agr. and Biol. Chem., Pa. St. Coll. 1927-28; asst. prof., prof. physiol. chem., U. Rochester, 1928-37; assoc. prof., prof. biochem. U. Vermont 1937 to date; prof., chmn. dept. 1938 to date. Res. in chem. gastro-intest. tract; utilization proteins by humans; carbohyd. utilization human nutrition. Mem.: A.C.S., A.I.C. (fellow), A.A.A.S. (fellow), A.P.H.A. (fellow), A.S.Biol.C., A.I.N., S. E.B.M., A.S.C.C., N.Y. Acdy. of Scs., Sigma Xi. Club: F. & A.M. Hobby: railroads.

PIERCE, James Edward, chem. engr., The Dow Chem. Co., Hopkins Bldg., Midland, Mich.; res. 501 Townsend St., Midland, Mich.
Chem. engr.; b. Kansas City, Mo.; s. of Edward S. and Ethelyn L. (Rathbun) Pierce; ed. Case Inst. of Tech., B.S., 1929, M.E., 1935; mem.: Phi Delta Theta, Theta Tau; m. Mary Sprague, Sept. 2, 1930; ch.: Mary Helen, Robert James. 1929-39, engr., The Dow Chem. Co.; 1939-44, pres., gen. mgr., Pierce Plastics, Inc.; 1944-45, engr., Visking Corp.; 1945 to date, chem. engr., The Dow Chem. Co. Pats. in chem. processing & plastics machinery; co-inventor of com. distillation meth. for separating styrene & ethyl benzene. Mem.: A.S.M.E., A.I.Ch.E., Midland Engrg. Soc. Clubs: B.P.O.E., Midland Country. Hobbies: hunting, fishing.

PIERCE, James Gray, chf. chem., Natl. By-Products, Inc., Box 615, Des Moines, Ia; res. 1715 47th St., Des Moines, Ia.
Chem.; b. Columbus Junction, Ia., Feb. 13, 1915; s. of Chester Earl and Edith Gray Pierce; ed. Iowa State Coll., Ia. Wesleyan Coll., B.A. Chem., 1937, U. of Chi., Inst. of Meteorology, Certificate, 1943; m. Elizabeth Newsome, June 12, 1943; ch.: Jane Anne, James Newsome. Natl. By-Products, Inc., chem., 1941-49, chf. chem., 1949 to date; Iowa State Dept. of Agr., asst. state chem., 1939-41; Western Condensing Co., San Francisco, Calif., operator of feeding research station and tech. sales, 1937-38; U.S. Army, 1942-46, U.S. Army Air Force Weather Officer in charge of various Air Force Weather Stations, 1943-46. Investigations in feeding dried whey and dried fish solubles to swine; 1937-38, res. in prod. and use animal fats and oils and other animal by-products. Mem.: A.C.S., A.O.C.S., Sc. Soc. of Des Moines. Reserve Officer U.S. Air Force. Member of official bd., Grace Meth. Ch., Des Moines, Ia. Club: Amer. Leg. Hobbies: color photography, rifle and pistol shooting, meteorology.

PIERCE, J(ohn) Stanton, chmn., dept. of chem., U. of Richmond, Richmond, Va.; res. 813 Roseneath Rd., Richmond.
Chem. prof.; b. Catlettsburg, Ky., Oct. 4, 1898; s. of W.C. and Jennie Peay Pierce; ed. B.S., Georgetown Coll. (Ky.) 1920, Ph.D., U. of Ill., 1924, D.Sc., Georgetown Coll. (Ky.), 1949; m. Victorine Ballard, Aug. 12, 1926; ch.: John Stanton, Jr., Camden Ballard. Grad. asst., U. of Ill., 1920-22; instr., U.S. Dak., 1922-23; prof. of chem. Georgetown (Ky.) Coll., 1924-37; assoc. prof. of chem., U. of Richmond, 1937-45; prof. 1945—; chmn. Dept., 1946—; conslt. Albemarle Paper Mfg. Co., 1943-47; conslt., A.H. Robins Co., 1948 to date. Hobby: fishing.

PIERCE, Leo Francis, dir., L.F. Pierce, Labs., 2007 Wilshire Blvd., Rm. 508, Los Angeles 5, Calif.
Chem. (consulting & clinical), reg. chem. engr.; b. Story County, Ia., Aug. 5, 1894; s. of Edward and Mary Ellen McKee Pierce; ed. B.Sc., Grinnell Coll., 1916, M.Sc., Tulane U. of La., 1921; Ph.D., Leland Stanford Jr. U., 1923; m. Marian Bussey, July 5, 1920; ch.: Mary Alice Graef-Pierce. Res. asst. & instr., U. of Idaho, Moscow, Idaho, 1917-18; prof. of chem., Washburn Coll., Topeka, Kans., 1918-20; demonstrator & instr., Tulane U. of La., New Orleans Fellow, Leland Stanford U., Palo Alto, Calif., 1921-22; prof. of chem. and hd. of dept., San Diego State Coll., San Diego, Calif., 1923-31; res. chem. and dir. clin. lab., Grace Deere Velie Memor. Clinic, Carmel, Calif., 1931-32; dir. of L.F. Pierce, Labs., 1932 to date. Res. in gaseous mechanism in Poulsen arc converter, dextrose in blood, hydrogen ion in urine; mechanism of serologic tests for syphilis; ind. chem. of oil bearing plants; ceramics. Officer: Graef-Pierce Farms, Reno, Nev., c/o Carl Friesen, 1st. Nat. Bk. of Nev., 1st. & Virg. Br., dir. and gen. mgr. Mem.: Phi Lambda Upsilon, Sigma Xi, A.C.S. (fellow), A.I.C., A.A.A.S., A.A.Clin.Chems. Hobby: Spanish-American History.

PIERCE, Willis Conway, chmn. chem. dept., prof. of chem., Pomona Coll., Claremont, Calif.; res. 145 E. 11th St., Claremont.

Teacher; b. Carrollton, Ky., Dec. 2, 1895; s. of Willis C. and Jenny (Peay) Pierce; ed. B.S., 1920, Georgetown Coll., Ky.; M.S., Chicago, 1925, Ph.D. 1928; Sc.D., Georgetown Coll., 1949; mem.: Pi Kappa Alpha; m. Kate Shewmaker, Sept. 2, 1921; ch.: Willis Conway, Jr. Asst. chem., Ky. Agr. Expt. Station, 1920-21; instr., U. of Ky., 1921-23; instr., U. of S.D., 1923-27; grad. asst., U. of Chicago, 1927-28, instr. 1928-31, asst. prof. 1931-38, assoc. prof. 1938-41; took leave for war wk.; dir., Div. 10 N.D.R.C. Central Lab., Northwestern U., 1942-43; tech. aide, sec. chf., O.S.R.D. 1943-45; prof. chem., chmn. dept., Pomona Coll., 1945 to date. Res. & publ. in photochem., X-ray diffraction by liquids & gases, spectrochem. anal., adsorption of vapors by solids. Co-author: "Quantitative Anal." with E.L. Haenisch, Wiky, 1937, 1940, 1948. Mem.: A.C.S., Sigma Xi. Club: University (Claremont). Hobbies: fishing, bridge.

PIGFORD, Robert Lamar, chmn., dept. of chem. engrg., U. of Delaware, Newark, Del.; res. 306 E. Park Pl., Newark.
Chem. engr.; b. Meridian, Miss., Apr. 16, 1917; s. of Lamar and Zula (Harrington) Pigford; ed. B.S. in chem. engrg., Miss. State Coll., 1934-38, special honors, M.S. in chem. engrg., U. of Ill., 1940, Ph.D. in chem., U. of Ill., 1942; m. Marian Pinkston, Aug. 30, 1939; ch.: Robert Harrington, age 5, Nancy Marie, age 7. Chem. engr., E.I. du Pont de Nemours & Co., engrg. dept., Exp. Station, Wilmington, Del., 1941-47; chmn. of dept. & prof. of chem. engrg., U. of Del., Newark, Del., 1947 to present. Res. on diffusional operations, heat transfer, and fluid mechanics. Co-author: "The Application of Differential Equations to Chem. Engrg. Problems," with W.R. Marshall, Jr., U. of Del., 1947. Sections on "Gen. Theory of Diffusional Operations" and "Gas Absorption" in Perry's "Chem. Engrs. Handbook," 3rd. ed. (McGraw-Hill), 1950. Mem.: A.I.Ch.E., A.C.S., Tau Beta Pi, Sigma Xi, Am. Soc. Engrg. Education. Hobbies: music, radio, woodworking.

PIGMAN (William) Ward, assoc. prof.-conslt., U. of Ala., Medical-Dental Schools, Birmingham 5, Ala.
Biochem.; b. Mar. 5, 1910; s. of James W. and Olga C. Pigman; ed. B.S., 1933, M.A., 1934, George Washington U., Washington, D.C.; Ph. D., U. of Maryland, College Pk., Md.; mem.: Alpha Chi Sigma, Sigma Xi, Phi Beta Pi; m. Alice Wolfe in 1934. Natl. Bur. of Standards: res. asst., 1930-36; res. chem. 1937-38; 1941-43, Lalor Fellow, U. of Leipzig, Germany, 1939-40; group leader, Corn Products Refining Co., Argo, Ill., 1944-46; group leader, Inst. of Paper Chemistry, 1946-49, Appleton, Wis.; assoc. prof. biochem., U. of Ala., Medical-Dental Schools, Birmingham, 1949 to present. Res. extens. in fields carbohydrates, enzymes, plant and animal biochem., wood and dentistry. Co-author "Advances in Carbohydrate Chemistry," (with M.L. Wolfrom) vols. 1, 2, 3, 4, (1946-49); "Chemistry of the Carbohydrates," 1949 (with R. Max Goepp, Jr.), Academic Press, N.Y. Chmn. of Div. of sugar chem. and councillor, A.C.S., A.A.A.S., Acdy. Sc. (Washington, Acdy. Sc. (Alabama), Am. Soc. Biolog. Chems., Soc. Clinical Biology and Medicine, Swiss Chem. Soc., Tech. Assoc. Pulp and Paper Ind., Chemists' Club (Chicago).

PIKE, Frederick Philips, assoc. prof., Dept. of Chem. Engrg., North Carolina State Coll., Raleigh, N.C.; res. 2604 Dover Rd., Raleigh.
Chem. engrg.; b. Tarboro, N.C., Nov. 7, 1911; s. of Albert and Josephine (Philips) Pike; ed. U. of Va., B.S. Ch.E., 1934; M.I.T., S.M., Ch.E., 1936; U. of Minn., Ph.D., 1949; mem.: Kappa Alpha, Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma, Tau Beta Pi; m. Agnes Malboeuf, May 22, 1937. Chem. engr., Standard Oil Co. (Ind.), 1936-40; instr. in chem. engrg., U. of Minn., 1940-46; asst. prof. chem. engrg., N.C. State Coll., 1946-47; assoc. prof. chem. engrg., 1947 to date. Mem.: A.I.Ch.E., A.C.S., A.A.A.S., Am. Soc. Engrg. Education.

PIKE, Robert D., conslt. chem. engr., Gurley Bldg., Stamford, Conn.; res. Brook Lane, Greenwich, Conn.
Conslt. chem. engr.; b. San Francisco, Calif., Mar. 29, 1885; s. of Charles W. and Ann Argo (Wright) Pike; ed. U. of Calif., 1907; mem.: Sigma Xi, Tau Beta Pi, Sigma Alpha Epsilon; m. Irene Ruth Greenwood, Dec. 2, 1918 (dec.); ch.: Ann Eugenie, Robert D., Jr. Conslt. chem. engr. since 1916; placed mfr. of engine bearing of own invention on commercial basis at Los Angeles as v.p. of Kalif Corp., 1931; placed mfr. of Gravelite light weight aggregate on commercial basis and supplied all of aggregate for upper deck pavement of San Francisco-Oakland Bay Bridge, 1934-37; conslt. chem. engr., San Francisco, 1916-39; same, Pittsburgh, 1939-47; same, Stamford, Conn., 1947 to date; active in dev. of chem. mfg. industry along the line of Union Pacific R.R. in Wyoming, and in the mfr. of magnesia from dolomite of northwestern Ohio; holds pats. in U.S. and foreign countries on cement and lime mfr., magnesite, potash, phosphates, bearings, refrigerator cars, reduction of iron oxide, electrolytic iron, nitrogen fixation. Author of many arts. in tech. jls. Mem.: A.C.S., A.I.Ch.E., Am. Cer. Soc., A.I. M.M.E.; licensed prof. engr. in Penn. and Conn. Clubs: N.Y. Athletic, Mining Club (N.Y.), Chemists' (N.Y.), Engineers (San Francisco), Greenwich Country.

PILCHER, John F., dir., Terrell-Pilcher Laboratories, 320 Medical Professional Bldg., Corpus Christi, Texas; res. 2901 Churchill Dv., Corpus Christi.
Physician, pathologist; b. Streator, Ill., Nov. 16, 1904; s. of B.L. and Bessie (Dillman) Pilcher; ed. Bowling Green U. (Ohio) Ohio Wesleyan U., B.A., 1925, U. of Texas Graduate School, (chem.) U. of Texas Medical Branch, M.D., 1931; m. Etta Mae Williams, Mar. 3, 1946; ch.: Wayland, Jeanette, Benny. Student instr., chem., Ohio Wesleyan, 1925-26; grad. instr., chem., U. of Texas, 1926-27; instr. pathology, U. of Texas Medical Branch 1931-32; assoc. prof. pathology, U. of Texas Medical Branch, 1932-37; pathologist, Spohn and Memorial hospitals, Corpus Christi 1937 to present. Mem.: Alpha Omega Alpha, A.C.S., A.M.A., Am. Soc. Clin. Path. (fellow), Coll. of Am. Path. (fellow), Diplomate Am. Bd. of Pathology, A.A.A.S. Hobbies: photography, wood and shop wk.

PILGRIM, Forrest D(ean), supt. quality & standards and supt. Koda and Teca dev. dept., Koda Division, Tenn. Eastman Corp., Kingsport, Tenn.; res. 1740 Orchard Pl., Kingsport, Tenn.
Org. chem., supvr. res. and dev. on acetate rayon; b. Gainesville, Ga.; s. of G.E. and Ethel (Owen) Pilgrim; ed. B.S., Emory U., 1927, M.S., 1928; Ph.D., Northwestern U., 1932; mem.: Pi Kappa Alpha, Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi; m. Irene Johnson, Sept. 9, 1927; ch.: Patricia Ann, Forrest D., Jr. Chem., Sou. Oil Treating & Hardening Co., Atlanta, Ga., 1927; instr., inorganic chem., Ga. Schl. of Tech., 1927-29; res. asst., Northwestern U., 1929-30; A.P.I. fellow, Northwestern U., 1930-31; lab. asst., Northwestern U., 1931-32; chem., Tenn. Eastman Corp., Kingsport, Tenn., 1932-34; supt., twisting dept., Tenn. Eastman Corp., 1934-35; supt., quality & stds. dept., Tenn. Eastman, Kingsport, Tenn., 1935-47; supt., quality & stds. dept., and supt., Koda & Teca dev., Tenn. Eastman Corp.,

1946 to present. Res. in studies on saponification cellulose acetate rayon; thermal decomposition of the Butanes, unpublished res. at T.E.C. Mem.: A.C.S., A.S.T.M., A.A.T.C.C. Clubs: Kiwanis, Kingsport Country, Kingsport Amateur Radio. Hobbies: amateur radio, photography, golf.

PILKINGTON, James, chf. chem., tech. advisor, Riveredge Printers, Inc., 206 Globe Mills Ave., Fall River, Mass.; res. Drift Rd., S. Westport, Mass.
Chf. chem.; b. Baxenden Accrington, Lancashire, England, Aug. 6, 1906; s. of George H. and Elizabeth (Duckworth) Pilkington; ed. New Bedford Textile Inst., M.I.T.; mem.: Delta Kappa Phi; m. Ruth E. Phillips, July, 1934; ch.: Edith Elizabeth, J. Lynwood. Chem., U.S. Finishing Co.; chem., Public Health Dept. for State of Mass.; instr. in chem., Natl. Assn. of Dyers & Cleaners, Silver Spring, Md.; chf. chem., U.M. & M.M., Inc., Div. of Clearwater Mfg. Co., Clearwater, S.C.; chf. chem., Davis Mills Corp., Fall River, Mass.; chf. chem., tech. advisor, Riveredge Printers, Inc., Fall River, Mass. Mem.: A.A.T.C.C. Club: Masonic.

PINCHACK, Jean, editor, Jean Pinchack & Assoc., 9 Stuyvesant Oval, N.Y. 9, N.Y.; res. same.
Edit. and libr. res. in chem. & allied flds.; ed. Hunter Coll., A.B. 1928; Columbia U., B.S. Library Service, 1940. Asst. hd. librarian, E.R. Squibb & Sons, 1928-39; edit. asst., Columbia U. Press, 1940; edit. asst., Wallerstein Labs., 1943; edit. asst., The History Comm. Inc., 1941-49; editor, Jean Pinchack & Assoc., 1950 to date; notable wk.: editor, "Medicinal Products: Trade Names & Chemical Synonyms" (in wks.). Mem.: Am. Chem. Soc., Special Libraries Assoc.

PINKERMAN, Mark Kilgore, advertising & sales promotion mgr., Reichhold Chem. Inc., 601 Woodward Heights Blvd., Detroit 20, Mich.; res. 728 S. Pleasant St., Royal Oak, Mich.
Advertising; b. Rigdon, Ind., July 8, 1902; s. of Warren Clyde and Myrtle (Kilgore) Pinkerman; ed. A.B., DePauw U., Greencastle, Ind., 1924; mem.: Phi Gamma Delta, Phi Beta Kappa; m. Jane Snodgrass, Aug. 31, 1929; ch.: Sally Jane, Nancy Kay. 1924-27, copywriter, Commonwealth Edison Co., Chicago, Ill.; 1927-34, advertis. mgr., Curtis 1000 Inc., St. Paul, Minn.; 1934-36, advertis. mgr., Wesley Steel Treating Co., Milwaukee, Wis.; 1936-46, acct. exec., Jay H. Maish Advertising Agency, Marion, Ohio; 1946 to date, advertis. & sales promot. mgr., Reichhold Chem. Inc., Detroit, Mich. Mem.: Ind. Marketers of Detroit, Natl. Ind. Advertisers Assn.

PINNOCK, Douglas Robert, chf. chem., Wood & Selick, 36 Hudson St., N.Y.C.; res. 8 Irving Pl., Baldwin, L.I.
Chem.; b. London, Eng., Oct. 26, 1887; ed. Dulwich Coll., Imperial Coll., U. of London, A.C.G.I., 1908, D.I.C., 1908; m. Amy M. Besley, July 25, 1912; ch.: 1 dau. Nucoa Butter Co., 1910-18; Bur. Aircraft Prod., chf. insp. in chg. prod. castor oil for lubric., 1918-19; Spencer, Kellogg & Sons, mgr. oil ref., 1919-20; Gordon & Dilworth, chem. prod. mgr., 1920-23; Suchar Ref. Co., chem., prod. mgr., 1923-26; Durkee Famous Foods, chf. chem., 1927-32; with Wood & Selick 1932 to date. Bur. Aircraft Prod., chf. insp. castor bean div., 1918-19; dev. veg. oil ref. and hydrogenation of veg. oils. Mem.: Inst. of Food Techs., London Chem. Soc., A.I.C. Warden and treas., All Saints Episcopal Ch., Baldwin, L.I.

PIPER, John Donald, chem. supvr., research dept., Detroit Edison Co., 2000 Second, Detroit 26, Mich.; res. 4758 Westland, Dearborn, Mich.
Chem.; b. Calumet, Mich., Dec. 16, 1903; s. of Samuel and Mae (Abbot) Piper; ed. Mich. State Normal Coll., A.B., 1929, valedictorian; Ohio State U., M.Sc., 1931, Ph.D., 1933; m. Mary Catherine Mook, Sept. 3, 1931; ch.: Nellie Mae, William Frank. Public schls. of Mich., tchr., 1921-25; Mich. State Normal Coll., & Ohio State U., tchg. asst. part time, 1927-33; Detroit Edison Co., res. engr., sr. res. engr., chem. supvr., 1933 to date. Nature of conducting matls. in oil & paper, high voltage insulation, corrosion steel tower footings, control fireside deposits on heating surfaces of steam generators. Mem.; Sigma Xi, Phi Lambda Upsilon, Kappa Delta Pi, Engrg. Soc. of Detroit, A.C.S., Conference of Elec. Ins. of Natl. Res. Council (past chmn., past secy. of Conference). Hobby: stone mason.

PIRET, Edgar L., prof. chem. engrg., U. of Minn., Minneapolis; conslt. chem. engr., Minn. Mining & Mfg. Co., St. Paul, Minn.; res. 477 Edmund Ave., St. Paul 3, Minn.
Chem. engr.; b. Winnipeg, Canada, July 1, 1910; s. of Hubert and Maria Celine Piret; ed. Docteur de l'Université de Lyon (France), 1936; Ph.D., U. Minn., 1937; mem.: Alpha Chi Sigma; m. Alice Moeglein, 1945; ch.: Mary Louise, Marguerite Jacqueline. Asst. prof. chem. engrg., U. Minn., 1941-43; chf. chem. engr., Minn. Mining & Mfg., St. Paul, 1943-45; prof. chem. engrg., U. Minn., 1945 to date; engr. res. conslt. to v.p. in chg. engrg., Minn. Mining & Mfg. Co., 1945 to date. Res. in theory of crushing, unit operations of extraction, leaching, heat transf., ind. bacteriol., some 25 sc. papers, patents, Franco-Am. Fellow at U. of Lyon, France, 1936. Author: "Sur la Nutrition Azotées de Quèlques Espèces de Bactéries Propioniques," Bose Freres et Riou, Lyon, 1936; Fulbright Research Scholar to France, 1950-51. Mem.: A.I.Ch.E., A.C.S., Am. Soc. Bacteriol. (N.W. sect.), Am. Soc. Engr. Ed., Sigma Xi, Tau Beta Pi, Phi Lambda Upsilon, I.F.T., A.A.U.P. Clubs: chmn., 1949-50, Twin City Section, A.I.Ch.E., Univ. Minn. 1939 Club. Hobbies: oil painting, literature.

PISKUR, Michael M., chem., Swift & Co., U.S. Yards, Chicago 9, Ill.; res. 8529 Sangamon, Chicago 20.
Chem.; b. S. Wilmington, Ill.; s. of John and Francis Piskur; ed. B.S., U. of Ill., 1927; M.S., U. of Chicago, 1932, Sigma Xi; m. Laura Stevenson, June 21, 1937; ch.: Sybil Jane. Vacuum Can Co. (experimental plating) 1927-29; Swift & Co., 1929 to date. Sec. edit, of Chem. Abstracts, 1944; edit. of Abstracts Am. Oil Chem. Soc., 1934-50; Oil Chem. Soc. Comm. for Review of Literature Fats, Oils & Soap, 1934 to date; pat. on antioxidant for fats. Mem.: A.C.S., A.O.C.S., Special Library Assn.

PITIGLIANI, Guido, chf. chem., Amer. Beverage Corp., 118 North 11th St., Bklyn., N.Y.
Chem.; b. Italy, 1888; ed. Cooper Union Inst., B.Ch., 1910. Amer. Bev. Corp., lab. helper, 1904-10, chem., 1918; Radium Luminous Corp., chem., 1919; Amer. Bev. Corp., chf. chem., 1920 to date. Mem.: A.C.S., A.A.A.S., Inst. of Food Techs.

PITMAN, Earle Carver, consltg. chem., chem. engr., "Norumbega," Camden, Me.; res. same.
Conslt.; b. West Boylston, Mass., Oct. 10, 1893; s. of J. Asbury and Flora E. Pitman; ed. Harvard, A.B. (m.c.l.) in chem., 1914; M.I.T., B.S. in chem. engrg., 1916; m. Mary K. Vincent, Oct. 20, 1934; ch.: John Carver. Brown & Co., Berlin, N.H., 1916-18; Lustron Co., So. Boston, Mass., 1918-19; du Pont Co., Arlington, N.J. & Parlin, N.J., 1919-43; conslt., 1943 to date. Pats. on motion picture film, los viscosity nitrocellulose used in "Duco" lacquers, shoe cementing processes, fluorescent lamp coatings, high frequency lamination. Mem.: A.C.S., Soc. of Chem. Ind., Electrochem. Soc., A.A.A.S., A.I.C., Natl. P.V.

& L. Assn., Chemists' Club, Phi Beta Kappa, Alpha Chi Sigma. Modern Pioneer Award, cons. on plastics to U.S.A. Ordnance Dept., W.W.II. Clubs: Appalachian Mt., Am. Guernsey Cattle Breeders' Assn.

PITTENGER, Paul Stewart, v.p., quality control, Sharp & Dohme, 640 N. Broad St., Phila., Pa.; res. 28 Green Hill Lane, Philadelphia 31.
Dir. pharmaceutical & biological quality control; b. Easton, Pa., Sept. 20, 1889; s. of Edward Stewart and Matilda (Riedy) Pittenger; ed. Ph.G., Medico-Chirurgical Coll., 1909, Ph. Chem., 1910, Phar.D., 1911; Phar. M. Philadelphia Coll. of Pharmacy & Science, 1919, Sc.D., 1940; mem.: Kappa Psi, Phi Zeta Delta, Beta Phi Sigma; m. Leola Bodine Welch, Sept. 10, 1913. Dir. pharmaco-dynamic research, H.K. Mulford Co., Phila., Pa., 1910-25; dir. Pharmacologic Research Labs., Sharp & Dohme, 1927-28; asst. gen. supt., 1928-29; asst. to pres., 1929-30, v.p., 1930 to present. Res. biologic assays. Author: "Biochemic Drug Assay Methods," 1914; "Biologic Assays," 1928. Mem.: A.D.M.A., A.Phar.A., Am. Statistical Assoc., A.C.S., A.S.Q.C., Assn. Military Surgeons, Biometric Soc., A.A.A.S. Pres., Phila. Drug Exchange., member Management Comm. Industrial Council Phila., Chamber of Commerce, dir. Penn Wynne Overbrook Hills Civic Assoc. Club: Union League. Hobbies: photography, gardening.

PITTMAN, Charles Uriah, supvr. dev. lab., Koppers Co., Inc., Tech. Sec., Westfield, N.J.; res. 725 Belvidere Ave., Westfield.
Chem. engr.; b. Trenton, N.J., 1907; s. of Uriah B. and Florence E. (Bergen) Pittman; ed. 1924-28, Lafayette Coll., B.S., chem. engrg.; 1928-29, U. of Mich., M.S.; mem.: Alpha Chi Sigma; m. Priscilla A. Hallen, Aug. 28, 1937; ch.: Charles U., Jr., Patricia Anne. 1929-31, E.I. du Pont de Nemours & Co., eastern lab., chem. engr.; 1931-42, Barber Asphalt Corp., res. chem., project engr.; 1942-45, Wailes Dove-Hermiston Corp., chem. engr. in chg. dev.; 1945-48, Pioneer Latex & Chem. Co., dir. of res., mgr. asphalt div.; 1948 to date, Koppers Co., Inc., Tar Prods. Div., Tech. Sec., supvr. dev. lab. Rheological properties asphalts; coal tar & asphalt coatings. Cooperative Consumers of Westfield, Inc. (pres.). Mem.: A.C.S., A.I.Ch.E., A.I.C., Rheology Soc., Natl. Assn. of Corrosion Engrs. Hobby: gardening.

PITTMAN, Ernest Wetmore, chmn. exec. comm., Interchemical Corp., 67 W. 44th St., New York 18, N.Y.; res. 39 E. 79th St., New York 21, N.Y.
Exec.; b. Detroit, Mich., Dec. 19, 1889; s. of Lansing M. and Annette P. (Steuart) Pittman; ed. Yale Sheffield Sc. Schl., Ph.B., 1912; mem.: Chi Phi; m. Estelle Young Romeyn, Oct. 23, 1915; ch.: Steuart L., Estelle Patricia. 1917-19, Capt., Ordn. Dept., U.S.A.; 1920-25, pres. and dir. Rathbone, Sard & Co., Albany, N.Y.; 1926-31, engr., Dillon, Read & Co., New York; 1933-37, v.p., Interchemical Corp., and dir.; 1937-47, pres., and dir.; 1942 conslt. to Rubber Director, W.P.B.; 1943, chf., U.S. Rubber Mission to U.S.S.R.; 1945, chf., Chem. Section, U.S. Strategic Bombing Survey; 1947 to date, chmn. of Exec. Comm., Interchemical Corp., and dir. On bd. of mgrs., Memorial Hosp. for Cancer and Allied Diseases, N.Y.C.; v.p. Memorial Hosp. for Cancer and Allied Diseases, N.Y.C. Clubs: Union (N.Y.), University (N.Y.), Maidstone (East Hampton, L.I.).

PITTS, Frank Patrick, prof. chem., schl. phar., Medical Coll. of Va., Richmond 19, Va.; res. 4008 Cary St. Rd., Richmond 21.
Tchr. chem.; b. Ambler, Pa.; s. of Samuel and Guanita Pitts; ed. Va. Polytech. Inst., B.S., chem., 1924; M.S., chem., 1927; mem.: Phi Delta Chi; m. Marion E. Dikeman, Apr. 30, 1948; ch.: Forrest W., Eleanor L. Instr. chem., V.P.I., 1924-27; instr. chem., U. Va., 1927-28; assoc., asst. prof., assoc. prof., prof. chem., Med. Coll. of Va., 1928 to date. Lt. Col., U.S.A.R., W.W.II. Res. inorg. substances in living organisms. Mem.: A.C.S., A.A.A.S. (fellow), A.I.C. (fellow), A. A.U.P., Va. Acdy. Sc., Sou. Assn. Sc. & Ind. Club: Officers' (Va.). Hobbies: fossils, nucleonics.

PITZER, Kenneth Sanborn, dir., div. of res., U. S. Atomic Energy Commis., present address: 1901 Constitution Ave., N.W., Wash., D.C.; permanent: U. of Calif., Berkeley, Calif.; res. present: 6100 Nebraska Ave., N.W., Wash., D.C.; permanent: 12 Eagle Hill, Berkeley, Calif.
Prof. of chem.; b. Pomona, Calif., Jan. 6, 1914; s. of Russell Kelly and Flora Anna (Sanborn) Pitzer; ed. Calif. Inst. of Tech., B.S., 1935, prize scholarships, freshman, sophomore & jr. yrs.; U. of Calif., Ph.D., 1937; teaching asst. 1935-36; Shell res. fellow 1936-37; mem.: Pi Kappa Delta, Tau Beta Pi, Sigma Xi; m. Jean Mosher, July 7, 1935; ch.: Ann, Russell, John. 1937-39, instr., U. of Calif., 1939-42, asst. prof., 1942-46, assoc. prof., 1946 to date, prof.; 1943-44, tech. dir., Md. Res. Labs.; 1949 to date, dir. of res., U.S. Atomic Energy Commis. Awards: A.C.S. in Pure Chem., 1943; Army & Navy Cert. (appreciation for wk. in W.W.II); J.C.C. as one of ten outstanding young men of year, 1950; Precision Scientific in Pet. Chem., 1950. Co-author: with Rossini, "Selected Values of Properties of Hydrocarbons" 1947; "Quantum Theory with Applications to Chem." 1948. Mem.: A.C.S., A.Phys.S., A.A.A.S., Natl. Acdy. of Sc. Clubs: Cosmos (Wash. D. C.), Faculty (Berkeley, Calif.). Hobbies: hiking, boat building, sailing.

PIZZARELLO, R(oy) A(loysius), res. chem., dept. hd., Interchem. Corp., 432 W. 45th St., N.Y. 19, N.Y.; res. 364 N. Columbus Ave., Mt. Vernon, N.Y.
Chem.; b. Paterson, N.J., Aug. 4, 1910; ed. B.S., Fordham, 1933, M.S., 1935, Ph.D. org. chem., 1938. Lab. asst., Permutit Co., N.Y., 1928-29; instr. org. chem., Fordham, 1935-38; res. chem., dept. hd., Interchem. Corp., 1938 to date; summers, lab. asst., Permutit Co., 1930-32. Mem.: A. C.S., A.I.C. (fellow), A.A.T.C.C., A.A.A.S.

PLATT, Washington, Brigadier Gen., U.S.A.R., prof. admn. engrg., chmn. dept., Syracuse U., East Syracuse 4, N.Y.; res. 412 Douglas St., Syracuse 3.
Prof.; b. Balt., Md., Oct. 6, 1890; s. of Walter B. and Mary Perine Platt, M.D.; ed. Phillips Acdy., Andover, Mass.; Yale U., Ph.B. 1911; Columbia U., M.A. 1921; honors: Legion of Honor, Croix de Guerre with Palm, Legion of Merit, Bronze Star with Oakleaf Cluster; mem.: Alpha Delta Phi, Phi Lambda Mu, Sigma Xi, Pi Alpha Mu; m. Emily Kent, Dec. 1921; ch.: Mrs. Emily Kent Pulling, Mrs. Eleanor Platt Erisman, Mrs. Mary Platt Fox, Lucian Brewster. 1912-17 operating dept., Natl. Biscuit Co., N.Y.C.; 1917-19 U.S.A., Capt. C.W.S., (A.E.F.); 1922 prod. mgr., Harris Labs.; 1922-28 mgr., tech. serv. dept., Merrell-Soule Co.; 1928-41 res. chem., asst. dir., res. labs., Borden Co.; 1941-45 U.S.A., Colonel G.S.C., A.C. of S.G-2 XIX Corps in E.T.O.; 1946 to date prof. admn. engrg., Syracuse U.; present Brigadier Gen. U.S.A.R., Commanding Gen. 98th Inf. Div. Res. in food chem. espec. chem. of cereals, milk; contrib. extens. to sc. and tech. jls. Mem.: A.I.Ch.E., Am. Inst. Ind. Engrs., A.A.C.C. (past pres.), Tech. Club of Syracuse (past pres.), Am. Soc. Engrg. Ed.; mem. Natl. Res. Council Adv. Bd. Q.M.Res. & Dev. Clubs: Yale (N.Y.C.), Univ. (Syracuse), Cazenovia, Am. Legion, English Speaking Union. Hobbies: camping, militry sc.

PLEASANTS, John Gibson, v.p. chg. mfg., The Procter and Gamble Co., M.A. and R. Bldg., Ivorydale, Cincinnati, Ohio; res. 1820 Dexter Ave., Cincinnati.
V.p. chg. mfg.; b. Laurel, Miss., Dec. 27, 1908; s. of John S. and Lucile Gibson Pleasants; ed. U.S.C., B.S., 1929; Cal. Tech., M.S., 1930; Ph. D., 1933; m. Barbara Von Oettingen, Aug. 18, 1933; ch.: Michael T., Margaret M. Procter and Gamble, June, 1933; Western div. supt. 1940; mgr. tech. divs., 1946; dir. mfg., 1947; v.p. chg. mfg., 1948 to date. Mem.: Engr. Soc. Cinn., S. A.R., Soc. C.W., A.O.A.

PLINKE, George William; res. dir., Henry Vogt Mach. Co., 10 and Ormsby St., Louisville, Ky.; res. Rehl Rd., R. R. 3, Jeffersontown, Ky.
Engr., supvr. weld., test., res.; b. Louisville, Ky., June 22, 1898; s. of George W. and Elizabeth K. Mueller Plinke; ed. Purdue U., B.S., LaSalle U., bus. mgt.; m. Margaret Dyer Barkley, Sept. 24, 1923; Logan Co., Louisville, estimating engr., 1920-23; 1923-24 Reynolds Mtl. Co., frmn.; 1924 to date Henry Vogt Mach. Co., res. dir. Comm. on alloy filler mtl., pressure vessel res. comm.; author: Chapt. 44B, Am. Weld. Hdbk., 1938 ed.; Comm. Chpts., 4,5,6, Am. Weld. Hdbk., 1950, 3 ed.; and num. arts. on welding for trade jls.; Chmn. Am. Weld. Soc., Louisville Chap. Mem.: F.&A.M.; Am. Weld Soc. Hobbies: swimming, golf.

PLOUGH, Abe, pres., Plough, Inc., 3022 Jackson Ave., Memphis, Tenn.; res. Peabody Hotel, Memphis.
Mfg. exec.; b. Dec. 27, 1891, Tupelo, Miss.; s. of Mose and Julia Plough; divorced; ch.: Jocelyn (Plough) Rudner. Founded present business in 1908; proprietary medicines, cosmetics, cements, cleaning fluids. Dir., Wm. R. Moore Schl. of Tech., Memphis; pres. and dir. Plough, Inc.; dir., Peabody Hotel, Memphis. Clubs: Rex Ridgeway, Fifty Club, Saddle & Spur.

PLOVNICK, Max David, owner, mgr., Forest Hills Chem. Co., 3760 Washington St., Jamaica Plain 30, Mass.; res. 29 Howland St., Roxbury, Mass.
Mfg. chem.; b. Boston, Mass., Aug. 27, 1913; s. of Myer and Sarah Plovnick; ed. Lowell Textile Inst., Lowell, Mass., B.textile chem. 1935; mem.: Sigma Omega Psi; m. Florence Garr, Apr. 27, 1941; ch.: Ross Harris, Herbert Samuel, Bernard Allen. 1935-36, chem., Moleo Prods. Co., Everett, Mass.; 1936-37, chem., Food-N-Drink Fertilizer Co., Cambridge, Mass.; 1937-47, chem., Thermoid Co., Southern Div., Charlotte, N.C.; 1947 to date, mfg. chem., Forest Hills Chem. Co., Jamaica Plain 30, Mass. Mem.: A.A.T.C.C., A.C.S. Hobbies: workshop with hand & machine tools.

PLUMMER, James Kemp, gen. mgr. and chmn. res. comm., The Tennessee Corp., 900 Roosevelt Highway, College Park, Ga.; res. 2492 Habersham Rd., N.W., Atlanta, Ga.
Chem.; b. Middleburg, N.C.; s. of James Kemp and Mary (Boyd) Plummer; ed. B.S., 1907, M. S., 1909, N.C. State Coll.; M.A., 1911; Ph.D., 1915, Cornell U.; m. Lucy Williams Haywood, June 12, 1912; ch.: Mrs. W.G. Baker. Chem., Rockdale Iron Co., Rockdale, Tenn., 1907-08; asst. chem., N.C. Agric. Expt. 1909; lab. asst. Cornell, Dept. of Chem., 1910-11; soil chem., N. C. Expt. Sta., 1911-14; asst. chem., agronomy dept., Cornell U., 1914-15; State Chem. of N.C., 1916-20; joined staff of The Tenn. Corp., 1920; to date var. positions with that corp., mem. of bd. of dirs.; soil chem. wk. with spec. ref. to role played by elements Cu, Mn, Zn, Fe, B. and Mo in animal and plant nutrition; contrib. arts. to var. sc. jls. Mem.: A.C.S., A.A.A.S., A.S.A., Amer. Acdy. Applied Nutrition, A.I.C. Clubs: Chemists' (N.Y.), Capitol City Club of Atlanta, Sigma Xi. Hobbies: fishing, golf.

PLUMMER, William B., pres., Indoil Chemical Co., 910 South Michigan Ave., Chic. 5, Ill.; res. 244 E. Pearson St., Chicago 11.
Chem. engr.; b. Chelsea, Mass., Mar. 20, 1900; s. of Frederic H. and Jessie (Briggs) Plummer; ed. B.S., Chem. engrg., M.I.T., 1921; M.S., M.I. T., 1922; m. Lilian R. McGeachin, Feb. 2, 1949. Chem., Grasselli Chem. Co., 1922-23; chem., Combustion Utilities Corp., 1923-30; Standard Oil Co. (Indiana) technologist, asst. mgr. and mgr. dev. & pat. dept., mgr. chemical products dept., 1930-48; pres., Indoil Chemical Co., 1949 to date. Mem.: A.C.S. Clubs: Cosmos (Washington, D.C.), University (Chicago), Chemists' (New York).

PLUNKETT, Marshall W., chem. engr., Hercules Powder Co., Parlin, N.J.; res. Redfield Village, Metuchen, N.J.
Chem. engr.; b. Roanoke, Va., Dec. 7, 1916; s. of Theodore L. and Mary B. Plunkett; ed. U. of Va., B.Ch.E., 1940; mem: Sigma Alpha Epsilon, Trigon, Specs Club; m. Mary Jane Norris, Mar. 27, 1948. Hercules Powder Co.; res. chem. 1940; nitrocellulose supvr. 1941; nitrating area supvr. 1942; purification area supvr. 1942; nitrocellulose line supvr. 1943-45; chem. engr. 1945; acetate supvr. 1946; finishing area supvr. 1947-48; molding powder supvr. 1948-50. Mem.: A.I.Ch.E., Soc. of Plastics Engrs. Commr., Boy Scouts of Am. Club: B.P.O.E. Hobbies: sports, stamps, B.S.A.

PLUNKETT, Roy Joseph, acting assistant manager, Chambers Wks., E.I. du Pont de Nemours & Co., Penns Grove, N.J.; res. Seven Stars, Woodstown, N.J.
Chem.; b. New Carlisle, Ohio, June 26, 1910; s. of Joseph and Bessie Plunkett; ed. Manchester Coll., A.B., 1932; Ohio State U., Ms.C. 1933, Ph.D., 1936; mem.: Gamma Alpha; m. Dorothy E. Detrick, Aug. 16, 1935; ch.: Michael Roy, Patrick Lee. Res. chem., Jackson Lab., du Pont, 1936-39; lab. hd., Tetra Ethyl Lead Area, du Pont Chambers Wks., 1939-45, supt., 1945-49; supt., "Ponsol" Colors Area, du Pont Chambers Wks., 1949-50 gen. supt. dev. dept., du Pont Chambers Wks., 1950, acting asst. mgr., du Pont Chambers Wks., 1950 to date. Mem.: Phi Lambda Upsilon, Sigma Xi, A.C.S., A.I.Ch.E., A.I.C., A.A.A.S.

POEHLE, Herbert F., asst. to Dir., Engrg. Res. Inst., U. of Mich., Ann Arbor, Mich.; res. 2220 Washtenaw Rd., Ann Arbor.
Chem. engr.; b. Detroit, Mich., Aug. 14, 1902; s. of Bruno and Ida Poehle; ed. 1925, U. of Mich., B.S.E., Ch.E.; mem.: Phi Pi; m. Hazel B. Kreinbrook, Aug. 31, 1929. U.S. Rubber Co., chem., chem. engr., fld. engr., 1925-33; Parke, Davis & Co., chem. engr., acting credit mgr., 1933-43; Ethyl Corp., adm. asst., 1943-48; Engrg. Res. Inst., U. of Mich., res. coordinator, 1948-50; asst. to dir., 1950 to date. Group Homes Assn. (dir.); Higgins Lake Property Owners Assn. (dir.). Mem.: A.A.A.S., Engrg. Soc. of Detroit, A.C.S. Jefferson Ave. Pres. Ch., Detroit, trustee, treas. Clubs: Detroit Boat, Higgins Lake Boat, Corinthian Lodge No. 241 F.&A.M., Detroit Museum of Art Founders. Hobbies: sailing, water sports, nature study.

POESE, Lester E., dept. hd., solvent recovery & waste disposal, Merck & Co. Inc., Elkton, Va.; res. 1205 Hillcrest Dr., Harrisonburg, Va.
Chem. engr.; b. St. Charles Co., Mo., Apr. 1, 1913; s. of Louis W. and Mary Poese; ed. B.S. in chem. engrg., 1934, Mo. Schl. of Mines & Metallurgy, Rolla, Mo.; mem.: Alpha Lambda Tau, Alpha Chi Sigma; m. Violet M. Taylor, Jan. 19, 1937; ch.: Carol J. 1934-35, Natl. Lead Co., Ti-

tanium Div., St. Louis, Mo., control chem.; 1935-36, control chem., 1936-39, process frmn., 1939-42, process engr., Natl. Lead Co., Titanium Div., S. Amboy, N.J.; 1942 to date, Merck & Co. Inc., Elkton, Va., dept. hd., solvent recovery & waste disposal. Mem.: A.C.S., A.I.Ch.E. Club: Elks. Hobbies: gardening, cabinet making.

POGGE, Raymond C., M.D., dir., dept. clinical res., Wm. S. Merrell Co., Cincinnati, Ohio; res. 3809 Aikenside Ave., Cincinnati 13.
Physician, dir. clinical res.; b. Chicago, Ill., Jan. 15, 1917; s. of Raymond Carl and Esther Pogge; ed. B.S., Northwestern U., 1938; B.M., 1941; M.D. 1942; mem.: Alpha Kappa Kappa; m. Shirley Loescher; ch.: R. David. Internship, St. Joseph's Hosp., Chicago, Jan., 1941-Dec. 31, 1941; res. obstetrics, St. Joseph's Hosp., Chicago, Jan. 1, 1942-Apr. 1, 1942; physician, assg. to med. serv., Natl. Leprosarium, Carville, La., 1942-46; chf. prof. relations, Merck & Co., Inc., Rahway, N.J., 1946-50; dir., dept. clinical res., Wm. S. Merrell Co., Cincinnati, Ohio, 1950 to date. Res. on chemotherapy of leprosy at U.S. Marine Hosp., Carville, La. Author num. pubs.; contrib. extens. to sc. and tech. jls. on leprosy. Mem.: Am. Assn. of Ind. Physicians & Surgeons, Am. Med. Assn., A.A.A.S.

POGUE, Joseph Ezekiel, pet. conslt., Chase Natl. Bank, 18 Pine St., New York, N.Y.; res. Hotel Barclay, 111 E. 48th St., New York.
Pet. conslt.; b. Raleigh, N.C., June 6, 1887; s. of Joseph Ezekiel and Henrietta Kramer Pogue; ed. A.B., U. N.C. 1906; M.S., 1907; Ph.D., Yale, 1909; spec. stud. U. Heidelberg, 1911; mem.: Phi Beta Kappa, Sigma Xi, Alpha Tau Omega; m. Grace Needham, Apr. 17, 1919. Asst. curator, Smithsonian Inst., 1909-13; assoc. geolog., U.S. Geol. Survey, 1913-14; assoc. prof. geol., mineral. Northwestern U. 1914-17; Mineral Tech., Smithsonian Inst. 1917-18; asst. dir. Bur. Oil Conserv., U.S. Fuel Adm. 1918; mgr. dept. econ. res., Sinclair Consol. Oil Corp., 1919-20; conslt. engr. 1921-36; v.p. Chase Natl. Bk., 1936-49; pet. conslt., 1949 to date. Gulf Oil Corp., mem. bd. dirs. Res. in pet. conslt. Author: "Prices of Pet. and Its Prod. During the War," 1919; "The Econ. of Pet.," 1921; "The Econ. Structure of the Am. Pet. Ind.," 1936; "Econ. of the Pet. Ind.," 1939; "Oil and Natl. Policy" 1948; co-author: "The Energy Resources of the U.S." 1919; "America's Power Resources," 1921; contrib. extens. to sc. and tech. jls. Mem.: Geol. Soc. Am. (fellow), A.Stat.A., A.M.E., A.I.M.E., A.Econ.A., A.A. P.G., S.A.E., A.P.I., Natl. Pet. Council. Clubs: Univ., Mining, St. George's Golf, Country.

POINTER, Charles Hannon, prof. of ind. chem., U. of Ala., P.O. Box 1992, University, Ala.; res. 21 Meador Dr., Tuscaloosa, Ala.
Prof., conslt.; b. Montgomery, Ala., July 12, 1909; s. of Ferdinand Phinizy and Martha Gilmer (Hannon) Pointer; ed. U. of Ala., Bach. & Masters; m. Mary Elizabeth Peagler, Sept. 3, 1939; ch.: Martha Hannon, Charles Hannon, Elizabeth Pauline. Ala. Highway Testing Lab., chem. engr.; U.S. Engrg. Dept. Testing Lab., chf. of lab.; U.S.N., N.C.D.R., process engr. officer; prof., U. of Ala. Electroplating; high frequency drying. Mem.: A. S.M., A.C.S., A.I.C., A.A.A.S., Electrochem. Soc. Hobbies: chess, fishing, Naval Reserve.

POITRAS, Herman Arthur, v.p. in chg. of prod., Chas. Pfizer & Co., 11 Bartlett St., Brooklyn 6, N.Y.; res. 71 Grayson Pl., Teaneck, N.J.
Exec.; b. Ware, Mass., Apr. 17, 1912; s. of Arthur L. and Parmelia Poitras; ed. Tufts Coll., B.S. Ch.E., 1935; addit. courses Columbia U., 1943; mem.: Phi Mu Delta; m. Isabelle A. Savage, Oct. 27, 1940; ch.: Gail M., Robert H. 1936-42, Barrett Div. of Allied Chem. & Dye Corp., res. & process dev.; 1942-45, Heyden Chem. Corp., Garfield & Princeton, N.J., chf. process engr. & project engr.; 1945 to date, Chas. Pfizer & Co. Inc., Brooklyn, N.Y., v.p. Mem.: A.D.M.A., A.I.Ch.E., A.C.S., A.F.C.A., A.P.M.A. Hobbies: shop work, photography, painting. Officer: Chas. Pfizer & Co. Inc. (dir.).

POLLACK, Maxwell A(aron), chem. conslt., P.O. Box 128, Denville, N.J.; res. 20 Mosswood Trail, Denville.
Chem. conslt.; b. N.Y.C., June 11, 1915; s. of Samuel and Margaret Pollack; ed. B.S., C.C.N.Y., 1934; M.S., 1935, Ph.D., 1937, Northwestern U.; m. Helen S. Pollard, Mar. 17, 1939; ch.: Charles Jeffrey. 1937-40, Pitts. Plate Glass Co., Barberton, Ohio, chem., supvr. of plastics & org. chem. res.; 1940-42, U. of Texas, Austin, Tex., asst. prof., chem. in Biochem. Inst.; 1942-47, E.F. Drew and Co., Boonton, N.J., dir. of res., dir. of sales res.; 1947 to date, Denville, N.J., chem. conslt. Initiated & supervised dev. of allyl resins, chloroacrylic plastics; dev. new plasticizers; basic studies on B vitamins & cancer, new growth factors & antibiotics. Mem.: A.C.S., A.A.A.S., Sigma Xi, Phi Lambda Upsilon, A.O.C.S., A.I.C. (fellow). Hobby: sports activities.

POLLAK, Arthur, conslt. chem. engr., 1718 Grand Ave., New York, N.Y.
Chem. engr.; b. Feb. 1, 1902; ed. Mt. Hermon Schl., Mt. Hermon, Mass. 1921; B.S., C.C.N.Y., 1927; A.M., Columbia, 1929; Ph.D., 1941; mem.: Sigma Xi, Phi Lambda Upsilon. 1917 lab. asst., West Va. Pulp & Paper Co.; 1918 asst. chem.; at schls. 1919-25; 1925 res. chem.; 1928 proj. leader; 1929 asst. dir. res.; 1930 dev. engr.; 1932 chem. plant supt.; 1933 sales engr.; 1934 dir. res.; 1941 dir. of dev. dept.; 1947 priv. conslt., N.Y. conslt. in pulp, paper, chem. fields; contrib. to processes for prod. and utiliz. of paper, cellulose, tall oil, turp., lignin, acetic acid and other aliph. acids, pigments. Invest. in woods, wastes, pulp mill wastes, fiber bearing crop matls. Builder plants and labs. Holder ten patents, others pending. Mem.: A.C.S., A.I.Ch.E., A O.C.S., A.S. T.M., N.F.C.C., S.C.I., N.W.U.C., T.A.P.P.I. Club: Chem.

POLLARD, Cash Blair, prof. chem., chmn. org. div., U. Fla., conslt. toxicol., Alachua Gen. Hosp., 240 Leigh Hall, Univ. Sta., Gainesville, Fla.; res. "Holly Brook," Newberry Rd.
Chem., toxicol.; b. Hannibal. Mo., Feb. 22, 1900; s. of William Braxton and Nannie Elizabeth Robinson Pollard; ed. A.B., Wm. Jewell Coll., John B. Hearne Chem. M. 1921, Levering Scholarship; M.S. Purdue U., 1923, grad. fellowship, 1921-23; Ph.D. 1930; Wis. U. 1924; mem.: Kappa Sigma; m. Ailene Atherton; ch.: Thomas D. (Capt., U.S. A.). Instr. chem., Purdue U., 1923-30; Graver Corp. 1923; conslt. to prosecuting attys., Ind. 1925-30; asst. prof. chem., U. Fla., 1930-35; assoc. prof chem. 1935-37; prof. chem. 1937 to date; conslt. to Fla. State Attys., scientific criminal investig. 1930 to date; lecturer, physiolog., patholog. chem., Alachua Gen. Hosp. Schl. of Nursing, 1945 to date; res. engr., off. of prod. res., dev., W.P.B. 1944; conslt., Ross Allen Reptile Inst., 1944 to date. Contrib. extens. to sc. and tech. jls. Co-author: "Lab. Manual & Study Outline of Gen. Chem." 1928, rev. 1937; "Bibliography of Animal Venoms" 1947. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S. (chmn. Fla. sect. 1935), A.A.A.S. (fellow), A.I.C. (fellow) (chmn., regional comm. membership 1942), Eugene Field Soc., hon. mem. Fla. Peace Off. Assn., Fla. Acdy. Sc., Phi Kappa Phi, Gamma Sigma Epsilon; recipient "Fla. Acdy. of Sc. Achievement Award (with J.H. Pomeroy)

1945; Am. Legion, Alpha Epsilon Delta, recip. U.S. Publ. Health Serv. Res. Grants, 1948, 1949; Res. Grants, Navy Dept., Off. of Naval Res., 1948, 1949, 1950. Clubs: Gainesville Pistol, Natl. Rifle Assn. of Am. Hobbies: bird, duck hunting, dog training, pistol shooting.

POLLARD, Frank Howell, prof. of chem., Schl. of Chemistry, Clemson Coll., Clemson, S.C.; res. 113 Sunset Dr., Clemson.
Coll. tchr.; b. Auburn, N.Y., Aug. 21, 1892; s. of Joseph and Jennie (Howell) Pollard; ed. Cornell, B.Chem., 1916, Ph.D., 1922; mem.: Alpha Chi Sigma. Cornell, asst. instr., 1914-16, 1917-18, 1919-22; Huron Coll., prof. chem., 1918-19; Clemson Agr. Coll., asst. prof. chem., 1922-24, assoc. prof., 1924-26, prof. chem., 1926 to date. Author: "Exercises in Gen. Chem.," 2nd ed., 1934; "Phys. Chem. Experiments," 1936. Res. on adsorption of gases by platinum black, ammonia and hydrogen chloride by wool; effect var. salts upon surface tension soap and saponin sols. Mem.: A.C.S., A.I.C., Sigma Xi. Club: Rotary. Hobbies: bridge, iris culture.

POLLARD, William Grosvenor, exec. dir., Oak Ridge Inst. of Nuclear Studies, P.O. Box 117, Oak Ridge, Tenn.; res. 191 Outer Dr., Oak Ridge.
Physicist; b. Batavia, N.Y., Apr. 6, 1911; s. of Arthur Lewis and Ethel Mae (Hickox) Pollard; ed. 1932, U. of Tenn., A.B.; 1934, Rice Inst., A.M., 1935, Ph.D.; m. Marcella Hamilton, Dec. 27, 1932; ch.: William Grosvenor, III, Arthur Lewis, II, James Hamilton, Frank Hall. 1932-34, fellow in physics, Rice Inst.; 1934-36, asst., Rice Inst.; 1936-41, asst. prof. of physics, U. of Tenn., 1942-43 assoc. prof., 1943-47 prof., 1943-44 in chg. of schedules, pilot training detachment; consltg. physicist, Chicopee Mfg. Co., Springfield, Mass., 1942-44; conslt., Monsanto Chem. Co., Oak Ridge, Tenn. 1946-49; conslt., Carbide & Carbon Chem. Corp., Oak Ridge, Tenn. 1945-50; on leave from U. of Tenn. for war res., Mar., 1944-Sept., 1945, and for Oak Ridge Inst., Jan., 1947-48; res. sc., Columbia U., Div. of War Res., S.A.M. Labs., N.Y.C., Mar., 1944-Sept., 1945; acting exec. dir., Oak Ridge Inst., 1947, treas., 1947 to date, exec. dir. 1948 to date. Author several contribs. sc. jls. Mem.: A.Phys.S. (fellow), Southeastern Sec. of A.Phys.S. (v. chmn. 1949), Tenn. Acdy. of Sc., Phi Kappa Phi, Phi Beta Kappa, Sigma Xi. Incorporator & dir., Oak Ridge Inst. of Nuclear Studies, 1946-48; mem. bd. of dir., Southern Assn. of Sc. & Ind., 1950 to date. Club: Oak Ridge Rotary. Hobbies: mountain climbing, hiking.

POLLNOW, Frank J., Jr., v.p., Vestal Labs. Inc., 4963 Manchester, St. Louis 10, Mo.; res. 7519 Wellington Way, Clayton 5, Mo.
Chem. engrg., adm.; b. St. Louis, Mo., July 3, 1921; s. of Frank J. and Clara A. Pollnow; ed. B.S. Ch.E., U. of Notre Dame, 1942; m. Georganne Funsten, Jan. 29, 1949; ch.: Frank J., III. Vestal Labs. Inc., 1938 to date, chem., res. dir., plant supt., v.p. (dir.). Mem.: A.C.S., Engrs. Club (St Louis). Clubs: Glen Echo Country, Mo. Athletic. Hobbies: fishing, hunting, tennis.

POMERENE, Elizabeth, biochem., St. Luke's Hospital, Cleveland 4, Ohio; res. 3646 Rolliston Rd., Shaker Heights 20, Ohio.
Biochem.; b. Berlin, Ohio, July 3, 1907; d. of Myron B. and Florence (Maxwell) Pomerene; ed. A.B. (cum laude), Georgetown Coll. (Georgetown, Ky.), 1926; M.S., U. of Ill., 1927; Ph.D., Western Reserve U., 1929. Biochem., St. Luke's Hosp., Cleveland, Ohio, 1929 to date; res. on creatinine, urea, xylose and galactose excretion. Mem.: Sigma Xi, Iota Sigma Pi, A.C.S., A.I.C., A.A.A.S., A.A.Clin.C. Club: Woman's City (Cleveland)

POOLE, Alton Burrell, chf. chem., Wittemore Bros. Corp., 68 Albany St., Cambridge, Mass.; res. 316 Washington St., Abington, Mass.
Chem.; b. Abington, Mass., Aug. 19, 1911; s. of Roy A. and Mabel S. Poole; ed. Harvard Coll., 1928-32, B.S. in chem.; m. Sara Stevens, Apr. 13, 1940; ch.: David S. Cabot Carbon Co., Pampa, Tex., 1936-37, chem. engr.; Godfrey L. Cabot, Boston, Mass., 1937-40, chem. and engr.; Whittemore Bros. Corp., Cambridge, Mass., 1940 to date, chem. and chem. engr. Mem.: A.C.S. Hobby: photography.

POOLE, James Everette, chf. engr., Carbon Dioxide Div., Liquid Carbonic Corp., 3100 S. Kedzie, Western Springs, Ill.; res. 406 41st St., Western Springs.
Chem. engr.; b. Oklahoma City, Okla., Aug. 17, 1910; s. of David C. and Bertha Poole; ed. A. & M. Coll. of Texas, B.S. Ch.E.; m. Velma E., Mar. 10, 1946; ch.: James Frederick, Marshall Everette, Allidah Velma. Oil refinery wk. during coll. career, plant operation alkali plt. 1934-36, tech. operator 1936-37, asst. supt., supt. dry ice & rotary lime kiln plts. 1937-42, asst. mgr., gen. supt. of magnesium & chlorine plts. 1942-44, gen. supt. alkali plant 1944-45, asst. chf. engr., chf. engr., Carbon Dioxide Div., Liquid Carbonic Corp., 1945 to date. Mem.: A.I.Ch.E. Hobby: woodworking.

POOLEY, Marcus James, chf. chem., Hachmeister, Inc., 2332 Forbes St., Pitts., Pa.; res. 102 State St., McKees Rocks, Pa.
Chem.; b. Miner Co., S.D., Dec. 19, 1892; s. of Albert J. and Catherine (Treaster) Pooley; ed. B.S. 1916, Dakota Wesleyan U., Mitchell, S.D.; U. of Ill., 1917-18; m. Agnes Hardman, 1920; ch.: Florence Evelyn, Albert Joseph. 1916-17, Carnation Milk Prods. Co., Oregon, Ill.; 1918, O'Brien Syn. Dye Co., South Bend, Ind.; 1919, Wis. Dairy Prod. Co., Stoughton, Wis.; 1920, Mellon Inst. of Ind. Res., Pitts., Pa.; 1920 to date, Hachmeister, Inc., Pitts., Pa. Hobby: photography.

POPE, Amos H., asst. chf. engr., Southern Oxygen Co. Inc., Bladensburg, Md.; res. 5619 Hamilton Manor Dr., Hyattsville, Md.
Chem.; b. Newsoms, Va., Sept. 25, 1913; s. of Benjamin A. and Adeline (Hart) Pope; ed. Va. Polytech. Inst., Blacksburg, Va., B.S. chem. 1938; mem.: Phi Lambda Upsilon; m. Allene Dixon, Apr. 5, 1949. F.S. Royster Guano Co., Norfolk, Va., asst. chem.; Southern Oxygen Co. Inc., Bladensburg, Md., res. chem.; U.S.A., Capt., C.A.C. (A.A.A.) 4 yrs.; Southern Oxygen Co. Inc., chem., asst. chf. engr. Mem.: A.C.S. Hobbies: fishing, stamp collecting.

POPE, Arthur Charles, v.p. mfg., Ansul Chem. Co., Marinette, Wis.; res. 2712 Taylor St., Marinette.
Chem. engr.; b. Baraboo, Wis., Nov. 17, 1890; s. of Rev. F.P. and Marie (Bender) Pope; ed. B.S., U. of Wis., 1912; mem.: Alpha Chi Sigma, Tau Beta Pi; m. Helen Jewett, Apr. 27, 1918; ch.: E. Jewett, Arthur C., Jr. 1912-30, N.J. Zinc Co. & subsidiaries, var. positions, frmn. to plant supt.; 1930-33, A.O. Smith, Milwaukee, Wis.; 1933 to date, Ansul Chem. Co. (dir.). Mem.: A.I.Ch.E.

PORT, Frederick J., wks. mgr., Solar Corp., 1000 W. Bruce St., Milwaukee, Wis.; res. Box 128, Route 3, Waukesha, Wis.
Chem., mech. engr.; b. Parkston, S. Dak., Oct. 13, 1914; s. of Frederick James and Gretchen Bleser Port; ed. U. of Ill., B.S., 1936; M.I.T., Sc.D., 1939; U. of Chicago, M.B.A., 1946; mem.: Zeta Psi, Phi Lambda Upsilon, Sigma Xi; m. Edith Anne Whitney, Sept. 14, 1940; ch.: Robert Frederick, Thomas Richard. Republic Steel Corp.,

Chicago, hd. combustion engrg. dept., 1939-42; U.S. Army, capt. ordnance dept., 1942-45; Cribben & Sexton Co., Chicago, chf. engr., wks. mgr., 1945-49; Hein-Werner Corp. Waukesha, Wis., gen. mgr., 1949-50; Solar Corp., Milwaukee, Wis., wks. mgr. 1950 to date. Mem. Tech. Advisory Group, gas range requirements (1946-49), chmn., res. com. on gas ranges (1948-49), Amer. Gas Assoc.

PORTANOVA, Mario J., chem. engr. in chg. of prod., Natural Prods. Refining Co., Jersey City, N.J.; res. 8701 Ridge Blvd., Brooklyn, N.Y.
Chem. engr.; b. Naugatuck, Conn., Aug. 5, 1905; s. of Thos. and Julia Portanova; ed. Pratt Inst., Brooklyn, Ch.E.; Polytech. Inst. of Brooklyn B.Ch.E. prize winning thesis "Electrolytic Prep. of Vanadium Oxide"; m. Myrtle Carvell, June 17, 1939. June, 1925-Sept., 1926. Duratex Corp., Newark, chem.; Sept., 1926-Apr., 1930, Robeson Process Co., N.Y.C., chem.; Apr., 1930 to date, Natural Prod. Ref. Co., res. chem., chem. engr. Associated in the dev. of sod. bichromate prod., meth. & related by-prods., al. hydroxide & vanadium oxide. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S., A.I.Ch.E. Club: Chemists' (suburban membership). Hobby: golf.

PORTER, Charles A., dir. proc. dev. div., res. & dev. dept., Pure Oil Co., Crystal Lake, Ill.; res. 137 Dole Ave.
Chem. engr.; b. Seattle, Wash., Dec. 21, 1904; s. of Charles E. and Anna Murray Porter; ed. U. Wash., B.S. Chem. Engrg., 1927; Columbia U., N.Y.C., Chem. Engrg. 1930; mem.: Pi Kappa Phi; m. Marian Rae, Aug. 25, 1939; ch.: Chas. A., Jr. 1930-36 jr. chem. engr., Atlantic Ref. Co., Phila., Pa.; 1936-37 proc. des. engr., Gulf Oil Corp., Pitts., Pa; 1937 to date, chem. engr., res. & dev. dept., Pure Oil Co. 1942-45 actively eng. in govt.-sponsored Wartime Synthetic Rubber Program as mem. tech. comm. of Neches Butane Prods. Co., Port Neches, Texas. Mem.: A.C.S., A.I.Ch.E. Club: Crystal Lake Country.

PORTER, Charles Walter, prof. of chem. (emeritus), U. of Calif.; res. 114 York Ave., Berkeley, Calif.
Prof. of chem. (retired); b. Morgan, Utah, May 16, 1880; s. of Charles G. and Bessie (White) Porter; ed. B.S., Utah State Coll., 1905; A.M., Harvard, 1909; Ph.D., U. of Calif., 1915; m. Alberta Smith, June 26, 1901; ch.: Bessie Alberta, Venna. Prof. of chem., Utah State Coll., 1907-17; lecturer in org. chem., U. of Calif., 1917-18; asst. prof., 1918-20; assoc. prof., 1920-26; prof. since 1926; emeritus, January, 1947. Many contribs. to chem. jls. on res. in org. chem., espec. in fld. of molecular rearrangements. Author: "The Carbon Cmpds." 1924; "The Methods of Org. Chem." (with T.D. Stewart and G.E.K. Branch), 1927; "Molecular Rearrangements," 1928; "General Chem." (with L.E. Young), 1940; "Org. Chem." (with T.D. Stewart), 1943; "The Essentials of Org. Chem." (with T.D. Stewart), 1948.

PORTER, Harold Felton, conslt., engrg. dept., E.I. du Pont de Nemours & Co., 11541 Nemours Bldg., Wilmington 98, Del.; res. 240 Thomas Dr., Wilmington 125, Del.
Chem. engr.; b. Morgan, Utah, Nov. 2, 1911; s. of John R. and Maude (Felton) Porter; ed. U. of Utah, B.S. 1934 (honors); m. Lavon Erickson, May 18, 1937; ch.: William M. 1934-47, chem., plant engr., plant mgr., Wyandotte Chems. Corp., Western Div.; 1947-49 supt. of Soda Prods. Div., Amer. Potash & Chem. Corp.; 1949-50 conslt. engr., Wyandotte Chems. Corp.; 1950 to date conslt., Engrg. Dept., E.I. du Pont de Nemours & Co. Mem.: Tau Beta Pi, A.I.Ch.E., A.C.S., registered chem. engr., California.

PORTER, Lyman E(dwards), assoc. prof. of chem., chem. dept., U. of Ark., Fayetteville, Ark.; res. 211 W. Mountain St., Fayetteville.
Teacher; b. New Haven, Conn., Nov. 7, 1893; s. of Frank C. and Delia (Lyman) Porter; ed. Yale U., B.A. 1916, M.A. 1918, Ph.D. 1920. Chem. Warfare, Wash., D.C. 1918; Barrett Co., res. dept., Edgewater, N.J., 1920-21; U. of Ark., instr., asst. prof., assoc. prof. of chem. 1921 to date. Mem.: Sigma Xi, A.C.S., Alpha Chi Sigma, A.A.A.S., A.A.U.P., Ark. Ed. Assn.

PORTER, William Nichols, Major General, U.S. A., ret., pres., Chem. Construction Corp., 488 Madison Ave., N.Y. 22, N.Y.; res. 18 Hawthorne Rd., Bronxville, N.Y.
Industrialist; b. Lima, Ohio, Mar. 15, 1886; s. of William Harley and Ilva (Nichols) Porter; ed. U.S. Naval Acdy., 1909, B.S.; grad. Army Indus. Coll., Wash., D.C., 1926; distinguished grad. Command & Gen. Staff Schl., Ft. Leavenworth, 1927; Chem. Warfare Schl., Edgewood, Md., 1931; Air Corps Tactical Schl. 1937; Army War Coll., Wash., D.C., 1938; m. Gladys Baxter, July 20, 1910; ch.: William Baxter, Comdr., U.S.N., John Harley (dec.), Margaret Baxter (wife of Commander L.M. Stevens, Jr., U.S.N.). Midshipman, U.S.N., 1905-09, passed midshipman 1910, resigned from Navy, commissioned 2nd Lt., U.S.A., 1910, advanced through ranks to Maj. Gen. 1941; served as Maj., Lt. Col., Col., World War; comd. 30th Artillery, C.A.C. 1918-19; transferred to C.W.S., 1941-45; retired Mar., 1945; pres., Chem. Construction Corp., Jan., 1947 to date. Mem.: N.R.C., chf. C.W.S., conslt. Am. Cyanamid Co., 1946. Mem.: Armed Forces Chem. Assn., Am. Ordnance Assn. Awarded Order of Leopold, Belgium, D.S.M. (U.S.), etc., Comdr. Brit. Empire. Dir., Foundation for Res. in Pulmonary Disease, Inc.; dir., Far East Am. Council of Com. & Indus. Clubs: Army & Navy, Army & Navy Country (Wash., D.C.), Military & Naval (N.Y.), Larchmont Yacht.

POST, Howard William, prof., org. chem., U. of Buffalo, Buffalo 14, N.Y.; res. 94 N. Ellicott St., Williamsville, N.Y.
Faculty mem.; b. Syracuse, N.Y., Sept. 18, 1896; s. of William A. and Edith (Van Wagenen) Post; ed. B.S. in chem., Syracuse U., 1919, M.S., 1921; Ph.D., Johns Hopkins U., 1927; mem.: Acacia, Alpha Chi Sigma, Gamma Alpha, Sigma Xi, Pi Mu Epsilon, Chi Beta Phi; m. Clara Knappenberger, Dec. 20, 1928; ch.: Martha Ann. Instr., Syracuse U., 1920-22; instr. etc., U. of Buffalo, 1923 to date. Aliphatic orthoesters, org. silicon chem. Author: "The Chem. of Aliphatic Orthoesters," A.C.S. Monograph No. 92 (Reinhold Publ. Co.) 1943; "Silicones & other Org. Silicon Cmpds." (Reinhold Publ. Co.) 1949. Mem.: A.C.S. Trustee, Genesee Jr. Coll., Lima, N.Y.; mem., Scholarship Comm., Methodist Home for Children, Williamsville, N.Y.; mem., Bd. of Ed., Genesee Conference, Methodist Church. Hobbies: music, tulips.

POSTE, Emerson P(eck), consltg. chem. engr. (State License No. 550), 309 McCallie Ave., Chattanooga 3, Tenn.; res. 3810 Redding Rd., Chattanooga 5.
Consltg. chem. engr. b. Naples, N.Y., July 6, 1888; s. of Rev. Z.A. and Nellie P. Poste; ed. Carnegie Inst. of Tech., B.S. in chem. engrg. 1910 (hon.), chem. engrg., 1918; mem.: Tau Beta Pi, Keramos; m. Irma B. Bixler, Sept. 9, 1912; ch.: Dorothy B. (Poste) Cook, Edward A., Eleanor G. (Poste) Gager. 1910-12, instr. chem., Carnegie Inst. Tech.; 1912-25, dir. of labs., Elyria Enameled Prod. Co. & Elyria Div., Pfaudler Co., Elyria, Ohio; 1925-30, chem. engr., factory mgr. 1929, Chattanooga Stamping & Enameling Co., Chattanooga, Tenn.; 1930 to date, owner com.

chem. lab. & private practice consltg. chem. engr.; 1942 to date, dir. (part time), Bur. of Air Pollution Control & Boiler Inspection; City of Chattanooga. Res., factory control & design vitreous enameled processing equip.; same for enameled jobbing prods.; investigation of stream & air pollution; carbonated beverages; metallurgy & metallography cast iron & carbon steel; micology. Num. publs. in ceramic & chem. engrg. journals. Mem.: A.C.S., A.I.Ch.E., Am. Ceramic Soc. (past pres., fellow), A.S.T.M., Inst. of Ceramic Engrs., Chattanooga Engrs. Club (past pres.), Natl. Soc. of Prof. Engrs., A.A.A.S. Clubs: Chattanooga Golf & Country, Rotary. Hobby: golf.

POTTER, Rowland S., conslt. to photographic indus.; res. 27 Linwood Ave., Newton, N.J.
Res. chem., specializing in photographic indus.; b. England, Mar. 23, 1878; s. of Sidney Paul and Grace Potter; ed. Finsbury & Central Tech. Coll., London, England, A.C.G.I.; m. Lillian Brown, Sept., 1910. Private res., A.H. Harmon founder of Ilford, Ltd.; res. chem., Ilford, Ltd.; chem. in control, Defender Dry Plate Co., Wayne Junction, Phila., & tech. control, Defender Photo Supply Co., Rochester; v.p., Am. Photo Chem. Co., Rochester, N.Y. & Verona, N.J.; v.p., tech. dir., Defender Photo Supply Co., Rochester, N.Y.; res. dir. & conslt., Remington Rand, Newton, N.J. Res. wk. for Defender Co. Num. booklets on photographic matl. & processes for Defender. Mem.: Photographic Soc. of Am. (former v.p.; chmn. of 1st tech. sec., awarded F.P.S.A.), Optical Soc., Soc. Phot. Engrs., Royal Phot. Soc., Soc. Motion Pict. Engrs. Hobby: playwriting.

POTTER, Van Rensselaer, prof. of oncology, U. of Wis., Madison, Wis.; res. 167 N. Prospect Ave., Madison.
Biochem.; b. Day Co., S.D., Aug. 27, 1911; s. of Arthur Howard and Evangeline Potter; ed. 1933 B.S., high hon., S.D. State Coll.; 1936 M.S., 1938 Ph.D., U. of Wis.; m. Vivian Christensen, Aug. 3, 1935; ch.: Karin, John, Carl. Natl. Res. Council Fellow, Stockholm, 1938-39; Rockefeller Travelling Fellow 1939-40, Sheffield, Chicago; Jonathan Bowman Fellow 1940-42, U. of Wis.; asst. prof., 1942-45, assoc. prof., 1945-47, prof., 1947 to date, U. of Wis. Oxidative enzymes in normal & cancer tissue. Author: "Methods in Medical Res." Vol. I, editor, 1948; "Enzymes Growth & Cancer" 1950. Award: Paul-Lewis in Enzyme Chem. 1947. Mem.: Sigma Xi, Am. Soc. Biol. Chem., Am. Assn. Cancer Res., A.C.S.

POTTS, Ralph Harrison, tech. dir., Chem. Div., Armour & Co., Chicago, Ill.; res. 1355 W. 31st St., Chicago.
Chem. engr.; b. Reading, Pa., July 31, 1900; s. of J. Nelson and Mary R. (Himmelberger) Potts; ed. Lehigh U., Bethlehem, Pa., Ch.E.; m. Nancy Anne Gray, Sept. 6, 1924; ch.: Jack G., Robert A. Sinclair Oil Co., dev. engr., 1922-23; Armour & Co., plant supervision & dev. wk. soap, oil, fats, 1923 to date. Pats. & publ. fat chem. fld. especially fatty acid fractionation. Mem.: A.O.C.S., A.I. Ch.E. Pres. Bd. of Ed. District 105, Cook Co., Ill.; Plan Comm., Village of La Grange, Ill. Hobbies: fishing, model railroading.

POTTS, William McDaniel, prof., chem. dept. A. and M. Coll., Texas, Coll. Sta., Texas.; res. 210 Lee Ave., Coll. Sta.
Prof. chem.; b. Colony, Kans., Apr. 26, 1892; s. of Jacob H. and Nancy C. Agnew Potts; ed. B.S. U. Chicago, 1921; M.S., 1927; Ph.D., 1937; m. Eris Gustavus, Nov. 26, 1929; ch.: William Eugene, Robert Charles. Hannibal, Mo., High Schl., 1922-24; Butte, Mont. High Schl., 1924-26; A. and M. Coll. Texas, instr., 1926-35; asst. prof., 1935-37; assoc. prof., 1937-38; prof., 1938; res. prof., Texas Engrg. Exp. Sta., 1940-41; conslt. 1947-50 Texas A. and M. Res. Foundation; res. in exam. carbon tetrachloride extracts of marine sediments, drying oils, fat anal., ferric chloride catalyzed reactions, phenols, org. acids, perozide effect, chromatography. Mem.: A.C.S., A.I.C. (fellow), A.O.C.S., A.A.A.S., A.A.U.P., Sigma Xi.

POUCHAIN, Rene Augustin, chf. chem., Tasty Baking Co., 2801 Hunting Pk. Ave., Phila., Pa.; res. 8228 Cadwalader Ave., Elkins Pk., Pa.
Food tech.; b. Jan. 23, 1894, Salem, Mass.; s. of Rene and Martha Stevens Pouchain; ed. S.B., M.I.T. 1917; m. Adelaide Greene, Apr. 18, 1917; chg. res., contr. lab. Tasty Baking Co., 1917 to date. Mem.: A.C.S., I.F.T., A.A.C.C. Club: MI.T. (Phila.). Hobbies: gardening, photography.

POUNDSTONE, Albert Bruce, univ. prof., hd. dept. feed and fertilizer, Ky. Agr. Expt. Sta.; res. 130 Hamilton Park, Lexington 39, Ky.
Univ. prof.; b. Grand Ridge, Ill., July 29, 1906; s. of Robert W. and Edith (Northrup) Poundstone; ed. Knox Coll., Galesburg, Ill., 1924-26; Colo. Agr. Coll., B.S., 1928; U. of Ky., M.S., 1931; m. Myra Shipp, Aug. 13, 1932; ch.: Robert Bruce, John Walker. 1927-29, res. asst. in farm mgmt., Colo. Agr. Expt. Sta.; 1929-34, asst. in farm mgmt., Ky. Agr. Expt. Sta.; 1936-42, fld. agent in farm mgmt., Ky. Agr. Extension Serv.; 1942-43, asst. to the dir., Ky. Agr. Extension Serv.; 1943-45, Ky. State Farm labor supvr.; since 1946 hd. dept. feed and fertilizer, Ky. Agr. Expt. Sta.; land planning conslt., Natl. Resources Bd., Ky. State Planning Bd., 1934-35; regional staff, Resettlement Adminis., Raleigh, N.C. 1935-36. Author bulletins and reports; contrib. arts. on agr. subjs. pertaining to agr. economics, land use and feed and fertilizer control to jls. and off. publs. Mem.: Amer. Farm Economic Assoc., Assoc. Am. Feed Control Officials (pres. 1949-50), Am. Assoc. Fertilizer Control Officials (mem. exec. comm.), Ky. Acdy. of Sc., Assoc. Southern Feed Control Officials (sec.-treas. since 1946); Sigma Alpha Epsilon, Phi Mu Alpha. Mem. of Christian Church (mem. official bd.). Club: Optimist Internat. Hobby: Boy Scout work.

POWELL, Alfred Richard, assoc. mgr. res., Koppers Co. Inc., Koppers Bldg., Pitts. 19, Pa.; res. 57 Sunnyhill Dr., Pitts. 16.
Chem. engr.; b. Athens, Ohio, Feb. 1, 1891; s. of Wm. A. and Marie (Montzheimer) Powell; ed. U. of Kans., B.S., 1914; U. of Nebr. A.M., 1915; U. of Ill., Ph.D., 1918; mem.: Alpha Chi Sigma, Sigma Xi, Gamma Alpha, Phi Lambda Upsilon; m. Maribelle Skinner, Sept. 4, 1919; ch.: Norma, Virginia, Maribelle. U.S. Bur. of Mines, res. chem., 1919-23; Koppers Co. Inc., chem. engr., assoc. mgr. res. 1923 to date. 2nd Lt., C.W.S., U.S.A., 1918-19; mem. Tech. Oil Mission, C.I.O.S., Germany, 1945; Army Air Force Intelligence 1943 (conslt.). Mem.: A.C.S. (chmn. gas & fuel div. 1937), Am. Inst. Min. Engrs., Am. Gas Assn., Soc. Chem. Ind., Faraday Soc., Engrs. Soc. West Penn., Am. Coke & Coal Chem. Inst., East. States Blast Fce. & Coke Oven Assn. Hobbies: travel, gardening, photography.

POWELL, Eugene Loren, asst. dir. of res., Am. Maize Prods. Co., Roby, Ind.; res. 10501 S. Christiana Ave., Chicago 43, Ill.
Chem.; b. Hallsville, Mo., Nov. 19, 1913; s. of Fabian E. and Maud H. Powell; ed. U. of Mo., A.B. 1938, A.M. 1939, Ph.D. 1942; mem.: Alpha Chi Sigma, Gamma Alpha; m. Helen M. Ruskamp, Aug. 14, 1943; ch. Edith Virginia. U. of Mo., res. asst. 1938-41, asst. instr. 1941-42; Army of U.S., Nutrition Officer, 1st Lt. to Major, 1942-46; Am. Maize Prods. Co., res. chem., 1946-49, asst.

dir. of res., 1949 to date. Res. in food chem. & nutrition; animal & human nutrition; anemias of amino acid & vitamin deficiencies; ind. proteins & carbohydrates. Mem.: A.C.S., A.A.A.S., A.I.C., Sigma Xi.

POWELL, George Matthews, III, tech. hd., Vinyl Coatings Res., Union Carbide & Carbon Corp., So. Charleston 3, W.Va.; res. 302 Harris St., S.W.
Res., dev., chem. engr.; b. Montgomery, Ala., Mar. 29, 1910; s. of Geo. M., and Augusta Holmes Powell, Jr.; ed. Columbia U., N.Y.C., A.B. 1931; B.S. 1932, Ch.E. 1933; mem.: Sigma Xi, Tau Beta Pi, Phi Lambda Upsilon, Phi Kappa Sigma; m. Mary Elizabeth Glover, June 5, 1937; ch.: Rebecca Carew, Geo. M. Powell, IV. Res., dev. dept., Carbide & Carbon Chems. Corp., Aug., 1933; res. on surface coatings based on vinyl type synthetic resins; tech. hd. coatings div., res. & dev. dept., 1944 to date. Co. changed to a div. of Union Carbide & Carbon Corp. 1950. Patents, in field of vinyl, coatings tech.; John Wesley Hyatt Award rec. for 1949 for wk. on vinyl dispersion coatings. Mem.: A.I.Ch.E., A.C.S.

POWELL, Jerome V., gen. mgr., dev., Oronite Chem. Co., 38 Sansome St., San Francisco, Calif.; res. 275 Telegraph Hill Blvd., San Francisco.
Chem. engr.; b. Kraluv Dvur, Bohemia, July 11, 1915; s. of Bedrich and Eleanor Ruzickova Powell; ed. B.S. (hon.), E E., Inst. Tech., Prague, Czechoslovakia (1933-38); 1938-40, grad. study (physics) U. of Calif. (Rockefeller Fellowship); m. Virginia Foulds, Sept. 4, 1940; ch.: Linda Elizabeth. 1940-41, Gen. Elec. Co., Schenectady, N.Y., engr.; 1941-47 Stand. Oil Co. Calif., San Francisco, design engr., later proj. engr.; 1947 to date, Oronite Chem. Co., engr., since Mar., 1949, gen. mgr. dev. Mem.: A.C.S., A.I.Ch.E. Club: Olympic (San Francisco). Hobbies: Tennis, skiing, photography.

POWELL, Milton Edward, dir. of res., Knudsen Creamery Co., 1974 Santee St., Los Angeles 11, Calif.; res. 3448 Buena Vista Ave., Glendale 8, Calif.
Dairy chem.; b. St. Joseph, Mo., May 10, 1902; s. of Milton C. and Ella C. Powell; ed. 1926, U. of Ill., B.S. in agr.; 1930, U. of Mo., M.A.; 1934, U. of Minn., Ph.D. in agr. biochem.; mem.: Farm House; m. DeEtta I. Greer, Aug. 28, 1926; ch.: Edward G. Abbotts Dairies, Inc., Cameron, Wis., chem. in chg. of res. & control labs. 1935-40; Knudsen Creamery Co., Los Angeles, Calif. 1940-41, chem. in chg. res. & control; U.S.A. 1941-45; Knudsen Creamery Co., Los Angeles, 1946 to date, dir. of res. Mem.: Gamma Sigma Delta, Sigma Xi, A.C.S., A.A A.S., I.F.T. Club: Rotary. Hobbies: stamp collecting, model railroading.

POWELL, Parker Preston, prof. of chem., Ala. Poly. Inst., Ross Chem. Lab.; res. 126 W. Glenn Ave., Auburn, Ala.
Chem.; b. Yantley, Ala., Nov. 12, 1888; s. of Charles W. and Nancy (Phillips) Powell; ed. Ala. Poly. Inst., B.S., M.S.; mem.: Theta Chi; m. Sue Graham Rothrock, Aug. 12, 1913; ch.: Parker P., Jr. Ala. Poly. Inst. instr. 1912-13, asst. prof. chem. 1913-19, assoc. prof. chem. 1919-35, prof. chem. 1935 to date. S.A.T.C. at A.P.I. during W.W. I. Mem.: A.C.S., A.A.U.P., Phi Lambda Upsilon. Hobbies: mineral collections, fishing.

POWER, Henry R., mgr. of labs., Carborundum Co., Buffalo Ave., Niagara Falls, N.Y.; res. 1020 James Ave., Niagara Falls.
Chem.; b. Sept. 15, 1888; s. of William and Honora Power; ed. B.S. & M.S., Worcester Polytech. Inst.; mem.: Cosmopolitan Club; m. Mary Genevieve Morrison, June 3, 1918. Instr. in chem., Worcester Polytech. Inst.; wks. chem., Carborundum Co., Niagara Falls, mgr. of labs., Carborundum Co. Mem.: Sigma Xi, A.C.S., Am. Ceramic Soc., A.S.T.M. Dir., Hospital Service Corp., Western N.Y.; trustee, Mt. St. Mary's Hospital, Niagara Falls. Hobby: gardening.

POWER, James Thomas, retired (form. dir. dev. Atlas Powder Co.), Wilmington, Del.; res. 2608 W. 17 St., Wilmington.
Chem. engr.; b. Worcester, Mass., June 25, 1884; s. of William and Honora Ahaesy Power; ed. Worcester Polytech. Inst., 1907, S.B.; m. Loretta Morrison, June 30, 1914; ch.: William F., Frank J., Mary Elizabeth, Paul F. E.I. du Pont de Nemours, 1907-12 chem., supvr. Acids, Expl. plants; Atlas Powder Co., 1913-49, mgr. expl., lacquer, coated fabrics wks. Mem.: U.S. Ordn.—Atlas Powder Comm. 1917 to England investigate Freeth proc. making nitrate ammonia. Ch. design and constr. U.S. nitrate ammonia plant, Perryville, Md. 1918; dir. res., dev. 1930-43; mgr. U.S. Ordn. plant, Ravenna, Ohio, shell, bomb loading 1942-44; dir. dev. dept. 1944-49. Dir. design, constr. U.S. ammonium nitrate plant 1918, Perryville, Md. 300 tons per day by Freeth Proc., dir. res. leading prod. of polyhydric alcohols-mannitol & sorbitol. Mgr. Ravenna Ordn. Plant 1942-44. Mem.: A.C.S., A.I.Ch.E., S.C.I. (Eng.); dir. Wilmington Build. & Loan Assn. Club: Wilmington Country. Hobbies: golf, gardening, antiques.

POWERS, Donald H., dir. of res., Richard Hudnut, 111 W. 18 St., N.Y.C.; res. Darien, Conn.
Res. dir.; b. Boston, Mass., Mar. 31, 1901; s. of A. Howard and Josephine (Odell) Powers; ed. Boston U., A.B., Princeton U., A.M., Ph.D.; mem.: Sigma Alpha Epsilon; m. Margaret Lathrop Sale, Feb. 12, 1925; ch.: Beatrice Wolverton, Donald Howard, Jr., Jonathan Goble, Robert Thayer. Res. chem., E.I. du Pont de Nemours & Co., 1924-29; chf. chem., U.S. Finishing Co., 1929-32; chf. textile dept., Rohm & Haas, 1932-43; dir. of textile chem. dept., Monsanto Chem., 1943-49; dir. of res., Richard Hudnut, 1949 to date. Mem.: A.C.S., A.A.A.S., A.A.T.C.C., A.A.T.A., A.S.T.M. Dir., Textile Res. Inst.; tech. advisor, Natl. Res. Council, Advisory Bd. on Quartermaster Res. & Dev.; advisor to Overseers, dept. of biology, Harvard U. Hobby: sailing.

POWERS, Justin Lawrence, chmn. Comm. on Natl. Formulary & edit. Sc. Edition, Journal of Am. Pharmaceutical Assn., 2215 Constitution Ave. N.W., Wash. 7, D.C.; res. 833 S. Barton St., Arlington, Va.
Pharmaceutical chem.; b. Tekonsha, Mich., Mar. 12, 1895; s. of Norman L. and Eva (Mills) Powers; ed. U. of Mich., B.S. 1924, M.S. 1927; U. of Wis., Ph.D. 1935; mem.: Delta Tau Delta, Phi Delta Chi, Kappa Psi (hon.); m. Gladys L. Laufman, Dec. 22, 1917. Wash. State Coll., instr., Schl. of Pharmacy, 1919-23; pharmacist, U. of Mich. Health Service, 1923-24; asst. prof. of pharmacy, Ore. State Coll., 1924-26; instr., Coll. of Pharmacy, U. of Mich. 1926-31, asst. prof. 1931-40; chmn., Comm. on Natl. Formulary, dir., A. Phar.A. Lab., Edit., J. Am. Phar. Assn., Sc. edit., edit., Bull. Natl. Formulary Comm. Publ. papers on syn. medicinal chem., anal. chem., chem. of plant prods., & official drug stand. in the J. Am. Phar. Assn., J. Am. Chem. Soc., Ind. Eng. Chem., Phar. Archiv., Bull. Natl. Formulary Comm., Food Drug Cosmetic Law Quarterly. Mem.: A.Phar. A., A.C.S., A.A.A.S. (fellow), Comm. on Glass & Glass Prod., A.S.T.M., Rev. Comm. U.S.P., Comm. on Purity of Chem. Prod., Natl. Res. Council, Delegate & Hd. of U.S. Delegation to First Pan-American Congress of Phar.; hon. or

corres. mem. of: l'Academie de Pharmacie, France; Assn. Farmeceutica Nacional, Nicaragua; Academia Nacional de Farmacia, Brazil; Instituto Brasileiro de Historia da Medicina e Sienias Afins; Sociedade Brasileira de Quimica; Colegio de Farmaceuticos, Rosario, Argentina; College des Pharmaciens de la Province de Quebec; Rho Chi (hon. phar.), Phi Lambda Upsilon (hon. chem.), Sigma Xi (hon. sc.), Phi Sigma (hon. biol.).

POWERS, Paul O., tech. advisor, Battelle Inst., Columbus 1, Ohio, res. 5090 Olentangy River Rd., Columbus 2.
Res. chem.; b. Boston, Mass., Mar. 26, 1897; s. of A. Howard and Josephine S. Powers; ed. Boston U., A.B. 1919; U. Pittsburgh, M.S. 1922; Ph.D. 1924; mem.: Sigma Alpha Epsilon, Alpha Chi Sigma; m. Helen S. Fleischner, Apr. 10, 1918; ch.: Richard H., Mrs. Priscilla P. O'Brien. Mellon Inst., 1923-26; Calco Chem. Co., 1926-28; Newport Industries, Pensacola, Fla., 1928-36, res. chem.; Armstrong Cork Co., chf. chem., org. res. 1936-46; Battelle Inst., 1946 to date, tech. advisor. Res. in basic dyestuffs, purification, utilization of wood-resin, turpent., study of binders for linoleum, asphalt tile, drying oils, synth. rubber, plastics. Author. "Synthetic Resins & Rubbers" 1943. Mem.: Phi Lambda Upsilon, Sigma Xi; chmn. Southeastern Pa. Sect., A.C.S., 1945, Columbus, O. Sect. 1945-49; chmn., P.V.P. div. A.C.S. 1947-48. Hobbies: bridge, golf.

POWERS, Treval Clifford, mgr. basic res., Portland Cement Assn., 33 W. Grand Ave., Chicago, Ill.; res. 413 S. Lincoln St., Hinsdale, Ill.
Res.; b. Palouse, Wash., Feb. 8, 1900; s. of A. Clifford and Hattie Smith Powers; ed. Ore. St. Coll. 1921-23; Willamette U. 1925, B.A., M.I.T. 1936; m. Trista Wenger, 1925; ch.: William T., Alice R. Chem., Ore. St. Hy. Comm. 1925-27; concrete tech., Portland, Ore., 1927-28; res. chem. Beaver Portland Cement Co., Gold Hill., Ore. 1929; Portland Cement Assn., Chicago, assoc. engr. 1930-34; asst. to dir. res. 1934-40; mgr. basic res. 1940 to date. Contrib. extens to sc. and tech. jls. Mem.: Highway Res. Bd., A.C.S., Am. Concrete Inst., Faraday Soc., A.A.A.S., Wason Res. M.(A.C.I.), 1932, 1945, 1948.

POWICK, Wilmer C(hrisman), sr. biochemist, Agr. Res. Center, Beltsville, Md.; res. 4704 Drummond Ave., Chevy Chase 15, Md.
Biochemistry; b. Dauphin, Pa., July 4, 1886; s. of William D.D., and Alice Chrisman Powick; ed. Penn. State Coll., B.S. 1907; Phi Kappa Phi; m. Victoria May Smith, Sept. 6, 1919; ch.: Alice Victoria (Mrs. Pierre Gadol), William Curtis. With U.S. Bur. of Animal Industry continuously since July, 1907, except for mil. serv. 1st lieut. and capt., Sanitary Corps, U.S.A., Sept., 1917-Aug., 1919. Res. in cold storage of meat; rancidity of fats; hog cholera virus; nutrition of pigs with particular ref. to vitamin and amino acid requirements. Mem.: A.C.S., A.I.C. (fellow). Hobbies: tennis, gardening, carpentry, choir.

PRAGOFF, Emile, Jr., supvr. rosin sales, naval stores dept., Hercules Powder Co., Wilmington, Del.; res. Millcreek Rd., R.D. 1, Hockessin, Del.
Chem.; b. Nov. 11, 1907; s. of Emile, Sr. and Olive Gorin Pragoff; ed. B.S. 1927, U. Louisville; M.S., 1929; mem.: Delta Sigma, Theta Chi Delta; m. Mary Forrest, Feb. 5, 1938; ch.: Emile, III, George Forrest. Hercules Powder Co., 1929 to date, res. chem. 1929-39; rosin sales supvr., 1945 to date. Res. in foundry sands, core, molding sand raw matls. Clubs: Del. Federation of Sportsmen & Conservation Clubs; Church, Hercules Country, Wilmington Power Squadron. Hobbies: Wildlife restoration, hunting, fishing, breeding dogs.

PRAHL, Walter H., dir. of res. & dev., Durez Plastics & Chem. Inc., N. Tonawanda, N.Y.; res. 220 Washington Highway, Buffalo 21, N.Y.
Chem. & chem. engr.; b. Moelin i. Lbg., Germany, Feb. 17, 1902; s. of August and Marie (Brandt) Prahl; ed. Universities Kiel, Leipzig, Heidelberg; Ph.D., Heidelberg, Germany, Feb. 15, 1927; m. Gertrude Unkelbach, Feb. 15, 1927; ch.: Helmut, Henry. 1925-37, Dr. F. Raschig, Gmb. H. Ludwigshafen am Rhein, Germany, asst., to Dr. F. Raschig, res. chem., hd. of sc. lab.; 1937 to 1941, Durez Plastics & Chem. Inc., N. Tonawanda, N. Y., consltg. chem. engr., 1949 to date, dir. of res. & dev. Postulation & proof of constitution of aldehyde & ketone bisulfites as oxysulfonic acids; contrib. to sc. jls. invention of Raschig phenol process described in 5 U.S. pats. & foreign pats. Mem.: A.C.S. Club: Trap & Field (Buffalo). Hobbies: photography, hunting.

PRANGE, Charles H., pres., Austenal Labs. Inc., 224 E. 39th St., New York 16, N.Y.; res. 10 Park Ave., New York 16, N.Y.
Exec.; b. N.Y.C., Feb. 25, 1892; s. of Herman and Sophie (Koster) Prange; ed. Stevens Inst. Tech., M.E. (Hoboken, N.J.); m. Constance Erdle, Nov. 27, 1919; ch.: Paula Klingensmith, Carol Drake. 1914-15, Weber Elec. Co.; 1915-17, Gen. Elec. Co.; 1917-19, U.S. Steel Corp.; 1920-26, Weber Elec. Co.; 1926-28, Erdle & Prange; 1928 to date, Austenal Labs. Inc., pres. Received "Modern Pioneers Award" plaque, Feb., 1940, from Natl. Assoc. of Mfrs. Author: "Stainless Steel in Dentistry," 1927; "Lifting Gear for Engine Room of Ship," 1919; "Plastics in Dentistry," 1926. Mem.: Amer. Soc. Mech. Engrs., A.S.M., Am. Ordn. Assoc., Federal Union, Friends of the Land. Club: Chemists'. Hobbies: farming, horseback riding.

PRASCHAN, Vernon C., process control engr., Snow Crop Marketers Div., Clinton Foods, Inc., Dunedin, Fla.; res. 507 Lincoln Ave., Clearwater, Fla.
Chem. engr.; b. Elkton, Mich., May 28, 1905; s. of Charles A. and Julia (Orth) Praschan; ed. U. of Mich., B.S.E. (Ch.E.); mem.: Sigma Rho Tau; m. Luetta May Baker, Dec. 31, 1928; ch.: Duane G., Eugene A., Neil E., Philip C., Corinne M. Chf. chem., Sebewaing (Mich.) plant, Mich. Sugar Co., 1932-37; chf. chem. engr., Clinton Foods, Inc., Clinton, Iowa, 1937-48; process control engr., Snow Crop Marketers Div., Clinton Foods, Inc., Dunedin, Fla., 1948 to date. Mem.: A.I.Ch.E., I.F.T.

PRATER, Arthur N., dir. res., Gentry Inc., 837 N. Spring St., Los Angeles, Calif.; res. 4734 Ventura Canyon Ave., Sherman Oaks, Calif.
Chem.; b. Arena, N. Dak., Oct. 22, 1909; s. of William J. and Cora E. Prater; ed. U. Calif. at Los Angeles, B.A. 1932; Calif. Inst. Tech., M. S., 1933; Ph.D., 1935; m. Thelma MacFarlane, Nov. 7, 1936; ch.: Nowland R. Gentry, Inc., mem. bd. dirs. Mem.: A.C.S., A.A.A.S., A.O.C.S., I. F.T.

PRATT, Carl D., tech. div., indust. chems. dept., Atlas Powder Co., Wilmington 99, Del.; res. 315 N. Matlack St., West Chester, Pa.
Chem.; b. Phila., Penn., Feb. 21, 1897, s. of Charles and Anna L. (Davis) Pratt; ed. West Chester, Pa., H.S., 1914; Swarthmore Coll., B.A. (major-chem. engrg.), 1918; mem.: Phi Delta Theta, Sigma Xi; m. Emily B. Wallace, Sept. 14, 1920; ch.: John Marshall, Charles Edward, Anne Wallace. 1918-25 res. and explosives chem.,

Reynolds Exptl. Lab., Atlas Powder Co.; 1925-30, in chg. dynamite and black powder dev., same co.; 1930-45, dir. of Reynolds Expt. Lab., Atlas Powder Co., Tamaqua, Pa.; 1945 to date dir., Tech. Div., Indust. Chems. Dept., same co.; res. on gaseous prods. of explosion from commercial explosives under practical blasting conditions. Mem.: A.C.S., A.I.Ch.E., I.F.T., Armed Forces Chem. Assoc., Comm. Chem. Devel. Assoc., Franklin Inst., Sigma Xi. Club: West Chester Golf and Country (West Chester, Pa.). Hobby: golf.

PRATT, J.H., dir., chmn. finance comm., Liquid Carbonic Corp., 3100 S. Kedzie Ave., Chicago, Ill.; res. 937 Fair Oaks Ave., Oak Park, Ill.
Chem. engr., exec.; b. Bridgewater, Mass., May 19, 1890; s. of Lyman A. and Alice V. (Harden) Pratt; ed. M.I.T., S.B. 1912, M.S. 1913; m. Priscilla A. Ryder, Sept. 1, 1915; ch.: Ryder. Liquid Carbonic Corp., jr. engr. 1913-18, gen. supt. 1918-21, asst. v.p. 1921-30, v.p. 1930-42, exec. v.p. 1942-49, chmn. finance comm. 1949 to date. Liberty Natl. Bank of Chicago, dir.; Protection Mutual Fire Ins. Co., dir. Mem.: A.S.M.E. Dir., Y.M.C.A., Employers Assn. Clubs: University, Oak Park Country. Hobbies: travel, golf, amateur movies.

PRATT, Ward E., chem. conslt., corrosion engr., Worthington Pump & Machinery Corp., Harrison, N.J.; res. 95 Washington St., East Orange, N.J.
Chem. & corrosion engr.; b. Nunda, N.Y., Feb. 22, 1890; s. of Chas. E. and Cora L. (King) Pratt; ed. Cornell U., M.E. 1914; m. M. Marguerite Tuttle, June 22, 1916; ch.: Shirley Mary, Grace May (dec.), Mildred Arlene (dec.). Sill Stove Wks., Rochester, N.Y., heating engr., 1914-18; U.S.A. Ordnance Dept., 1918; U. of Ill., res. assoc., 1919; Duriron Co., Inc., secy., gen. sales mgr., 1920-34; Worthington Pump & Machy. Corp., 1934 to date. Galvanic corrosion, Electrochem. Soc. papers; edit., Worthite News. Mem.: A.I.Ch.E., Electrochem. Soc., Natl. Assn. of Corrosion Engrs. Club: Essex Fells Country (Essex Fells, N.J.). Hobbies: golf, writing.

PREBLUDA, Harry J., mgr. spec. prod. sales, U.S. Indust. Chem., Inc., 60 E. 42 St., N.Y.C., N.Y.; res. 3 Belmont Circle, Trenton, N.J.
Biochem.; b. Fall River, Mass., May 19, 1911; s. of Barney and Esther Prebluda; ed. 1932 B.S. (magna cum laude) R.I. St. Coll.; 1933 M.S. Chem. 1937 Ph.D. Biochem., Johns Hopkins U.; mem.: Alpha Epsilon Pi; m. Renetta Berkman, June 16, 1946. Asst. instr. chem., R.I. St. Coll., 1932-33; instr. chem., 1933-35; Eli Lilly fellow, Johns Hopkins U. 1935-37; conslt. chem., U.S. Indust. Alcohol Co., Baltimore, 1937-38; Res. Corp. Fellow, Johns Hopkins U., 1937-38; Dev. Biochem., U.S. Indust. Chem., Inc., 1938-44; mgr. spec. prod., 1944 to date. Res. in chem., microbiol. tests for vitam., feeding, value of fermentation by-prod., amino acids, physiology of egg prod., marking indust. wastes. Author: "An Introd. to Organ. Chem." 1935, section on vitam. "Handbook of Chem. and Physics." Mem.: A.C.S., A.A.A.S., I.C., N.Y. Acdy. Scs., World Poultry Sc. Assn., N.F.C.C.; Phi Kappa Phi, Sigma Xi, Tau Kappa Alpha; Trenton Symphony Orch. Clubs: Johns Hopkins (Baltimore), Chem. (N.Y.C.). Hobbies: photography, writing, music, painting.

PRENTISS, Augustin Mitchell, Brig. Gen., U.S.A. (ret.), pat. counsel, Niles-Bement-Pond Co., Charter Oak Blvd., W. Hartford, Conn.; res. 115 Girard Ave., Hartford, Conn.
Pat. counsel; b. Chapel Hill, N.C., Jan. 4, 1890; s. of Augustin and Minnie (Whaley) Prentiss; ed. George Washington U., B.S., C.E., Ph.D. physical chem.; m. Anne R. Hull, June 6, 1914; ch.: Augustin M., Jr., Anne R. (Prentiss) Cruse. Chf. of Offense Div., C.W.S., A.E.F. France, 1917-19, W.W. I; chf. of tech. div., C.W.S., War Dept., 1919-21; asst. prof. mech. engrg., Geo. Wash. U., 1923-26; tech. dir., Edgewood Arsenal, Md. 1927-30; res. assoc., Bur. of Stand., 1932-35; chf. of adm. div., Edgewood Arsenal, 1936-37; chem. officer, Panama Canal Dept., 1937-39; chem. officer, asst. chf. of staff, Sixth Corps Area, Chicago, 1940-41; commanding officer, Pine Bluff Arsenal, 1941-45; asst. chf. of C.W.S., 1945-46; dir. of res., Hartford-Empire Co., Hartford, Conn., 1946-47; pat. counsel, Niles-Bement-Pond Co., Hartford, Conn., 1947 to date. Adm. & direction of res. program of C.W.S., U.S.A. Author: "Chemicals in War" 1937; "Civil Air Defense" 1941. Mem.: A.C.S., A.S.M.E., A.A.A.S., N.Y. Acdy. Sc., Armed Services Chem. Assn. Awards: Army Distinguished Service M., Army Legion of Merit, French Legion of Honor. Clubs: Army & Navy (Wash., D.C.), Hartford Golf (Hartford, Conn.).

PRENTISS, Spencer S., assoc. dir. of res., Phillips Pet. Co., Bartlesville, Okla.; res. 1201 Osage Ave., Bartlesville.
Chem.; b. Wash., D.C., Dec. 14, 1905; s. of Spencer B. and Barbara W. Prentiss; ed. Geo. Washington U., B.S. with distinction; M.I.T., Ph.D.; mem.: Alpha Chi Sigma. Res. assoc., M.I.T. 1931-34; Linde Air Prods. Co., res. chem., 1934-36; du Pont, pat. liaison, 1936-42; O.S.R.D., tech. aide, 1942-46; Phillips Pet. Co., 1946 to date. Mem.: A.C.S., A.A.A.S. Hobbies: music, golf.

PRESCOTT, Charles J., Jr., pres., Bennett Inc., 678 Massauchusetts Ave., Cambridge 39, Mass.; res. 811 Neponset St., Norwood, Mass.
Chem. mfr.; b. Cambridge, Mass., Jan 10, 1905; s. of Charles J. and Evelyn M. Prescott; ed. Milton Acdy., 1915-21; Harvard Coll., 1921-25; Harvard Grad. Schl. of Business Admin., 1925-28, B.S.-M.B.A.; m. 1st, Beatrice Gardiner, Nov. 6, 1926 (dec. 1932); m. 2nd, Gretchen Adams McGregor, May 17, 1948; ch.: Beatrice (Prescott) Goodman, Jayne. Bennett Incorporated, v.p., 1932-40, treas., 1935-40, dir., 1940-43, pres., 1943 to date; Amer. Cyanamid Co., sales representative 1940-43; dir. Bennett (Hyde) Ltd., England; dir. Bennett Ltd., Canada; treas. and dir., Eaton Appliance Corp.; pres. and dir., Mfg. Improvement Corp.; dir., Park Neponset Corp. Development of wax emulsions for use in paper sizing. Norwood Hospital, Norwood, Mass., treas., 1937-47; v.p., 1947-50; pres. 1950 to date. Clubs: Harvard (N.Y.C.), Dedham Country and Polo, Rancheros Visitadores. Hobbies: riding, philately.

PRESCOTT, John S., supt. plant and equipment, The Sherwin-Williams Co., Cleveland, Ohio; res. 18900 So. Woodland Rd., Cleveland 22, Ohio.
Supt.; b. Cleveland, Ohio, April 21, 1902; s. of Orville and Eda Prescott; ed. Williams Coll., 1924; mem.: Psi Upsilon; m. Iris M. Houston, July 10, 1943; ch.: John, Jr., Jane, Patricia, Victoria. Genl. supt., Plant No. 1, The Sherwin-Williams Co., 1925-36; asst. mgr. mfg., same co., 1936-42; Lt. Col., A.U.S., Chf. of Inspection, Prod. Div., Army Service Forces Hqts., Washington, D.C., 1942-45; exec. asst. to the pres., The Sherwin-Williams Co. Ltd. of Canada, Montreal, 1945-47; supt. plant and equipment, The Sherwin-Williams Co., Cleveland, Ohio, 1947 to date; dir., The Osborne Mfg. Co., Cleveland. Trustee, The Cleveland Soc. for the Blind. Clubs: Kirtland Country, Cleveland Skating, The Hermit Club of Cleveland.

PRESSEL, Charles Henry, prod. mgr., Burroughs Wellcome and Co. (USA) Inc., Tuckahoe, N.Y.; res. 6 Longview Dr., Tuckahoe.
Phar.; b. Harrisburg, Pa., June 10, 1917; s. of

Samuel J. and Sarah Luetta Sheaffer Pressel; ed. Phila. Coll. Phar. Sc., B.Sc. Phar., Valedictorian of class; spec. course Sc. Mgt. St. U. Ia.; spec. course prod. contr. City Coll., N.Y.; mem.: Kappa Psi (Eta Chpt.); m. M. Gertrude Enck, Mar. 8, 1941; ch.: David Charles. Burroughs Wellcome and Co., 1939-41, anal. contr. chem.; chf. wks. chem., 1941-45; prod. mgr. 1945 to date. Mem. prod. comm. Am. Phar. Mfrs. Assoc. Club: White Plains Lodge 473, F. and A.M. Hobby: photography.

PRESTON, James B., Jr., exec. v.p., English Mica Co., 79 Prospect St., Stamford, Conn.; res. P.O. Box 74, Rowayton, Conn.
Mica mining & mfg.; b. N.Y.C., Feb. 25, 1912; s. of James B. and Mary R. (Keeney) Preston; ed. Princeton U. 1935, B.S.; m. Mary D. LeVien, May 30, 1940; ch.: Mary B., Ellen D. Worked on var. uses for ground mica. English Mica Co. (dir., exec. v.p.), U.S. Mica Co., Inc. (dir., pres.), Bradley Mining Co., Inc. (dir., pres.), Kings Mountain Mica Co., Inc. (dir., pres.). Clubs: Princeton of N.Y., Wee Burn Country.

PRICE, Charles C(oale), (3rd), prof. chem., hd. dept., U. Notre Dame, Notre Dame, Ind.; res. 201 W. North Shore Dr., South Bend, Ind.
Chem.; b. N.J., July 13, 1913; s. of Thornton W. and Helen Farley Price; ed. B.A., Swarthmore Coll., 1934 (high hons.); M.S. 1935; Ph.D. 1936 Harvard U.; mem.: Phi Sigma Kappa; m. Mary Elma White, June 29, 1936; ch.: Patricia, Susanne, Sarah S., Judith S., Charles C. 1936-37 res. assoc., U. Ill.; 1937-39, instr.; 1939-41, asst. prof.; 1941-46, assoc. prof.; 1946 to date, prof., hd. dept. chem., U. Notre Dame. Res. on mechanism of substitution, orientation in benzene, of mechanism poly., factors affecting copoly.; Chem. Warfare agents, drugs for malaria. Rh factor. Author: "A Brief Course in Org. Chem." 1940; "Mechanisms of Reactions at the Carbon-Carbon Double Bond" 1946. Socony Vacuum Oil Co., conslt.; Hercules Powder Co., conslt.; Eli Lilly & Co., conslt. Mem.: A.C.S., A.A.A.S., Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, A.C.S. Award in Pure Chem., 1946, Ind. Jr. C.C. Disting. Serv. Award, 1948; Army-Navy Cert. of Appreciation, 1948; Natl. Exec. Council United World Federalists, 1949 to date; Candidate, U.S. Senate, 1950. Hobbies: sailing, squash, tennis.

PRICE, Robert Eugene, v.p., Crosby Chem. Inc., De Ridder, La.; res. Box 124, De Ridder.
Chem.; b. Hattiesburg, Miss., Dec. 26, 1908; s. of R.T. and Zoe (Carlton) Price; ed. B.A., Miss. Coll. 1929; M.S. La. State U. 1931; mem.: Theta Xi, Alpha Chi Sigma; m. Dorothy Hudson, June 30, 1935; ch.: Joel, Pamela. 1933-37, Hercules Powder Co., Hattiesburg, Miss., control chem.; 1937 to date, Crosby Chem., asst. chf. chem., chf. chem., v.p. Pats. rosins & terpenes. Mem.: A.C.S., A.S.T.M., A.O.C.S. Club: Lions. Hobby: fishing.

PRIDDY, Sydnor Young, pres., Chas. W. Priddy & Co., Inc., P.O. Box 900, Norfolk, Va.; res. 219 Colonial Ave., Norfolk.
Exec.; b. Wilson, N.C., Dec. 14, 1893; s. of Chas. W. and Myrtie (Young) Priddy; ed. Woodberry Forest Schl. (prep.); U. of Va.; mem.: Delta Kappa Epsilon. Entire bus. life with Chas. W. Priddy & Co., Inc. Clubs: Virginia, Princess Anne Country. Hobbies: golf, fishing.

PRINCE, Arthur Leslie, assoc. prof. and assoc. res. spec. in soils, Dept. of Soils, Coll. of Agr., Rutgers U., New Brunswick, N.J.; res. 202 Lawrence Ave., Highland Park, N.J.
Soil chem.; b. Worcester, Mass., July 4, 1894; s. of Benjamin M. and Lillian (Bixby) Prince; ed. Clark U., A.B., 1916; U. of Mass., M.Sc., 1920; m. Jeanie Allan, June 20, 1923; ch.: Allan Bixby, Gratia McEwen. Rutgers U. and N.J. Exp. Sta., asst. soil chem., 1919; Rutgers U., instr. soil chem., 1927-31; asst. prof. soils, 1931-35; assoc. prof. soils, 1935 to date. War Service Medical Corps, Camp Devens, Mass., 1917-19. Chemical analysis of New Jersey soils; nitrogen, phosphorus, potassium, magnesium, boron, and organic matter status of N.J. soils, as well as minor element studies on same; nitrogen meths. on fertilizers etc. Senior author of 38 and co-author of 50 tech. arts. or bulletins in fld. of soil sc., soil fertility, and fertilizers from 1920 to date, pub. in sc. and tech. jls. Mem.: Am. Soc. of Agron., Soil Sc. Soc. Amer., A.A.A.S. (fellow); Assoc. Ref. on Nitrogen, Am. Assoc. Off. Agr. Chem. 1923-47. Elder, First Presbyterian Ch., New Brunswick, N.J. Clubs: Palestine Lodge F. and M. (Masons), New Brunswick, N.J. Hobbies: piano and outdoor activities.

PRINCE, Arthur Warren, retired hd. of chemistry dept., Union U., Jackson, Tenn.; res. 321 Edgar Road, Webster Groves, Mo.
Coll. chem. tchr. (retired); b. Ironton, Mo., Nov. 4, 1879; s. of Dr. A.S. and Lucy (Brown) Prince; ed. 1904, Wm. Jewell Coll., A.B.; 1905, A.M.; 1907, 1912, 1914, 1922, 1923, summer schl., U. of Chicago, post grad. wk.; mem.: Phi Gamma Delta; m. Mayme Belle Frey, Aug. 19, 1908. Principal of pub. schl., Annapolis, Mo., 1901-02; tchr. of academic physics, Wm. Jewell Acdy., 1904-05; hd. of sc. dept., Western Military Acdy., 1905-08; hd. of sc. dept., Union U., Jackson, Tenn., 1908-18; prof. of chem. and dean of college, same U., 1918-37; hd. of chem. dept., 1937-50; acting pres. and dean, same U., 1931-32. Consultant for 30 yrs. for Water Dept., City of Jackson, Tenn., incl. special studies on content and removal of iron and carbondioxide of city water supply. Mem.: A.C.S., A.A.A.S., honorary degree, Doctor of Science, Union U., 1932. Club: Rotary. Hobbies: collecting geological specimens of fossils and rocks in summer travels.

PRINCE, David Chandler, v.p., gen. engrg. & conslt. lab., Gen. Elec. Co., Schenectady, N.Y., 1 River Rd., Schenectady 5, N.Y.; res. 50 Washington Ave., Schenectady 5.
Exec.; b. Springfield, Ill., Feb. 5, 1891; s. of A. E., M.D. and Charlotte (Hitchcock) Prince; ed. Springfield H.S., 1908; U. of Mich., 1908-10; U. of Ill., 1910-12, B.S. in E.E., 1912-13, M.S. in E.E.; Lincoln Coll. of Law, Springfield, Ill., 1915-16; hon. degree, Union Coll., Schenectady, 1943, Sc.D.; student of Internatl. Corres. Schl., Scranton, Pa.; m. Winifred Notman, May 14, 1918; ch.: David C., Jr., George N., Winifred (Mrs. Chas. D. Hyson), Edward. 1913-14, test and ry. motor dept., Gen. Elec. Co., Schenectady, N.Y.; 1914-17, asst. to elec. engr., Pub. Utilities Commis. of Ill.; 1917-19, service in W.W. I; 1919-23, radio dept., Gen. Elec. Co.; 1923-31, res. lab., same co.; 1931-40, chf. engr., switchgear dept., Gen. Elec. Co., Phila. Wks.; 1940-41, mgr., commercial engrg., Gen. Elec. Co., Schenectady; 1941-45, v.p., application engrg., same co.; 1945 to date, v.p., gen. engrg. and conslt. lab.; same co.; prof. engr., N.Y.S. Mem.: A.I.E.E. (fellow and former mem. of bd. of dirs., pres. 1941-42); A.S. M.E. (mem. of aviation div.); Inst. of Aeronaut. Scs.; S.A.E.; The Inst. of Radio Engrs., sr mem.; A.A.A.S., Amer. Rocket Soc. Inc., The Inst. of Elec. Engrs. (British). 1st Lieut., Ordn. Dept., U.S.A. attached to Air Service, Paris, 1917-19; at conclusion of W.W. I rec. citation from Washington for "esp. meritorious service in the solution of engrg. problems relating to aircraft." Holds 98 pats. in U.S. under name of D.C. Prince; selected as one of "Modern Pioneers of Industry" by Natl. Assoc. of Mfrs. in conjunction with na-

tion-wide observance of 150th anniversary of U. S. Pat. System; rec. A.I.E.E. Lamme M., 1946. Clubs: Mohawk, Mohawk Golf (Schenectady), University (N.Y.C.). Travels to parts of this country in conslt. capacity on num. engrg. projs.; also, on occasions abroad to England, France, Germany, Poland, Switzerland and Italy, studying major engrg. trends of European countries. Hobby: all outdoor sports.

PRINCE, Leon Maximilian, Jr., pres. & tech. dir., Emulsion Chem. Co., Inc., 40 Minthorne St., Staten Is. 1, N.Y.; res. 113 93rd St., Bklyn. 9, N.Y.
Chem.; b. N.Y.C., Jan. 8, 1911; s. of Leon M. and Clara P. Prince; ed. Columbia, A.B., 1931, mech. engrg.; M.I.T., 1931 grad. credit aero. engr.; Columbian Dept. Chem. M.A. 1933; mem.: Beta Sigma Rho; m. Adelaide Wald, May 24, 1942; ch.: Judith Wald, Alice Sara. Botany Worsted Mills, 1933, mill hand; insurance co., engr., 1934-35; Am. Chronoboard Co., 1935, own bus. elec. engr.; Cosmo Mtl. Alloy, anal. chem., 1935; Internatl. Prods. Co., 1935-36, res. chem.; Crucible Steel Co., 1936, anal. chem.; Am. Home Prods., 1937-41, chem. A.S. Boyle Div.; conslt. 1941-42, own bus.; C.W.S., civ. engr., 1942-43; Manhattan Project Columbia S.A.M. Labs. 1943-46; 1946 to date, pres., tech. dir., Emulsion Chem. Specialist in emulsions, applications & theory; mfg. emulsion specialties & conslt. Mem.: A.A.A.S., A.C.S., A.I.C. (fellow) (mem. Chem. Advisory Comm.). Club: Columbia (mem. swimming advisory comm.).

PRINCE, Ralph Nelson, tech. serv. engr., American Cyanamid Co., 30 Rockefeller Pl., New York 20, N.Y.; res. 25 Van Buren Ave., Castleton-on-Hudson, N.Y.
Chem. engr.; b. Kittery, Me., July 21, 1910; s. of Charles E. and Edna A. Bicknell Prince; ed. B.S., 1932, Ch.E., 1945, U. of Me.; mem.: Sigma Chi; m. Edna M. Price, Sept. 14, 1935; ch.: Gayle Edith, Nelson Brian, John Frank. Chem., Ft. Orange Paper Co., Castleton-on-Hudson, N. Y., 1933-40; asst. supt., Ft. Orange Paper Co., 1940-43; res. fellow, U. of N.H., Durham, N.H., 1943-45; tech. serv. engr., American Cyanamid Co., New York City, 1945 to date. Mem.: Alpha Chi Sigma, A.C.S., T.A.P.P.I.

PRINGLE, Ashmead Forrester, Jr., pres., A.F. Pringle & Co., Inc., 141 E. Bay St., Charleston, S.C.; res. 32 S. Battery, Charleston.
Mfr.; b. Charleston, S.C., June 9, 1908; s. of A.F. and Agnes (Petty) Pringle; ed. Coll. of Charleston, A.B., 1927; Harvard M.B.A. 1929; mem.: Alpha Tau Omega; m. Helen Margaret Johansen, Jan. 20, 1939; ch.: Helen Henningsen, Nancy Walton, Ashmead Forrester, III, Margaret Gunning. 1929 to date, work with family interests. Southern Ice Co. (dir.), James Doran Co. (pres.). Asso. with Charleston Museum, Carolina Art Assn., Carolina Council of Boy Scouts. Clubs: Carolina Yacht, Charleston Yacht, South Carolina Soc., Down Town Athletic (N. Y.), Traffic (N.Y.). Hobbies: sailing, collecting antique furniture.

PRIOR, Harold B., pres., Prior Chemical Corp., 420 Lexington Ave., New York 17, N.Y.; res. Scarsdale, N.Y.
Executive; b. Melrose, Mass., Feb. 11, 1893; ed. Melrose H.S. Grasselli Chem. Co., 1910-22; Organ. H.B. Prior Co., 1922, name chgd. to Prior Chem. Corp. Mem.: Chem. Salesmen's Assn., Scarsdale Lodge No. 1094, F. & A.M. Clubs: Chemists,' Bonnie Briar Country, Westchester Country, Cloud, Duquesne, Winged Foot, Larchmont Yacht, Larchmont Shore.

PRIOR, Herbert R., v.p., Prior Chemical Corp., 420 Lexington Ave., New York 17, N.Y.; res. 211 Gramercy Pl., Glen Rock, N.J.
Exec.; b. Melrose, Mass., July 15, 1895; s. of Alfred M. and C. Maud (Reid) Prior; m. Helen L. Woodward, Apr. 25, 1917; ch.: Arthur D. Div. sales mgr., The Grasselli Chem. Co., 1913 to 1927; Prior Chem. Corp., 1927 to date, v.p., and treasurer; Payson Corp., 1938 to date, pres. and treas.; The Martin Dennis Co., 1947 to 1948, pres. Exec. vice commander, U.S. Power Squadrons. Clubs: Chemists' (N.Y.), Ridgewood Country, Downtown Athletic (N.Y.), New York Yacht, Englewood Basin Yacht, Boothbay Harbor Yacht, Huntington Yacht. Hobby: boating.

PRITCHARD, William Nelson, Jr., res. chem. in chg. of control, The Glidden Co., Chem. and Pigment Div., Baltimore 22, Md.; res. 34 Oak Grove Dr., Baltimore 20, Md.
Res. chem.; b. Chapel Hill, N.C., Jan. 30, 1893; s. of William N. (dec.) and Geneva L. Pritchard (dec.); ed. S.B. in Ch.E., U. of N.C., 1915; M.S. in Ch.E., U. of Ala., 1932; Ph.D., Purdue U., 1935; mem.: Alpha Chi Sigma (Professional); m. Marjory Evans, July 5, 1919 (dec.); ch.: Adele Virginia Evans, step-dau. 1915-19, The du Pont Co., chem.; 1919-20, Buckeye Cotton Oil Co., res. chem.; 1920, Calco Chem. Co., res. chem.; 1920-26, Cooper Union, N.Y., instr. in chem.; 1926-32, Swann Chem. Co., res. chem.; 1936 to date, The Glidden Co., chf. chem., Collinsville (Ill.) Plant; res. chem., Baltimore Plant. Res. chem.; pigments, paints, heavy chemicals. Author of tech. arts. in sc. jl.; holds sev. U.S. pats. Mem.: A.C.S., A.I.Ch.E. Hobbies: photography, outdoor sports.

PROCTOR, Bernard Emerson, dir., Food Tech. Labs., M.I.T., Cambridge, Mass.; res. 100 Memorial Dr.
Prof., res. food dev.; b. Malden, Mass., May 5, 1901; s. of Arthur L. and Vina Dolloff Proctor; ed. S.B., 1923 Biochem., M.I.T.; Ph.D., 1927, Biochem.; mem.: Sigma Xi; m. Miriam Patten, Oct. 18, 1924. Instr. Chem., Schl. Med., Boston U., 1923-27, lab. direction, san. engr., health dept., State of N.H. summers, 1924-27; surv. inspect. lecturer, Boston Schl. Physical Ed. 1926-30; lecturer, nutrition, physiol, asst. M.I.T., 1924-27, biochem.-bact.; instr. 1927-30, food tech.; asst. prof., 1930-36; assoc. prof., 1936-43; prof. 1943; dir., food tech. labs., 1945 to date. Chmn. agr. & food div., A.C.S., 1950-51. Co-author: "Food Tech.," 1937. Mem.: Sigma Xi, I.F.T., A.C.S., A.P.H.A., A.S.R.E., S.A.B., A.R.W.A., R.R.F., N.R.C., Inter.-Assoc. Milk Sanits., Comm. on Q.M.C. Army Food Problems. Clubs: Cosmos (Wash., D.C.), Chem. (N.Y.C.).

PROCTOR, Chas. Darnell, res. asst. pharmacol., physiol., dir., Virus Chemotherapy Proj., Stritch Schl. Med., Loyola U., Chicago, Ill.; res. 6632 S. Greenwood Ave., Chicago, Ill.
Res. chem., toxicol., pharmacol.; b. St. Louis, Mo., Sept. 10, 1922; s. of Charles Edward and Bessie Bland Proctor; ed. B.A. (Chem., 1943 Fisk U.; M.A. org. chem. 1946 Fisk U.; Ph.D. pharmacol. major, org. chem. minor) Loyola U. 1950; mem.: Alpha Phi Alpha; m. Ella Lucy Parham, Aug. 19, 1950. 1943 Ordn. Metal., St. Louis Ordn. Plant; 1944-46 asst. instr., chem., Fisk U.; 1946-47, asst. instr., Pharmacol., U. Ill.; 1947-50, sr. toxicol. chem., Cook Co., Ill.; 1950 to date; res. asst. phar., physiol., dir. Virus Chemotherapy Proj., Stritch Schl. Med., Loyola U.; inventor, patents pending. 1943 received St. Louis Ordn. Plant Safety Award, flameproofing res. Mem.: A. C.S., A.I.C., N.Y. Acdy. Sc., hon. mem. Czechoslovak Chem. Soc., after nomination by Drs. J. Heyrovsky, G. Rosicky 1946; A.A.A.S., chmn.,

sc. comm., Internatl. Conf. Student Problems, Prague, Czechoslovakia, 1946.

PROSKAUER, Eric S., chmn. bd., ed.-in-chf., secy., Interscience Publishers, 250 Fifth Ave., New York, N.Y.; res. 817 West End Ave., New York 25.
Publ.; b. Frankfort Main, Germany, Mar. 19, 1903; s. of Jacob and Martha Proskauer; ed. Ph.D. Physical Chem., U. Leipzig, 1933; mem.: Sigma Xi (hon.); m. Jenny R. Diment, July 11, 1931. Ed., Akademische Verlagsgesellschaft 1925-37; ed., gen. mgr., Interscience Publisher, 1937 to date. Co-author "Organic Solvents," 1935, "Resins, Rubbers, Plastics." Mem.: A.C.S., A.Phys.S., N.Y. Acdy. Sc., Inst. Graphic Arts. Club: Chem. Off. Interscience Publishers, chmn. bd., ed.-in-chf.; Elsevier Book Co., secy.-treas.

PROVINE, Eugene Almarine, chmn., sc. dept., hd. chem. dept., Ouachita Coll., Arkadelphia, Ark.; res. Cherry St. Arkadelphia.
Teacher; b. Big Creek, Miss., Feb. 21, 1901; s. of R.F. and Erma Denley Provine; ed. Miss. Coll., A.B. 1923; La. State Univ. M.S. 1926; O. State Univ., Ph.D. 1936; mem.: Alpha Chi Sigma, Gamma Alpha; m. Lucille McDaniel, Sept. 4, 1930; ch.: Priscilla Gene. Robeline H.S., Robeline, La., chem. & math. teacher, 1924-25; Ouachita Coll., hd. chem. dept., 1929 to date, chmn. sc. dept. since 1936. Res. in method for preparation of sulphon phthaleins, oxidation products of carbohydrates. Mem.: Sigma Xi, A.C.S., Ark. Acdy. of Sc. Hobbies: glass blowing, golf.

PRYOR, Dean Earl, dir., phytopathological res., Wallace & Tiernan Sales Corp., 1713 S. Calif. Ave., Monrovia, Calif.; res. 12812 E. Standard Dr., Whittier, Calif.
Res.; b. Bonsall, Calif., Feb. 16, 1914; s. of John Hadley and Vida Elizabeth Pryor; ed. B.S. (highest honors) U. of Calif., Davis, Calif., 1936, Ph.D. U. of Wis. 1939; mem.: Alpha Gamma Rho, Alpha Zeta, Phi Beta Kappa; m. Helen Reese, July 8, 1940; ch.: Kirsten Jeane, Trudy Gale, Annette Elizabeth. Res. asst., U. of Wis., plant pathology dept., 1937-39; assoc. plant pathologist, U.S. Dept. Agr., 1939-42; chem. warfare officer, U.S. Navy, 1942-45; dir. phytopathological res., Wallace & Tiernan Sales Corp., 1945 to present. Res. in chemical nature of disease resistance in plants; effect of growth regulators on fruit set in cantaloupes; chem. means of controlling post harvest spoilage in fresh fruit and vegetables. Mem.: Sigma Xi, A.A.A.S. (fellow, A.C.S., Am. Phytopathological Soc., Am. Soc. for Horticultural Sc. Hobbies: fishing, hunting, gardening.

PRYOR, Joseph Ehrman, prof. of chem. and physics and hd. of dept., Harding Coll., Searcy, Ark.; res. 926 East Center, Searcy, Ark.
Coll. teacher; b. Melber, Ky., Mar. 19, 1918; s. of Lonnie E. and Queetro Rives Pryor; ed. Campbell (Mo.) H.S., 1929-33, salutatorian, B.A. and B.S., honor graduate, Harding Coll., 1937, M.A., in math., 1939, Ph.D., in Physical Chem., 1943, teaching Fellow and Res. Fellow, Louisiana State U.; m. Bessie Mae Ledbetter, Aug. 16, 1946. Teaching Fellow in math., L.S.U., 1937-39; teaching Fellow in chem., L.S.U., 1939-41; Charles Edward Coates Res. Fellow in chem., L.S.U., 1941-42; instr. in math., L.S.U., 1942-44; prof. of chem. and physics and hd. of dept., Harding Coll,. 1944 to present. Res. in electrokinetic of zeta potential of egg albumin by streaming potential technique. Mem.: Phi Lambda Upsilon, Alpha Chi Sigma, Kappa Mu Epsilon, Pi Mu Epsilon, Alpha Psi Omega, Phi Kappa Phi, Sigma Xi, A.C.S., Am. Mathematical Soc., Am. Assoc. of Physics Teachers, Natl. Council of Teachers of Mathematics, A.A.A.S., Acdy. of Sc. (Arkansas), Natl. Education Assoc. Member Bd. of Dirs. Camp Wyldewood. Hobbies: sports, music, photography.

PUFF, Raynard V., dist. mgr., gen. chem. div., Allied Chem. & Dye Corp., 12 S. 12th St., Phila., Pa.; res. 310 4th Ave., Haddon Heights, N.J.
Sales div.; b. Middletown, N.Y., Jan. 27, 1892; s. of Charles V. and Jessie M. Puff; ed. Middletown pub. schls.; Cornell U., B.S. in chem. 1915; mem.: Sigma Xi; m. Eva S. Burlingham, Aug. 24, 1918; ch.: Robert C., M.D., Henry B., B.S. in chem. Barrett Co., tech. serv. div., 1916; U.S. Army, chem. warfare serv., 1917-19 (dischgd. as capt.); B.T. Babbitt, asst. to pres., 1919-23; Mechling Bros. Chem. Co., secy., sales mgr., 1924-37; Gen. Chem. Div., Allied Chem. & Dye Corp., dist. mgr., 1937 to date. Club: Union League of Phila.

PUMPLIN, Gerald Glynn, supt. chlorine dept., Wyandotte Chem. Corp., Wyandotte, Mich.; res. 2302 20 St., Wyandotte.
Physical chem., supt. chlorine dept.; b. Davenport, Ia., Aug. 1, 1910; s. of William Conrad and Laura Acenith Pumplin; ed. Ia. St. U., B.S. Chem. with Distinction, 1932; Ph.D., Physical Chem. 1937; m. Elizabeth Judson Hepburn, Dec. 5, 1937; ch.: David William, Jonathan Conrad. 1937-39, res. dept., Wyandotte Chems. Corp.; 1939 to date, supt. chlorine dept. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S. Hobbies: photography, "star-gazing," gardening, woodworking.

PUNSHON, Thomas, Jr., mgr. of labs., J.M. Huber Corp., 620-62 St., Bklyn. 20, N.Y.; res. Packanack Lake, N.J.
Chem., prod. engr.; b. Glen Lyon, Pa., June 19, 1913; s. of Thomas and Rose Punshon; ed. Bucknell U., Lewisburg, Pa., B.S. & M.S. Ch.E., cum laude, 1932-37; m. Elizabeth Burk, Feb. 3, 1942; ch.: Anita, Judith. Res. chem., du Pont, Chambers Wks. 1937-39; Hercules Powder Co., 1939-44; J.M. Huber Corp., res. chem., prod. engr., prod. mgr., mgr. of labs., 1944 to date.

PURDUM, Raymond Brandenburg, pres., Davis & Elkins Coll., Elkins, W.Va.; res. Randolph Ave., Elkins.
Pres.; b. Providence Forge, Va., Nov. 17, 1899; s. of Edward Everett and Mattie (Walton) Purdum; ed. B.S., M.S., Ph.D. 1926, U. of Va.; mem.: Tau Kappa Epsilon, Alpha Chi Sigma, Chi Beta Phi, Sigma Xi; m. Daisy Myrtle Matthews, Feb. 19, 1924; ch.: Fannie Elizabeth, Raymond Brandenburg, Margaret Ann, Reginald Everett. While at U. of Va. was awarded the coveted du Pont scholarship for grad. wk. in chem.; hd., dept. chem., Davis & Elkins Coll., 18 yrs.; directed academic & aeronautical program sponsored at Davis & Elkins Coll. by C.A.A. & the War & Navy Depts. during W.W. II; appointed acting pres. April, 1943, pres. May, 1944. Mem.: A.C.S. Active in civic & community affairs; serving as councilman for City of Elkins 6 yrs.; chmn. for comms. of the Council in chg. of City Water Plant, construction of Elkins Municipal Airport & erection of new municipal bldg.; mem. of bd. of dir. Y.M.C.A. & active mem. of Elkins Rotary Club, once pres.; active church wk., elder in Davis Memorial Presby. Ch. & serving in 1947 as commis. to Gen. Assembly of Presby. Ch., U.S., & 1948 as a Moderator of Greenbrier Presbytery of Synod of W.Va. Club: Rotary.

PURDY, Alvin C., pres., Bull & Roberts, Inc., conslt. chem., 117 Liberty St., N.Y.C. 6, N.Y.; res. 6 Wyndehurst Dr., Madison, N.J.
Conslt. chem.; b. Middletown, N.Y., Oct. 30, 1897; s. of Leander C. and Louisa C. Purdy; ed. Cornell U., A.B., 1920; Ph.D., 1924; Université de Lyon (France), 1921-22; mem.: Sigma Xi,

Alpha Chi Sigma; m. Dorothy Fullerton, Sept. 16, 1926; ch.: William B., Nancy L. Kearfott Engrg. Co., 1924-27, res.; Bull & Roberts, 1927-47, gen. partner; 1947 to date, pres. Mem.: Sigma Xi, A.C.S., A.S.T.M., A.W.W.A., Soc. Chem. Ind. (British), A.C.C.C.E., S.N.A.M.E. Clubs: Cornell (N.Y.), Railroad-Machinery, Morris Co. Golf.

PURDY, John Maynard, chf. chem., Lowe Bros. Paint and Varnish Co., 424 E. Third St., Dayton, O.; res. 238 Oakview Dr., Dayton, O.
Chem.; b. Morocco, Ind., Nov. 14, 1900; s. of William and Elsie Purdy; ed. A.B., De Pauw U., 1923, A.M., Ph.D., Ohio State U., 1925 and 1929; mem.: Gamma Alpha; m. Ruth Ross in 1925. Held following positions with Lowe Bros. Paint and Varnish Co.: res. chem., 1926-30; chf. chem., 1930 to date. Mem.: Sigma Xi, Phi Lambda Upsilon. Clubs: Engineers, Executives, Kiwanis.

PURDY, Walter Wm., chem., chem. engr., Shanco Plastics & Chem. Co., Tonawanda, N.Y.; res. 155 W. Chestnut St., Akron, Ohio.
Chem., chem. engr.; b. Akron, Ohio; ed. U. of Akron, B.S. 1919; U. of Me., M.S., 1924; U. of Colo.; mem.: Acacia, Alpha Chi Sigma; ch.: 3 daughters—musicians. Miller Rubber Co., res. 1919-21; faculty, U. of Me., 1921-24; acting state chem. of Colo., 1924-26; Oil Shale, Colo., 1927; Cities Service Co., res. dept., 1928-39; Vulcan Copper & Supply 1940; Battenfeld Grease & Oil Co., 1941-43; Durez Plastics & Chem. Co., 1943-47; H.K. Ferguson Co., design Engr., 1947-49; Shanco Plastics & Chem. Co., 1950 to date. Mem.: A.C.S., A.I.Ch.E. (assoc. mem.).

PURVIN, Robert Leman, owner, Robert L. Purvin, Conslt. Chem. Engrs., 510 Reserve Loan Life Bldg., Dallas, Texas; res. 3412 Centenary St., Dallas, Tex.
Conslt. chem. engr.; b. Farmersville, Tex., June 5, 1917; s. of Julius Leon and Adelaide Frances (Mittenthal) Purvin; ed. U. of Texas, B.A. (chem.) 1937 (highest honors); B.S. (ch.e.) 1938, (1st in Eng.); M.I.T., D.Sc. (Ch.E.) 1941; mem.: Phi Beta Kappa, Tau Beta Pi, Sigma Xi (sr.), Phi Lambda Upsilon, Phi Eta Sigma, Phi Sigma Delta; m. Lois Davis, Sept. 5, 1939; ch.: Laura Jill, Robert Leman, Jr. 1941-45 with Humble Oil & Refin. Co., tech. serv. div., chem. engr.; 1945 to date, owner, Robert L. Purvin, Conslt. Chem. Engrs. Holds pats. on mfr. of butyl rubber. Mem.: A.C.S., A.I.Ch.E., A.S. Prof. Engrs. Clubs: Dallas Athletic, Columbian, Engineers (Dallas). Hobbies: golf, flying.

PUTERBAUGH, Milton Porter, prof. chem., U. Kans. City, Kans. City, Mo.; res. 5209 Olive St.
Prof. chem.; b. Lanark, Ill., Sept. 17, 1900; s. of Benjamin Franklin and Emma Kimmel (Lichty) Puterbaugh; ed. W. Waterloo, Ia. H.S. Ashland Coll., A.B. 1922 (valedictorian), Ia. St. Tchrs. Coll., (summer 1922); Northwestern U., M.Sc., 1930; Ph.D., 1935; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi; m. Lois Phillips Arnold, June 8, 1922; ch.: John Franklin, James David. Instr., Ashland Coll. 1922; assoc. prof., 1923-26; prof., 1926-42; dean of students, 1939-42; act. dean coll., 1942-43; assoc. prof. Hiram Coll., 1943-44; prof., 1944-45; prof. chem., dept. chmn., U. Kans. City, 1945 to date. Contrib. 4 arts. J.A.C.S., J.Org. Chem., J. Chem. Ed. and Org. Syntheses, Vol. IX. Mem.: A.C.S., Ohio Acdy. Sc. (one time fellow); Chmn. Wooster, Ohio, Kans. City, Mo., sects., A.C.S., charter mem. Wooster, Ohio sec. A.C.S.; Natl. Laymen's Org. Brethren Ch. (one time pres.). Clubs: Prof. Men's (Kans. City); Rotary (Ashland, O., Garretsville, Ohio). Hobbies: back lot chicken farming, fishing.

PUTNAM, Hamilton Wallace, res. dir., Ballard & Ballard Co., Inc., P.O. Box 420, Louisville, Ky.; res. 403 E. Dr., Terrace Heights, Jeffersonville, Ind.
Cereal chem. and food tech.; b. Ft. Morgan, Colo., July 6, 1905; s. of Wesley Wallace and Lucia Goodykoontz Putnam; ed. A.B., U. of Denver, 1929; also studied at Colorado Schl. of Mines, Golden, Colo., during part of undergrad. work; mem.: Phi Lambda Upsilon (hon. chem.); m. Caroline Elizabeth Collier, Nov. 16, 1929; ch.: Alice Lucia, Nancy Caroline. Control chem., Colorado Milling & Elevator Co., Hays, Kansas, 1929-35; chf. chem., General Foods Corp., 1935-47, Evansville, Ind.; res. chem., Central Labs., Hoboken, N.J., 1939-44; mgr. of labs. and dir. of res., Evansville, 1944-47; Central Soya Co., Inc., food applications res. 1947-48; res. chem. on food prods., Colorado Milling & Elevator Co., Denver, Colo., 1948-50; res. dir., Ballard & Ballard Co., Inc., Louisville, Ky., since Apr., 1950. Mem.: A.A.C.C. (Natl. Secy. 1935-37), A.C.S., I.F.T., Am. Soc. of Bakery Engineers. Club: Kiwanis. Hobbies: photography, gardening, boys' and girls' work.

PUTNAM, Mark Edson, v.p., gen. mgr., The Dow Chem. Co., Midland, Mich.; res. 2011 Hill Ct., Midland.
Management—ind. chem.; b. Scioto Twp., Shiawassee Co., Mich., Aug. 6, 1886; s. of Edson B. and Emma (Moulton) Putnam; ed. Albion Coll., A.B. 1910; U. of Mich., M.S. 1911; Albion Coll., Dr. Sc. hon. 1944; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi; m. Charlotte Sheldon, Sept. 11, 1913; ch.: Ruth S. (Putnam) Caldwell, Mark Sheldon. Instr., Case Schl. of App. Sc. 1912-15; The Dow Chem. Co., chem., 1915, dir., 1941, v.p., 1943, gen. mgr., 1949 to date. Cliffs Dow Chem. Co., (pres., dir.). Process for making phenol & num. other pats. in fld. of syn. chem. Mem.: A.C.S., A.I.Ch.E., Soc. Chem. Ind. (Am. Chapt.), A.A.A.S., Eng. Soc. Detroit. Trustee, Albion Coll.; dir., Chem. State Savings Bank, Midland, Mich. Clubs: Chemists' (N.Y.), Midland Country (Midland).

PUTZELL, Edwin J., Jr., asst. secy. and atty., Monsanto Chem. Co., 1700 S. 2nd St., St. Louis 4, Mo.; res. 55 Mason Ave., Webster Groves 19, Mo.
Atty.; b. Birmingham, Ala., Sept. 29, 1912; s. of Edwin J. and Celeste (Joseph) Putzell; ed. A.B., Tulane U., 1935; LL.B., Harvard, 1938; mem.: Delta Sigma Phi, Phi Beta Kappa; m. Becky Barton, Sept. 17, 1938; ch.: Edwin J., III, Cynthia. With Donovan, Leisure, Newton & Lumbard, N.Y.C. and Wash., 1937-42; exec. off., O.S.S., later asst. to Gen. Wm. J. Donovan, Dir. of Strategic Serv., 1942-45; asst. treas., Monsanto Chem. Co., St. Louis, 1945-46; asst. secy.; atty., Monsanto Chem. Co., 1946 to date. Author: "Qui Bono," 1934; also arts. in prof. jls. Mem.: Amer. Bar Assoc., Mo. Bar Assoc., St. Louis Bar Assoc., Law Library Assoc. of St. Louis. Chmn., St. Louis Committee on Mental Health. Dir., Adult Educ. Council of St. Louis, St. Louis Council on World Affairs, Inc., Foreign Policy Assoc., Social Planning Council of St. Louis, Gov. of St. Louis Community Chest. Clubs: Noonday (St. Louis), University (Wash., D.C.), 1925 F. Street Club (Wash., D.C.). Hobbies: woodworking, gardening, music. Officer: asst. secy., Monsanto Chem. Co.

PYE, David J., res. supvr., The Dow Chem. Co., Pittsburg, Calif.; res. 1618 Emma Ct., Concord, Calif.

Chem. engr.; b. San Francisco, Calif, Jan. 10, 1912; s. of Alfred W. and Mabel J. Pye; ed. Stanford U., B.S. 1933; Yale U., grad. schl. chem. engr. 1934; mem.: Theta Chi, Alpha Chi Sigma; m. Anne Vestnys, 1937; ch.: David Stephen, Linda Jane. Great West. Elec. Chem. Co., 1934, chem. engr.; merged with The Dow Chem. Co. 1939; assoc. Natl. Tech. Labs., South Pasadena, Calif., instr. dev. engrg., 1940-41; The Dow Chem. Co., Pittsburg, Calif., 1941, res. chem. engr.; res. supvr., 1944 to date. Mem.: A.C.S., A.I Ch.E., A.E.S. Hobbies: golf, gardening, electronics

PYKE, W(esley) E(merson), hd. chem. dept., chem. sec. exp. sta., Colo. A.&M. Coll., Fort Collins, Colo.; res. 708 Smith St.
Chem., educator; b. Richmond, Kans., Mar. 30, 1896; s. of John William Hull and Minnie Agusta (Fuhlhage) Pyke; ed. A.B., Baker U., Baldwin, Kans. 1918; Ph.D., U. Calif., Berkeley, Calif., 1940; mem.: Delta Tau Delta; m. Lela Buckheister, June 30, 1923; ch.: Mrs. Betty Jane Wilson, Mrs. Lela Lee Clerkin, Ruth Emily. Tchr., H.S., Kans. 1922-23; New Mexico 1923-24; instr. chem., Colo. A.&M. Coll., 1924-26; asst. prof. 1926-28; Gregory Scholar, U. Mo. 1928-29; asst. prof. chem., Colo. A.&M. 1929-35; assoc. prof. chem. 1935-36; res. asst., U. Calif, 1936-37; assoc. prof. chem., Colo. A.&M. 1937-38; assoc. food res. exp. sta., 1938-42; prof. food res. 1942-45; act. hd. poultry sect. exp. sta. 1943-45; hd. chem. dept., sect. 1945 to date. Res. chem., tech. of foods, other agr. prods. Co-author "Gen. College Chem., a Study Guide" 1949; contrib. to tech. jls. Mem.: A.C.S., Swiss Chem. Soc., A.A.A.S., A.A.U.P., Sigma Xi, Inst. Food Tech., Colo.-Wyo. Acdy. Sc., Am. Soc. Exp. Biol. & Med., Gamma Sigma Delta, Sigma Kappa Zeta. Trustee, Colo. Agr. Res. Found., Colo.-Wyo. Res. Found., academic mem. Colo. Dev. Council. Club: Science. Hobbies: gardening, fishing.

PYLE, James Johnston, div. engr. mgr., chem. dept., General Electric Co., Coshocton, O.; res. 910 Cambridge Rd., Coshocton, O.
Res. and dev. chem.; b. Calgary, Alberta, Canada; s. of Frederick George and Elizabeth Carolynn Pyle; ed. B.A., U. of British Columbia, first class honors in chem. and physics, 1935, M.A., 1937, honors, Ph.D. Chem., McGill U., magna cum laude 1939; m. Margaret Scott Arthur in 1935; ch.: Derick Ross, Bryan Arthur, Kevin James. Res. & dev. chem. plastics div., G.E. Co., 1939-40, group leader; laminated dev. 1940-41; res. section hd. 1941-43; dir. of plastics lab. 1943-48; mgr. New Product Dev. Lab. 1948-49; engrg. mgr., laminated and insulating prods. div., chem. dept., General Electric Co., at present. Locke, Inc., mem. Board of Dirs. Res. and dev. in fields synthetic resins, synthetic fibers, ion exchange resins, plasticizers, silicones, low melting glasses, cement—asbestos prods., fluorine, synthetic rubber, etc. Mem.: A.C.S., A.A.A.S., Sigma Xi, N.E.M.A., Naval Ordnance Dev. Award. Hobbies: raising tropical fish, golf.

PYLE, Ronald Emmett, asst. dir. of res., Union Starch & Refining Co., Granite City, Ill.; res. 4019 Moro St., Nameoki, Ill.
Res. chem.; b. Des Moines, Iowa, Mar. 18, 1918; s. of Perry E. and Lulu (Foster) Pyle; ed. high schl., New Sharon, Iowa, 1935 valedictorian; Grinnell Coll., Grinnell, Iowa, B.A., 1939; State U. of Iowa, Iowa City, Iowa, M.S., 1942, Ph.D., 1946; mem.: Alpha Chi Sigma; m. Beatrice Spotvold, Sept. 9, 1944; ch.: Robert Eugene, Barbara Jeanne. N.D.R.C. Contract, State U. of Iowa, 1943-45, res. asst.; Corn Prods. Refining Co., 1946-50, assoc. scientist; Union Starch & Refining Co., 1950 to date, asst. dir. of res. Studies on dextrose & dextrose derivatives. Mem.: Phi Lambda Upsilon, Sigma Xi. Hobbies: athletics, gardening, reading.

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QUACKENBUSH, Forrest W., prof. of agr. chem., hd. of dept., State chem., Purdue U., Lafayette, Ind.; res. R. 2, Brookston, Ind.
Adm., teaching, res.; b. Melrose, Wis., Aug. 18, 1907; s. of Ward W. and Bessie V. (Radcliffe) Quackenbush; ed. U. of Wis., B.S. cum laude, 1932, M.S., 1935, Ph.D., 1937; Rockefeller Fellow 1938, Kaiser Wilhelm Inst., Heidelberg, Germany; 1939, Rijks U., Utrecht, Neth.; mem.: Phi Lambda Upsilon, Alpha Zeta, Sigma Xi, Gamma Alpha; m. Aletha June Evans, Dec, 1937; ch.: Lois Lynn, Carol Rae. U. of Wis., asst., 1934, W.A.R.F. fellow 1934-36, instr. 1941-43, res. fellow 1940-43; Purdue U., prof. of agr. chem., hd. of dept., 1943 to date. Res. on biochem. & nutrition of lipids. Mem.: A.C.S., A.A.A.S., Soc. Biol. Chem., Am. Soc. An. Produc., A.O.C.S. Club: Rotary. Hobby: gardening.

QUAINTANCE, Carroll Brown, pat. solicitor, pres. Stanalchem., Inc., 11 W. 42nd St., N.Y. 18, N.Y.; res. 506 Linden Pl., Cranford, N.J.
Patent solicitor, exec.; b. Boston, Va., July 29, 1903; s. of Raymond G. and Lucy Pulliam Quaintance; ed. B.S., Coll. Wm. & Mary, 1924; M.A., U. Pa. 1929; LL.B., Mercer-Beasley Schl. of Law (now Rutgers U.), 1933; Ed.D., Columbia U., 1939; mem.: Phi Beta Kappa, Omicrón Alpha Kappa, Lambda Chi Alpha (Prof. Ed., Sc., Debating); m. Arthalinda Miller Pancoast, 1926; ch.: Lucy Ann. 1923-24 instr. math., chem., Coll. Wm. & Mary; 1924-25 hd. dept. math. Staunton, Va. H.S.; 1925-28 hd. dept. math. Woodstown, N.J. H.S.; 1928-34 hd. dept. math., v. principal, Cranford, N.J. H.S.; 1934-35 grad. study, Columbia U.; 1935-50 pract. patent law, now pat. solicitor, Pollard & Johnston; 1941-50 mgr. Stanalchem., Inc.; 1950 mgr., pres., Stanalchem., Inc., chem. exporters, conslts. Contrib. extens. to sc. and tech. jls. Author: "Dissertation on Stands. of Ed. Legislative Drafting" (not publ.). Mem.: A.I.C. (fellow), A.A.T.C.C., pres. Soc. of Alumni, Coll. Wm. & Mary. Clubs: Columbia U., pres. N.Y. Alumnia Chapt. Lambda Chi Alpha, councilor, Phi Beta Kappa Alumni (N.Y.). Hobbies: athletics, gardening, people.

QUAM, George Norman, prof. chem, hd. dept., Villanova Coll., Villanova, Pa.; res. Cedar Hollow Rd., Paoli, Pa.
Teacher of chem. at coll. level; b. Madison, Wis., May 7, 1891; s. of Severt and Stena Quam; ed. U. of S. Dak., A.B., 1916; U. of Wis., M.S., 1922 (scholarship); Ia. State Col., Ph.D., 1924 (fellowship); U. of La., 1928, honorarium; m. Mary Elizabeth Battell, Nov. 27, 1924. Ia. State Coll., grad. asst., chem. dept., 1921-23; Midland Coll., prof. chem. 1924-25; Coe Coll., assoc. prof. 1925-28, prof. chem. 1928-29; Long Is. U., assoc. prof. 1929-46; Villanova Coll., assoc. prof. 1946-49, prof., hd. of dept. 1949 to date. A.S.T.P., assoc. prof., Bklyn. Poly. Inst., 1943-45 Author: "Lab. Practice of First Yr. Coll. Chem." (ed. I-IV); "Typical Questions and Problems in General Chem." (ed. I-IV); "Supplementary Notes with Questions and Problems for General Chem." (ed. I-III); "Lab. Practice of General Chem." (ed. I-II). Contrib. extens. to sc. & tech. journals. Mem.: A.A.A.S., A.C.S., A.I.Ch.E. (fellow), A.S.E.E., A.A.U.P., Franklin Inst., Phi Lambda Upsilon, Sigma Xi, Phi Kappa Phi. Hobbies: photography, gardening.

QUARLES, Richard Wingfield, ind. fellow, Mellon Inst., Pitts. 13, Pa.; res. 61 Seneca Dr., Pitts. 16, Pa.
Chem.; b. Richmond, Va., Mar. 21, 1911; s. of Wirt G. and Emma (Wingfield) Quarles; ed. U. of Va., 1927-31 B.S. in chem. engrg., 1931-35 Ph.D. in physical chem.; mem: Alpha Chi Sigma; m. Virginia Dinwiddie, June 6, 1936; ch.: Richard W., Barbara, Marjory Elizabeth, James Dinwiddie. 1935-37, res. asst., U. of Va.; 1937-39, res. chem., Carbide & Carbon Chem. Corp.; 1939 to date, ind. fellow, Carbide & Carbon Fellowship, Mellon Inst. Res. & dev. on the use of vinyl resins in surface coatings & adhesives. Mem.: A.C.S., A.I.Ch.E., Tau Beta Pi, Sigma Xi, Paint & Varn. Prod. Club. Hobby: photography.

QUASEBARTH, Kurt H., v.p., dir., Rubber Corp. of Am., Hicksville, N.Y.; res. R.F.D. 1, Hicksville.
Chem.; b. Weissenburg, Germany, July 5, 1902; s. of Franz and Marianne Quasebarth; ed. U. of Berlin, Ph.D., 1925. 1925-29, asst. to Fritz Haber, Kaiser Wilhelm Inst. Fuer Physikalische und Electro Chemie, Berlin Dahlem; 1929-33, res. chem., Metallgesellschaft, Frankfurt, worked in Fla. & N.Y.; 1934 to date, Revertex Corp. of Am., now Rubber Corp. of Am., tech. sales, then in chg. of tech. dept., factory mgr. 1942 to date; 1942 to date v.p., 1944 to date dir. Mem.: A.C.S., A.S.T.M. (comm. mem.). Club: Chemists' (N.Y.). Hobbies: horseback riding, gardening, outdoors.

QUATTLEBAUM, William Meritt, Jr., v.p., Continental Chem. Co., Columbia, S.C.; res. 4115 Trenholm Rd., Columbia.
Res. chem.; b. Winnsboro, S.C.; s. of W.M. and Mary Loretta (Ironmonger) Quattlebaum; ed. B.S., 1929, U. of S.C., M.S., 1931 magna cum laude; Ph.D., 1934, Harvard U.; mem.: Kismet Club, Phi Beta Kappa, 1929; m. Dorothy Melville Cunningham, Aug. 30, 1929; ch.: William Merritt, III, Dorothy Elizabeth. Carbide & Carbon Chem. Corp., S. Charleston, W.Va., res. chem., 1934-44, 1944-47, in chg. of plastics & elastomer res., res. dept.; 1947 to date, Continental Chem. Co., Columbia, S.C., v.p., mem. of firm. Res. on dipyrryl methanes, tetrapyrryl cmpds.; stabilizers for vinyl resins; mechanism of Ostromislenski reaction; deoxygenation of crotonaldehyde & acetophenone by ethanol; alcohol process for mfr. of butadiene for syn. rubber. Mem.: A.C.S., Phi Beta Kappa. Club: Executives (Columbia, S.C.).

QUAYLE, Osborne R(obinson) chairman, Dept. Chemistry, Emory U., Emory University, Ga.; res. 1307 Emory Circle N.E., Atlanta, Ga.
Prof. of chem.; b. Cleveland, O., Dec. 15, 1898; s. of William and Lucy Robinson Quayle; ed. Swarthmore Coll., Coll., A.B., 1919; Harvard U., M.S., 1921; Johns Hopkins, Ph.D., 1924; mem.: Delta Upsilon, Alpha Chi Sigma, Gamma Alpha, Omicron Delta Kappa; m. Zaidee T. Miller, June 22, 1922; ch.: Nancy Elizabeth (Mrs. Benj. Smith, Jr.), Louise Tevis (Mrs. W.W. Kling). Emory U., asst. prof. 1924-27, assoc. prof. 1927-31, prof. 1931, chmn. dept. 1950. Res. in surface tension & parachor, mechanism esterification, small strained rings, organic syntheses. Mem.: A.C.S., A.A.A.S., Ga. Acdy., Phi Beta Kappa, Sigma Xi. Awards: Jefferson M., Herty M.

QUEENY, Edgar Monsanto, chmn. of bd., Monsanto Chem. Co., 1700 S. Second St., St. Louis 4, Mo.; res. R. 13, Mason Rd., Kirkwood 22, Mo.
Chem. mfr.; b. Sept. 29, 1897; s. of John Francis and Olga (Monsanto) Queeny; ed. A.B., Cornell, 1917; mem.: Alpha Delta Phi; m. Ethel Schneider, Nov. 10, 1919. With Monsanto Chem. Co. since 1919, became pres. 1928, became chmn. 1943. Am. Airlines, dir.; Merc. Com. Bank of St. Louis, dir. Mem., Bus. Advisory Council of Dept. of Com.; trustee, Am. Museum of Natural History, N.Y.; dir., Natl. Indus. Conference Bd. Clubs: Racquet, St. Louis Country, Noonday, Deer Creek, Cuivre (St. Louis), Links (N.Y.), Metropolitan (Wash.).

QUICK, Armand James, prof. of biochem., dir. of dept., Marquette U. Schl. of Medicine, 561 N. 15th St., Milwaukee 3, Wis.; res. 3277 N. 46th St., Milwaukee 16.
Teacher; b. Theresa, Wis., July 18, 1894; s. of Gabriel and Theresa (Meixensperger) Quick; ed. U. of Wis., B.S., 1918, M.S., 1919; U. of Ill., Ph.D., 1922; Cornell U. Medical Coll., M.D., 1928; m. Margaret I. Koll, July 2, 1937; ch.: Edith. Asst. in chem., U. of Wis., 1918-19; instr. in chem., Vanderbilt, 1919-20; fellow, U. of Ill., 1920-21; asst. chem. Phila. Gen. Hosp., instr. in physiol. chem., U. of Pa., 1922-26; assoc. in surgery, Cornell U. Med. Coll. 1930-32; fellow in res. surgery, Fifth Ave. Hosp. 1932-36, asst. prof. pharmacol., Marquette U. Schl. of Medicine 1935-36, assoc. prof. 1936-44, prof. of biochem 1944 to date. Substitution of the halogens in the benzene ring arsinic & arsonic acids, hippuric acid & glucuronic acid conjugations, metabolic studies of hyperparathyroidism; chem. of the coagulation of the blood; dev. of meths. for the quantitative determination of prothrombin, thrombin, heparin & prothrombin consumption. Author: "The Hemorrhagic Diseases and the Physiology of Hemostasis" 1942. Mem.: A.C.S., A.S.Biol.C., Am. Soc. Pharmacol. & Exp. Thera., Central Soc. for Clinical Res., A.S.A.A., Am. Med. Assn. Clubs: City Club of Milw., Interprofessional Men's Inst., Chemist Circle.

QUICK, Wallace J., mgr. Chicago branch, Distillation Prods. Industries, Div. Eastman Kodak Co., 135 S. La Salle St., Chicago 3, Ill.; res. 54 Salem Lane, Evanston, Ill.
Exec.; b. Ithaca, N.Y., July 8, 1917; s. of Arthur J. and Nellie E. Quick; ed. Clarkson Coll. of Tech., 1941, B.Chem. Engrg.; mem.: Lambda Iota; m. Jane E. Armbruster, Sept. 23, 1944; ch.: Karen, Cynthia, Christine. Distillation Prods. Industries, 1941 to date. Co-author: 'Guide to Com. Shark Fishing in the Caribbean Area," Mar., 1945. Mem.: A.C.S., A.O.C.S., Chicago Drug & Chem. Assn. Hobbies: fishing, hunting, sailing.

QUIGGLE, Dorothy, assoc. res. prof., chem., chem. engr., pet. ref. lab., Pa. State College, St. College, Pa.; res. 701 W. College Ave.
Res. chem., chem. engr.; b. Boston, Mass., Aug. 21, 1903; d. of Fred L. and Mabel Fountain Quiggle; ed. B.S. Chem. Engrg., M I.T., 1926; M.S. Chem. Engrg., 1927; Ph.D. Chem. Engrg., Pa. St. Coll., 1936. Res. asst. res. lab. appl. chem., M.I.T. 1927-29; res. asst. pet. ref. lab., Pa. St. Coll., 1935-37; asst. prof. chem. engrg.. 1937-39; assoc. prof. chem. engrg., 1939-50; assoc. res. prof. chem., chem. engrg., 1950 to date. Res., dev. wk., chem., chem. engrg., pet. ref., related fields. Contrib. extens. to sc. and tech. jls. Mem.: A.C.S., Sigma Xi, Iota Sigma Pi, Sigma Delta Epsilon (grad. women's hon. sc. res. org.). Hobbies: golf, taking moving pictures.

QUILL, Laurence Larkin, hd. & prof., dept. chem., Michigan State Coll., E. Lansing, Mich.; res. 306 Orchard St., E. Lansing.
Chem. & educat.; b. Carson City, Nev., Feb. 24, 1901; s. of Daniel W. and Nettie (Martin) Quill; ed. U. Nev., B.S., 1924; M.S., 1925; U. Ill., Ph.D., 1928; U. Göttingen, 1931-32; mem.: Lambda Chi Alpha, Alpha Chi Sigma; m. Marion Klavin, July 29, 1933; ch.: Mary Alice, Laurinda Lee. Sparks, Nev., H.S., tchr. sc., 1924-25; U. Ill.,

asst. chem., 1925-27; U. fellow, 1927-28; spec. res. asst. chem., 1928-29; instr. chem., 1929-30; assoc. chem., 1930-31; U. Göttingen, Natl. Res. fellow, 1931-32; U. Ill., assoc. chem., 1932-35; Ohio State U., asst. prof., 1935-38; assoc. prof., 1938-39; prof., 1939-42; U. Ky., prof. & hd. dept., 1942-45; chem., metallurg. project, U. Chicago, 1944-46; Mich. State Coll., prof. & hd. dept., 1945 to date. Rare earth elements & rare metals; extens. contribs. to sc. & tech. jls. Author: "Semimicro Qualitative Analysis" (with W.L. Evans, A.B. Garrett), Ginn & Co., 1940; "Fundamentals in Chem. for the Lab." (with W.C. Fernelius, A.B. Garrett), Ginn & Co., 1941, revised 1950; "Introduction to College Chem." (with W. McPherson, W.E. Henderson, W.C. Fernelius), Ginn & Co., 1942; "Introductory Chem. for the Lab." (with A.B. Garrett, F. Verhoek), Ginn & Co., 1942; Chap. 8, "New Products from Old Materials," in "Kentucky: Designs for Her Future," U. Ky. Press, 1945; "The Chem. & Metallurgy of Misc. Materials," McGraw-Hill, 1950; Chap. 22 (with C.J. Rodden), Chap. 29 (with J. Schubert, F.E. McKenna, J.C. Warf) & one of 4 genl. editors, "Analytical Chem. of the Manhattan Project," McGraw-Hill, 1950; secs. on "Barium Bromate" (with D.W. Pearce, R.G. Russell), "The Magnesium Rare Earth Nitrates" (with D.W. Pearce), "The Average Atomic Weight of Rare Earth Elements in a Mixture" (with S.A. Mayper & D.W. Pearce, G.L. Barthauer, R.G. Russell), & "Rare Earth Bromates" (with S. Riccardi & D.W. Pearce, R.G. Russell), in "Inorganic Syntheses" Vol. 2, McGraw-Hill, 1946; sec. on "The Extraction of Hafnium & Zirconium from Cyrtolite" (with W.C. Fernelius, E.M. Larsen), in "Inorganic Syntheses," McGraw-Hill, 1950. Mem.: A.C.S., A.A.A.S., Sigma Xi, Phi Lambda Xi, Natl. Sc. Tchrs. Assn., New Eng. Assn. Chem. Tchrs. Hobbies: bowling, athletics, reading.

QUILLERET, Pierre M., dir., Houdry Process Corp., 1528 Walnut St., Phila. 2, Pa.; res. 1701 Locust St., Philadelphia 3.
Conslt. foreign business; b. Paris, France, Mar. 6, 1897; s. of Ernest and Gabrielle (Marmissolle) Quilleret; ed. Lycee Condorcet, Paris, Paris U. Law School, LL.B., LL.M., 1921. Dir., Houdry Process Corp., Wilmington, Del.; dir. Houdry Belgian Co., Wilmington, Del.; dir. Chem. Conversion Co., Wilmington, Del.; dir. Oxy-Catalyst Mfg. Co., Wayne, Pa.

QUIMBY, Oscar T(aylor), res. chem., Procter & Gamble Co., Ivorydale, Ohio; res. 3129 Penrose Pl., Cincinnati 11, Ohio.
Chem.; b. Cascade, Mont., Oct. 15, 1901; s. of Elmer Ellsworth and Cora (Warrington) Quimby; ed. B.S., 1924, Mont. State Coll.; Ph.D., 1937, U. of Wis., Phi Kappa Phi; mem.: Alpha Chi Sigma; m. Marguerite Burnham Shirk, May 29, 1929; ch.: Barbara Mae, David Edgar, Marcina Jean. Instr., Mont. State Coll., 1924-26; anal., Anaconda Copper Mining Co., summer 1926; asst., U. of Wis., 1926-28; jr. chem., U.S. Forest Prods. Lab., Madison, Wis., 1928-30; res. chem., Procter & Gamble Co., Ivorydale, Ohio, 1930-35; grad. student, U. of Wis., 1935-37; res. chem., Procter & Gamble Co., 1937 to date. Chem. of sodium phosphates. Mem.: A.C.S., Am. Crystallographic Assn. Abstractor for "Chem. Abstracts."

QUINN, Bernard J., supt., Chas. Pfizer & Co., Inc., Vigo Plant, Terre Haute, Ind.; res. 561 South Brown Ave., Terre Haute.
Chem. engr.; b. East Williston, N.Y., Mar. 22, 1914; s. of Charles F. and Pauline W. Quinn; ed. B.S., Columbia U., 1936, Chem. Engrg. 1937; m. Muriel F. Burmester, Nov. 29, 1941; ch.: Bernard J., Evelyn M., Veronica F. Technologist, Shell Oil Co., 1937-41; process supvr., E.I. du Pont, 1941-44; prod. supt., E.I. du Pont, 1945; Chas. Pfizer & Co., Inc. 1945 to present. Mem.: A.C.S., A.I.Ch E. Clubs: Rotary, Terre Haute Country. Hobbies: golf, bowling.

QUINN, Elton LeRoy, prof. of chem., U. of Utah.; res. 1360 Browning Ave., Salt Lake City 5, Utah.
Teacher; b. Pittsfield, Me., July 26, 1887; s. of Wilbert P. and Florence O. Quinn; ed. Maine Central Inst. 1906, A.B., Bates Coll., 1910, Ph.D., Princeton U., 1913; m. Mary L. Ingram, Aug., 1914; ch.: Barbara Helen, Virginia Mae. Asst., Princeton U., 1910-12; res. chem., Bagdad Land and Lumber Co., 1913; prof. of chem., New Mexico State School of Mines, 1914-15; asst. prof. of chem., U. of Utah 1915-20; assoc. prof. 1920-28; prof. 1928 to date, hd. of dept. of chem. 1946-49; partner, secy., treas., Carbo Chem. Co. Author: "Laboratory Manual," 1920. University Press, "Laboratory Manual and Class Outline," 1933, Edwards Bros. publishers. Several revisions of the same. "Carbon Dioxide," A.C.S. Monograph 1936, Reinhold Pub. Co., N.Y. Mem.: A.C.S., A.A.A.S., Sigma Xi, Phi Kappa Phi, A.A.U.P.

QUINN, Robert John, asst mgr. sales, Industrial Chems., Mathieson Chem. Corp., Mathieson Bldg., Baltimore, Md.; res. 329 Dixie Dr., Towson, Md.
Chem. engr., sales exec.; b. Chicago, Feb. 5, 1890; s. of Thomas J. and Georgianna MacLean Quinn; ed. B.S. Chem. Engrg., U. of Ill.; mem.: Alpha Chi Sigma, Alpha Sigma Phi; m. Mathilda C. Jansen, Nov. 22, 1915; ch.: Robert MacLean Quinn. Morris Co., chem. engr. 1912-15; chf. chem. and supt. ammonia dept. 1916; Wahl-Henius Inst., conslt. chem. 1917; Midland Chem. Co., chf. chem. 1917; A. Diagger & Co. 1918-19; Mathieson Alkali Wks., Chicago dist. sales mgr. 1920-23; asst. sales mgr. 1923-40; asst. v.p., dir. sales 1940-45; Fla. Dist. sales mgr. 1945-49; asst. mgr. sales, Ind. Chem. 1949 to date. World War I, Cantonment Construction, Div. U.S.A.Q.M.C.; World War II, various advisory committees W.P.B. Mem.: A.C.S. (secy. Chicago section 1914-18; councillor, 1919; N.Y. Section councillor 1926); Salesman's Assoc. Am. Chem. Ind., treas. 1924-26, v.p. 1926-27, pres. 1927-28. Comp. Gas Assoc. pres. 1945. Clubs: Chem. (N.Y., Illini, N.Y.), Merchant's (Balt.), Balt. Country, Baltimore, Rotary (Towson, Md.). Hobby: golf.

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RABJOHN, Norman, assoc. prof. of chem., dept. of chem., U. of Mo., Columbia, Mo.; res. 115 Crestmere Ave., Columbia, Mo.
Teaching; b. Rochester, N.Y., May 1, 1915; s. of Alfred A. and Elizabeth M. Rabjohn; ed. B.S., June, 1937, U. of Rochester, magna cum laude; Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon; M.S., June, 1939, U. of Ill., Ph.D., June, 1942; mem.: Alpha Chi Sigma; m. Dora I. Taylor, Sept. 9, 1943; ch.: James Norman. June, 1937-Sept., 1938, Eastman Kodak Co., chem.; Sept., 1938-June, 1942, U. of Ill., grad. student; summer, 1939, Eastman Kodak Co.; summer, 1941, Rohm & Haas Co., chem.; June, 1942-Feb., 1944, instr. org. chem., U. of Ill.; Feb., 1944-Sept., 1948, asst. group leader, Goodyear Tire & Rubber Co.; Sept., 1948 to date, assoc. prof. of org. chem., U. of Mo.; secy. to Editorial Bd., Org. Syn., Inc. Publ. in fld. of org. chem. related to vapor phase chlorination, polymers & certain nitrogen cmpds. Mem.: A.C.S., A.A.A.S..

RABOLD, Charles Norris, dir. res. and dev., Erwin Cotton Mills Co., Cooleemee, N.C.; res. 31 Center St., Cooleemee, N.C.
Chem.; b. Altoona, Pa., Mar. 18, 1903; s. of John C. and Cora Rabold; ed. Altoona H.S., 1917-21; Dickinson Coll., Carlisle, Pa., 1921-25; Penn. State Coll., 1925-28; grad. wk.; A.B., Dickinson Coll.; mem.: Phi Delta Theta; m. Ferne E. Weiche, Oct. 2, 1935. Instr. in sc., Hollidaysburg H.S., Hollidaysburg, Pa., 1925-28; chem. and sect. lab. chf., Pacific Mills, Print Wks. Div., Lawrence, Mass., 1928-33; mem. of Res. Serv. Dept., Corn Prods. Refin. Co., Argo, Ill., 1933-34; chf. chem., Union Bleachery, Greenville, S.C., 1936-45; res. dir., Union Bleachery, 1945-48; conslt. editor, Textile World, McGraw-Hill Pub. Co., on Bleaching, Dyeing, Printing and Finishing, 1944 to date. Contrib. numer. arts. to sc. and trade jls.; author also of "Evaluation of Kupensaure Process," a paper read at Natl. Convention of the A.S.T.C.C., Dec., 1946. In 1945 visited Germany and Austria as mem. of a text. team to investigate their textile meths. and procedures; report of investigation listed as "Textile Series—Report No. 22," "Observations on the Dyeing and Finishing Indust. in Germany and Austria"; released for pub. information by Off. of Pub. Bd., U.S. Dept. of Commerce. Mem.: A.C.S., A.A.T.C.C. (pres.). Clubs: Poinsett (Greenville, S.C.), Chemists' (N.Y.C.), Salisbury Country (Salisbury, N.C.). Hobbies: pipe-collecting, gardening.

RADASCH, Arthur Hitchcock, prof. chem. engrg., hd. of dept., Cooper Union, Cooper Sq., N.Y. 3, N.Y.; res. 3 Windermere Rd., Upper Montclair, N.J.
Chem. engrg.; b. Longmeadow, Mass., June 25, 1898; s. of Edmund J. and Mary L. (Hitchcock) Radasch; ed. S.B., M.I.T., 1920; mem.: Tau Beta Pi; m. Katharine Warner, Sept. 22, 1919; ch.: Molly-Jane, Shirley E. Instr., Northeastern U., 1920-21; prof. chem., hd. dept., N.Y. State Coll. Ceramics, Alfred U., 1921-25, 1926-27, prof. ceramic engrg. 1925-26; chem. engr., res. & dev. dept., Barrett Co., N.Y.C.; prof. chem. engrg., hd. dept., Cooper Union, 1938 to date. Conslt., distillation of coal tar, refining of coal tar oils, U.S. & Canadian pats. Author: "Industrial Stoichiometry" 1926. Mem.: A.I.Ch.E., A.C.S., A.S.E.E., Tau Beta Pi. Hobby: genealogy.

RAETZSCH, Alvin Thomas, supt. of operations, Southern Alkali Corp., Lake Charles, La.; res. 115 Yale Dr., Lake Charles, La.
Chem. engr.; b. San Marcos, Texas, Dec. 28, 1915; s. of Carl W. and Alice Pieper Raetzsch; ed. Seguin High School, 1933, Texas Lutheran Coll., 1935, The U. of Texas, 1938, B.S., in chem. engrg.; mem.: Delta Kappa Epsilon; m. Leah Wilson, Sept. 3, 1939; ch.: Susan, Hugh Wilson, Nancy. Chem. engr. trainee, 1938-39, Southern Alkali, C.C., Tex.; process lab. foreman, 1940-41, Southern Alkali, Corpus Christi, Tex.; tech. asst. to prod. supt., 1942-45, same; asst. prod. supt., 1946, asst. supt. of operations, 1947-48, same co. Lake Charles, La., supt. of operations 1949-50, Lake Charles, La. Mem.: A.C.S., A.I.Ch.E. Member of Lake Charles Assoc. of Commerce. Clubs: U. of Texas Ex-Students Assoc., Lake Charles Golf and Country. Hobbies: hunting, fishing, swimming, golf.

RAFF, Rudolf August Victor, sr. fellow, Mellon Inst. of Indus. Res., 4400 Fifth Ave., Pitts., Pa.; res. 5830 Fifth Ave., Pitts.
Ind. res. chem.; b. Vienna, Austria, Dec. 6, 1908; s. of Rudolf and Emma Raff; ed. 1932, Ph.D., U. of Vienna, in chem., physics & biology; m. Marie Therese Dufresne, Nov. 9, 1939; ch.: Rudolf Albert Joseph, Emma Margaret, Robert Frederick Conor. 1930-36, lecturer, U. of Vienna; 1936-39, commissioner of pats., Austrian State Pat. Office; 1939-41, res. chem., Shawinigan Chem. Ltd., Shawinigan Falls, Canada; 1941-49, res. chem., Central Res. Labs., Howard Smith Paper Mills, Ltd., Cornwall, Canada; 1949 to date, sr. fellow, Fellowship on Special Resins, sponsored by Koppers Co., Pitts. Publ. in flds. of high polymers, incl. vinyls, phenolics & glyptals; printing inks; pulp & paper technology; waste utilization in pulp industry; uses for lignin; mfr. of lignin plastics; special resins. Co-author: "High Polymeric Reactions—Their Theorys & Practice," publ. by Intersc. Publishers, Inc., N.Y., 1941. Mem.: Chem. Inst. of Canada (fellow), A.C.S. Hobbies: nature, music, books.

RAFFERTY, James A., v.p., dir., Union Carbide & Carbon Corp., 30 E. 42nd St., N.Y. 17, N.Y.; res. Bellevue Ave., Rye, N.Y.
V.p., dir., mem. of exec. comm.; b. Chicago, Ill., May 4, 1886; ed. Lewis Inst. of Tech., M.E., 1908; Ill. Inst. of Tech., doctor of engrg. (hon.), 1944. Peoples Gas, Light & Coke Co., 1908, supt. of distribution 1917; Linde Air Prods. Co., asst. gen. supt. of plants, 1917, v.p. 1925; Prest-O-Lite Co., v.p. 1927; Carbide & Carbon Chem. Corp., gen. mgr. 1920, v.p. 1924, pres. 1929, chmn. of bd. 1944; Bakelite Corp., pres. 1939, chmn. of bd. 1944; Union Carbide & Carbon Corp., v.p. 1939, dir. 1942; U.S. Vanadium Corp. (dir.), Carbide & Carbon Chem. Ltd. (chmn. of bd.), Oxweld Railroad Service Co. (dir.), Bakelite Co. (Canada) Ltd. (chmn. of bd.). Award: Chem. Ind. M. 1948.

RAFTON, Harold Robert, pres., Rafton Labs., Inc., 16 Haverhill St., Andover, Mass.; res. Alden Rd., Andover.
Chem.; b. Boston, Mass., Dec. 21, 1890; s. of Saul and Sarah Hyman Rafton; ed. Harvard U., A.B., 1910, summa cum laude, highest honors in chem.; mem.: Phi Beta Kappa; m. Helen Frances Grayson, Mar. 30, 1922; ch.: Eleanor (Mrs. Harold N. Gordon). N.D. Agr. Coll., instr. chem., 1910-11; S.D. Warren Co., chem. 1911-16; Raffold Co. of Am., pres., chem. dir., 1916 to date; Rafton Labs., Inc., Raffold Process Corp., Rafton Engrg. Corp., Raffold Internatl. Corp., pres. 1928 to date. U.S. Chem. Warfare Serv., 1st Lt. 1918. Res. in utilization waste lime mud; sizing paper filled with calcium carbonate; coated paper; mfg. & use of alkaline fillers; causticizing process; modifying properties of pigments; chem. engrg. dev., Rafton valve, Rafton Mill. Holds over 90 U.S. & 60 foreign pats. Author: arts. on papermaking; also on humanism, freedom of speech, separation ch. and state. Mem.: A.A.A.S. (fellow), A.C.S., N.Y. Acdy. of Sc., T.A.P.P.I., S.C.I. (Brit.). Dir., Amer. Humanist Assn, pres., Humanist Fellowship of Boston. Clubs: Chem. (N.Y.), Harvard (Boston & Andover), Andover Service, Appalachian Mt. Hobbies: (physical) climbing, aquatic sports, (intellectual) fostering humanism, working to uphold Amer. liberties.

RAGATZ, Roland Andrew, chmn., dept. of chem. engrg., Chem. Engrg. Bldg., U. of Wis., Madison, Wis.; res. 4106 Cherokee Dr, Madison.
Teacher; b. Prairie du Sac, Wis., Dec. 19, 1898; s. of John J. and Anna Tarnutzer Ragatz; ed. U. of Wis., B.S. chem. engrg., 1920, M.S., 1923, Ph.D., 1931; mem.: Alpha Chi Sigma, Tau Beta Pi, Phi Lambda Upsilon, Sigma Xi; m. Nancy G. Hansen, Mar. 15, 1930; ch.: Helen Karen, Andrew Roland. U. of Wis, instr., chem. engrg., 1920-26, asst. prof., chem. engrg. 1926-29; A.O. Smith Corp., Milwaukee, Wis., res. engr. 1929-30; U. of Wis., asst. prof. chem. engrg. 1930-37, assoc. prof. 1937-42, prof. 1942 to date; chmn., dept. of chem. engrg. 1941-46, 1949 to date. Res. in heat treatment of steel; low temp. reduction of

ores; catalysts for carburization of steel; chem. engrg. thermodynamics. Co-author: "Applications of Chem. Engrg." 1940. Mem.: A.I.Ch.E., A.S.E.E., A.C.S., A.S.M., A.A.U.P. Club: University (Madison, Wis.).

RAGLAND, Tom Rush, Jr., gen. supt., Carbide & Carbon Chemicals Div., Union Carbide and Carbon Corp., 437 MacCorkle Ave., South Charleston, W. Va.; res. 920 Newton Rd., Charleston, W. Va.
Plant management; b. Lynchburg, Va., July 31, 1907; s. of Tom Rush and Lucy Hutter Ragland; ed. B.S. chem., Virginia Military Inst., 1928; m. Nancy Thomas, Apr. 7, 1934; ch.: Tom Rush Ragland, III, John Thomas Ragland, Chris Warren Ragland. Following positions held with Carbide and Carbon Chemicals Div., Union Carbide and Carbon Corp.: Prod. Engineering Dept., 1930; shift foreman 1933, asst. dept. hd., chemical units to 1934; supt. Raw Material Plant, Diamond, W. Va., to 1937; asst. to asst. supt., Gas Div., So. Charleston Plant to 1940; asst. supt., South Charleston Plant, Gas Div., to 1945; gen. supt., South Charleston Plant from 1945 to present time. Trustee or dir.: Charleston Memorial Hospital Assoc., West Virginia Manufacturers Assoc., Charleston Chamber of Commerce, Morris Harvey College, Boy Scouts of America, American Red Cross. Clubs: Edgewood Country, Kanawha Country, Rotary Club. Hobbies: golf, fishing.

RAHN, Henry Wilford, dir., res. & dev. dept., Southern Alkali Corp., P.O. Box 4026, Corpus Christi, Texas; res. 3644 Sobey Dr., Corpus Christi.
Chem. engr.; b. Duluth, Minn., Jan. 21, 1912; s. of Chris and Marie Rahn; ed. U. of Minn., 1933, B.S. chem. engrg., cum laude; mem.: Theta Tau, Tau Beta Pi, Phi Lambda Upsilon; m. Evelyn Jackson, May 19, 1939; ch.: Carol Flicka, Russell C. Nov., 1933-Aug., 1934, Pitts. Plate Glass Co., Columbia Chem. Div., Barberton, Ohio, analytical chem.; Southern Alkali Corp., Corpus Christi: Aug., 1934-May, 1938, asst. chf. chem.; May, 1938-Nov., 1941, asst. tech. dir.; Nov., 1941-Oct., 1945, tech. dir.; Oct., 1945 to date, dir., res. & dev. dept. Mem.: A.I.Ch.E., A.C.S., Electrochem. Soc. Hobbies: tennis, fishing, hunting, primarily music.

RAINARD, Leo Walter, chf., chem. & prods. res. sec., res. & dev. div., Alexander Smith & Sons Carpet Co., Yonkers 1, N.Y.; res. 93 Front St., Nyack, N.Y.
Chem.; b. Arlington, Mass., Sept. 23, 1917; s. of Stanley Martin and Julia Louise Rainard; ed. M.I.T.; m. Martha Avanel Blanchard, Aug. 11, 1940; ch.: Barbara Joan, Walter Leo, Paul David, Stephen Martin. Teaching fellow, M.I.T., 1941; Atlantic Res. Assoc., res. chem., 1941-43; Gen. Latex & Chem. Co., hd. of res. lab., 1943-45; Inst. of Textile Technol., res. assoc., 1945-47; Alexander Smith & Sons Carpet Co., chf., chem. & prod. res., 1947 to date. Emulsion polymerization mechanism, wool chem., syn. protein fibers. Mem.: Sigma Xi, A.C.S., Fiber Soc. Hobbies: music, gardening.

RAINEY, Charles Clark, pat. advisor, res. & dev. br., military planning div., Quartermaster Corps, Department of the Army, Philadelphia Quartermaster Depot, Phila., Pa.; res. 70 E. Clearfield Rd., Havertown, Pa.
Chem.; b. Atlanta, Ga., Apr. 28, 1910; s. of James Glenn and Minnie Lee (Weddington) Rainey; ed. A.B., Emory U., 1931 (magna cum laude), Ph.D., Johns Hopkins U., 1934; m. Ethel Elizabeth Cann, Aug. 18, 1936; ch.: Clark, Matilda. Instr., Johns Hopkins U., 1934-35; prof., Berry Coll., 1935-38; instr., U. of Tenn., 1938-39; E.I. du Pont de Nemours & Co., pat. investigator and res. chem., 1939-48; Res. and Dev. Branch, Military Planning Division, Quartermaster Corps, Dept. of the Army, pat. advisor from 1948 to present. Mem.: A.C.S., A.A.A.S., Sigma Xi, Phi Beta Kappa. Hobbies: tennis, photography.

RAKE, Geoffrey W., medical dir., E.R. Squibb & Sons, dir., Squibb Inst. for Medical Res., 745 Fifth Ave., N.Y. 22, N.Y.; res. Millstone, N.J.
Physician; b. Fordingbridge, England, Oct. 18, 1904; s. of Herbert Vaughan and Rosemary (Satchell) Rake; ed. U. of London, Guy's Hosp., London, England, 1928, M.B., B.S.; m. Helen P. Jones, 1946; ch.: Adrian Vaughan, Geoffrey William, Jr., Juliet Alden. House physician, Guy's Hosp., 1927-28; asst., instr., pathology, Johns Hopkins U., 1928-31; asst., 1931-34, assoc. 1934-36, Rockefeller Inst., N.Y.C.; res. assoc., Connaught Labs., Toronto, Canada, 1936-37; hd., div. of microbiol., Squibb Inst. for Med. Res., 1937-49; dir., med. div., E.R. Squibb & Sons, 1949 to date; dir., Squibb Inst. for Med. Res., 1949 to date. Res. in chemotherapy. Author: chapter in Bergey's Manual of Determinative Bacteriology, 6th edit., 1948: "Order Rickettsiales"; chapter in Diagnostic Procedures for Virus & Rickettsial Diseases, 1st edit., 1948, "Lymphogranuloma Venereum"; chapter in Symposium on the Diagnosis of Viral & Rickettsial Diseases, 1948, "The Diagnosis of Infections Caused by the Psittacosis, etc."; chapters in Viral & Rickettsial Infections of Man, 1948, chapter 18 "Measles," chapter 19 "Rubella," chapter 20 "Exanthem Subitum." Mem.: S.A.B., Am. Assn. Immunologists, S.E.B.M., N.Y. Acdy. of Med., Royal Soc. of Med., Harvey Soc., Am. Soc. Tropical Med., N.Y. Acdy. of Sc., Am. Public Health Assn. Awards: Stokes traveling scholar, Beaney prize, Rettlinger prize, Hilton prize, Stokes prize, Treasurer's M. Clubs: University, Charaka (N.Y.). Hobbies: ceramics, medical history.

RAKESTRAW, Norris Watson, prof. of chem., Scripps Institution of Oceanography, La Jolla, Calif.; res. 21 Discovery Way, La Jolla.
Teaching, res.; b. Toledo, Ohio, Jan. 16, 1895; s. of Edwin Wellman and Clara (Norris) Rakestraw; ed. Stanford U., A.B., 1916, A.M., 1917, Ph.D., 1921; mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon; m. Beatrice M. Brasefield (divorced); Hazel West Stapp, Dec. 19, 1939; ch.: Robert N., Douglas C. Instr. in chem., Stanford U., 1919-24; asst. prof. of chem., Oberlin Coll., 1925-26; asst., assoc., full prof., Brown U., 1926-46; Scripps Institution of Oceanography, U. of Calif., 1946 to date; res. assoc., Woods Hole Oceanographic Institution, 1931-46. Edit., Journal of Chem. Ed. 1939 to date. Mem.: Phi Delta Kappa, A.A.A.S., A.C.S., A.S.Biol.C., A.A.U.P., Am. Geophysical Union. Hobby: aviation.

RALEY, Charles F., res. chem., Southwest Res. Inst., P.O. Box 2296, San Antonio 6, Tex.
Res. chem.; ed. B.S., 1943, U. of Notre Dame; M.S., 1947; Ph.D., 1950, U. of Delaware. Jr. res. chem., E.I. du Pont de Nemours; nylon operator, same firm; proc. dev., Southwest Res. Inst.; author of sev. arts. in sc. jls.; spec. flds.; org. chem., phys. chem., air-oxidation of drying oils, Grignard reactions, free radical reaction mechanisms. Mem.: A.C.S.

RAMBO, Arthur I., plant mgr., Clorox Chem. Co., 51 Pacific Ave., Jersey City, N.J.; res. 16 Howard St., Verona, N.J.
Chem.; b. Pueblo, Colo., Jan. 4, 1903; s. of Eli T. and Julia A. Gray Rambo; ed. Pomona Coll., B.A., chem. 1931, Claremont Coll., M.A., chem., 1932, Stanford U., 1934, no degree; m. Dorothy V. Miller, Nov. 13, 1926; ch.: Norma V., Arthur Terry. Natural Soda Products Co., Keeler, Calif.,

res. chem.; Emeryville Chemical Co., Emeryville, Calif., v.p., and dir.; Wyandotte Chemicals Corp., Wyandotte, Mich., pilot plants mgr.; Clorox Chem. Co., Jersey City, N.J., plant mgr. Mem.: A.C.S. Hobbies: machine shopwork, camping, hunting.

RAMSDEN, Allyn M., gen. supt., mfg. operations of entire Watkins system, J.R. Watkins Co., 150-178 Liberty St., Winona, Minn.; res. Homer, Minn.
Chem. engr.; b. Homer, Minn., Feb. 4, 1906; s. of John W. and Leona M. (Mettille) Ramsden; ed. St. Mary's Coll., Winona, Minn., 2 yr. course pre-engrg.; U. of Minn., 4 yr. course, B. Chem.; also did wk. toward Master's deg. under direction of Schl. of Mines, U. of M.; held tech. assistantship in Schl. of Mines for one yr. during time working for Master's Deg.; m. Gertrude V. Lynsky, Aug. 29, 1932; ch.: Elizabeth A., Margaret L., John W. Started wk. with J.R. Watkins Co. as soon as grad. from U. starting as supvr. in drug & tablet making dept.; worked way up through ranks into Winona prod. supt. & finally to gen. supt. covering entire system. Thesis on the soda reagent meth. for determining hardness in waters. Mem.: A.C.S. Received honorable mention with honors during W.W. II for the prod. of matl. for U.S. Armed Forces. Dir. of the Grade Schl. in the district in which resides. Clubs: Exchange, Service Organization. Hobbies: fishing, hunting, horticulture, especially interested in the growing of apples, pears & cherries, owner of Cider Knolls Orchards.

RAMSKILL, Eugene Alfred, hd. protective chem. br. chem. div., Naval Research Lab., Wash. 25, D.C.; res. 2921 W St. S.E., Wash. 20, D.C.
Chem.; b. Burlingame, Kans., Aug. 22, 1912; s. of Arthur C. (dec.) and Sarah J. Ramskil; ed. Washburn U., B.S., 1935; Kans. U., M.A., 1937, Ph.D., 1940, Phi Beta Kappa, Sigma Xi, 1937; mem.: Alpha Delta (Washburn U.); m. Viola McDermott, Sept. 2, 1944; ch.: Donna Jeanne, Vicki Leigh. Naval Res. Lab. 1940 to date: res. chem. 1940-43, sub-sec. hd. 1943-45, branch hd. 1946 to date. Res. on non-aqueous solvents, alkali peroxides, gas adsorption & catalysis, & light scattering & filtration of aerosols. Mem.: A.C.S. (1937 to date). Hobbies: golf, model railroading.

RAND, William McNear, pres., Monsanto Chem. Co., 1700 S. Second St., St. Louis 4, Mo.; res. 9928 Litzinger Rd., St. Louis Co. 17.
Chem. mfr.; b. Watertown, Mass., Apr. 7, 1886; s. of William Dwight and Emily (McNear) Rand; ed. Phillips Exeter Acdy. 1903-05; A.B., Harvard Coll., 1909; LL.D., Northeastern U. (hon.), 1946; mem.: Theta Delta Chi; m. Lucy Kimball Robbins, Sept. 17, 1914; ch.: Emily L. (Rand) Herman, William M., Lucy R. (Rand) Abbot, John R., Peter W. Began as bank messenger 1909; teller, Mutual Natl. Bank, Boston 1911-13; treas., City Fuel Co. 1913-19; treas., Merrimac Chem. Co. 1919-21, v.p. 1921-35, pres. 1935-38; pres., dir., Monsanto Chem. Co. and successor 1945 to date; First Natl. Bank of St. Louis (dir.); St. Louis Union Trust Co. (dir.); John Hancock Mutual Life Ins. Co. (dir.); Liberty Mutual Ins. Co. (dir.); Bd. of Overseers of Harvard Coll. (overseer); St. Louis Chamber of Com. (dir.); Mfg. Chemists Assn. (dir., chmn. of bd.); Associated Ind. of Mass. (dir.). Pres., Greater St. Louis Community Chest; trustee, Midwest Res. Inst.; mem. of Corp. of Northeastern U.; trustee of Governmental Res. Inst. Clubs: Harvard (Boston & St. Louis); St. Louis Country; Racquet (St. Louis); Noonday (St. Louis); Links (N.Y.); Deer Creek (St. Louis); Chemists' (St. Louis); Cruising Club of Am.; Round Table (St. Louis). Hobbies: sailing, fishing, hunting.

RANDALL, David Lindsey, prof. of chem., Albion Coll., Albion, Mich.; res. Albion, Mich.
Prof. of chem.; b. Dec. 8, 1882; s. of George Walter and Mary Alice (Lindsey) Randal; ed. A.B., Yale, 1904, A.M., 1905, Ph.D., 1907; mem.: Sigma Phi Epsilon; m. Eugenia Schelde, Aug. 17, 1910; ch.: Alice Evelyn (Randall) Kilgour, Dr. David S., Helen Carolyn (Randall) Lawton, John W. Instr., N.H. U., 1907-10; prof., Baker U. (Kans.), 1910-18; assoc. prof., Wesleyan U. (Conn.), 1918-19; prof., Albion Coll., 1919 to date. Mem.: A.C.S., Sigma Xi, A.A.U.P.

RANDLE, Stacy B(oyce), state chem., N.J. Agr. Expt. Sta., Rutgers U., New Brunswick, N.J.; res. 2 Paulus Blvd., New Brunswick, N.J.
Chem.; b. Blue Springs, Miss., July 30, 1905; s. of Leslie C. and Pearl Roberts Randle; ed. U. of Miss., A.B., 1930, M.S., 1935; U. of Wis., Ph.D., 1939; m. Vivian Hudnall, June 9, 1935; ch.: Mary Lou, Margaret. Teacher, H. Schls., Miss. 1930-32; teach. asst., Miss. 1932-34; hd. dept. sc., University H.S. 1934-37; asst., biochem., U. of Wis., 1937-39; post-doctorate fellow 1939-40; chem., dept. feed & fertilizer, Ky. Agr. Expt. Sta. 1940-46; State Chem., N.J. Agr. Expt. Sta., Rutgers U., 1946 to date. Res. in animal nutrition, vitamins, vitamin K requirement of poultry, fat determination; chem. of feeds, fertilizer, insecticides. Mem.: A.C.S., Sigma Xi, Gamma Alpha, Phi Sigma.

RANDOLPH, Edgar Eugene, conslt. chem. engr. & chem., 212 Groveland Ave., Raleigh, N.C.; res. same.
Chem.; b. Mecklenburg County, N.C., July 22, 1878; s. of John and Eugenia (Grier) Randolph; ed. A.B., U. of N.C., 1904, A.M., 1906, Ph.D., 1907; m. Ora Huffman, Dec. 30, 1909; ch.: Edith (Mrs. B.T. Williams). Carnegie asst., Coll. City of N.Y., 1905; prof. sc. Lenoir-Rhyne Coll. 1907-09; Elon Coll. 1909-18; A.&M. Coll. of Texas, 1918-20; prof. ch. engrg. N.C. Agr. and Engrg. Coll. 1920; hd. of dept. 1924-46; summers app. St. Normal Coll. 1910-16, Tulane, 1919, ranger Yellowstone Natl. Park 1920; special grad. study in ch. engrg., M.I.T. summers of 1921, 1922, 1923, 1924. Contrib. extens. to sc. and tech. journals. Mem.: A.I.Ch.E., A.C.S., Academy of Sc. (North Carolina), Registered Chemical Engr. in N.C. Trustee, Holy Trinity Lutheran Church in Raleigh; dir. Capital Construction Co., Raleigh, N.C. Club: Civitan.

RANDOLPH, Wendell Govers, pres., Randolph Prods. Co., Carlstadt, N.J.; res. 377 Walnut St., Englewood, N.J.
Exec.; b. N.Y.C., Oct. 13, 1895; s. of William T. and Esther E. Randolph; ed. B.S. with hon. in chem. 1916, Ch.E. 1919, Columbia U.; mem.: Phi Beta Kappa, Tau Beta Pi, Phi Lambda Upsilon; m. Altje I. Hamilton, May 25, 1934; ch.: Joanna A., John H. C.W.S., W.W. I, 1917-18; Central Dyestuff & Chem. Co., 1920; Randolph Prods. Co., 1932 to date; engaged since 1920 in lacq. ind., from 1920 to 1932 employed by others, as chem., and since 1932 in own enterprise. Participated since 1920 in dev. of modern lacq. ind. & other phases of protective coatings. Mem.: A.C.S., A.I.Ch.E. Clubs: Lake Mohawk Country, Englewood Field. Hobbies: aviation, motorboating.

RANKIN, James J., prod. engr. & chf. chem., St. Joseph Lead Co., Box 97, Monaca, Pa.; res. 149 Taylor Ave., Beaver, Pa.
Prod. engr., chf. chem.; b. N.Y.C., Dec. 11, 1892; ed. Columbia, 1915-20; m. Lelia Fair, June 25, 1921; ch.: 2 daus. Phelps Dodge Corp., asst. res. chem. 1919-20; St. Joseph Lead Co., asst. chem. 1920-21, mine rep. 1921-24, chf. chem. 1924-30, chf. chem., prod. engr. 1930 to date. U.S.A. 1918-19.

Author or co-author of tech. pubs. in the fld. of metallurgy, zince oxide pigments and rubber tech. Mem.: A.C.S., A.I.M.E., Amer. Ceramic Society. Clubs: Federation of Paint & Varnish Production Clubs, Beaver Valley Country. Hobby: gardening.

RANKIN, Lanning P., div. hd., resin bond res., Bakelite Corp., 230 Grove St., Bloomfield, N.J.; res. Mendham Rd., Bernardsville, N.J.
Res. chem.; b. Kansas, Dec. 21, 1903; s. of Roy and Laura Rankin; ed. A.B., U. of Kansas, 1924, A.M., 1925, Ph.D., 1936; m. Elizabeth Campbell, 1926; ch.: Robin Ariel, Carol Diane, Roger Lanning, Jerry Deane, Ronald Scott, Dennis Campbell, Eric Lynn. Asst. State Food Anal., Kansas U., Lawrence, 1924-25, 1934-36; res. chem., Hercules Powder Co., 1925-30; sc. instr., Norton, Kansas Community H.S., 1930-33; res. chem. and Naval Res. Labs. Anacastia, D.C., 1936; res. chem., Bakelite Corp., 1936 to 1945, div. head, 1945 to date. Res. in naval stores plastics. Mem.: Delta Epsilon, Sigma Xi. Hobbies: radio and telescopes.

RAPP, Janet L(orraine) C(ooper), dir. res., Archem Corp., Crete, Neb.; res. Gaylord Hall, Crete.
Physiol. chem.; b. Newark, N.J., Nov. 3, 1921; d. of William H., Jr. and Florence L. Cooper; ed. B.Sc. New Jersey Coll. for Women, 1943; M.S., 1945, Ph.D., 1948, U. of Ill.; m. William F. Rapp, Jr., Sept. 30, 1944. Asst., Conn. Agr. Experiment Sta., summer, 1942; fellow, N.J. Agr. Experiment Sta., 1943-44; asst., Dept. of Botany, U. of Ill., 1944-47; natural history survey, div. of Entomology, Urbana, Ill., summer 1945; fellow in entomology, graduate college, U. of Ill., 1947-48; instr., Doane College, Crete, Nebraska, 1948-49; Archem Corp., 1949 to date. Res. in study of the chloride ion in insect hemolymph, study of edible fungicides on grain. Mem.: Am. Soc. of Econ. Entomologists, Sigma Xi, Phi Sigma. Clubs: Am. Assoc. of U. Women. Hobby: photography.

RASSWEILER, Clifford Fred, v.p. for res. and dev., Johns-Manville Corp., 22 E. 40th St., N.Y. 16, N.Y.; res. 9 Montview Ave., Short Hills, N.J.
Bus. exec.; b. Polo, Ill., May 18, 1899; s. of George Fred and Agnes Mary (Klopp) Rassweiler; ed. U. of Denver, B.S. in Chem., 1920; U. of Ill., M.S., 1922, Ph.D., 1924; U. of Denver, Sc.D., 1947; mem.: Lambda Chi Alpha, Gamma Alpha, Phi Lambda Upsilon, Sigma Xi, Phi Beta Kappa; m. Mary L. Hancock, Aug. 6, 1927; ch.: John Hancock, James Clifford. E.I. du Pont de Nemours & Co., res. chem., exper. sta., Wilmington, Del. 1924-27, asst. dir., Phila. Lab. 1927-33, dir., Phila. Lab. 1933-41; Johns-Manville Corp., dir. res. & dev. 1941-42, v.p. for res. & dev. 1942 to date. Res. in modification of nitrocellulose lacquers for household use; intro. of alkyd synthetic resins into paints, enamels, varnishes. Mem.: A.I.C. (fellow), A.C.S. (councilor N.Y. sect. since 1945; chmn. 1948-49, dir. 1945-50), A.I.Ch.E., Franklin Inst., N.Y. Acdy. of Sc., A.A.A.S., Natl. Res. Council (Div. Engr. & Indus. Res.: mem. at large 1949-52, chmn., exec. com., bldg. res. advisory bd. since 1949), Industrial Res. Inst., Inc. (dir., 1948-51, v.p. 1949-50, pres. 1950-51), S.C.I. (Amer. sect., exec. com. 1950-53). Clubs: Chemists' (N.Y.) (trustee 1949-52), Baltusrol Golf (Springfield, N.J.), Short Hills (N.J.). Hobbies: golf, photography.

RATICHEK, Anthony J., v.p., Bishop Mfg. Corp., 405 E. 23rd St., N.Y.C.; res. 24 Manor Hill Rd., Summit, N.J.
Exec., chem. engr.; b. Gutenberg, N.J., Apr. 29, 1914; s. of Stanley and Stella Ratichek; ed. A.B., B.S., Chem. Engrg. M.S.; mem.: Phi Lambda Upsilon, Sigma Xi, Theta Tau, Engr. Soc. (treas.); m. Jeanne E. Caskey, Jan. 1, 1943; ch.: John Anthony, Suzanne. 1931-42, Natl. Sugar Refining Co., asst. supt.; 1942-47, U.S. Rubber Co., supt. prod. area; 1947 to date, Bishop Mfg. Corp., v.p. and dir.; Bishop Gutta Percha Co. (v.p., dir.). Res. & dev. sucrose cmpds., electro-codeposition mtls. & syn. rubber. Mem.: A.C.S., A.I.Ch.E., A.S.T.M. Comm, A.A.A.S., N.Y. Rubber Group. Club: Columbia. Hobbies: sailing, gardening.

RAUCH, L.A., sales mgr., Schaar & Co., 754 W. Lexington St., Chicago 7, Ill.; res. Highland Park, Ill.
Chem. lab. equip. sales; ed. U. of Ill., B.S. Chem. Engrg., 1932. Secy.-treas., dir., Schaar & Co. Mem.: A.C.S., A.I.C., Inst. Food Techs. Club: Chicago Chemists'.

RAUCHFUSS, Arthur Alfred, asst. dept. sales mgr., Am. Cyanamid Co., Calco Chem. Div., Bound Brook, N.J.; res. 23 Arlington Rd., Cranford, N.J.
Exec.; b. Bklyn., N.Y., July 9, 1886; s. of Oscar Alfred and Clara B. Rauchfuss; ed. Bklyn. Polytech. Inst., 1909, B.S. in chem.; mem.: Pi Kappa Phi, Alpha Xi Chapter; m. Estelle G. Bigley, Jan. 15, 1914; ch.: Arthur A., Jr., Kathryn E. 1905-09, shop asst., Bklyn. Polytech. Inst.; 1909-11, asst. chem., Bklyn. Rapid Transit, Kent Ave. Lab.; 1911-18, installed chem. & control lab., Robet. Gair Co., Bklyn., N.Y.; 1910-18, lab. instr. org. lab., Bklyn. Polytech. Inst. Evening Schl.; 1918, civilian chem. in chg., C.W.S., Jos. Wild Co., gas mask felts; 1919, installed chem. lab. & control lab., Natl. Folding Box Co., New Haven, Conn.; 1919-23 Am. Cyanamid Co., Calco Chem. Div., in chg. lab. for standardization dyes & intermediates for dry color mfr., 1923-46, sales to dry color mfrs., 1946 to date, asst. dept. sales mgr. Clubs: Suburban Golf, N.J. Seniors Golf Assn. Hobbies: photography, golf, big game hunting (two pack train trips to British Columbia, Canada).

RAUSCHER, William H., prof. org. & high polymer chem., Walker Lab., Rensselaer Polytech. Inst., Troy, N.Y.; res. 170 North Lake Ave., Troy.
Coll. prof.; b. Sherrill, N.Y., Oct. 1, 1903; s. of John A. and Bertha (Ottoway) Rauscher; ed. Sherril H.S.; Rensselaer Polytech. Inst., Ch.E, 1926, Ph.D., 1937; m. Lillian M. Whitehurst, Aug. 31, 1929; ch.: Herbert E. Instr. in chem., R.P.I., 1926-37, asst. prof. chem. 1937-45, assoc. prof. chem. 1945-48, prof. org. & high polymer chem. 1948 to date. Res. in micro-org. anal., qualitative org. anal., gen. syn. org., fungicides, high polymers. Mem.: Sigma Xi, A.C.S.

RAVENSCROFT, Edward Abbott, dir. of engrg., Abbott Labs., 14th & Sheridan Rd., N. Chic., Ill.; res. 544 Park Ave., Glencoe, Ill.
Dir. of Engineering; b. Chicago, Ill., Nov. 24, 1907; s. of Edward H. and Lucy M. Ravenscroft; ed. graduate of U. of Mich., M.S. in chem. engineering, 1929; mem.: Theta Xi, Phi Kappa Phi, Scabbard and Blade; m. Nona Burel, 1931; ch.: Edward, Jr., Robert B. Held the following positions with Abbott Laboratories since 1929: chem. engr., 1929-35; supvr. of cost accounting 1932 to date; chf. engr., 1935; elected to Bd. of Directors in 1944, and to Exec. Comm. in 1947. Contrib. extensively to sc. and tech. journals. Mem.: Sigma Xi, A.I.Ch.E., Natl. Assoc. of Cost Accountants, Exec. Comm. of the Ill. Mfrs. Cost Assn. for many yrs. and their v.p. and then pres. for a 2-yr. term. Trustee of Highland Park Hospital, serving on building comm. Hobbies: model railroading, served as pres. of the Natl. Model Rail-

road Assoc., in 1945 and 1946, and treasurer from 1948 to date.

RAWLINS, George Mimms, Jr., prof. chem., Austin Peay State Coll., Clarksville, Tenn.; res. R. 1, Guthrie, Ky.
Chem. teacher; b. Montgomery Co., Tenn., Nov. 30, 1902; s. of George M. and Emma K. Rawlins; ed. Southwestern Presbyterian U., B.S., 1925; George Peabody Coll. for Teachers, M.A., 1932, Ph.D., 1934; mem.: Phi Delta Kappa, Kappa Delta Pi; m. Margaret Freeman, Apr. 24, 1935; ch.: George, III, Margaret, II. Joint High Schl., Clarksville, Tenn., 1925-31, gen. sc. & math. 1925, chem. & physics 1926-31; fellowship instr. in chem., Peabody Coll., 1932-34; instr. of chem., Wilson Teachers Coll., Wash., D.C., 1934-36; hd. dept. of sc., Div. 1-9, Public Schls. of the D.C., 1936-46; prof. of chem., Austin Peay State Coll., 1946 to date. Co-author: "Before You Fly," Henry Holt & Co., 1942; "Chem. in Action," D.C. Heath & Co., 1948; "Chem. in Action in the Lab." Heath. Mem.: A.C.S., A.A.A.S., Natl. Sc. Teachers Assn., Natl. Assn. for Res. in Sc. Teaching, Natl. Ed. Assn., Tenn. Ed. Assn. Hobbies: Indian relics, farming.

RAY, Arthur Benning, sales mgr., spec. prods., Carbide & Carbon Chems. Div., Union Carbide & Carbon Corp., 30 E. 42nd St., N.Y., N.Y.; res. 104 Summit Rd., Port Wash., N.Y.
Chem.; b. N.C., Sept. 12, 1889; s. of Bryant Wesley and Helen Betts Ray; ed. Wake Forest Coll., B.A. & M.A.; Cornell U., Ph.D.; mem.: Alpha Chi Sigma; m. Deolice Hickman; ch.: Margaret Butler, Joan Rutledge. Chem. Asst., Cornell, 1912-16; Assoc. Prof. Chem., A.&M. Coll., Texas, 1916-17; U.S.A., Chem. Warfare Serv. Capt. 1917-19; 1919-35 Res. Chem., Natl. Carbon Div., Union Carbide & Carbon Corp.; 1935 to date. Sales Mgr., Spec. Prods. Carbide & Carbon Chems. Div., Union Carbide & Carbon Corp. In chg. res. on Incendiaries, colored smokes, Chem. Warfare Serv., W.W. I; activated carbon, solv. recovery. Author: "Incendiaries," 1919, "Colored Smokes," 1919. Mem.: A.C.S., A.I.Ch.E., S.C.I. Clubs: Chem., No. Hempstead Country. Hobbies: golf, fishing.

RAY, Earl Charles, mgr., tech. sales-catalysts, The Harshaw Chem. Co., 1945 E. 97th St., Cleveland, Ohio; res. 1192 Piermont Rd., So. Euclid, Ohio.
Chem.; b. Savannah, Ga., May 29, 1916; s. of Frank Cleveland and Clara Merritt Ray; ed. Clemson A.&M. Coll.; B.S. Chem. 1938, Western Res. U., Cleveland, grad. wk. chem. 1942-43; mem.: Alpha Chi Sigma, Phi Kappa Phi, Blue Key; m. Marguerite Morrow, Apr. 9, 1939. 1938-41 res. chem. Southern Cotton Oil Co., Savannah, Ga.; 1941-43 res. chem. Harshaw Chem. Co., Cleveland; 1943-45 tech. serv. dept.; 1945-47 tech. sales; 1947 to date mgr., tech. sales-catalysts. Res. in preparation and mfg. catalysts. Mem.: A.C.S., A.O.C.S., Comm. Chem. Dev. Assoc. Hobbies: golf, bridge.

RAY, Francis E., dir. Cancer Res. Lab., U. of Fla., Gainesville, Florida.
Dir. of res.; b. Chicago, Ill., 1898; ed. Chicago pub. schls. and City College; Oxford U., B.Sc., 1921, D.Sc., 1931, U. of Ill., M.A., 1926. Principal, H.S., Cropsey, Ill., 1921-25; U. of Ill., res. asst., 1925-27; Grinnell Coll., 1927-30; U. of Cincinnati, 1930-49; dir. Lab. Radiochem., U. of Cincinnati, 1944-49; dir. Cancer Res. Lab., U. of Fla. Author: "Experimental Chem.," J.B. Lippincott Co., 1936, rev. 1937; "Org. Chem.," J.B. Lippincott Co., 1941, rev. 1947; "Gen. Chem.," J. B. Lippincott Co., 1947; "Experimental Gen. Chem.," J. B. Lippincott Co., 1947; contrib. to: The Chem. Rubber Handbook, pub. by Chem. Rubber Co., 1936; The Outline of Org. Chem., Barnes and Noble, 1939; rev. 1947; The Chemist at Work, pub. by J. Chem. Educ., 1940; author also of abt. 45 tech. arts. pub. in sc. jls., the more important being, "A Mechanism for the Reaction of Org. Halides with Sulfides," "Org. Radioiodo Compds. for Cancer Res.," "Resolution of 9,2-Substituted Fluorenes," "Compds. for Cancer Res., II. Fluorene-2-carboxamidine" and "Compds. for Cancer Res., III. Some Derivatives of 9,9-Bifluoryl," also '2-Acetylamino-9-C14-fluorene," and "Compds. for Cancer Res., IV. Further Bifluoryl and Bifluorylidene Derivatives." Mem.: A.C.S. (councilor 1935 and 1941; chmn. Cincinnati Sect., 1936); Am. Assoc. for Cancer Res.; Sigma Xi; fellow, Ohio Acdy. of Sc. (v.p. 1940-41; Admin. Bd., 1941-43); fellow, Iowa Acdy. of Sc.; Fla. Acdy. of Sc.; mem. Soc. Expl. Biol. Med.; mem. Bd. of Dirs., Amer. Cancer Soc. (Fla. Div.).

RAY, John Vickers, atty. & exec., 1510 Kanawha Valley Building, Charleston, W.Va.; res. 501 Hall St., Charleston.
Attorney-at-law; b. Winifrede, Kanawha Co., W. Va., Feb. 15, 1893; s. of Charles Andrew and Mary Alice (Fisher) Ray; ed. U. of Va., 1910-14, B.A.; 1919-20 B.L., Oxford U., 1914-17 B.A. in jurisprudence; mem.: Chi Phi, Phi Beta Kappa, Phi Delta Phi; m. Janet D. White, Dec. 25, 1940; ch.: (by previous marriage) John Lakin, Olivia Lakin. Practiced law in Charleston, W.Va. as partner of Payne, Minor & Ray and with predecessor firms 1920 to date; v.p., secy., gen. counsel, and dir., Ohio-Apex, Inc., 1944 to date; v.p., dir., gen. counsel, Chilton Coal Co., Ethel Chilton Mines, Inc. & other coal companies, 1941 to date; dir., G. Washington Life Ins. Co., 1925 to date; dir., Kanawha Valley Advertising Co. and predecessor companies, 1933 to date. Mem.: City of Charleston Bar Assn., W.Va. Bar Assn., Am. Bar Assn. Pres., Kanawha Co. Public Library, 1936 to date; mem. bd. of trustees, Morris Harvey Coll., 1938 to date. Club: Edgewood Country.

RAY, Wendell Augustus, prof. of chem., Colby Coll., Waterville, Me.; res. Elmwood Hotel, Waterville.
Prof. of chem.; b. Auburn, Me., Oct. 7, 1911; s. of William A. and Winnie F. Ray; ed. Bates Coll., A.B. 1932; Harvard U., A.M. 1934, Ph. D. 1936; mem.: Phi Beta Kappa, Sigma Xi, Delta Phi Alpha. Res. fellow, Harvard U., 1936-38; assoc. prof. of chem., Colby Coll., 1938-44; war wk. in O.S.R.D. Harvard U., 1944-46; prof. of chem., Colby Coll., 1946 to date. Publ. in sc. jls. Mem.: A.C.S. Hobby: photography.

RAYMOND, Allbert L., v.p. in chg. of res. & dev., G.D. Searle & Co., P.O. Box 5110, Chicago 80, Ill.; res. 587 Briar Lane, Northfield, Ill.
Biochem.; b. Berkeley, Calif., Feb. 12, 1901; s. of Albert and Undine (McGlashan) Raymond; ed. B.S., Calif. Inst. of Tech., 1921, M.S., 1923, Ph.D., 1925; m. Valentine Wisner, Sept. 7, 1944; ch.: Gordon Albert, Candace. Teaching fellow, Calif. Inst. Tech. 1921-22, asst. biochem. 1922-23, fellow 1924-25, instr. 1925-26; natl. res. fellow, Rockefeller Inst. 1926-28, asst. 1928-30; res. assoc. 1930-36, dir. of res., G.D. Searle & Co., 1936 to date, v.p. in chg. of res. & dev. 1945 to date, bd. of dir. 1947 to date. Sc. journals. Mem.: A.C.S., Chem. Soc of London, Biochem. Soc., Soc. Biol. Chemist, Sigma Xi. Clubs: Glen View, University, Chemists'. Hobby: photography.

RAYNOLDS, James Wallace, asst. mgr., chem. div., Gen. Electric Co., Waterford, N.Y.; res. "Rockledge," Hudson River Rd., Waterford.

Exec., chem. engr.; b. Omaha, Nebr., Feb. 18, 1899; s. of James Wallace and Brownie (Baum) Raynolds; ed. Lafayette Coll., Easton, Pa., B.S. Ch.E., 1920; mem.: Delta Kappa Epsilon; m. Elizabeth Whiting-Leeming, Aug. 24, 1935; ch.: Martha Leeming Donworth, John Leeming, Jr. 1920-25 Binney & Smith Co., chem., prod. frmn., mkt. anal.; 1926 Butler Automotive Steel Co., sales mgr., asst. gen. mgr.; 1927-29 Binney & Smith Co., asst. sales mgr., dept. mgr.; 1929-34 Devoe & Raynolds Co., tech. sales rep. in New England States; 1935-36 Ohio-Apex, Inc., res., prod.; 1936-42 Mellon Inst. of Ind. Res., sr. fellow; 1936 to date Raolin Corp. (Binney & Smith Co. co-owners), pres., dir.; 1942-44 War Prod. Bd., Wash., D.C., asst. dir. chem. bur. in chg. plastics, protective coatings, drugs & cosmetics, fats & oils, also deputy dir. 1943-44, also chf. coal tar prods. sec. 1942; 1944-48 Sun Chem. Corp., N.Y., v.p., dir.; 1949 to date, asst. mgr., chem. div., Gen. Electric Co, in chg. silicone operations. Chlorinated rubber, various pats. & papers 1936-45. Mem.: A.C.S., A.I.Ch.E., Soc. of Chem. Ind. Clubs: Yale (N.Y.), Chemists' (N.Y.), Lake Shore (Chicago), Lake Placid, Troy Country (Troy, N.Y.). Hobbies: golf, sailing, photography, swimming.

READ, Barclay Kerr, asst. sales mgr., Shell Chem. Corp., 500 5th Ave., New York 18, N.Y.; res. 5 Overlook Rd., New Rochelle, N.Y.
Chem. sales; b. Philadelphia, Pa., Jan. 17, 1898; s. of George W. and Irene H. Read; ed. Cornell U. 1919; mem.: Delta Kappa Epsilon; ch.: Barclay M., Anthony. E.I. du Pont de Nemours & Co., Inc.; dept. mgr., Canadian Industries, Ltd; tech. sales, R.W. Greeff & Co.; asst. sales mgr., Shell Chemical Corp. Mem.: A.C.S., Synthetic Org. Chemical Mfg. Assn., N.Y. Paint, Varnish & Lacquer Assn., Chemists' Club. Club: New York Athletic. Hobbies: swimming, horses.

READ, William Thornton, chem. adviser, res. & dev. div., G. 4, Gen. Staff, Dept. of Army, Pentagon Bldg., Wash. 25, D.C.; res. 212 Baldwin St., New Brunswick, N.J.
Chem.; b. Coll. Sta., Texas A. & M. Coll., Texas; s. of Dr. Joseph D. and Belle Thornton Read; ed. Austin Coll., A.B., 1905; A.M., 1908; U. Texas, M.A., 1915; res. scholar, Harvard U. 1915-16; Yale U., Ph.D., 1921; mem.: Sigma Delta Chi, Alpha Chi Sigma; m. Roxie Clark, Sept. 9, 1918; ch.: William Thornton, Jr., Mrs. Howard Schnur. Assoc. ed., Lampasas (Texas) Leader, 1905-07; secy. Austin Coll. 1907-10; instr. U. Texas. 1914-15; 1917-18; 1st Lieut. Chem. Warfare Serv., U. S.A. 1918; instr., asst. prof., Yale U., 1919-25; hd. chem. dept. Texas Tech. Coll. 1925-30; Dean Schl. Chem., Rutgers U. 1930-43; sect. chf., Natl. Roster (W.M.C.) 1943-46; chem. adviser Gen. Staff, U.S.A., 1946 to date. Res. in heterocyclic nitrogen compds., arsenicals. Contrib. to sc. and tech. jls. Author: "Ind. Chem.," 1st ed. 1933; 2nd. ed. 1938; 3rd ed. 1943. Mem.: A.C.S., A.I.C. (hon. mem.), A.I.Ch.E., S.C.I., Sigma Xi, Phi Lambda Upsilon; dir., pres., Chem. Adv. Council. Club: Chem. (N.Y.C.). Hobbies: hiking, optical instruments.

REALE, Genio F., sales mgr., industrial sales, Barrett Div., Allied Chemical & Dye Corp., 40 Rector St., N.Y.C.
Chem., sales exec.; b. Naples, Italy, July 25, 1895; s. of Adolph and Assunto (Capasso) Reale; ed. Coll. of the City of N.Y., B S. in chem., 1917; Columbia U., Grad. Schl., 1918-20 (evening); student councillor, class pres., jr. yr.; m. Erminia Ventura Reale, Sept. 16, 1917; ch.: Gene Joseph, Robert John. British American Chem. Co, 1917-19, chem. and chf. chem.; Hooker Electrochem. Co., 1919-45, salesman, sales supvr.; asst. to sales mgr., asst. sales mgr., Heavy Chemicals; Barrett Div., Allied Chemiçal & Dye Corp., 1946 to date, asst. mgr. industrial sales, sales mgr. industrial sales. Mem.: Chlorine Comm., Ammonia Comm., and Exec. Board of Compressed Gas Assoc. Club: Chemists'. Hobbies: music, bridge, swimming, traveling.

REANEY, Warford A., pres., dir., Scioto Lime & Stone Co., Box 338, Delaware, Ohio; res. 264 W. Lincoln Ave., Delaware.
Lime mfr.; b. Baltimore, Md., Apr. 14, 1898; s. of James and Julia T. Reaney; ed. Johns Hopkins U.; mem.: Alpha Delta Phi; m. Pauline Pichard 1927; ch.: David, Joyce, John, Rachel.

REARDON, William James, pres., Reardon Industries, Inc., 2837 Stanton Ave, Cincinnati 6, Ohio; res. 2869 Grandin Rd., Cincinnati 8.
Mfr., lawyer; b. Cincinnati, O., Aug. 27, 1899; s. of Jeremiah and Margaret Crotty Reardon; ed. U. of Cincinnati, maj. in chem.; Xavier U., maj. in law (admitted to Ohio Bar 1928); m. Frances Blasdel, Apr. 8, 1929; ch.: William J., Jr., Blasdel, Mary Gaines, Frances Fitzpatrick, Andrew Fitzpatrick. U.S. Army Inf., 1918. Carney Cement Co., spl. counsel & rep., 1920-30; owner, Reardon Color & Chem. Wks., 1930; owner, Reardon Cement Co., 1933; owner, Reardon Insulation Co., 1933; owner, Ocean Ballast Co., New Orleans, La. plant (ships in war-1943-44); all cos. inc. in 1947 in Reardon Industries, Inc. Res. in process for coloring & hardening concrete. Contrib. arts. on laws, practices, processes of bldg. industries to sc. journals. Mem.: A.C.S., Cincinnati Engrg. Soc., Amer. Concrete Inst., Armed Forces Chem. Corps, A.O.A., Cincinnati Bar Assn. Chmn., Overseas Relief (Cincinnati), 1945; mem. bd. trustees, Ohio Turnpike Com. 1948-49; mem. Cincinnati Stream Polution com. 1936-50. Clubs: Engrg. Soc. (Cincinnati), Lawyers (Cincinnati), Internatl. House of New Orleans, Amer. Legion, Ohio Hist. & Philoso. Soc. Hobbies: traveling, research.

REAUGH, Myrl A., supvr. of mfg. economics, Union Oil Co., 617 W. 7th St., Los Angeles 17; res. 1867 W. 94th Pl., Los Angeles 47, Calif.
Chem. engr.; b. Hanford, Wash., Jan. 12, 1915; s. of Harry W. and Anna C. (Magnuson) Reaugh; ed. State Coll. of Wash., Pullman, Wash., grad. with high honors; mem.: Phi Beta Kappa, Tau Beta Pi, Phi Lambda Upsilon, Sigma Tau, Alpha Chi Sigma; m. Norene Padelford, June 23, 1939; ch.: Myrl Anne, Phillip W. Insp. lab., Union Oil Co., Sept., 1937 to Dec., 1937; chem. lab., Dec., 1937 to Oct., 1938; pilot plant wk., Oct., 1938 to Mar., 1939; process engr., Mar., 1939 to Feb., 1941; 1st. Lt. to Lt. Col. U.S. Army, 13th Engrs., Mar., 1941 to Jan., 1946; ret. to Union Oil Co.; process engr., Oct., 1945 to Jan., 1947; supvr. of mfg. economics, Jan., 1947 to present. Mem.: A.I.Ch.E. (active member); Bronze Star for Meritorious Service, U.S. Army.

RECK, Robert C., sec. hd., proc. engrg. group, chem. div., Corn Prods. Refining Co., Argo, Ill.; res. 400 N. Ashland Ave., La Grange Pk., Ill.
Chem. engr.; b. Minneapolis, Minn., July 13, 1898; s. of R. Harrison and Nellie E. Reck; ed. U. Minn., B.Sc., 1920, Ch.E., 1921; mem.: Alpha Chi Sigma; m. Helen C. Miller, Sept. 3, 1923; ch.: Robert Roy, Edith Helen, Alice Irene. 1921-23 U. Minn., agr. div. instr.; 1923-26 U.S.S. Lead Ref., chf. chem.; 1926-32 Western Elec. Co., dev., plant engrg. divs.; 1933-35 Veterans Bur., investigator; 1935-37 Stewart Die Casting Co., Maintenance Dept.; 1937-44 Natl. Aluminate Corp., Ion Exch. Spec., plant supt.; 1944 to date Corn Prods. Ref. Co. Res. in dev., appl. of ion

exch. minerals; dev. wet starch equip., proc. Mem.: A.I.Ch.E., La Grange Chem. (club). Hobbies: photography, wood, metal working.

REDDING, Edward MacArthur, dir. of res., Charles F. Kettering Foundation, 40 N. Main St., Dayton 2, O.; res. 226 Ridgewood Ave., Dayton 9.

Res. dir.; b. Tyrone, N. Mex., Oct. 27, 1915; s. of Edward L. and Ora L. Redding; ed. U. of Denver, B.S. in Chem. Engrg., 1938; M.I.T., Sc. D. in Chem. Engrg., 1942; mem.: Lambda Chi Alpha, Omicron Delta Kappa; m. Carol Spedick, Oct. 19, 1946; ch.: Carolyn Austin, Jane Sanford, Katharine Norton. Mass. Inst. of Tech., chem. engrg. dept., teaching asst., 1938-41 res. asst. 1941-42; U.S. Navy, Bur. of Aeronautics, Lt. Comdr., U.S.N.R. 1942-45; N. Amer. Aviation, Inc., aerophysics lab., asst. tech. dir. 1946-48; Mass. Inst. of Tech., res. staff 1948; Charles F. Kettering Foundation, dir. of res. 1948 to date. Mem. N.A.C.A. sub-com. for heat resisting alloys 1943-45, subcom. for combustion 1945, 1947. Mem.: A.C.S., A.I.Ch.E., Inst of Aeronautical Sc., A.A.A.S., Ohio Acdy. of Sc. Phycological Soc., Sigma Xi, Phi Lambda Upsilon. Commendation by chf., Bur. of Aeronautics for Secy. of Navy (1945). Mem. Council of the Friends of the Kresge-Hooker Library (Wayne U.). Club: Engrs. (Dayton). Hobbies: travel, skiing, antique furniture, tennis, photography.

REDDISH, George F., dir. bacteriol. res., Lambert Pharmacal Co., 2117 Franklin Ave, St. Louis 10, Mo.; res. 3 Clayton Terrace, Clayton 24, Mo.

Bacteriologist; b. Somerset, Ky., June 30, 1894; s. of George M. and Margaret Anne Reddish; ed. B.S., U. of Ky., 1919; Ph.D., Yale U., 1922; mem.: Sigma Xi; m. Ruth B. Edmondson, Aug. 9, 1922; ch.: Ruth Lee Allen, Virginia Anne. Asst. Dept. Bacteriology, Yale U., 1919-22; assoc. prof. bacteriol., Med. Coll. of Va., 1922-24; assoc. bacteriol. U.S. Dept. of Agr., 1924-27; in chg., dept. bacteriology, Hynson, Westcott & Dunning, 1927; sr. bacteriologist, U.S. Food and Drug Administration, 1927-29; dir. bacteriological res., Lambert Pharmacal Co., 1929 to present. Prof. of Microbiology and Public Health, St. Louis Coll. of Pharmacy & Allied Scs., 1932 to present. Res. in anaerobes, culture media, microbic flora of cream and butter, yeasts, disinfectants, antiseptics, fungicides. Contrib. extensively 60 published papers, mostly in fld. of disinfectants, antiseptics and fungicides. Mem.: Soc. of Amer. Bacteriologists, A.A.A.S., Am. Public Health Assoc., Amer. Pharmaceutical Assoc., Acdy. of Sc. (New York). Hobbies: flowers, motoring.

REDFERN, Sutton, hd. of cereal chem. div., The Fleischman Labs., Standard Brands, Inc., 810 Grand Concourse, New York 51, N.Y.; res. 445 W. 240th St., New York 63, N.Y.

Res. chem.; b. Seattle, Wash., Apr. 18, 1912; s. of E.M. and N.S. Redfern; ed. B.S. in chem. (Presidents M.), U. of Washington, 1933; Ph.D., The Johns Hopkins U., 1936; m. Dorothy E., Aug. 8, 1936. Fleischmann Fellowship, The Johns Hopkins U., 1933-36; The Fleischmann Labs., Standard Brands, Inc., 1936 to date. Mem.: A. A.A.S., A.C.S., Amer. Soc. Brewing Chemists, Amer. Assoc. Cereal Chemists, Acdy. Sc. (New York), Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon. Hobby: photography.

REDMON, Bryan Collins, hd. org. chem. res., U.S. Industrial Chemicals, Inc., Res. & Dev. Labs, Baltimore, Md.; res. 4401 Sedgwick Rd., Baltimore 10.

Res. chem.; b. North Middletown, Ky., Sept. 4, 1909; s. of H.S. and Mary Redmon; ed. B.S., U. of Ky., 1930, Ph.D., Mass. State College (now U. of Mass.), 1934; post doctorate wk. Universities of Berlin and Frankfurt (Main) Germany, 1934-35; m. Elizabeth Howe, Jan. 16, 1943; ch.: Anne Bryan, John Anson. Instr. in chem., Mass. State College, Amherst, 1935-37; res. chem., American Cyanamid Co., Bridgeville, Pa.; & Stamford, Conn., 1937-45; prof. of chem., Mass. State Coll., Amherst, 1945-46; res. chem. U.S. Industrial Chem. Co., Stamford, Conn., and Baltimore, Md., 1946-49; also asst. dir. of org. chemical res., Nov. 1, 1949 to Feb. 1, 1950; hd. Organic Chem. Research, Feb. 1, 1950 to date. Mem.: Alpha Chi Sigma, Phi Kappa Phi, Sigma Xi, Chemical Society (London), A.A.A.S., A.I.C. Hobby: music.

REDMOND, James Reynolds, New England district mgr., Textile Colors Div., Interchem. Corp., Box 555, Pawtucket, R.I.; res. 84 Bartlett St., Lowell, Mass.

Textile technologist; b. Lowell, Mass., Nov. 3, 1914; s. of James and Etta Redmond; ed. Lowell Textile Inst., B. Textile Chem.; N.J. State Teachers Coll.; Brown U.; mem.: Tau Epsilon Sigma, Delta Kappa Phi. 1936-40, Ciba Co., Inc., textile technician & demonstrator; 1940-45, U.S. Quartermaster Corps, Jeffersonville, Ind., textile technologist; this included a 10 mo. assignment to the Q.M. Res. & Dev. Unit, Wash., D.C, as special asst. to Gen. Georges F. Doriot during 1944-45; 1945 to date, Interchem. Corp., Textile Colors Div., New England dist. mgr. Best known in the fireproofing, waterproofing, mildewproofing, dyeing & finishing of military fabrics. Army tech. manuals & specifications on textile, leather & chem. Mem.: A.C.S., A.A.T.C.C., U.S. Quartermaster Assoc. Clubs: Pawtucket Golf (Pawtucket, R.I.), Longmeadow Golf (Lowell, Mass.), New Albany Country (New Albany, Ind.), Elks. Hobbies: textiles, golf, swimming, music, art.

REDMOND, John C., dir. of res., Kennametal, Inc., Latrobe, Pa.; res. 339 N. Maple Ave., Greensburg, Pa.

Chem., metallurgist; b. Deerfield (Oneida Co.), N. Y., Oct. 12, 1907; s. of Daniel W. and Bessie C. Redmond; ed. Hamilton Coll., Clinton, N.Y., B.S., 1928; Geo. Washington U, Wash., D.C., A.M., 1931, attended to June, 1933; mem.: Delta Kappa Epsilon; m. Ann Holt Pegram, Aug. 14, 1934; ch.: Joanne, Nancy Carroll, Margaret Carroll. Jr. chem., chem. div., Natl. Bur of Stand. 1928-34; anal. chem., Batelle Memorial Inst., Columbus, O., 1934; res. chem., supvr. chem. processes, Youngstown Sheet & Tube Co., 1934-43; res. engr., chf. chem., dir. of res., Kennametal, Inc., Latrobe, Pa., 1943 to date. Several publ. meths. for inorg. anal. by chem. & x-ray procedures; invention & dev. of chem. meths. for surface treating steel; dev. of cemented carbide compositions for high temp. service. Mem.: A C.S., Electrochem. Soc., A.I.M.E. Vestry, Christ Episcopal Church, Greensburg, Pa.

REECE, Merrill Wilson, v.p. in chg. of Western div., Reichhold Chem. Inc., Linden Ave., So. San Francisco, Calif.; res. 341 Aragon Blvd.; San Mateo, Calif.

Chem.; b. South Bend, Ind., June 21, 1907; s. of Floyd M. and Jessie N. Reece; ed. Purdue U., B.S, 1929; mem.: Alpha Tau Omega; m. Regina E. Hayde, June 3, 1931; ch.: Susan M. O'Brien Varn. Co., South Bend, Ind., chem., 1929-30; Great Western Paint Mfg. Corp., Kansas City, Mo., chem., 1930-31; McDonald Paint Co., Omaha, Nebr., prod. mgr., 1931-33; Great Western Paint Mfg. Corp., Kansas City, Mo., asst. supt., 1933-35; Beck Koller & Co., San Francisco, Calif., tech. sales, 1935-38; Reichhold Chem. Inc., San Francisco, Calif., district mgr. 1938-43, v.p. 1943 to date. Mem.: A.C.S., Golden Gate Paint, Varn.

& Lacq. Assn., Golden Gate Paint & Varn. Prod. Club, Chem. Ind. Comm., San Francisco Chamber of Com., So. San Francisco Mfrs. Assn. (pres. 1950). Club: Green Hills Country.

REED, Andrew Franklin, v.p., Lion Oil Co., Lion Oil Bldg., El Dorado, Ark.; res. 2001 Euclid Ave., El Dorado.
V.p. in chg. of sales; b. Fayetteville, Ark., Apr. 10, 1894; s. of James Crittenden and Amy (Cox) Reed; ed. Fayetteville H.S., Fayetteville, Ark.; Fayetteville Bus. Coll., Fayetteville, Ark.; m. Mary Theresa Flippin, 1915; ch.: James Franklin, Elizabeth Ann (Reed) Fogarty. Clerk in clothing store 1913-16; asst. cashier, First Natl. Bank of Claremore, Okla., 1916-23; gen. mgr., Producers & Refiners Corp., 1923-30; Lion Oil Sales Co., 1930-36; v.p., Lion Oil Refining Co. 1936 & elected to bd. of dir. 1937 (Lion Oil Refining Co. is now Lion Oil Co.); Project Five Pipe Line Corp. (v.p., dir.). Mem.: Am. Plant Food Council (dir. & mem. of exec. comm. 1948-51), A.P.I. (mem. bd. of councillors). Hobby: fishing.

REED, Dr. Charles E., engrg. mgr., chem. dept., General Electric Co., 1 Plastics Ave., Pittsfield, Mass.; res. same.
Exec. (chem. engr.); b. Findlay, O., Aug. 11, 1913; s. of J.O. and K.B. Reed; ed. Case Inst. of Tech., B.S. Ch.E., 1934, M.I.T., Sc.D., Ch.E., 1937; mem.: Beta Theta Pi, Tau Beta Pi, Sigma Xi. M.I.T. instr., 1936-38, asst. prof., 1938-42; General Electric Co. Res. Lab., res. assoc., 1942-45; General Electric Co. Chem. Dept., mgr. Chem. Engr. Div., 1945-48; dept. eng mgr. 1948 to present. Co-author: "Applied Mathematics in Chemical Engineering," 1939 (with T.K. Sherwood). Mem.: A.I.Ch.E., A.C.S., A.A.A.S. Dir., Riggs Clinic, Pittsfield, Mass. Club: Country (Pittsfield).

REED, Charles Larus, v.p. chg. res. and personnel relations, Larus & Brother Co., Inc., 22 and Cary St., Richmond, Va.; res. 3405 Chatham Rd., Richmond.
Tobacco mfr.; b. Richmond, Va., Mar. 18., 1905; s. of John Hobart and Jennie Larus Reed; ed. Hampden-Sydney Coll., B.A., 1927; mem.: Kappa Sigma; m. Edythe Robertson, Nov. 22, 1928; ch.: Edythe Bruce, Charles L., Jr., Jane Baldwin. Larus & Brother Co., Inc., Sept., 1927 to date, wkd. in various depts. as asst. mgr., mgr., asst. supt., prod. mgr. and since 1941 v.p. chg. res. and personnel relations. Mem.: Va. Acdy. Sc.; Adv. Council Southern Res. Inst.; A.A.A.S., ex-dir. Am. Mgt. Assoc.; pres. Collegiate Schl, Inc.; pres. Richmond Citizens Assoc.; C. of C.; ex-chmn. Richmond City Planning Comm.; dir. Richmond Home for Ladies. Clubs: Country (Va.), Commonwealth, Rotary. Hobbies: golf, city government.

REED, Frank Hynes, chf. chem., Ill. State Geological Survey, Natural Resources Bldg., Urbana, Ill.; res. 1207 S. Busey Ave., Urbana, Ill.
Chem.; b. Carroll Co., Ind., Jan. 12, 1890; s. of Jacob A. and Effie Alice (Hynes) Reed; ed. Wabash Coll., Crawfordsville, Ind., A.B., 1911, U. of Chi., 1915-17, Ph.D., 1917, magna cum laude; mem.: Kappa Sigma, Sigma Xi, Alpha Chi Sigma, Phi Lambda Upsilon; m. Helen Louise Kennedy, Oct. 27, 1917 (died Apr. 22, 1945); m. 2nd., Frances Elizabeth Brown, Aug. 24, 1946; ch.: Sherman Kennedy, Mary Alice (Mrs. Robt. L. Sutherland). Instr. in chem., Wabash Coll., 1913-14; Mich. State Coll., 1914-15; chem., Sherwin-Williams Co., Chicago, 1917-19; Butterworth-Judson Corp., Newark, N.J., 1919-22; supt. chem. plant Tower Mfg. Co., Newark, N.J., 1922-27; chem., Chem. Dye & Mfg. Co., Springfield, N.J., 1927-28; plant supvr., Natl. Aniline & Chem. Co., Buffalo, N.Y., 1928-30; chem., Roessler & Hasslacher Chem. Co., Niagara Falls, N.Y., 1930-31; chf. chem., Ill. State Geological Survey, Urbana, Ill., since 1931. Conslt. to Natl. Defense Research Comm. 1942-43; conslt. to W.P.B. 1943-45; scientific conslt., Fed. Econ. Admin., Northwest Europe, 1945, "Visiting Expert," Natural Resources Section, G.H.Q., Supreme Commander for the Allied Powers, Tokyo, Japan, Dec., 1948 thru Feb., 1949. Mem.: Sectional Comm. on Classification of North American Coals since 1933; chmn., Chem. Raw Materials Com., A.I.M.E., 1937-38; mem. Com. on Chem. Utilization of Coal, Natl. Res. Council, since 1938. Sec.-treas., Ind. Minerals Div., A.I.M.E., 1939-40; member, Adv. Comm. to Com. D-5, A.S.T.M. Mem.: A.A.A.S., A.C.S., chmn., Gas & Fuel Div., 1939, exec. com., Coal Div., A.I.M.E., chmn., coal carbonization sub-com., Coal Division, A.I.M.E. Club: Urbana Golf and Country. Hobbies: fishing, bridge, golf.

REED, G(eorge) Nathan, dean of faculty, Lowell Textile Inst., Lowell, Mass.; res. 112 Dalton Rd., Chelmsford, Mass.
Res. org. chem.; b. Campbell, Texas, Nov. 19, 1901; s. of Henry Isaac and Wilna Montgomery (Crain) Reed; ed. B.S., Okla. A. & M. Coll. 1922; M.S., U. of Okla. 1924; Ph.D., Kansas State Coll. 1938; mem.: Chi Beta (local), Scabbard & Blade, Phi Lambda Upsilon (hon. in chem.); m. Reefa Glenn Tordoff, 1934. Instr. in chem., U. of Okla., 1922-24; hd. sc. dept., Cushing H.S., Cushing, Okla., 1924-26; instr. in chem., U. of Colo., 1926-29; instr. in chem., Kansas State Coll., 1929-41; res. fellow, Corn Ind. Res. Foundation 1941-42; Army of the U.S., entered July 15, 1942 as Capt., separated Jan. 17, 1946 as Lt. Col. in C.W.S.; res. chem., Hercules Powder Co., 1946-47; hd. org. div., Inst. of Textile Tech. 1947-49; dean of faculty, Lowell Textile Inst., 1949 to date. Reactions of y-pyrones, fermentation, physical & chem. characterization of starches, org. sulfur cmpds., chem. reactions of cellulose & cellulose derivatives. Mem.: A.C.S., Sigma Xi, A.A.T.C.C., Textile Res. Inst., A.A.A.S., Am. Soc. for Engrg. Ed., N.E.A. Hobbies: gardening, amateur photography.

REED, Pendennis W., pres., Pequanoc Rubber Co., Butler, N.J.; res. 43 Colt Rd., Summit, N.J.
Mfg.; b. Orange, N.J., Apr. 29, 1910; s. of Louis F. and Virginia Kent (White) Reed (dec.); ed. Princeton, A.B.; Yale, LL.B.; m. Carol Cowperthwaite, Aug. 19, 1933; ch.: Pendennis W., Jr., Virginia Kent. 1934-42, lawyer, Willkie, Owen, Otis & Farr, 15 Broad St., N.Y.C.; 1942, counsel, W.P.B., Wash.; 1942-45, U.S.N.; 1945 to date, pres. and dir., Bishop Mfg. Corp., Cedar Grove, N.J.; 1949 to date, pres. and dir., Pequanoc Rubber Co., Butler, N.J. Dir. of Cameron Machine Co., Bklyn., N.Y.; v.p. and dir., Peters Mfg. Co., Wollaston, Mass. First Baptist Church, Summit; pres. N.W. New Jersey Princeton Club. Club: Baltusrol Golf.

REED, Raymond Edward, v.p., The Toni Co., 456 Merchandise Mart, Chicago, Ill.; res. 743 N. Belmont Ave., Arlington Heights, Ill.
Chem.; b. Feb. 1, 1908; s. of Samuel H. and Mary E. Reed; ed. Crane Coll., graduated, Harvard, M.I.T., Chicago (nights); m. Ruth H. Hopkins, Feb. 11, 1950; ch.: Marylou, Richard, Nancy, Barbara. Anal. chem., Sanitary District, Chicago, 1928-29; res. chem., Kendall Co., Boston, 1929-41; v.p. Raymond Labs., Inc., St. Paul, 1941-46; dir. of res. Warner-Hudnut, N.Y., 1946-47; v.p., Toni Co., Chicago, Ill, 1947 to date; pres., Reed Chem. Corp. Res. in Keratin, permanent waving and exothermic reactions. Mem.: Soc. Cosmetic Chemists (past president), A.C.S.,

A.A.A.S., dir. S.C.C. Club: St. Paul A.C. Hobbies: horses and plumbing.

REED, Robert F., res. conslt., Lithographic Tech. Foundation, Inc., 1800 S. Prairie Ave., Chicago 16, Ill.; res. 1400 Linden Ave., Deerfield, Ill. Chem. engr.; b. Bellefontaine, O., Dec. 30, 1890; s. of Robert Gill and Martha J. (Findley) Reed; ed. Ch.E., U. of Cincinnati, 1914; m. Martha C. Johnson, May 24, 1915; ch.: Robert Johnson, Janet Emily, Martha Carol. Res. chem. to supt. dye wks., Ault & Wiborg Co., 1914-19; plant supvr., E.I. du Pont de Nemours & Co., 1919-22, dir., du Pont, Lake Lab., 1922-25; res. dir., Lithographic Tech. Foundation, 1925-47; res. conslt., 1947 to present. Res. in chem. of lithography and process dev. Numerous res. and tech. bulletins and arts. on lithographic and allied processes and mtls. Mem.: A.C.S., A.I.Ch.E., T.A.P.P.I., Amer. Inst. of Physics, Soc. of Rheology, Tech. Assn. of the Lithographic Industry. Hobbies: agriculture, fishing.

REED, Robert Marion LaFollette, tech. dir., Gas Processes Div., Girdler Corp., Louisville, Ky.; res. 3003 Eleanor Ave., Louisville 5, Ky. Chem., chem. engr.; s. of Henry W. and Temperance (Ovitt) Reed; ed. Wash. State Normal Schl., Cheney, 1925-27; U. of Wash., 1927-30, 1934-35, B.S. magna cum laude, 1929, M.S., 1930, Ph.D. chem., 1935; m. Henrietta Kathman, Sept. 17, 1932; ch.: Karen, Martha, Robert Michael. 1930-37, chem., Procter & Gamble Co., Cincinnati, Ohio; 1937-38, chem., Swann & Co., Birmingham, Ala.; 1938 to date, Gas Processes Div., Girdler Corp., Louisville, Ky., chem. 1938-40, tech. dir. 1940-43, chf. process engr. 1943-45, chf. chem. engr. 1945-48, tech. dir. 1948 to date. Gas purification & hydrogen mfg. 6 U.S. pats. Mem.: A.C.S., A.I.Ch.E., A.O.C.S., Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, Ky. Soc. Prof. Engrs., Reg. Prof. Engr. in Calif., Ky., Wyo. Hobbies: photography, gardening, electronics.

REED, Robert W., res. dir., Rhinelander Paper Co., Rhinelander, Wis.; res. 330 Dahl St., Rhinelander. Chem.; b. Rochester, N.Y., Aug. 10. 1915; s. of Ralph U. and Caroline W. Reed; ed. B.S. Chem. Engrg., U. Rochester, 1937; M.S., Pulp-Paper Tech. Inst. Paper Chem., Lawrence Coll., 1939; Ph.D., Pulp & Paper Tech., Inst. of Paper Chem., Appleton, Wis., 1941; m. Janette Horrig, Sept. 8, 1940; ch.: Richard R., Thomas Edward. Eastman Kodak Co., tech. adv. paper mills, 1940-45; Ozalid Div., Gen. Aniline & Film, paper conslt. 1946-48; Rhinelander Paper Co., res. dir. 1948 to date.

REED, Rufus Daniel, prof. chem., State Teachers College, Montclair, N.J.; res. 84 Molosh Rd., Upper Montclair. Teacher; b. Blanchester, O.; s. of William and E.J. Barry Reed; ed. B.S., Wilmington Coll., Wilmington, O., 1919; M.A., 1921, Ph.D., 1928, The Ohio State U., Columbus, O.; mem.: Phi Lambda Upsilon, Sigma Xi; m. Pearl Vandervort, 1920; ch.: Russell F. Teacher, Public Schls., Clinton Co., O., 1912-16; student asst., chem., Wilmington Coll., 1917-19; graduate asst. chem., Ohio State U., 1919-20; teacher of chem., hd. chem. dept., Lakewood, O., 1920-29; asst. prof. chem., Montclair State Teachers Coll., 1929-35; assoc. prof. 1935-47; prof., 1947 to present; visiting prof. of chem., Western Reserve U., 1940. Res. in potassium zirconium reactions, serv. teaching in the chem. profession. Author: "General Coll. Chemistry for the Laboratory." Mem.: A.C.S., A.A.A.S., Science Teachers Assoc. (N.J.). Hobbies: farming, automobile touring.

REEDER, Oliver Howard, pres., Baltimore Copper Paint Co., 501 Key Highway, Baltimore 30, Md.; res. Dulaney Valley Rd., Towson 4, Md. Chem.; b. Baltimore, Md., Sept. 19, 1916; s. of C. Howard and Nannie K. Reeder; ed. Princeton U., 1939, A.B. summa cum laude in chem.; mem.: Cloister; m. Nancy Fisher, Apr. 18, 1942; ch.: Nancy F., Ellen D. 1939-48, chf. chem., Baltimore Copper Paint Co., 1949 to date, pres. and dir. Mem.: Phi Beta Kappa, Sigma Xi, A.I.C. (fellow), A.C.S. Trustee, Gilman Country Schl., Baltimore; trustee, Children's Home of Baltimore. Clubs: Maryland, Hamilton Street, Elkridge Kennels, Gibson Island, Princeton of N.Y.

REESER, Myron Drew, secy., adv. mgr., "Am. Dyestuff Reporter" Howes Publ. Co., Inc., 44 E. 23rd St., N.Y. 10, N.Y.; res. 24 Colonial Terrace, Maplewood, N.J. Bus. mgr.; b. Greensburgh, Pa., 1892; s. of John W. and Alice (Bilger) Reeser; ed. in art, Natl. Acdy. of Design & Arts Students League; private schooling in English (editorial); m. Hazel Florence Nov. 19, 1919; ch.: Doris Amelia, Shirley Irene. 6 yrs. adv. selling staff, "Textile World"; 25 yrs. adv. "Am. Dyestuff Reporter." 2 yrs. U.S. Navy, World War I. Clubs: Advertising (N.Y.), Maplewood Country. Hobbies: fishing (deep sea), golf.

REEVES, Edward Duer, exec. v.p., Standard Oil Dev. Co., 15 W. 51st Street, New York 19, N.Y.; res. 406 Casino Ave., Cranford, N.J. Chem. engr.; b. New York City, July 26, 1909; s. of Edward Duer and Beatrice (Oltrogge) Reeves; ed. B.A., Williams Coll., 1930, 6 months graduate wk., Princeton, 1931; mem.: Phi Beta Kappa, Phi Delta Theta; m. Elsie Kean Reeves, 1932; ch.: Edward Duer, Mabyn Kean, Beatrice Meserole, Elva Gordon. Chem. engr., Jasco, Inc., 1931-33; Standard Oil Co., of Louisiana, Baton Rouge, La., 1933-35; Jasco, Inc., Baton Rouge, La., 1935-36; Standard Oil Co. of La., 1936-37; Standard Oil Dev. Co., 1937 to present, exec. v.p. and dir.; dir. Standard Catalytic Co. Mem.: A.P.I., A.C.S., Soc. of Automotive Engrs., Directors of Indus. Res. Club: Williams (New York City). Hobby: golf.

REEVES, Richard Franklin, tech. dir., Warners Plant, Am. Cyanamid Co., Linden, N.J.; res. Foothill Rd., Somerville, N.J. Chem.; b. Jamaica, N.Y., July 23, 1913; s. of Richard W. and Florence E. Reeves; ed. Syracuse 1933, A.B.; N.Y.U., 1940, Ph.D.; mem.: Phi Kappa Psi; m. Mary M. Medearis, Aug. 10, 1940; ch.: Richard Edward, Phoebe Elizabeth, Robert Anderson. Chas. E. Bacon, Ch.E., tech. asst., 1933-35; Schenley Dist. Corp., plant chem., 1935-36; Am. Cyanamid Co., Calco Div., org. res. chem. 1940-45, chf. chem. Newark plants 1945-49, Warners plant tech. dir. 1950 to date. Mem.: Sigma Xi, A.C.S., N.Y. Acdy. of Sc. Bridgewater Township Bd. of Ed. 1947 to date. Clubs: Federal Union, Atlantic Union Comm. Hobbies: tennis, books.

REHM, Charles William, supt., Linde Air Prods. Co., 9165 S. Harbor Ave., Chicago, Ill.; res. 7128 Baring Parkway, Hammond, Ind. Chem.; b. N.Y.C., Oct. 16, 1908; s. of William and Julia Rehm; ed. Polytech. Inst. Bklyn.; m. Rosanna Simpson, 1936, Union Carbide & Carbon Res. Labs., Inc., 1926-30, res. asst.; Carbide & Carbon Corp., Niagara Falls, N.Y., 1930-33, res. asst.; Carbide & Carbon Chem. Corp., So. Charleston, W.Va., 1933-40 res. chem.; Linde Air Prods. Co., Tonawanda, N.Y., 1940-46, res. chem., asst. supt., supt.; Linde Air Prods. Co., Chicago, Ill., 1946 to date, supt. Mem.: A.C.S., A.A.A.S.

REHNBERG, H.A., pres., Scientific Design Co., Inc., 2 Park Ave., New York 16, N.Y.; res. 454 Weaver St., Larchmont, N.Y.
Adm. engr.; b. Everett, Wash., Nov. 21, 1910; s. of Axel Harold and Ellen Maria Rehnberg; ed. U. of Washington, 1934, B.S. in M.E.; mem.: Pi Kappa Alpha; m. Metta Thordarson, Feb. 21, 1936; ch.: Jon H., Stephanie Ann, Christopher H. 1934-43, The Austin Co., draftsman to dist. sales rep.; 1943-45, The Kellex Corp., area engr. Manhattan Project; 1945 to present, Scientific Design Co., Inc., pres. Area engr. Manhattan Project. Mem. Am. Soc. Swedish Engrs. Clubs: Engineers (New York), Uptown (New York), Larchmont Yacht. Hobbies: blue water sailing, photography.

REICH, Gustave T., owner, conslt., 1422 Chestnut St., Phila., Pa.; res. 4604 Osage Ave., Phila., Pa.
Conslt. chem. engr.; b. Temesvar, Austria-Hungary, July 20, 1887; s. of S.L. and Francisca Reiner Reich; ed. Budapest, Zurich, Berlin, Chem. Engr. 1910, Ph.D., 1912; m. Isabelle W. Long, 1943; ch.: Muriel, Charles (stepson). Norton Co. chem., 1913-14; Hooker Electrochem. Co., chf. res. chem., 1915-17; Great Western Electrochem. Co., chf. chem., 1917-19; conslt. chem., 1919-21; Mason By-Prod. Co., chf. chem., 1921-24; Crystal Chem. Co., plant mgr., 1924-27; conslt. chem., 1927-28; Pa. Sugar Co., tech. dir , 1928-45; Franco Am. Chem. Wks., asst. pres., 1928-45; conslt. chem. engr., 1945 to date. Contrib. extens. to sc. and tech. jls.; 87 patents relat. to alcohol, sugar, molasses, liquid and solid Co2, cont. proc. for food prod., brewing, yeast, refrig., fertizl., charcoal, evaporators. Mem.: A.C.S., S.C.I. (fellow), I.F.T., Chemurg. Council, A.I.Ch.E. (active), A.IC (fellow), R P.E., A.C.C.C.E., Inc., Del. River Polut. Comm., N.S.R.P.E.; Dir. C.C. 1925-26. Club: Chem. (N.Y.). Hobbies: books, travel.

REICH, Irving, res. group dir., Foster D. Snell, Inc., 29 W. 15 St., N.Y., N.Y.; res. 6 Pierrepont St., Bklyn., N.Y.
Chem.; b. N.Y.C., Apr. 26, 1918; s. of Louis and Pauline Reich; ed. B.S., 1938, C.C.N.Y.; M.S., 1939, U. Mich.; Polytech. Inst. Bklyn., adv. courses 1945-48; m. Cecile Reich, May 31, 1946. Res. chem. McKesson & Robbins, Inc., Fairfield, Conn., 1940-44; res. group dir., Foster D. Snell, Inc., 1944 to date. Author or co-author of 16 papers, patents, largely in fields of detergency, surf. activity, cosmetics. Mem.: A.C.S., A I.C. (fellow), A.S.T.M. (mem. D-12 Comm.), Co. Rept. Soc. Cosm. Chems. Cllub: Chem. (N.Y.). Hobbies: European history, bowling, hiking.

REID, Allen Francis, chmn., dept. biophysics, assoc. prof., Southwestern Medical Schl., U. of Texas, 2211 Oak Lawn Ave., Dallas, Texas; res. 7718 Robin Rd., Dallas.
Biophysicist; b. Deer River, Minn., July 31, 1917; s. of Allen R. and Rose C. Reid; ed. Deer River H.S., Deer River, Minn., 1934; Itasca Jr. Coll., Colerine, Minn., 1935-37; U. of Minn., Minneapolis, Minn., 1937-40, B.Ch., 1940; Columbia U, N.Y., 1940-43, A.M., 1942, Ph.D., 1943; m. Dorothy Cullen, May 31, 1943; ch.: Sally Anne, David M. Columbia U., asst. 1940-42, res. supvr. 1942-47; Southwestern Medical Schl., assoc prof. 1947 to date; Baylor U., prof. of biophysics & physical chem., 1947 to date; ind. conslt., 1943 to date. Nuclear chem.; radioactivity, tracer work; ion-exchange; separation of carbon & oxygen isotopes by chem. exchange; fractionation of proteins. Mem.: Phi Lambda Upsilon, Sigma Xi, A.C.S., Am. Physical Soc., Am. Inst. of Physics, S.E.B.M., Technical Club.

REID, E. Emmet, prof. emeritus, conslt., res. 203 E. 33 St., Balt. 18, Md.
Chem.; b. Fincastle, Va., June 27, 1872; s. of Thomas Alfred and Virginia Ammen Reid; ed. U. Richmond, Va., M.A., 1892; Johns Hopkins U., Ph.D., 1898; U. Richmond, LL.D., 1917; m. Margaret Kendall, Dec. 28, 1915; ch.: Emmet Kendall, Alfred Gray, Martha Reid Hudson. Mt. Lebanon Coll., La., 1892-94; prof. chem., Coll. Charleston, S.C., 1898-1901; prof. chem., Baylor U., Texas, 1901-08; res. asst., Johns Hopkins U., 1908-11; chem., Colgate & Co., 1911-14; assoc. prof. chem., Johns Hopkins U. 1914-17; prof. chem. 1917-37; conslt., E.I. du Pont de Nemours & Co., 1919 to date; conslt. Hercules Powder Co., 1926 to date; Thiokol Corp., 1935 to date; Socony Vacuum Oil Co., 1937 to date; Chem. Warfare, 1920 to date. Contrib. extens. to sc. and tech. jls.; abt. 30 patents; introduced chloracetophenone, commonly used tear gas; ethylation of benz., org. sulfur compds. Translated Sabatier's Catalysis in Org. Chem., Introduction to Org. Res. Coll. Org. Chem. (author). Mem.: A.C.S., A.I.C. Soc. Chem. Ind.; (for some time) German Chem. Soc.; French Chem. Soc., A.A.A.S., Sigma Xi. Club: Johns Hopkins. Hobby: music.

REID, Ernest W., v.p., dir., Corn Prods. Refining Co., 17 Battery Pl., N.Y. 4, N.Y.; res. Macksville, Kan.
Exec.; b. Chase, Kan., Dec. 17, 1890; s. of James William and Ella (Kelley) Reid; ed. A.B., Southwestern Coll., Winfield, Kan., 1916; M.S., U. of Pitts., 1917, Ph.D. 1929; m. Leila English, 1921. Res. chem., Mellon Inst., 1916-21; successively supt. chem. plant, Carbide & Carbon Chem. Corp., Clendenin, W. Va., 1921-25, dir. sales dev. 1926-36, European rep. 1936-39; sr. indus. fellow, Mellon Inst., 1926-36; chf. chem. branch W.P.B., 1941-43, deputy dir. gen. W.P.B. 1943; v.p., dir., Corn Prods. Refining Co. Author of numerous sc. articles & holder of many pats. Mem.: A.C.S., A.I.Ch.E. Trustee, Midwest Res. Inst., Kansas City, Mo. Clubs: Whitehall, University (N.Y. & Pitts., Pa.).

REID, George Hugh, asst. supt., res. & dev. dept., Carbide & Carbon Chems. Div., Union Carbide & Carbon Corp., So. Charleston, W.Va.; res. 911 Somerset Dr., Charleston.
Res. chem.; b. Boston, Mass., Feb. 12, 1900; s. of Eugene and Elise P. Reid; ed. A.B. (cum laude), Harvard U., 1921; A.M., 1923, Ph.D., 1927; mem.: Alpha Chi Sigma; m. Connie Duff (div. 1942); m. Carolyn Patteson, 1942; ch.: Jean A., Hugh I. Instr. chem., U. of Maine, 1925-27. Held the following positions with Carbide & Carbon: res. chem. 1927-30; project leader, 1930-42; hd. dev. div., 1942-44; asst. supt., res. and dev. dept., 1944 to present. Res. and dev. on new prods. and processes in fld. of synthetic org. chemicals, especially acids and anhydrides. Mem.: A.C.S., A.I.Ch.E. Clubs: Harvard (W.Va.), Kanawha Country, Press (Charleston). Hobbies: handicrafts, golf.

REID, J(ohn) David, sr. chem., Southern Regional Res. Lab., U.S. Dept. of Agr., New Orleans, La.; res. 4519 Banks St., New Orleans 19, La.
Res. chem.; b. Portland, Ore., Feb. 19, 1909; s. of David and Jeanie Reid; ed. B.S., Washington State College, 1930, M.A., George Washington U., 1932, Ph.D., Amer. U., Washington, D.C., 1937; m. Elsie Fullenwider, 1932; ch.: Annis Rae, John David, Jr. Jr. chem., Color and Farm Waste Div., Bur. of Chem. & Soils, U.S. Dept. of Agr., Washington, D.C., 1930-37; asst. chem, Agr. By-Products Lab., Ames, Iowa, 1937-40; assoc. chem., Southern Regional Res. Lab., New Orleans, La., 1940-42; chem., 1942-45; sr. chem. in charge Chem. Properties Sec., Cotton Fiber

Div., 1945 to date. Res. and 35 published arts. and 4 pats. on dyes, cellulose anal., Lignin., chem. modification of cotton textiles, water-repellency of cotton cloth. Mem.: A.C.S., A.I.C., Sigma Xi. Hobbies: chess, square dancing.

REID, Laurance Standish, prof. chem. engrg., U. of Okla., Norman, Okla.; res. 930 W. Brooks, Norman.
Prof. chem. engr., conslt.; b. Ottumwa, Iowa, Feb. 2, 1909; s. of Guy Noble and Ethel (Standish) Reid; ed. Rice Inst., Iowa State Coll., B.S. in Ch.E., 1931; U. of Okla., M.S., 1937; mem.: Sigma Alpha Epsilon; m. Mary E. Allyn, July 14, 1934; ch.: Robert Allyn, Laurance S., Jr. Prod. engr., J.G. Thomas, Inc., Kansas City, Mo., 1932; ref. engr., Lion Oil Refg. Co., El Dorado, Ark., 1933-36; res. engr., Phillips Pet. Co., Bartlesville, Okla., 1937-38; dev. engr., Black, Sivalls & Bryson, Inc., Okla. City, 1938-40; assoc. prof. of Ch.E., U. of Okla., Norman, 1940-43; asst. chf. engr., Southern Natural Gas Co., Birmingham, Ala., 1943-45; prof. Ch.E., U. of Okla., Norman, 1945 to date. Black, Sivalls & Bryson, Inc., Kansas City, Mo. Engrg. Conslt. Inventor & developer of natural gas dehydration processes & other oil & gas processing equipt. Author of chapter on gas dehydration in "Natural Gas & Gasoline," R.L. Huntington, McGraw-Hill Book Co., Inc., Chem. Engr. Series, 1950. Mem.: A.I. Ch.E., A.I.M.E. (pet. branch), Sigma Xi, Sigma Tau, Alpha Chi Sigma. Hobbies: model railroading, athletics.

REID, William Thomas, res. supvr., Batelle Memorial Inst., 505 King Ave., Columbus 1, O.; res. 1160 Glenn Ave., Columbus 12, O.
Res. ind. and applied; b. Racine, Wis., Feb. 14, 1907; s. of Archie Nixon and Lillian Lutz Reid; ed. B.S. in chem. engrg., U. of Washington, 1929; mem.: Tau Kappa Epsilon; m. Hazel Godfrey, Feb. 12, 1930; ch.: Sylvia Louise, Mary Alice, William Thomas, Jr. Held following positions in U.S. Bur. of Mines, from 1929 to 1946; progressively, jr. fuel engr., asst. fuel engr., assoc. fuel engr., heat transmission engr., and supervising engr.; Battelle Memorial Institute, 1946 to date: asst. supvr., 1946-48, supvr., 1948 to date. Res. in studies of properties of coal ash slags at high temperatures; fundamental studies of combustion; influence of chemical additives on combustion of solid fuels; survey of low-temperature carbonization of coal. Contrib. about 25 tech. papers published by engineering societies or the U.S. Bur. of Mines. Mem.: Sigma Xi, A.S.M.E., Am. Gas Assoc., Soc. of Automotive Engrs. Hobbies: music, photography, gadgeteering.

REID, Willis Alton, prof. of chem., N.C. State Coll., Raleigh, N.C.; res. 1439 Dixie Trail, Raleigh.
Teacher & res.; b. Whitakers, N.C., Aug. 6, 1907; s. of Eaton Willis and Malinda (Gray) Reid; ed. Wake Forest Coll., B.S. 1928; grad. training at Johns Hopkins U.; U. of Wis., Ph.D. 1940; mem.: Sigma Chi; m. Margaret Baker, Oct. 15, 1933; ch.: Margaret Beatrice, Willis Alton, Jr. Instr. 1930-40, asst. prof. 1940-44, assoc. prof. 1944-48, prof. 1948 to date, N.C. State Coll. Catalytic dehydrogenation, sulfur cmpds., plant chem. Mem.: A.C.S., N.C. Acdy. of Sc., Sigma Xi, Phi Kappa Phi, Phi Lambda Upsilon, Gamma Sigma Epsilon. Hobbies: gardening, tennis.

REIDER, Malcolm John, res. dir., George W. Bollman and Co. Inc., Adamstown, Pa.; res. 138 Chestnut St., Shillington, Pa.
Chem.; b. Reading, Pa., Feb. 16, 1914; s. of John and Irene Reider; ed. B.S., Albright Coll., 1936, Ph.D., Columbia U., 1941; m. Phi Lambda Upsilon, Sigma Xi; m. Rita Laws; ch.: Malcolm, Jr., Ann, Mary. Res. chem., American Cyanamid, 1940-41; res. dir., Geo. W. Bollman & Co., Inc., 1941 to present. Res. and publications in fields of pyridine chem., natural prod. oils. Mem.: A.C.S., A.A.A.S., Inst. Am. Assoc. Textile Chems. and Colorists. Club: Reading Chemists Club.

REILLY, Peter C., Jr., v.p., Reilly Tar & Chemical Corp., 42 Oak Ave., Tuckahoe, N.Y.; res. 1 Beechtree Dr., Larchmont, N.Y.
Exec.; b. Indianapolis, Ind., Jan. 19, 1907; s. of Peter C. and Ineva T. (Gash) Reilly; ed. A.B., U. of Colorado, 1929, M.B.A., Harvard Business School, 1931; mem.: Phi Kappa Psi, Pi Epsilon Pi; m. Jeanette Parker, Sept. 15, 1932; ch.: Marie, Sara Jean, Patricia Ann. Started with Republic Creosoting Co. in Indianapolis in Oct., 1931, transferred to N.Y. with subsidiary, Intl. Tar & Chem. Corp. (named changed to Reilly Tar & Chem. Corp. in Jan., 1933) in Oct., 1932, made v.p. and Eastern mgr. of both companies in Dec., 1935 which positions still hold. Mem.: Chem. Specialties Manufacturers Assoc. (treasurer and dir.), A.C.S., S.C.I., Soc. of the Plastics Industry. Member Advisory Council Notre Dame School of Commerce. Clubs: Union League (New York) Essex (Newark), Harvard (New York), Chemists' (N.Y.), Bonnie Briar (Larchmont), Pine Valley (Clementon, N.J.), Athletic (Indianapolis). Hobbies: golf, woodworking.

REIMER, Marie, prof. emer., Barnard Coll., Columbia U., 606 W. 116th St., New York City. Tchg., res.; b. Northumberland, Pa., d. of David and Cornelia Helen (Collins) Reimer; ed. A.B., Vassar Coll., 1897; Ph.D., Bryn Mawr Coll., 1904; res. student, U. of Berlin, 1902-03; lecturer, prof., Barnard Coll., Columbia U., 1903-45; exec. offcr., Dept. of Chem., Barnard Coll., 1903-45; sev. times mem. Comm. on Instruction, Barnard Coll.; sev. times mem. Univ. Council, Columbia U.; 3 yrs. mem. of Comm. on Fellowships, Am. Assoc. University Women; 6 yrs. mem. Comm. on Membership and Standards, Am. Assoc. Univ. Women; res. worker, U. of Calif., 1916; res. worker and lecturer to grad. students, Stanford U., 1923; res. assoc., Chem. Lab., 's Land's Plantentuin, Buitenzorg, Java, 1930. Pubs.: Res. in Berlin in Liebigs Annalen, 1904; other res. pub. in Am. Chem. Jl., 1904-13; Jl. Am. Chem. Soc., 1914-45. Mem.: A.C.S., A.A.A.S., N.Y. Acdy. Sc. (fellow); mem. of many educational and charitable soc.

REIMOLD, Abraham Gottlob Heinrich, pres., Woburn Chem. Corp. & affiliates, 1200 Harrison Ave., Harrison, N.J.; res. 610 S. Center St., Orange, N.J., 337 Australian Ave., Palm Beach, Fla. Waterford Plantation, Georgetown, S.C.
Mfr.; b. Terre Haute, Ind., Dec. 20, 1892; s. of Abraham Gottlob and Marie Katherine (Schmidheiser) Reimold; ed. Yale U., New Haven, Conn., B.A., 1913; m. Erica Wilhelma Eva Marie Johanna Countess von Hacke, Apr. 28, 1937. Woburn Degreasing Co. since 1913, mgr. 1914-18, gen. mgr. & treas. 1918-26, pres. 1926 to date; v.p., Harrison Kearny Trust Co., 1927-38; pres., Zenitherm Co., Inc., 1927-32; pres. & dir., Woburn Degreasing Co., Woburn, Mass., Woburn Chem. Corp. (N.J.), Harrison, N.J., Woburn Chems. Ltd., Toronto, Ont., Canada; 1st Lt., Q.M.C. U.S.A. 1918-23. Clubs: Am. Geog. Soc. (fellow), Yale Engrg. Soc., Yale (N.Y.C.), Essex (Newark), Essex Co. Country (W. Orange), Berkeley Tennis (Orange), Orange Lawn Tennis (S. Orange, N.J.). Hobby: tennis.

REINDOLLAR, William Franklin, chf., Bur. of Chem., Md. Dept. of Health, 2411 N. Charles St., Baltimore 18, Md.; res. 5701 Stoney Run Dr., Baltimore 10.
Chem.; b. Baltimore, Md., Feb., 1898; s. of Harry A. and Mary (Bealmear) Reindollar; ed. U. of

Maryland, Schl. of Pharmacy, U. of Maryland Grad. Schl., Johns Hopkins U., Johns Hopkins Schl. of Hygiene & Public Health, Ph.G., Sc.B., Sc.M., Sc.D.; m. Hilda A. Ott, Sept., 1925. Bur. of Chem. of State of Md. Dept. of Health, asst. chem. 1919-30; asst. chf. 1930-36; chf. 1936-49; chf. Bur. of Chem. and Div. of Industrial Health, 1949 to date.

REINER, Laszlo Leonard, dir. of med. & phar. res., Wallace & Tiernan Prods. Inc., Res. Div., Belleville, N.J.; res. 165 Franklin St., Bloomfield, N.J.
Res. in biochem. and med.; b. Budapest, Hungary, Jan. 21, 1894; s. of Mor and Amelia Reiner; ed. 1912-17, U. of Budapest, M.D., 1917; 1919-21, U. of Frankfurt (Main), Ph.D., 1921; summers, 1913 and 1914, Technische Hochschule Karlsruhe; 1919-21 Inst. für Kolloidforschung, Frankfurt (Main); 1922 (4 mo.) Inst. für Physikalische Chemie, Leipzig; 1924, Harvard Med. Schl.; 1925, Rockefeller Inst. for Med. Res.; m. Mabel Duthey, Feb. 21, 1942. 1918-19, Inst. of Hygiene, Royal Hungarian Elizabeth U., asst.; 1921-29, Inst. of Hygiene, Royal Hungarian Elizabeth U., adjunct; 1923, private Dozent; 1927-29, Natl. Inst. of Health, Hungary, chg. of a distr. lab.; 1929-34, Dept. of Preventive Med., N.Y.U., instr. (part time); 1929-37, Burroughs Wellcome & Co., Experim. Res. Labs., res. conslt.; 1938-42, same co., same labs., sc. dir.; 1942 to date, Wallace & Tiernan Prods. Inc., dir. of med. and phar. res. Has pub. over 100 sc. papers; holds numerous pats. Mem.: A.A.A.S., A.A. Immunologists, A.C.S., Faraday Soc., Fed. Am. Soc. for Exptl. Biol., N.Y. Acdy. Scs., N.Y. Diabetes Assoc., Soc. Exptl. Biol. & Med. Club: Chemists' (N.Y.C.). Hobbies: music, swimming, fishing.

REISER, Castle O., prof. and hd. chem. engr., Chem. Engrg. Dept., U. of Idaho, Moscow, Idaho; res. 904 E. First St., Moscow, Idaho.
Teaching & res.; b. Berthoud, Colo., Dec. 21, 1912; s. of Theodore A. and Mary E. Reiser; ed. B.S., Colorado A.&M. with highest scholastic rec. in sc. div.; pet. engr., Colo. Schl. of Mines, 1938, with Baxter Award for meritorious wk. in chem.; Ph.D. in chem. engrg., U. of Wis., 1945; m. Carolyn Petrie, Nov., 1935; ch.: John R. Teaching Fellow, Colo. Schl. of Mines; res. engr., Standard Oil Dev. Co.; instr. and res. assoc., U. of Wis.; asst. prof. of chem. engrg., U. of Colo.; assoc. prof. of chem. engrg., Okla., A.&M. Coll.; prof. and hd. of chem. engrg., U. of Idaho. Res. in kinetic anal. of the pyrolytic dealkylation and concentration of aromatic hydrocarbons in pet. fractions; res. and dev. investigations in chem. process industries. Mem.: A.I.Ch.E., A.C.S., Sigma Xi, Northwest Scientific Assoc., Tau Beta Pi, Phi Kappa Phi. Club: Elks Lodge. Hobby: outdoor sports.

REITHEL, Francis Joseph, assoc. prof. chem., chem. dept., U. of Oregon, Eugene.; res. 2600 Floral Hill Dr., Eugene.
Prof.; b. Portland, Ore., Apr. 6, 1914; s. of John A. and Mary R. Reithel; ed. B.A., Reed Coll., 1936, M.A., 1938, Ph.D., 1942, U. of Ore. Med. Schl.; m. Mary Dickson, Sept., 1939. Lalor Fellow, instr. in biochem., St. Louis U., Schl. of Medicine, 1942-44; instr. in biochem., Washington U., Schl. of Med., 1944-45; res. asst., in biorganic, Calif. Inst. of Tech., 1945-46; asst. prof. chem., U. of Ore. 1946-50 at present assoc. prof. Dir. of project with office of naval res. Mem.: Sigma Xi, A.C.S., Academy of Sc. (Ore.), A.A.A.S. Hobbies: hiking, wild flowers, photography.

REIZENSTEIN, Louis J., pres., Falk & Co., P.O. Box 1075, Pitts. 30, Pa.; res. 1301 Inverness St., Pitts. 17.
Exec.; b. Allegheny, Pa., July 26, 1897; s. of Louis and Freida (Jacobs) Reizenstein; ed. U. of Pitts.; m. Florence Silberstein, Sept. 3, 1924; ch.: David. Falk Co., 1915-19; Falk Am. Potato Flour Corp., tech. dir., 1920-22; Falk Co., secy., 1922-24; Falk & Co., pres., mgr., 1924 to date, also bd. of dir.; pres., Pennsylvania Falk Chemical Co.; v.p., C. Reizenstein Sons. Sgt., U.S.A., 1918. Lincoln Savings & Loan, dir.; Pa. Falk Chem. Co., pres. Mem.: A.C.S., Pa. Gladiolus Soc. (pres.). Treas., Montefiore Hosp., Pitts. Clubs: Concordia, Chartiers Heights C.C., Rotary, Elks. Hobbies: fishing, floriculture.

REMENSNYDER, John Paul, pres., Heyden Chem. Corp., 393 Seventh Ave., N.Y. 1, N.Y.; res. 45 Elm Ave., Metuchen, N.J.
Exec.; b. N.Y.C., Nov. 11, 1897; s. of John Louis and Emelia Remensnyder; ed. public schls., N.Y.C.; various university extension courses; m. Katherine Goodrich, May 17, 1922; ch.: Doris Brown Ballentyne, John Paul, Jr. Heyden Chem. Corp. & predecessor companies from 1920 to date; pres. and dir. of Heyden Chem. Corp.; dir., Amer. Potash & Chem. Corp. 4 U.S. pats. Mem.: A.C.S., A.I.C., S.C.I., Syn. Org. Chem. Mfrs. Assn., Am. Drug Mfrs. Assn. Dir., Metuchen Natl. Bank; dir., Metuchen Bldg. & Loan Assn. Clubs: Drug & Chemical, Manhattan, Chemists, Natl. Press, Metuchen Golf. Hobies: golf, stone masonry, early American pewter, copper, stoneware.

REMMEY, George Bickley, v.p., Richard C. Remmey Son Co., Hedley St. & Delaware River, Phila. 37, Pa.; res. 1028 Cypress St., Jenkintown, Pa.
Ceramic engr.; b. Phila., Pa., Oct. 5, 1906; s. of Robert H. and Elizabeth J. Remmey; ed. Carnegie Inst. of Tech., U. of Pa.; m. Dorothe Reed; ch.: George Bickley, Jr., Jeanne. 22 yrs. with Richard C. Remmey Son Co., ceramic engr., 1949 to date, v.p. Worked on semisilica, silicon carbide, mullite & alumina refractories; built numerous special furnaces for use in this fld.; contr. numerous articles to sc. jls. Mem.: Am. Ceramic Soc. (fellow), Penn. State Ceramic Assn. Clubs: Kiwanis, Old York Rd. Country. Hobby: photography.

RENDALL, John Lloyd, sec. leader (tech. inf. sec.) Minn. Mining & Mfg. Co., 367 Grove, St. Paul, Minn.; res. 1071 Fairmount Ave., St. Paul.
Chemist; b. July 12, 1918, Des Moines, Ia.; s. of John Leonard and Dorothy Elizabeth (Pfaff) Rendall; ed. B.S., Iowa State Coll., 1941, Ph.D., Indiana U., 1943. Mem.: Sigma Alpha Epsilon, Phi Lambda Upsilon, Sigma Xi, Alpha Chi Sigma, Delta Phi Alpha; m. Ruth B. Schroeder, June 3, 1942; ch.: John L., III. Res. chem., B.F. Goodrich, 1943-45; res. chem., Penick & Ford, 1945-46; sr. res. chem., Minn. Mining & Mfg., 1946-49; sec. leader, tech. inf. sec., 1949 to present. Res. in synthetic org. chem. Author: (Ph.D. thesis) "Antispasmodics and Anticonvulsants." Mem.: A.C.S. Hobbies: hunting, tennis, color photography.

RENFREW, Malcolm MacKenzie, hd. of chem. res. dept., General Mills, Inc., Res. Lab., 2010 E. Hennepin Ave., Minneapolis 13, Minn.; res. 4378 Mackey Ave., Edina, Minn.
Chem.; b. Spokane, Wash., Oct. 12, 1910; s. of Earl E. and Elsie MacKenzie Renfrew; ed. B.S., U. of Idaho, 1932, M.S., 1934, Ph.D., U. of Minnesota, 1938; mem.: Phi Gamma Delta; m. Carol Campbell, June 26, 1938. Teaching fellow in physics, U. of Idaho, 1932-33; graduate asst. in chem., 1933-35; graduate asst. in chem., U. of Minn., 1935-37; du Pont Fellow, U. of Minn., 1937-38; res. chem., du Pont Plastics Dept., 1938-44; supvr. of process dev., du Pont Plastics Dept., 1944-46; supvr. of Product Dev., du Pont Plastics

Dept., 1946-49; hd. of Chem. Res. Dept., General Mills, Inc., 1949 to date. Res. in plastics prod. and tech.; res. in polymer chem. Mem.: Phi Beta Kappa, Sigma Xi, A.C.S. (chmn. Paint, Varnish & Plastics Div., 1948-49, councilor 1949), A.I. Ch.E. General supt., Grace Presbyterian Church School, Minneapolis, Minn. Hobbies: water color painting, orchestra.

RENOLL, Mary Wilhelmine, res. assoc., The Ohio State U. Res. Foundation, Chem. Dept., Ohio State U., Columbus 10, O.; res. 886 W. 10th Ave., Columbus 12, O.
Res. chem.; b. St. Petersburg, Pa., June 26, 1906; d. of A. Calvin and Minnie D. Renoll; ed. Grove City Coll., A.B. cum laude, 1927; Thiel Coll., 1928-29; Ohio State U., M.S., 1930, 1933. Midgley Foundation, chem. 1930-38; Monsanto Chem. Co., Central Res. Dept., res. chem., 1939-44; The Ohio State U. Res. Foundation, res. assoc. 1945 to date. Res. in organic fluorine compounds, physical-chem. study of nucleoproteins, organic chem., rubber chem. Mem.: Sigma Xi, Pi Gamma Mu, A.C.S., A.I.C., Sigma Delta Epsilon, A.A.A.S. Hobbies: gardening, music, sewing.

RENSE, Rudolph J., prod. mgr., Wickliffe Plant, Lubrizol Corp., Cleveland, Ohio; res. 1343 Summit Dr., Cleveland 24.
Prod. mgr.; b. Steubenville, Ohio, June 14, 1908; s. of Joseph and Rosa Rense; ed. B.A. (cum laude), 1931, Adelbert Coll., Western Res. U.; attended grad. schl., 1941-43; m. Susan M., May 25, 1935. 1933-45 E.I. du Pont de Nemours, Inc. (heavy chem.), dept. chem., area contr. chem., dept. supvr.; 1945 to date, Lubrizol Corp. (lubrication additives); pilot plant chem. engr., group head prod. process engrs., Wickliffe Plant Prod. mgr.

REVLING, Alfred Bryan, chf. chem., The Flox Co. Inc., 1409 Willow St., Minneapolis 4, Minn.; res. Linden Hills Station, Route 2, Minneapolis, Minn.
Chf. chem.; b. Aug. 5, 1918, Amidon, N.D.; ed. Miles Standish and Folwell Grade Schl., West H.S., Minneapolis; U. of Minn. Schl. of Chem. extension courses. Joined The Flox Co. June 1, 1936 for water anal. in lab.; U.S.A., Dec., 1941-Oct., 1945, airplane mechanic, served in Egypt, 63rd Air Depot Grp.; returned to The Flox Co. as chf. chem., Mar., 1946.

REVSON, Raphael Frank, owner, R.F. Revson Co., 243 W. 17th St., N.Y.C. 11; res. 245 W. 74th St., N.Y.C. 23.
Exec.; b. Atlanta, Ga., Mar. 23, 1890; ed. U. of Ga., B.S., 1910; Columbia, Ch.E., 1913; m. Miriam Newberger, June 22, 1921. Pub. Serv. Corp., N.J., cadet engr., 1913; Sloss Sheffield Steel & Iron Co., chem. 1914; Frank Revson Co., chem. 1915-16; So. Cotton Oil Co., chem. 1917; H.A. Metz & Co., br. mgr., Charlotte, assoc. mgr. Phila., purch. agt., N.Y. 1918-26; Hammill & Gillespie, chem., tech. sales 1927-30; R.F. Revson Co., owner, tech. dir. 1930 to date. C.W.S., with foodstuff co., part. in dyeing cotton for uniforms. Author of num. arts. in trade papers on cosmetic matls.; co-operated in prep. "Modern Cosmetics."; res. on matls. used in cosmetics, such as gums, dibromfluoresic acid, colloidal clays, dyes, soap colors, etc. Mem.: A.C.S., A.I.C. (fellow), A.A.A.S., A.Phar.A., Phi Lambda Phi. Hobbies: philately, sculpture.

REYERSON, Lloyd Hilton, prof. of chem., asst. dean in chg. of Schl. of Chem., Inst. of Tech., U. of Minn., Minneapolis 14, Minn.; res. 2280 Folwell St., St. Paul 8, Minn.
Physical chem., teaching, res.; b. Dawson, Minn., May 1, 1893; s. of John E. and Lydia (Hilton) Reyerson; ed. A.B., Carleton Coll., 1915; A.M., U. of Ill., 1917; Ph.D., Johns Hopkins U., 1920; mem.: Alpha Chi Sigma; m. Nellie Nickell, Mar. 7, 1918; ch.: Jean Elizabeth (Reyerson) Moseman, James Hilton (killed in action Mar. 5, 1945). 1919-21 instr. in chem., 1921-26 asst. prof., 1926-30 assoc. prof., 1930 to date prof., U. of Minn., 1937-45 adm. asst. in chem., 1945 to date asst. dean, Schl. of Chem., U. of Minn. Res. in fld. of colloids & adsorption of gases by solids; gasification of lignite & low grade fuels; electrokinetic potentials; carbon suboxide; magnetic susceptibility studies of adsorbed gases by solids. Mem.: Phi Lambda Upsilon, Phi Beta Kappa (pres. Minn. Alpha, 1943-44), Sigma Xi, A.C.S. (secy. colloid div. 1937, chmn. 1939, counselor 1943-44), A. Phys.S., Minn. Acdy. of Sc., A.A.U.P. (pres. Minn. Chapter 1948-49), A.A.A.S. (fellow). Award: Knight's Cross First Class Royal Order of St. Olav, Norway, 1950. Chmn. Minn.-N.D. Resources Dev. Commis. 1943 to date; sc. conslt., Royal Norwegian Govt. summer 1946. Club: Chemists' (N.Y.).

REYNOLDS, Blythe Montgomery, v.p. for engrg. & purchasing, Merck & Co., Inc., Rahway, N.J.; res. 282 N. Mountain Avenue, Upper Montclair, N.J.
Exec.; b. Potsdam, N.Y., Feb. 20, 1895; s. of Wilbur H. and Elizabeth Wood Reynolds; ed. B.S. in Ch.E., Clarkson Coll. of Technology, 1916; M.S. in Ch.E., M.I.T., 1920; m. Florence Ross, May 14, 1921; ch.: John Ross, Elizabeth Ann, Jean Blythe. Chem. engr., General Chem. Co., 1916-26; pres. & gen. mgr., Reynolds Chemical Corp., 1926-30; v.p., Heyden Chemical Corp., 1930-44; v.p. for engineering & purchasing, Merck & Co., Inc., 1944 to present. Mem.: A.I.Ch.E., A.C.S., Am. Soc. for Engineering Education, licensed engineer in New Jersey. Trustee, Clarkson Coll. of Technology. Clubs: Chemists' (New York), Upper Montclair Country. Hobby: golf.

REYNOLDS, Dewey A., chem., U.S. Bur. of Mines, 4800 Forbes St., Pitts. 13, Pa.; res. 2638 Voelkel Ave., Pitts. 16.
Chem.; b. Plymouth, Ind., July 11, 1898; s. of Edward W. and Elvira (Schell) Reynolds; ed. Plymouth, Ind. Grade & H.S.; Washington & Lee U., 1919-22, B.S., June, 1922; grad. wk. in org. & physical chem. U. of Pitts. 1924-26 part-time; m. Mable Abbott, July 21, 1926; ch.: Virginia Jane, Muriel. Instr. in chem., Greenbrier Military Schl., Lewisburg, W. Va. 1922-23; res. chem. (jr. chem.) U.S. Bur. of Mines on gases & vapours 1923-25; asst. chem. (grade) res. on oxidation of coal & spontaneous heating 1926-29; assoc. chem. res. on coal carbonization 1929-35; chem. (grade) res. on coal carbonization 1935 to date. Approx. 100 publications, author or co-author, tech. journals and U.S. Govt. publications dealing with spontaneous heating of coal, reactivity of coke & coal carbonization; chf. res. has been on the coking properties of Am. coals. Mem.: A.C.S., Am. Gas Assn. Clubs: Masonic Lodge, Am. Legion (21 mo. med. corps, U.S.A. W.W. I, sergeant). Hobbies: collector of antique firearms, mem. of two state (Ohio & Pa.) gun collector assns.

REYNOLDS, Dexter H(arold), indus. conslt., 312 S. Third St., Albuquerque, New Mexico; res. 4717 E. Roosevelt Ave., Albuquerque.
Chem. conslt.; b. Mt. Vernon, Mo., Aug. 28, 1902; s. of F.A. and Emma Alice Reynolds; ed. U. of Mo., A.B. chem., 1932; U. of Ariz., M.S. chem., 1933; U. of Ill., Ph.D. chem., 1936; m. Susie C. Simons, Apr. 7, 1928; ch.: Dexter, Jr., Jean Marie, Nancy Sue. 1928-31, anal. chem., United Verde Copper Co., Clarkdale, Ariz.; 1936-39, tech. advisor, Gen. Elec. X-Ray Corp., Chicago,

Ill.; 1939-47, group leader, phys. lab., Monsanto Chem. Co., Dayton, Ohio; 1947-50, tech. dir., div. of res. & dev., U. of N.M.; 1950 to date ind. conslt., private practice; dir., Pantheon Pumice Corp.; assoc., Chapman & Wood, consltg. engrs. Quantitative chem. anal. by x-ray diffraction; ind. applications of x-ray crystal anal.; application of physical meths. to chem. res. Mem.: A.C.S., Am. Crystallographic Soc., Electron Microscope Soc. of Am., N.M. Miners & Prospectors Assn., Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon. Hobbies: gardening, electronics.

REYNOLDS, Frank Percival, dir. res., Bird & Son, Inc., East Walpole, Mass.; res. 6 Moose Hill Rd., East Walpole.
Chem.; b. May 28, 1896; s. of Frank B. and Cora J. Reynolds; ed. M.I.T., 1919; mem.: Alpha Chi Sigma; m. Effie Neil, June 10, 1922; ch.: Donald N., Mrs. Nancy H. MacIntosh, Frank B., Eleanor May. 1920-24 industrial engr. U.S. Rubber Co.; 1924-26 frmn. Bird & Son, inc.; 1926-35 res. chem.; 1935-43 chf. chem. roofing div.; 1943-47 chf. chem. flooring div.; 1948 to date dir. res. Res. in several patents concerned with asphalt roofing and siding. Mem.: A.C.S., N.E. Paint Prod. Clubs: Azure, Walpole, A.F.&A.M. Hobbies: home and family.

REYNOLDS, Thomas George, chem. engr., United Engrg. & Constructors, Inc., 1401 Arch St., Phila. 5, Pa.; res. 92 Pine Ridge Rd., Pine Ridge, Media, Pa.
Chem. & civil engr.; b. Kalamazoo, Mich., Apr. 9, 1906; s. of Henry Tinch and Katharine (Yirsa) Reynolds; ed. U. of Ill., B.S. in Civil Engrg.; Columbia U., M.S. Chem. Engrg.; mem.: Phi Lambda Upsilon, Tau Kappa Epsilon; m. Edith B. Pillatt, Aug. 23, 1928; ch.: Thomas Gordon, Barbara Ann, Katharine Sylvia, Nancy Edith, Cynthia Rose, Susan Victoria. Design engr., Engrg. Service Co., Aurora, Ill., 1928-29; design engr., Std. Oil Co. (Ind.), Whiting, Ind., 1929-32; constr. engr., M.W. Kellogg Co., N.Y., 1932-34; resident engr., Cont. Oil Co., Ponca City, Okla., 1934-37; proj. and proc. engr., Foster Wheeler Corp., 1937-42; Engrg. Div. Columbia U. War Research, 1942-43; proj. and proc. engr., Kellex Corp., 1943-46; chf. engr., J.F. Pritchard & Co., Kansas City, Mo., 1946-47; chem. engr. Pitt. Consol. Coal Co., Pittsburgh, Pa., 1947; chf. engr., Univ. Engr. Co., Kansas City, Mo., 1948; chem. engr., United Engrg. & Constructors Inc., 1948 to date. Engineering conslt., oil, coke by-prod. recovery. Mem.: A.I.Ch.E., A.S.C.E., A.C.S., A.A.A.S., Natl. Licensed Prof. Engr. Hobbies: music, history, ornithology, horticulture, literature.

REYNOLDS, William Bryan, asst. dir. of res., Phillips Petroleum Co., Bartlesville, Okla.; res. Box 338, Bartlesville.
Chem.; b. Ottumwa, Iowa, Mar. 9, 1913; s. of Michael and Florence (McMillen) Reynolds; ed. A.B., Cornell Coll., 1934, Ph.D., U. of Chicago, 1936; mem.: Phi Beta Kappa, Sigma Xi; m. Margaret Harshfield, May 1, 1948; ch.: Theresa Jean. Chemist, du Pont Co., 1936-39; chem. Interchemical Corp., 1939-41; instr., Chicago, 1941-42; assoc. prof., U. Cincinnati, 1942-46; Phillips Petroleum Co., supervisor synthetic rubber 1946-50; asst. dir. res. 1950—. Res. in synthetic rubber. Mem.: A.C.S., Am. Assoc. of Textile Chems. and Colorists. Clubs: Hillcrest Country (Bartlesville, Okla.). Hobbies: flying, golf.

RHEUBY, William P., export mgr., Rohm & Haas Co., 1700 Walnut St., Phila., Pa.; res. 1 Edgewood Rd., Wilmington, Del.
Export mgr.; b. Newport, Ind., Apr., 1896; s. of G.G. and Ellen Stutler Rheuby; ed. U. Pa.; Pratt Inst. (leather chem.); mem.: Sigma Phi Epsilon, Pa. Delta Chapt.; m. Eleanore Willis, Oct., 1919; ch.: John Willis, Eleanore Volonte, Elizabeth V. Chem., Hercules Powder Co. 1917 (Kenvil Lab.); chem., New Castle Leather Co., Wilmington, Del., subsequently supt. Tannery 1937-38; Rohm & Haas Co., leather sales dept., Wash. Sq. Phila., Pa. 1938-41; export dept. 1941 to date, (export dept. located at present 1700 Walnut St., Phila., Pa.). Mem.: Export (New York), Foreign Traders Assoc. (Phila.), A.L.C.A. Clubs: Union League (Phila.), American (Mexico City), Down Town (Phila.), Atlantic Indians Trapshoot Assn., Quaker City Gun, Wilmington Trapshooting Assn. Hobbies: trapshooting, photography.

RHODES, Edmund O., tech. adv., Koppers Co. Inc., Tar Prods. Div., 1201 Koppers Bldg., Pittsburgh 19, Pa.; res. 86 Mayfair Drive, Mt. Lebanon, Pittsburgh 16.
Chem. engr.; b. Dodge City, Kansas, Aug. 4, 1890; s. of William B. and Mary (Durgin) Rhodes; ed. B.S. in chem. engrg., 1912, M.S. in chem. engrg. 1913 from the U. of Kansas; mem.: Alpha Chi Sigma, Phi Delta Theta, Sigma Xi; m. Anna Seyler, Oct. 17, 1917; ch.: Mary Rhodes Hobbs, Carl Seyler Rhodes. Ind. Fellow, chem. dept. U. of Kansas, 1912-13; Sr. Indus. Fellow, Mellon Inst. of Ind. Res., Pittsburgh, Pa., 1914-21; tech. dir. Am. Tar Prods. Co., Chicago, Ill., 1921-25; tech. dir. Koppers Prods. Co., and Koppers Co. Tar and chem. div., 1925-44; mgr. of dev., Koppers Co., Tar Prods. Div., 1944-49; tech. adv. Koppers Co., Inc., Tar Prods. Div. 1949 to present. Various publications concerning the manufacture, testing and use of coal tar products; 14 U.S. pats., 4 Canadian and 3 British; two reports issued as Bur. of Mines, Inf. Circulars—No. 7409 and 7490. Sc. consultant, tech. indust. intel. cmt. for Econ. Admin. 1945-46. Mem.: A.C.S., A.S.T.M., Amer. Road Builders' Assoc., Amer. Wood Preservers' Assoc., Amer. Railway Engrs. Assoc., A.A.A.S., Highway Res. Bd., International Road Congress, Society of Chemical Industry, National Association of Corrosion Engrs., American Institute of Chemical Engineers, Professional Engineers of Pennsylvania. Clubs: University (Pittsburgh), Chemists' (Pittsburgh), Chemists' (New York).

RHODES, Fred H(offman), dir. of Schl. of Chem. & Metallurg. Engrg., and Herbert Fisk Johnson Prof. of Indust. Chem., Cornell U., Olin Hall, Cornell U., Ithaca, N.Y.; res. 700 Stewart Ave., Ithaca.
Chem. engr.; b. Rochester, Ind., June 30, 1889; s. of Eden E. and Clara (Hoffman) Rhodes; ed. Wabash Coll., 1910, A.B.; Cornell U., Ph.D., 1914; mem.: Alpha Chi Sigma; m. Ethel M. Bundy, 1915; ch.: Clara Roserear. U. of Montana, instr. chem., 1914-15; Cornell U., instr. chem., 1915-17; Barrett Co., dir. res. for Chem. Dept., 1917-20; Cornell U., prof., 1920 to date; dir., Gen. Aniline & Film Corp. "Technical Report Writing," 1941; "Elements of Patent Law," 1950. Mem.: A.C.S., A.I.Ch.E., A.S.E.E. Clubs: Tourbillon Club of Quebec; Cornell Club of N.Y.C.; Statler Club of Ithaca, N.Y.

RHODES, Leland Brown, principal chem., N.C. Dept. of Agric., Raleigh, N.C.; res. 723 S. Boylan Ave., Raleigh, N.C.
Chem.; b. Trenton, N.C., Aug. 23, 1891; s. of William H. and Carolina Amanda (Powell) Rhodes; ed. U. of N.C., B.S. and M.S.; m. Helena Inez Ashe, July 17, 1918; ch.: Margaret Ruth, Helen Caroline. 1909-13, scholarship, U. of N.C.; 1913-14, fellowship and asst., U. of N.C.; 1914-20 oil chem., N.C. Dept. of Agric.; 1920-25 assoc. chem., 1925 to date, Food, Drugs & Cosmetics, N.C. Dept. of Agric. Mem.: A.C.S., (secy. of N.C. Sect. 1921-31); A.A.A.S. (fellow, 1933);

A.O.A.C.; N.C. Acdy. of Sc.; Am. For. Assoc. Steward M.E. Ch. Hobbies: ice skating, tennis, piano, utiliz. of solar energy, photography, art, tone lighting, electronics, personality studies, hiking, building and repairs.

RHODES, Richard Sanders, asst. mgr., central staff prod. dept., Koppers Coke Co., 2500 Koppers Bldg., Pittsburgh 19, Pa.; res. 6015 Fifth Ave., Pittsburgh 32, Penn.
Chem. engr.; b. Springfield, Mo., Nov. 20, 1911; s. of Clarence J. and Stella Sanders Rhodes; ed. U. of Ill., B.S. Chem. Engrg., 1933; U. of Mich., M.S. Chem. Engrg., 1934; ch.: Richard S. II. Mem.: A.I.Ch.E., East. States Coke Oven & Blast Furnace Assn., Pittsburgh Chem. Club. Reg. Prof. Chem. Engr. in Pa. Hobbies: stamps, photography, horseback riding, golf.

RIBLETT, Earl Wendell, assoc. dir., Petroleum & Chem. Res. Lab., M.W. Kellogg Co., Jersey City, N.J.; res. 32 Knoll Rd., Tenafly, N.J.
Physical chem.; b. Barboursville, W.Va., Sept. 11, 1904; s. of Michael J. and Agnes Riblett; ed. 1923-27, Morris Harvey Coll., A.B.; 1927-29, W. Va. U., A.M.; 1929-31, N.Y.U., Ph.D.; mem.: Chi Beta Phi, Sigma Xi; m. Anne Rinn, June 11, 1932; ch.: Wendy Anne, Carolyn. 1932-44, res. chem., M.W. Kellogg Co.; 1944-47, dir. of res., Hydrocarbon Res. Inc.; 1947 to date, assoc. dir., Pet. & Chem. Res. Lab., M.W. Kellogg Co. Mem.: A.C.S., A.A.A.S. Hobby: gardening.

RICCI, John Ettore, prof. chem., N.Y.U., N.Y. C.; res. 58 Jervis Rd., Yonkers, N.Y.
Prof., chem. dept., N.Y.U.; b. New York City, Jan. 1, 1907; s. of Analito and Ida Vitale Ricci; ed. B.S., 1926, M.S., 1928, Ph.D., 1931, N.Y.U.; m. Louise Maurer, 1941. Dept. of Chem., N.Y.U., since 1931; prof., since 1946. Arts. on Phase Rule and Solution Theory; assoc. editor, Jl. Am. Chem. Soc., 1938-48. Author: "The Phase Rule and Heterogeneous Equilibrium," to appear late in 1950; D. Van Nostrand, N.Y. Mem.: A.C.S. (fellow), A.I.C., Sigma Xi, Phi Beta Kappa. Hobbies: music, chess.

RICE, Francis Owen, hd. of chem. (prof.), The Catholic U. of America, Wash., D.C.; res. 1302 Quincy St., N.E., Wash., D.C.
Tchg. & res.; b. Liverpool, England, May 20, 1890; s. of James and Mary Byrne Rice; ed. B. Sc., 1911, M.Sc., 1912, D.Sc., 1916, Liverpool U.; m. Katherine K. Kempner, May 23, 1930; ch.: Monica Ellen, Cecilia Joan. Chem. in chg., H. M. Factory, Queen's Ferry, Eng., 1915-16; chem., Ministry of Munitions, London, 1916-17; wks. supt., H.M. Factory, Bradley, Eng., 1917-18; 1851 Exhibition Fellow, Princeton U., 1919; instr., in chem., N.Y.U., 1919-20; asst. prof., N.Y.U., 1920-24 assoc. and assoc. prof., Johns Hopkins U., 1924-38; prof. and hd. of chem. dept., The Catholic U. of America, 1938 to present. Res. in thermal decomposition of org. cmpds. by free radical mechanisms. "The Mechanism of Homogeneous Organic Reactions from the Physical-Chemical Standpoint" Am. Chem. Soc. Mon. Series, Chem. Cat. Co., Inc., N.Y.C., 1928. Co-author, with K.K. Rice, "The Aliphatic Free Radicals," Baltimore, Johns Hopkins Press, 1945; co-author "The Structure of Matter," with Edward Teller, John Wiley & Sons, Inc., New York, 1949. Mem.: Sigma Xi, A.C.S., A.I.Ch.E., A.A.A.S.

RICE, Murray John, hd., dept. ceramic chem., New York State Coll. of Ceramics, Alfred, N. Y.; res. 133 N. Main St., Alfred, N.Y.
Coll. prof.; b. Flint, Mich., July 11, 1898; s. of Frank and Rose M. Lowell Rice; ed. B.S., Kalamazoo, 1919, M.A., Clark U., 1920, Ph.D., State U. of Iowa, 1926; mem.: Gamma Alpha; m. Doris Powell, June 30, 1921; ch.: Sarah Louise, Murray John, Jr. Prof. chem., Georgetown (Ky.) Coll., 1921-24; New York State Coll. of Ceramics, 1927 to present. Co-author: "Papoff's Quantitative Analysis," 1935. Mem.: A.C.S., Am. Ceramic Soc., A.A.U.P.; dir., Alfred Mutual Savings and Loan Assoc. Club: Rotary. Hobbies: philately, horticulture.

RICE, Philip Edmund, Factory Mgr., Naugatuck Chem. Div. of U.S. Rubber Co., Naugatuck, Conn.; res. 243 Park Ave., Naugatuck, Conn.
Chem. engr.; b. Matawan, N.J., Oct. 16, 1897; s. of Joseph L. and Clara E. (Anderson) Rice; ed. B.S., 1923, Ch.E., 1924, New York U.; m. Evelyn F. Tyroler, Oct. 16, 1926; ch.: Jeremy C., Virginia F. Res. asst., U.S. Rubber Co., Gen. Labs., 1923-24; chem. engr., plant supt., factory mgr. Naugatuck Chem., Div. of U.S. Rubber Co., 1925-45; factory mgr., U.S. Rubber Co., Synthetic Rubber Div., Los Angeles, Calif., 1945-47; factory mgr., Naugatuck Chemical, 1948 to present. Mem.: A.I.Ch.E. (active member), A.C.S., chmn. Bd. of Directors, Naugatuck Chapter, Amer. Red Cross, 1st. v.p., Naugatuck Chamber of Commerce. Clubs: The Waterbury (Waterbury Conn.), Rotary (Naugatuck). Hobbies: surf casting, ship models.

RICE, Raymond Main, M.D., assoc. exec. dir., res. and control, Eli Lilly and Company, Indianapolis, Ind.; res. 5365 N. New Jersey St., Indianapolis.
Physician; b. Bancroft, Nebr., Dec. 28, 1901; s. of Eugene Taylor and Fanny Dalton Rice; ed. B.S., U. Nebr., 1924; M.D., U. Nebr. Coll. Med., 1929; m. Charlotte Zurmuehlen, Sept. 1, 1931; ch.: Raymond Dalton, Ronald Bennett. Priv. practice medicine, Council Bluffs, Ia., 1930-36; inst. in med. U. Nebr. 1930-36; med. dir. Eli Lilly & Co. 1936-50; assoc. exec. dir. res. and contr., 1950 to date; assoc. medicine, Ind. U. Schl. Med. 1945-50; asst. prof. med., 1950—. Mem.: A.M.A., Am. Rheumatism Assn., Am. Fed. Clinic Res., A.A.A.S., N.Y. Acdy. Sc., Ind. State Med. Assn., Indianapolis Med. Soc. Clubs: Meridian Hills Country.

RICH, Frederick Jaspersen, plant mgr., U.S. Industrial Chemicals, 400 Doremus Ave., Newark 5, N.J.; res. 16 Meadowbrook Rd., Chatham, N.J.
Industrial chem.; b. Riverside, Ill., Oct. 16, 1899; s. of Frederick W., M.D. and Harriet S. Rich; ed. Johns Hopkins U., B.S. Chem., 1923; mem.: Beta Theta Pi; m. Jane Klein, Mar. 8, 1930; ch.: J. Christopher. With U.S. Industrial Chemicals since 1925, in various supervising positions in New Orleans, Peoria, Baltimore, Newark.

RICH, Paul C., Western mgr., Nichols Engrg. Res. Corp., 40 South Los Robles Ave., Pasadena 1, Calif.; res. 2054 Dudley St., Pasadena 7, Calif.
Chem. engr.; b. Chicago, Ill., 1890; s. of Evert and Marie Rich; ed. U. of Ill., B.S. in Chem. Engrg., 1914; mem.: Sigma Xi, Beta Theta Pi, Alpha Chi Sigma, Phi Lambda Psi; m. Suzanne Brown, 1920 (dec.); 2nd. Marion Forsey, 1946; ch.: Paul Brown. 1914-15, foreman and diver with contractor spec. in submarine wk. around Lake Mich.; 1915-16, Parke, Davis & Co., Detroit, Mich., res. chem., worked on dev. of synth. org. drugs; 1916-30, Gen. Chem. Co., N.Y., started at plant in Hegewisch, Ill., engrg. and design of plant to make sodium silicate from salt cake; tech. asst. for hydrochl. and sulph. acid depts.; in 1919 transf. to Res. Dept., N.Y.C. and 1920 sent to Calif. to erect plant at El Segundo; supt. of this plant until 1925; again transf. to N.Y. as purch. agent. 1930-31, Freeport Sulphur Co., Freeport, Texas, chf. chem. in complete chg. routine and res. lab. with emph. on dev. of new proc. and properties; 1931-32, O.C. Field Gasoline Corp., Los Angeles, Calif., chem. engr., wkg. on plant and proc.

for asphalt prods.; 1932-33, Rhodes Alkali & Chem. Corp., San Francisco; chem. engr., dev. proc., plant, and markets for sodium sulphate from desert dry lake near Mina, Nev.; 1933-40, Richfield Oil Corp., Los Angeles, chem. engr. studying refin. problems in connec. with efficiency, new proc. and utiliz. of by-prods.; was in chg. of all light oil treating; 1941-46, Western Precipitation Corp., Los Angeles; chem. engr., respons. for design and recomm. for appl. of cyclonic dust collecting equip. incl. sales promotion in new flds.; 1946-47, Air Pollution Engr. for County of Los Angeles; Oct. 1, 1947-May 24, 1948, Acting Asst. Dir. of Air Pollution Control Distr. of Los Angeles County; May, 1948, to date, Western Mgr. for Nichols Engrg. & Res. Corp. Mem.: A.C.S., A.I.Ch.E., fellow, A.I.C., mem. A.A.A.S.

RICH, Ronald Emil, hd., dept. chem. engrg., U. of Notre Dame, Notre Dame, Ind.; res. 1146 E. South St., South Bend, Ind.
Prof., conslt.; b. Mishawaka, Ind., Jan. 4, 1907; s. of Daniel and Inez (Ferrettie) Rich; ed. B.S. in Ch.E., Notre Dame, 1928, M.S., 1936; special studies, U. of Wis., 1935; m. Lucille Bickel, Sept. 30, 1930; ch.: Daniel Thomas, Mary Virginia, Joseph Ronald. Chem. engr., Gen. Chem. Co., 1928-29, asst. frmn. sulphuric acid mfr. 1929-30, plant engr. 1930-31; instr. chem. engrg., U. of Notre Dame, 1931-36, asst. prof. 1936-39, assoc. prof. 1939-44, prof. 1944 to date, asst. hd. dept. chem. engrg. 1939-42, hd. 1942 to date; conslt. in heat transfer & distillation processes 1940 to date. Mem.: A.C.S., A.I.Ch.E., Am. Soc. for Engrg. Ed., Ind. Chem. Soc., A.A.U.P. Hobbies: fishing, photography.

RICHARD, Wilfred Theodore, plant supt., Consolidated Chem. Indus., P.O. Box 5275, Houston 12, Tex.; res. 216 Bryan St., Houston 11.
Chem. engr.; b. Flatonia, Tex., Oct. 23, 1910; s. of Wilfred Theodore and Ruth Richard; ed. Rice Inst., B.S. in Ch.E., 1933. At Consolidated Chem. since leaving schl. Mem.: A.I.Ch.E., A.C.S. Hobbies: tennis, swimming, photography.

RICHARDS, Alan Gerard, asst. gen. sales mgr., Dewey and Almy Chem. Co., 62 Whittemore Ave., Cambridge 40, Mass.; res. 38 Carleton Circle, Belmont 78, Mass.
Sales engr. (chemicals); b. Somerville, Mass., Aug. 10, 1898; s. of George H. and S.A.F. Richards; ed., S.B., M.I.T., 1919; m. Mary C. Oliver, Apr. 18, 1919; ch.: Mrs. Vivian Richards Crowley. M.I.T. instr., chem. dept., 1917-18; chem. engr., Natl. Aniline & Chem. Co., 1918-20; divisional mgr. Dunlop Tire & Rubber Co., 1920-22; gen. mgr.—sales mgr., Garhart Dental, 1922-29; res. chem., asst. to pres., sales mgr., asst. gen. sales mgr., Dewey and Almy Chem. Co., 1929 to present. Mem.: A.C.S., Soc. of Plastics Engrs. Clubs: Chemists', Harvard Faculty. Hobby: golf.

RICHARDS, George Handyside, v.p. & treas., Celanese Corp. of America, 180 Madison Ave., New York 16, N.Y.; res. 34 Greenview Way, Upper Montclair, N.J.
Exec.; b. Edinburgh, Scotland, Mar. 10, 1901; s. of Charles and Margaret P. (Handyside) Richards; ed. Edinburgh U.; m. Marjorie Beaumont, Apr. 8, 1933; ch.: Jean Marjorie, Margaret Elizabeth, Barbara Ann. Chartered accountant, Gr. Brtain; public accountant N.Y.; secy. and treas., Celluloid Corp., 1932-41; asst. treas., treasurer, v.p., dir., Celanese Corp. of America, 1942 to date; Columbia Cellulose Co., Ltd., dir., v.p. and treas., Celanese Mexicana S.A., dir., v.p. and treas., Viscosa Mexicana S.A., dir. v.p. and treas., American Aniline Prods., Inc., dir. Clubs: Union League (New York), Shelter Island Yacht.

RICHARDS, Herbert L., v.p., The Flox Co., Inc., 1409 Willow St., Minneapolis 4, Minn.; res. 780 Hamilton Ave., Palo Alto, Calif.
Exec.; b. Nov. 28, 1896, Pensacola, Fla.; ed. grade and h. schl. at Pensacola; B.S. in E.E., Ga. Tech., 1919; m. Eleanor; ch.: David L., Joan. Engr., Gen. Elec. Co., Toledo, Ohio; efficiency engr., Cities Serv. Co., Salinas, Kans., Aug., 1919-Jan., 1923; combustion engr., Std. Oil Co. (Ind.), Casper, Wyoming, Jan., 1923-Dec., 1929; joined The Flox Co., Jan. 1, 1930 at Casper; later Denver, Colo., and then at Salt Lake City, Utah; elected v.p. and dir., July, 1943.

RICHARDS, James C., Jr., mgr. internatl. sales, B.F. Goodrich Chem. Co., 324 Rose Bldg., Cleveland 15, Ohio; res. 20605 Kings' Highway, Cleveland 22.
Tech. sales management; b. St. Joseph, Mo., Nov. 8, 1913; s. of J.C. and Virginia (Kindig) Richards; ed. Kansas State, B.S. Ch.E., 1934; mem.: Phi Kappa; m. Erma Jean Miller, June 25, 1938; ch.: James C., III, Jane Louise. 1934-35, chem. lab., 1935-38 chem. engr., 1939-42 gen. frmn. prod., B. F. Goodrich Co., Akron, Ohio; 1943, Louisville, Ky., prod. mgr., 1944-45, Borger, Tex., plant mgr., 1946-48, Cleveland, Ohio, sales mgr., 1949 to date, mgr. internatl. sales, Cleveland, Ohio, B. F. Goodrich Chem. Co. Mem.: A.C.S. & Rubber Div., A.I.Ch.E. Clubs: Cleveland World Trade Assn., Chemists' (N.Y.). Hobby: sports.

RICHARDS, Lester J., dir. engrg., The Dow Chem. Co., Midland, Mich.; res. 1106 Sugnet Rd., Midland.
Mech. engr.; b. Coopersville, Mich., Nov. 4, 1893; s. of Chester W. and Flora E. (Buttrick) Richards; ed. Coopersville H. Schl.; Coll. of Engrg., U. of Mich., B.S.M.E.; m. Carol F. Chandler, Aug. 31, 1918; ch.: Lois Jean, Carol Frances, Bruce Chandler. 1917-19, engrg. draftsman, 1919-34 chf. draftsman, 1934-49 chf. engr., 1950 to date, dir. of engrg., Dow Chem. Co.; dir., Midland Dev. Co. Design of special equipt. & plants for Dow Chem. Mem.: Natl. Soc. of Prof. Engrs., Midland Engrg. Soc. Dir., pres., Midland Community Center; Midland Bd. of Ed. 1934-46, pres. 1938-46. Clubs: Kiwanis, Midland Country. Hobbies: fishing, golf, gardening.

RICHARDS, Richard Kohn, M.D., assoc. dir. of res., Abbott Labs.; prof. lecturer in phar., Northwestern U. Med. Schl., Chicago 14, & Sheridan, N. Chicago, Ill.; res. 1534 Alexander Ct., Waukegan, Ill.
Physician; b. Lodz, Poland, June 16, 1904; s. of Abraham S. and Johanna K. Richards; ed. U. of Hamburg, M.D., 1931, summa cum laude; m. Erika N. Richards, Apr. 14, 1946. U. of Hamburg, asst. in pharmacol. 1931-33, assoc. in med., 1934-35; Michael Reese Hosp., fellow in physiology, 1935-36; Abbott Labs., pharmacologist, dir., phar. res. 1935-50, assoc. dir. of res. 1950 to date; lect. in phar., Northwestern U. 1946; prof. lect. 1949 to date. Res. in treatment of epilepsy. Contrib. extens. to sc. journals. Mem.: Am. Phar. Soc., Am. Physiol. Soc., F.A.C.P., F., Intern Coll. Anesthetists. Clubs: Chaos (Chicago), Univ. (Waukegan). Hobbies: history, shooting.

RICHARDSON, Alan H(ouldsworth), ind. res. anal., chem. economist, Laurence M. Marks & Co., 49 Wall St., N.Y. 5, N.Y.; res. 216 George St., New Brunswick, N.J.
Ind. res. anal., chem. economist; b. New Brunswick, N.J., Aug. 13, 1901; s. of Harry H. and Estella (Fisher) Richardson; ed. Rutgers, B.S., 1923; Columbia, Ph.D., 1928. Asst. chem., Columbia, 1923-27, instr. chem. 1928-30; chem. statistician, Adams Express Co., N.Y., 1930-32, 1933-36; chem. statistician, Stand. Statistics Co., N.Y., 1932-33; ind. res. anal., chem. economist, Laurence M. Marks & Co., N.Y. 1936-42, 1945 to date: U.S.N. 1942-45. Solubility of gases in liquids, ind. dev. & their relation to banking. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S., A.A.A.S., A.

I.C. (fellow), N.Y. Acdy. of Sc. Club: Downtown Athletic (N.Y.). Hobbies: swimming, boating, music.

RICHARDSON, Albert S., assoc. dir., chem. div., The Procter and Gamble Co., Ivorydale, O.; res. 31 Larchmont Dr., Wyoming, O.
Chem.; b. Murfreesboro, Tenn., Dec. 11, 1889; s. of John E. and Annie Lou Richardson; ed. A.B., Princeton U., 1913, A.M., 1915, Ph.D., 1927; m. Ann Woodward, Feb. 14, 1921; ch.: Ann Louise, Caroline (Haase), Albert S., Jr., Mary Lee. Instr., Princeton, 1916-17, 1919-20; res. chem., du Pont Co., 1920-21; hd. res. dept., chem. div., Procter and Gamble, 1921-46. Mem.: A.C.S., A.A.A.S., Am. Oil Chem. Soc. (pres. 1931), London Chem. Soc. Far. Soc. Club: Wyoming Golf. Hobbies: maps, gardening.

RICHARDSON, Cyrus Walter, plant supt., Manganese Prods., Inc., 4260 W. Marginal Way, Seattle 6, Wash.; res. 451 Southwest 142nd St., Seattle 66.
Chem. engr.; b. Seattle, Wash., July 23, 1918; s. of Philip and Anna M. Richardson; ed. U. of Wash., Seattle, grad. 1944, B.S. in Ch.E.; m. June Evelyn Deatry, May 22, 1943; ch.: Robert Leonard. Manganese Prods. Inc., 1943 to date. Azeotropic distillation of methyl ethyl ketone. Mem.: A.I.Ch.E.

RICHARDSON, Leon Burr, emer. prof., Dartmouth Coll., 11 North Park St., Hanover, N.H.
N.H. prof. of chem., emer.; b. Apr. 14, 1878; s. of Orlando J. and Mary M. (Burr) Richardson; ed. Dartmouth, B.Litt., 1900; A.M., 1902, Litt.D. (hon.), 1933; U. of Penn., 1904-05; Cornell, 1917; mem.: Lambda Chi Alpha, Gamma Alpha, Gamma Delta Chi, Alpha Chi Epsilon, Phi Beta Kappa; m. Millicent Warnock, June 20, 1906; ch.: Robert Clayton, Edward Lawrence, Stuart. Instr. chem., Dartmouth Coll., 1902-10; asst. prof., 1910-19; prof. 1919-48; N.H. Prof. Dartmouth Coll., 1946-48; N.H. Prof. Emer., 1948 to date; lecturer Coll. Educ., Tchrs. Coll., Columbia U., 1928, 1929. Res. in cobalticyanic acid; adsorption of mixed gases. Author: "A Study of the Liberal College," 1924; "Gen. Chem. for Colleges," editions 1927, 1932, 1940, 1947 (last two with A.J. Scarlett); "Brief Coll. Chem." (with A.J. Scarlett), 1942, 1950; "Lab. Manuals" for each of the editions above; "A Hist. of Dartmouth Coll.," 1932; "An Indian Preacher in England," 1933; "William E. Chandler, Republican," 1940; "Hist. of the Mary Hitchcock Hosp.," 1943. Mem.: A.C.S. (retired); A.A.U.P. (mem. of Council); Phi Beta Kappa, (hon. Litt.D. 1933, Dartmouth). Trustee, Mary Hitchcock Memorial Hosp.; trustee, Howe Library; mem. of Corp., Dartmouth Savings Bank; mem. of Bd. of Educ., Hanover, N.H.

RICHARDSON, Weston Hurlbut, v.p., Glover Assocs., Inc., Chrysler Bldg., N.Y.C.; res. 37 W. 12 St., N.Y.C.
Exec.; b. Canastota, N.Y., Aug. 25, 1903; s. of Roy and Jessie Richardson; ed. Bklyn. Polytech. Inst., B.S. chem., 1926; mem.: Alpha Chi Rho; m. Margaret Pratt, 1935. 1927-32 safety engr., distr. chf. engr., Liberty Mutual Ins. Co., Boston; 1933-38 chf. engr., branch mgr., Car and General Ins. Corp., Ltd., N.Y.; 1938-43 self-management counsel; 1943-44 safety and training dir. Carl L. Norden, Inc., N.Y.C.; 1944-48 employee relations mgr., Air Reduction Co., Inc., N.Y.C.; 1948 to date v.p. and dir., Glover Associates, Inc., N.Y.C., dir. B.L. Lemke and Co., Inc. Club: Chemists'. Hobbies: golf, sailing, woodworking.

RICHIUSA, Charles Carl, chf. design engr., Monsanto Chem. Co., Nitro, W.Va.; res. 1001 "B" St., St. Albans, W.Va.
Chem. engr.; b. E. Aurora, N.Y., Sept. 22, 1910; s. of Joseph and Rose Richiusa; ed. 1929-33, Carnegie Inst. of Tech., Pitts., Pa., B.S. in chem. engrg.; m. Muriel Mallory Hauck, Jan. 27, 1940. Responsible chg. of all phases of plant engrg. in Nitro plant of Monsanto Chem. Co. to present date. Mem.: A.I.Ch.E. (mem. at large Charleston, W.Va. Sec.). Clubs: Knights of Columbus, Lions. Hobbies: photography, sports.

RICHMOND, Henry Hugh, res. grp. ldr., Pittsburgh Coke & Chem. Co., Neville Island, Pittsburgh 25, Pa.; res. 256 Catalpa Pl., Pittsburgh 34, Pa.
Res. chem.; b. Toronto, Ontario, Can., Apr. 7, 1916; s. of Jacob and Gertrude Richmond; ed. U. of Toronto, B.A., 1939; M.A., 1941; m. Norma Gordon, Dec. 25, 1942; ch.: John K.D., Barbara L. Res. chem., Dominion Rubber Co. Ltd., Guelph, Ont., 1943-48; res. grp. ldr., Pittsburgh Coke & Chem. Co., 1948 to date. Dev. mfg. proc. for sulfa drugs, rubber chems., aromatics, explosives, intermediates. Contrib. num. arts. to sc. jls.; holds five U.S. pats. in above flds. Mem.: A.C.S., (secy.-treas. of Org. Chem. Div. of Pittsburgh Sect. of A.C.S., 1950-51). Club: Chemists' (Pittsburgh). Hobbies: reading, study of philosophy.

RICHTER, Henry John, assoc. prof. chem., Hamline U., St. Paul, Minn.; res. 1492 Simpson St., St. Paul.
Tchr. and industrial chem.; b. Germany, May 29, 1910; s. of Adolph and Natalia Richter; ed. Hamline U., B.S. cum laude, 1933; U. of Minn., M.S., 1936, Ph.D., 1937; mem.: Gamma Alpha, Sigma Xi; m. Dorothy M. Schroeder, 1938; ch.: Judith Anne, Henry John, Jr. du Pont Expmtl. Sta., Wilmington, Del., res. chem. 1937-46; A.B. Dick Co., Chicago, Ill., res. supvr. 1946-48; Hamline U. St. Paul, Minn., assoc. prof. of chemistry, 1948 to date. Res. in organic condensed ring compounds; resins, their use and preparation. Holds num. U.S. pats. Mem.: A.C.S., A.A.A.S., Sigma Xi. Tr., Pk. Baptist Ch., St. Paul, Minn. Hobbies: coin collecting, wood finishing, photography, fishing.

RICHTER, Herman W., dir. of res., George O. Jenkins Co., Bridgewater, Mass.; res. 33 Clarence Ave., Bridgewater.
Chem.; b. Dedham, Mass., June 26, 1891; s. of Carl T.H. and Louise Richter; ed. Harvard, A.B. (magna cum laude), 1913, A.M., 1926; mem.: Alpha Chi Sigma, Phi Beta Kappa; m. Winnifred Boothby, June 26, 1918; ch.: Herman W., Jr., Kenneth I., Robert L. Chemist, Winthrop C. Durfee Co. (dyestuffs), 1916-17; chem., Garhart Dental Specialty Co., 1917-21; operator, Randolph Chem. Co., 1921-26; market res., Eastern Leatherboard Conference, 1927-29; dir. of res., Geo. O. Jenkins Co., 1929 to date; conslt., Gillette Fibre Co., 1937-50; conslt., Federal Electric Co., 1939-43; conslt., Flintkote Co., 1940-42. Devel. of a num. of fibreboard prods. widely used in shoe construction. Mem.: T.A.P.P.I. Trustee, Bridgewater Academy.

RICHTER, Richard Charles, hd. of industrial pilot plant & lab., Nopco Chem. Co., Harrison, N.J.; res. 3 Mohawk Trail, Westfield, N.J.
Res. and dev. chem.; b. Newark, N.J., Oct. 3, 1915; s. of Herman O. and Minnie C. Richter; ed. Upsala Coll., B.S., 1936; mem.: Alpha Phi Omega; m. Phyllis H. Horton, May 15, 1943; ch.: Pamela Joyce. Newark (N.J.) Health Dept.; Pittsburgh Plate Glass Co., paint div.; Nopco Chem. Co. Mem.: A.C.S., A.I.C. (fellow). Hobbies: jazz record collecting, sports, reading.

RICHTMYER, Nelson K., chem., Exp. Biol. Med. Inst., Natl. Insts. of Health, Bethesda 14, Md.; res. 7117 Marion Lane, Bethesda 14.
Chem.; b. Coxsackie, N.Y., Nov. 18, 1901; s. of Mark Case and Lillian May (Kellogg) Richt-

myer; ed. Harvard Coll., A.B., 1923; Harvard U., A.M., 1925, Ph.D., 1927; mem.: Alpha Chi Sigma; m. Verla Pendell, June 16, 1928; ch.: Carolyn, Marilyn, Rosemary. 1927-28 & 1929-30 res. asst. to Prof. E.P. Kohler, Harvard U.; 1928-29 res. worker at Heidelberg U., Germany; 1930-34 asst. prof., Bryn Mawr Coll., Bryn Mawr, Pa.; 1934 to date, various positions in chem. lab., Natl. Insts. of Health, Wash., D.C. and later Bethesda, Md. Res. in sugar chem. Coeditor: "The Collected Papers of C.S. Hudson" 2 Vols. 1946, 1948. Mem.: A.C.S. Clubs: Kenwood Golf & Country, Masons. Hobbies: gardening, golf.

RICKARDS, Burt Ransom, pub. health conslt., partner, Rickards & Cleveland, 381 State St., Albany 6, N.Y.
Pub. health educator; b. Cambridge, Mass., Sept. 28, 1876; s. of Bennett O. and Elvira S. (Jackson) Rickards; ed. Cambridge High; M.I.T., S.B.; m. Alma Leighton, Oct. 28, 1902; ch.: Leighton Ransom. Instr., quant. anal., Lowell Textile Schl., 1900; asst. dir., Boston, etc. 1900-04; dir., Boston Health Dept. Bact. Labs., 1904-09; dir., Ohio State Health Dept. Lab., 1909-11; assoc. prof. municipal & sanitary dairying, U. of Ill., 1911-12; assoc. dir., Antitoxin & Vaccine Labs., Eli Lilly Co., 1912-14; dir. dev. dept., Randall Faichney Co., 1914-17; dir., Div. of Pub. Health Educ., N.Y. State Dept. of Health, 1917-47; nonresident lecturer in pub. health lab. meths. & pub. health educ. at M.I.T., Albany Medical, P. & S. Medical, Columbia. Chem. anal. embalm. fluids resulting in legislative prohibition of use of arsenical fluid in Mass.; chem. & bact. anal. pub. waters of Ohio, 1909-10; major res. in bacteriolog. (pathogenic) fld. Mem.: Sigma Xi, Delta Omega, A.P.H.A., Mass. Pub. Health Assn., Technol. Club of Albany. Clubs: Torch, Albany Philosophical. Hobby: travelling.

RIDDELL, Guy Crosby, consult. engr., 1440 Rhode Is. Ave., N.W., Wash., D.C., & Engineers Club, 32 W. 40th St., N.Y.C.; res. Little Plaindealing Farm, Royal Oak, Md.
Consult. & operating metall., mining & chem. engr.; b. Charlestown, Mass., Feb. 27, 1882; s. of Robert H. and Anne (Daggett) Riddell; ed. M.I.T., B.S.; m. Isabel Anderson Southgate, June 1, 1907; ch.: Virginia (Riddell) Woodman, Robert S. (Comdr., U.S.N.). 1904-16, chem., assayer, foreman & supt., lead smelt. plant, Am. Smelt. & Refng. Co., Helena, Montana; 1917-18, consult. on modernize, Port Pirie Lead Smeltg., S. Australia; consult. engr., Broken Hill Assoc. Smelts., Prop. Ltd., Melbourne, Australia; consult., lead & zinc mines, Broken Hill, New S. Wales, Australia; 1919-20, chf. metall. staff, U.S. Tariff Commis., Wash., D.C.; 1920-23, consult. engr. & Am. mgr. (import. Chinese metals, chems. & foodstuffs & export. plants & machinery), Wah Chang Trdg. Corp., N.Y.C. & Shanghai; 1924-25, chf. minerals & petrol. div., U.S. Dept. Com., Wash., D.C.; 1925, Dept. of Com. rep. on Fed. Oil Conserv. Bd.; 1925-29, consult. engr. and east. mgr., N.T.U. Oil Co., N.Y., San Francisco & London, Eng.; 1930-33, consult., U.S.S.R., Moscow, rationalization existing oil & mining & dev. new rare metals indus.; 1933-34, contract. engr., Soviet Govt., creation helium indus.; 1935-41, surveys Russian potash, sulphur, nickel & petrol. indus. & resources for 4 Am. corps.; consult. engr. & gen. supt., mines, Mex., Alaska, Calif., Ariz., Colo., Montana & Porcupine, Ontario; consult., N.Y. banks, beryllium & potash indus.; 1942-43, chf. mining projs. div., Office of Exports, B.F.W., Wash., D.C.; 1943-46, consult., B.E.W., F.E.A. & O.F.E.D., Wash., D.C.; 1946-47, res. admin., Dept. of Com., Wash., D.C.; 1947-48, mining advis., U.S.M.G., S. Korea; 1949 to date, mem., Senior Consultants, Inc. N.Y.C., construc. & operation mines & reduct. plants in gold, manganese, copper, lead, zinc, nickel, antimony, tin, aluminum, magnesium, mercury, tungsten, beryllium, mica, sulphur, potash, petrol. & helium; 1950-51, consult., Defense Minerals Admin. (Wash., D.C.). Author: lead and antimony secs., "Handbook Non-ferrous Metallurgy" (McGraw-Hill 1926 & 1945); num. tech. arts. in Am., Latin-Am., Russian mining & metall. jls. Mem.: British Inst. Min. & Metall., Min. & Metall. Soc. of Am., A.I.M.E., Pan-Am. Inst. Min. Engrg. & Geology. Clubs: Chemists' (N.Y.), Engineers (N.Y.), Los Angeles Athletic (Calif.), Mining (N.Y.), Montana (Helena), Bankers (N.Y.).

RIDDICK, John Allen, chf., anal. div., res. dept., Commercial Solvents Corp., Terre Haute, Ind.; res. 919 Barton Ave., Terre Haute.
Anal. chem.; b. Greenville, Texas, 1903; s. of William Benjamin and Rosa Garrison Riddick; ed. A.B., M.A., Southwestern U. (Texas), 1926; Ph.D., 1929, Ia. St. U.; mem.: Delta Tau Delta, Alpha Chi Sigma; m. Louise McDowell, Oct. 9, 1936. Asst. prof. chem., U. of Miss. 1928-31; conslt. 1931-35; instr. So. Methodist U., 1935-36; res. chem. Comm. Solv. Corp., Terre Haute; 1936-42 U.S. Army; 1942-45, Intelligence Officer, Off. Chf. Chem. Officer Southwest Pac. Area, May, 1942-1945; chf. anal. div. res. dept., Comm. Solv. Corp., Oct., 1945 to date. Res. in oxid.-red. potent. anal. meths. inc. present extensive wk. on anal. meths. in non-aqueous media; Criteria of Purity of Organ. Cmpds. Coauthor, "Org. Solv.," being publ. 1951. Mem.: A.C.S., A.A.A.S., Legion of Merit.

RIDER, Theodore Harold, dir. of res., Lever Bros. Co., 505 Park Ave., N.Y.C.; res. 875 Park Ave., N.Y.C.
Chem.; b. Washington, D.C., Oct. 14, 1903; s. of Harold M. and Gertrude (Tressel) Rider; ed. Yale U., Ph.B., 1925, Ph.D., 1928; mem.: Sigma Xi, Phi Beta Kappa; m. Edna Mague, Mar. 7, 1929; ch.: Theodore H., Jr., Michael Gray, Jeanie Gray. Wm. S. Merrell Co., chf. chem. 1930-33, res. dir. 1933-37; Pepsodent Co., tech. dir. 1937-47; Lever Bros. Co., assoc. dir. of res. 1947-49, dir. of res. 1949 to date; Yale U.. instr. pharmacol. & toxicol. 1928-30; Cincinnati Coll. of Pharmacy, prof. 1932-37. Mem.: A.A.A.S. (fellow), A.C.S., A.O.C.S., A.Phar.A., S.C.C. Clubs: Yale of N.Y., Union League (Chicago), Algonquin (Boston).

RIDGE, William Searcy, pres., Gateway Chem. Co. Inc., 1412-14 Walnut St., Kansas City 6, Mo.; res. 501 E. 44th St., Kansas City 4.
Exec.; b. Kansas City, Mo.; s. of Thomas S. and Effie (Searcy) Ridge; ed. Ward Schls., Pembroke Country Day Schl.; U. of Mo., A.B., 1918; B.S., engrg., 1919; mem.: Phi Delta Theta, Tomb & Key, Tau Omicron Alpha, Engineers Club; m. Elizabeth Sturges, Aug. 8, 1917; ch.: Sarah (Ridge) Watson, Frank Searcy; grandch.: Raymond Ethridge Watson, Jr., Thos. Sturges Watson. Organized Gateway Chem. Co. in 1923, pres.; Westport Investors, Inc. (treas.); Natl. Sanitary Supply Assn. (v.p.). Mem.: Phi of the Year 1947. Trustee, Pembroke Country Day Schl., 1923-31; dir., Native Sons of Kansas City, Mo.; v.p., Natl. Sanitary Supply Assn., 1950-51. Clubs: University, Mission Hills Country, Co-Operative, Native Sons of Kansas City, Mo., Quarterback. Hobbies: golf, bridge, stamps, fishing.

RIDGWAY, Charles Murray, mgr. res. & dev. labs., Pure Oil Co., Box G, Crystal Lake, Ill.; res. 356 Douglas Ave., Crystal Lake.
Exec.; b. Hydetown, Pa.; s. of Charles A. and Belle (Williams) Ridgway; ed. B.S. Ch.E., June, 1923, U. of Mich.; mem.: Phi Delta Chi, Phi Lambda Upsilon; m. Elizabeth von Tacky, Sept.

27, 1930; ch.: Thomas Houston. June, 1923-Nov., 1927, Cyclops Steel Co., Titusville, Pa., metallurgist; Nov., 1927-Aug., 1928, E.B. Badger & Sons, Boston, Mass., process engr.; Aug., 1928-May, 1930, Smith Engrg. Co., Kansas City, Mo., process engr.; June, 1930-July, 1932, Old Dutch Refining Co., Muskegon, Mich., refinery supt.; July, 1932-Sept., 1933, Pure Oil Co., Midland, Mich., refinery supt.; Sept., 1933-Mar., 1935, Pure Oil Co., Newark, Ohio, asst. supt.; Mar., 1935-Oct., 1935, Pure Oil Co., Muskogee, Okla., asst. supt.; Nov., 1935-July, 1942, Pure Oil Co., Chicago, Ill., asst. to chf. chem.; Aug., 1942-Feb., 1944, Pet. Adm. for War, Wash., D.C., chf. of economics sec., refining div.; Feb., 1944-Jan., 1949, Pure Oil Co., Chicago, Ill., tech. asst. refining div., Jan. 1, 1949 to date mgr. res. & dev. labs.; dir., Neches Butane Prods. Co. Wk. covering most aspects of the pet. processing fld., with some emphasis on the refining of motor fuels & lubricants, has led to publ. of numerous arts. in tech. jls. & granting of a number of pats. Mem.: Am. Pet. Inst., A.C.S., A.I.Ch.E., Western Pet. Refiners Assn. Club: Lake Country (Crystal Lake, Ill.). Hobbies: golf, fishing.

RIDGWAY, Eric Owen, chem. consultant, John B. Pierce Foundation, Raritan, N.J.; res. Glen side Ave., Scotch Plains, N.J.
Organic chem.; b. Durban, S. Africa, Oct. 7, 1904; s. of William Nicholas and Mary Eleanor (Owen) Ridgway; ed. Durban H.S., Durban, S. Africa; Bristol Grammar Schl., Bristol, Eng., Natal Technical Coll., Durban, S. Africa; Acdy. of the New Church, Bryn Athyn, Pa.; misc. grad. courses; m. Mary Lorna Grant, Dec. 4, 1933; ch.: Peter Owen; step ch.: Edward Stuart Grant Hicks, Kenneth Forbes Hicks. Furness Corp., Gloucester, N.J., asst. to pres.; Amer. Rayon Co., Riverton, N.J., chf. chem.; Ridbo Labs., Inc., Paterson, N.J., pres. & dir. res.; John B. Pierce Foundation, Raritan, N.J. (now owner of Ridbo pats.), chem. conslt. Res. in chem. of rosin acids & derivatives thereof; total synthesis of steroids from resin acids; compounds analagous to steroids. Mem.: A.C.S. Tr., The Lord's Church (corp.); trustee & treas., Beneficia Foundation. Club: Chemists' (N.Y.). Hobbies: sketching, gardening.

RIEBSOMER, Jesse LeRoy, hd. dept. of chem., U. of New Mexico, Albuquerque, New Mexico; res. 812 Loma Vista Dr., Albuquerque.
Chem. prof.; b. in Connersville, Ind., June 6, 1905; s. of Anthony L. and Alice Riebsomer; ed. A.B., DePauw U., 1928, Ph.D., Cornell U., 1932; mem.: Phi Beta Kappa; m. Mildred M. Tate, July 12, 1928; ch.: James Lewis. Instr. to prof. of chem. DePauw U., 1932-39; hd. of dept. of chem. 1939-45; instr. U. of New Mexico 1945-49; hd. of dept. since 1949; dir. of summer session since 1948; conslt. Eli Lilly and Co. 1945-48; conslt. Commercial Solvents Corp. 1942-48; summer employment, Eastman Kodak Co., 1936, 37, 38 and 42. Contrib. extens. to sc. and tech. journals. Mem.: A.C.S., Chem. Soc. of London, Academy of Sc. (Indiana), A.A.A.S., Academy of Sc. (New Mexico), A.A.U.P.

RIEDEBURG, Theodore, Sr., pres. Theodore Riedeburg Associates, Suite 6306 Chrysler Bldg., N.Y. 17, N.Y.; res. 63 Walton Ave., White Plains, N.Y.
Tech. sales conslt., mfrs. representative; b. Milwaukee, Wis., June 7, 1912; s. of Theodore (dec.) and Elva (Wolf) Riedeburg; ed. Marquette U., B.S., 1934, M.S., 1936; m. Margaret Oertel, Dec. 24, 1938; ch.: Theodore, Jr., Charles. Philip Morris & Co. Ltd. Inc., 1937-42, sales promotion; Dow Chem. Co., 1942-45, agr. chem. sales; Westvaco Chems., 1945-47, sales mgr., Agr. Chem. Div.; McLaughlin-Gormley King Co., 1947-48, Eastern rep.; M.W. Hardy & Co. Inc., 1948-49, Domestic chem. sales mgr.; Theodore Riedeburg Associates, formed Oct., 1949, pres. At present Theodore Riedeburg Assoc. is the only organiz. in the country doing sales devel. wk. in agr. chems. on a retainer basis and at the distributor level. Mem.: A.A.E.E., A.A.A.S., Eastern Branch, Weed Control Conference; Natl. Agricl. Chems. Assoc. President, Citizens League of White Plains. Hobbies: music, education in the community.

RIEGEL, Bryon, prof., dept. of chem., Northwestern U., Evanston, Ill.; res. 2247 Ridge Ave., Evanston, Ill.
Prof.; b. Palmyra, Mo., June 17, 1906; s. of Wm. Henry and Ellena (Beagle) Riegel; ed. Central Coll., Fayette, Mo., A.B., 1928; U. of Ill., A. M., 1931, Ph.D., 1934; mem.: Alpha Chi Sigma; m. BelleMae Huot, Aug. 25, 1934; ch.: Byron Wm. Central Coll., full-time instr. 1928-29; Princeton U., grad. asst. 1929-30; U. of Ill., grad. asst. 1930-34; George Washington U., res. assoc. 1934-35; Technische Hochschule, Danzig (Free City), N.R.C. Fellow 1935-36; Harvard U., N.R.C. Fellow 1936-37; Northwestern U., instr. 1937-40; asst. prof. 1940-43, assoc. prof. 1943-48, prof. 1948 to date. Contrib. extens. publns. on steroids, cancer producing compounds & drugs. Award: certif. of appreciation by War & Navy Depts. (June, 1948) for dir. res. on antimalarials & biolog. warfare. Mem.: A.C.S. (Chicago sect.: dir. (1948-50), natl. councilor (1949-52), chmn. (1950-51); natl.: mem. numerous important comm.); A.A.A.S., A.S.Biol.C., Amer. Assn. Cancer Res., A.A.U.P., Theta Chi Delta, Phi Lambda Upsilon, Sigma Xi, Chaos Club. Offcl. del. to steroid conf. of Ciba Fndn. (London, Eng., May, 1950). Mem.: Internl. Union of Chemistry. Clubs: U. (Evanston), Chemists' (Chicago). Hobbies: bridge, bowling.

RIEGEL, Emil Raymond, prof. of chem., U. of Buffalo, Buffalo 14, N.Y.; res. 18 Evadene St., Buffalo 14; June to Sept., Westbrook, Conn.
Teacher, chem.; ed. Harvard U., B.S., 1908, Ph. D., 1911; supplementary courses in Franklin Inst., Boston, & U. of Buffalo, in elem. chem. engrg.; m. Ethel Henrietta LeGendre. Teacher, 1920 to date; assoc. chem., Mentholatum Co., Buffalo, N.Y., 1940 to date. Author: "Ind. Chem.," 5th edit. 1949; "Chem. Machinery" 1st edit. 1944. Mem.: A.C.S., A.I.C., A.I.Ch.E., N. Y. State Assoc. Prof. Engrs., Sigma Xi, A.A. U.P.

RIEMAN, William, III, prof. of analyt. chem., Rutgers U., New Brunswick, N.J.; res. 256 Seaman St., New Brunswick.
Prof.; b. Jersey City, N.J., Sept. 4, 1899; s. of C.W., Jr. and Louise S. (Rugge) Rieman; ed. Lehigh U., 1917-18; Rutgers U., B.Sc., 1922, Ph.D., 1925; mem.: Phi Beta Kappa, Phi Lambda Upsilon, Sigma Xi, Chi Phi; m. Marion P. Hammond, Aug. 1, 1925; ch.: Martha D., Kathleen H., Constance Louise. Rutgers U., instr. 1923-26, asst. prof., 1926-35, assoc. prof., 1935-46, prof., 1946 to date. Res. in emulsions, anal. of fats, ionization constants, coprecipitation, solubility of precipitates, acidimetry, ion exchange in quantitative anal., quantitative anal. Author: "Quantitative Anal." (1937, 1942, and to be pub. in 1951). Mem.: A.C.S. Club: Amer. Contract Bridge League. Hobbies: bridge, canoeing, hiking.

RIEMER, Hugo, v.p., Solvay Process Div., Allied Chem. & Dye Corp., 61 Broadway, N.Y.C.; res. 80 Whittredge Rd., Summit, N.J.

Exec.; b. Lewisburg, Pa., Apr. 27, 1908; s. of G.C.L. and Mary G. Riemer; ed. Bloomsburg State Normal Schl., Bloomsburg, Pa., 1924-26; Bucknell U., 1926-28, 1929, A.B.; Pennsylvania State Coll. 1928-29; Law Schl. of Columbia U., 1929-32, LL.B.; mem.: Phi Gamma Delta, Delta Theta Phi; m. Marjorie O. Woodelton, Apr. 8, 1933; ch.: Ann, Carol, Mary, George. Cravath, de Gersporff, Swaine & Wood, assoc., 1932-35; Allied Chem. & Dye Corp., sr. attorney, 1935-45; Solvay Process Div., Allied Chem. & Dye Corp., asst. to pres., 1945-49, v.p. 1950 to date.

RIES, Herman Elkan, Jr., res. physical chem., hd. physical chem. sect., Res. Labs., Sinclair Refining Co., Harvey, Ill.; res. 5721 Blackstone Ave., Chicago 37, Ill.
Res. physical chem.; b. Scranton, Pa., May 6, 1911; s. of Herman E. and Henrietta B. Ries; ed. U. of Chicago, B.S., 1933, Ph.D., 1936; mem.: Phi Beta Kappa, Sigma Xi, Zeta Beta Tau; m. Elizabeth Hamburger, Aug. 17, 1940; ch.: Walter Elkan (7 yrs.), Richard Alan (4 yrs.). U. of Chicago, asst. instr., chem. 1934-36; Sinclair Refining Co., hd., physical chem. sect. 1936 to date. Res. in pressure area & surface potentials of monomolecular films; thin film lubrication studies; low temp. gas adsorption; physical properties of catalysts. Awards: Ipatieff (chem.), March, 1950. Contrib. to sc. and tech. journals. Mem.: Phi Beta Kappa, A.C.S., A.I.C., A.A.A.S. (mem. advisory bd., Gordon Res. Conferences). Hobbies: tennis (capt. U. of Chicago Tennis Team 1933), music (violin).

RIESZ, Charles H., supvr., catalysis res., Institute of Gas Technology, Chicago 16, Ill.; res. 1241 N. State St., Chicago 10.
Res. chem.; b. Chicago, Ill., June 15, 1914; s. of Charles and Elizabeth Riesz; ed. Armour Inst. of Tech., B.S., 1935; M.S., 1937; Ph.D., 1939; m. Ingrid Riesz, June 15, 1940. Sinclair Refining Co., E. Chicago, Ind., chem.; Univ. Oil Products Co., Chicago, Ill., chem. engr.; Gulf Res. & Dev. Co., Pittsburgh, Pa., chem. engr.; Inst. of Gas Tech., Chicago, chem. engr. Catalytic reactions of hydrocarbons, Fischer-Tropsch catalysts, dev. of catalytic gasification. Author: "Catalytic Reactions," a chapt. in Vol. 2, "Technique of Organ. Chem." Mem.: A.C.S., Sigma Xi, A.I.Ch.E., A.I.C., Amer. Gas Assn. Hobbies: gardening, music.

RIEVESCHL, George, Jr., dir. chem. res., Parke, Davis & Co., Detroit 32, Mich.; res. 1416 Vernier Rd., Grosse Pointe Woods 30, Mich.
Chem.; b. Arlington Heights, O., Jan. 9, 1916; s. of George, Sr., and Alma W. Rieveschl; ed. U. Cincinnati, B.S. (high hons.), 1937; M.S., 1939; Ph.D., 1940; m. Betty Smith, 1937; ch.: Gary, Jan. U. Cincinnati, instr., dept. chem. engrg., 1940-41; asst. prof., 1941-43; Parke, Davis & Co., Detroit, Mich., res. chem., 1943-48; asst. dir. res., 1948-49; dir. chem. res., 1949 to present; Res. in fld. of antihistamine agents. Author: intro. to "Quantitative Anal." (with S. Arenson), 1945. Mem.: A.C.S., A.A.A.S., A. Phar.A., Sigma Xi, Phi Beta Kappa, N.Y. Acdy. of Sc., Ohio Acdy. of Sc., Engrg. Soc. (Detroit). Dir., Radioactive Products, Inc. (Detroit); dir., Lithium Corp. America (Minn.). Clubs: Univ., Bayview Yacht, Lochmoor, Chem. Hobbies: oil painting, golf.

RILEY, John Raymond, Jr., gen. sales mgr., dir., Spencer Chem. Co., 610 Dwight Bldg., Kans. City, Mo.; res. 6740 Pa., Kans. City.
Sales; b. Jan. 16, 1915, Cueydau, La.; s. of John R. and Eleanor D. (Groves) Riley; ed. Tulane U., New Orleans, La., 1932-36, B.E. Chem. Engrg.; mem.: Beta Theta Pi, Tau Beta Pi, Omega Delta Kappa; m. Adele Conway Mills, March 29, 1940; ch.: Susan Adele, Eileen Mills, Eleanor Conway. Shell Pet. Corp., proc. engr., 1936-39; Dearborn Chem. Co., distr. sales mgr., 1939-41; Military Chem. Corp., tech. asst. to pres., 1941-46; Spencer Chem. Co., gen. sales mgr. & dir., 1946 to date. Mem.: A.I.Ch.E., Chem. Mkt. Res. Acdy. Clubs: Chemists' (N.Y.), Univ. (Kans. City).

RILEY, Walter James, tech. sales dir., Westvaco Chem. Div., 405 Lexington Ave., N.Y. 17, N.Y.; res. 846 Shadowlawn Dr., Westfield, N.J.
Chem. dev. & engrg. b. Cleveland, Ohio, Jan. 27, 1911; s. of William Walter and Sylvia Charlotte (James) Riley; ed. Case Inst. of Tech., Cleveland, Ohio, B.Sc., 1933; M.Sc., 1935; mem.: Alpha Chi Sigma, Phi Kappa Tau; m. Mary Virginia Clinesmith, Feb. 15, 1937. 1933-35, part time instr., chem. engrg., Case Inst. of Tech.; 1935-36, instr.; 1936-40, res. engr. & group leader, tech. dept., Westvaco Chlorine Prods. Corp., Carteret, N.J.; 1940-42, dir., Carteret Sec., tech. dept.; 1942-43, 1944-46, 1946-47, N.Y. asst. to tech. dir., tech. dept.; 1943-44, 1946, dir., Newark Sec., tech. dept., Newark, Calif.; 1947 to date, Westvaco Chem. Div., N.Y., tech. sales dir. Author: "Ten Steps to Higher Sales" Chem. Engrg., Oct., 1949. Mem.: A.C.S., A.S.T.M., Am. Stands. Assn., Am. Marketing Assn., Commercial Chem. Dev. Assn., Chem. Market Res. Assn., Tau Beta Pi. Club: Chemists'. Hobbies: gardening, photography, music.

RILL, Carroll Norman, v.p., Franklin Oil and Gas Co., Bedford, Ohio; res. 4044 Northfield Rd., Cleveland.
Dev. chem.; b. Hampstead, Md., June 12, 1907; s. of Harvey Tilden and Elizabeth G. Rill; ed. B.S. Chem., Schl. Engrg., Johns Hopkins U., 1929; M.S Chem., Columbia, 1936; m. Helen Denny, June 27, 1931. Dev. chem., Socony Vacuum Oil Co., 1930-41; res. dir., Nox-Rust Chem. Corp., 1941-45; chg. dev. spec. prod., Freedom-Valvoline Oil Co., 1945-47; v.p., res. and mfg., Franklin Oil and Gas Co., 1947 to date. Dev. of rust prev., greases, defoamers, oxida. inhibitors and mtl. wking. lubri. Mem. War Ad. Bd. Rust Prev., Phi Lambda Upsilon, S.A.E., A.C.S., Cleveland Engrg. Soc., Northfield Park Home Owners Assn. (bd. trustees, secy.). Hobbies: golf, tennis, fishing, carpentry, spectroscopy.

RIMBACH, Richard, publisher and consult.. Instruments Pub. Co., Inc., 921 Ridge Ave., Pittsburgh 12, Pa.; res. R.D. 1, Allison Park, Pa.
Publisher and consult.; b. N.Y.C., Dec. 24, 1895; s. of Adam J. and Sophie Rimbach; ed. M.I.T., B.S., 1918; mem.: Phi Kappa; m. Martha Berg, June 4, 1923; ch.: Richard, Jr., Martha, Gretchen. 1919, metallurgist, Ill. Steel Co.; 1919-21, dir. of res., Standard Steel Car Co.; 1921-22, turn foreman, Jones & Laughlin Steel Co.; 1922-25, res. engr., Union Switch & Signal Co.; 1925-27, engr., Bacharach Indust. Instrument Co.; 1928 to date, Instruments Pub. Co., Inc., pres.; pres., Gardner, Robinson, Stierheim & Weis, Inc.; partner, Gaudreau, Rimbach & Associates; exec. secy., Instrument Soc. of Amer.; partner, Richard Rimbach Associates. Author: "How to Find Metallurgical Information," 1936. Mem.: A.C.S., Amer. Material Handling Soc., A.Phys.S., A.S.M., A.S.M.E., E.S., Instrument Soc. of Amer., Natl. Assoc. of Corrosion Engrs., Verein Deutscher Eisenhuettenleute. Clubs: Harvard-Yale-Princeton Club (Pittsburgh); University (Pittsburgh).

RING, Allen Greeley, research librarian, Mallinckrodt Chem. Works, 2nd & Mallinckrodt Sts., St. Louis 7, Mo.; res. 305 N. Dade Ave., Ferguson 21, Mo.
Chem.; b. Richmond Hill, N.Y., Apr. 16, 1914; s. of Earl C. and Sarah G. Ring; ed. U. of

N.H. 1931-33; Bates Coll., 1933-34; U. of Ala., 1935-37, B.S., 1937; U. of Neb. 1937-39; m. Frances Moss, July 20, 1936. Mallinckrodt Chem. Wks., St. Louis, res. librarian, 1939 to date. Mem.: A.C.S. (secy. St. Louis sect. 1944-45), Spec. Libraries Assn. (pres. St. Louis chapt. 1942-43; ed. "SCI.-TECH. NEWS," bul. of natl. Sc.-Tech. div. 1949-51). Hobby: chess.

RINGHAM, C. Russell, admn. asst. to staff dir., Phillips Petroleum Co., Bartlesville, Okla.; res. 1500 S. Jennings, Bartlesville.
Chem. engr.; b. Princeton, Ind., Feb. 14, 1912; s. of William Benjamin and Margaret Jane Ringham; ed. DePauw U. (Greencastle, Ind.), 1930-31, 1932-35; A.B. 1935; (major chem.); mem. Am. Assn. of Commons Clubs; m. I. LaTrice Quattlebaum, Dec. 25, 1936; ch.: Lee Olin, Beverly Alice. Phillips Pet. Co., natural gasoline, gas dept., 1935 to date; asst. to Panhandle, Texas distr. engr.; group leader, gasoline plant, spec. proc., fractionator proc. design & dev.; Okla. distr. engr.; admn. asst. to staff dir., chg. proc. design & dev.; admn. asst. to staff dir., chg. coordination, (economic) anal. U.S. patent on maintenance of catalytic activity in diisopropyl mfg. plant. Editor: "Natural Gasoline Plant Operators Manual," 1942; contrib. abt. half of its contents. Mem.: A.I.Ch.E. (chmn., Okla. sect., one term; mem. exec. bd., two terms; co-chmn. Tulsa Regional Meeting, May, 1949), A.C.S., Reg. Prof. Engrs. (Okla.), Natural Gasoline Dept. (Phillips Pet. Co.) Tech. Club. Clubs: Bartlesville Stamp, Two Bridge. Hobbies: philately, bridge, follower of baseball, basketball; main hobby, enjoying my "kids."

RINI, S. Jack, chf., fats and oils sect., Kraft Foods Co., Res. Lab., 923 Waukegan Rd., Glenview, Ill.; res. 429 Brainerd Ave., Libertyville, Ill.
Chem., chem. engr.; b. Cleveland, O., July 29, 1915; s. of Martin and Anne M. Rini; ed. Case Schl. of Applied Sc., B.S. in Ch. Engrg.; U. of Chicago, organic chem.; m. Marjorie E. (Herman), Aug. 1, 1936; ch.: Jacqueline Anne, Nancy Lee, James Phillip. Am. Maize Co., res. chem.; Lever Bros. Co., res. supvr.; Kraft Foods Co., chf., fats & oils sect., res. lab. Author: chapt. in "Soybean," now in press, Interscience Pub. Co. Mem.: A.C.S., A.O.C.S., A.I.Ch.E., I.F.T. Clubs: Toastmasters, Boy Scouts of Am. Hobbies: fishing, nature study, photography.

RIPPETEAU, Walter L., Jr., mgr. dev. dept., Wyandotte Chem. Corp., Wyandotte, Mich.; res. 13213 Walnut St., Wyandotte.
Chem. engr.; b. Havana, Kan., Feb. 22, 1916; s. of Walter L. and Lenore (Thomas) Rippeteau; ed. U. of Kan. 1939; mem.: Sigma Tau; m. Corinne H. Rippeteau, Mar. 25, 1947; ch.: Nicki D., Robert R. Summers 1938, 1939, United Light & Power Serv. Co., Davenport, Iowa, asst. chem.; 1939-40, Phillips Pet. Co., Kaw, Okla., res. engr.; 1940-41, Borger, Tex., liaison engr.; 1941-42, headquarters, Camp Barkely, Texas, camp chem. officer & engr. property officer; 1942-43, headquarters, Camp Maxey, Tex., camp chem. officer; 1943, plant div., C.W.S., Tech. Command, Edgewood Arsenal, Md., project engr.; 1943-44, Tech. Div., Office Chf., C.W.S., Edgewood Arsenal, Md., exec. officer, prod. engrg. branch; 1944-45, Tech. Div., Office Chf., C.W.S., Wash., D.C., asst. chf. prod. engrg. branch; 1944-45, liaison officer for asst. chf., tech. div.; 1945-47, Phillips Pet. Co., Bartlesville, Okla., dev. engr.; 1947-49, Wyandotte Chem. Corp., Wyandotte, Mich., fld. serv. rep. dev. dept.; 1949 to date, mgr. dev. dept. Pat. 2,412,010, purification of toluene. Mem.: A.C.S., Chem. Corps Assn., Soc. of Military Engrs. Clubs: Am. Legion, Wyandotte Chem. Golf. Hobbies: golf, woodworking.

RIPPIE, Charles W., v.p., tech. dir., American Development Co., 207 E. 57th St., New York City; res. 27 Glen Oaks Ave., Summit, N.J.
Chem.; b. Iowa, Sept. 30, 1895; s. of W.J. and Sadie E. Rippie; ed. 1919, U. Mich., B.Sc.; 1925, U. Ill., M.Sc.; 1926, Ph.D.; mem.: Sigma Xi, Phi Lambda Upsilon, Tau Kappa Upsilon; m. Marion S. Scott, August, 1927; ch.: Wallace Larimer Rippie, Marilyn S. Rippie. Since 1928: Shell Oil Co., refinery chem. & asst. to v.p. mfg.; Solvay Sales Corp., pet. tech.; Monsanto Chemical Co., pet. chems. sales; Diamond Alkali Co., hd. tech. service dept.; Merck and Co., hd. tech. service, R. & D. Dept. Chem. treatments of gasoline, safe handling of caustic soda solutions. Mem.: A.C.S., A.I.Ch.E., A.P.I., A.S.M. Clubs: Chemists' (New York City), Chamber of Commerce of State of N.Y. Hobbies: fishing and photography.

RISING, Louis Wait, prof. of pharmacy, U. of Washington, Seattle, Wash.; res. 6835 18th Ave. N.E., Seattle.
Prof.; b. Rising, Ill., May 11, 1902; s. of Louis John and Olive Starr (Wait) Rising; ed. Oregon State Coll., Ph.G., B.S., 1924; U. of Wash., M. S., Ph.C., 1926; Ph.D., 1929; mem.: Alpha Sigma Phi, Sigma Xi, Blue Key, Scabbard & Blade, Rho Chi, Phi Sigma, Kappa Psi; m. Lois Edwena Fendall, Apr. 28, 1929. Assoc. prof., U. of South Carolina, 1929-30; asst. prof., Rutgers U., 1930-34; assoc. prof., U. of Wash., 1934-36; prof. and hd. of dept., 1936 to date. Toxicology, pharmaceutical chem., pharmacy,, dermatology. Co-author: "Fundamental Principles and Processes of Pharmacy," 1949; co-author: "Lab. Manual for Principles and Processes of Pharmacy," 1949. Mem.: A.I.C., S.C.C., A.Ph.A., S.H.P. Hobby: gardening.

RISING, Walter H(amilton), chem. pat. attorney, Corning Glass Wks., Corning, N.Y.; res. 116 Reynolds Ave., Corning.
Chem. pat. atty.; b. Corning, N.Y., Feb. 19, 1893; s. of Edwin N. and Alice O. (Hamilton) Rising; ed. U. Mich., 1920, B.S. (chem.); m. Ella Maud Beales, June 18, 1919; ch.: Marjorie. Corning Glass Wks., 1911-13, lab. asst.; 1916-17, 1919, anal.; Spencer Lens Co., Hamburg, N.Y., 1920-25, chem.; Corning Glass Wks., 1925-29, res. chem.; 1929 to date, pat. atty. Mem.: A.C.S., A.A.A.S., Phi Lambda Upsilon.

RISSER, William Christian; dir., engrg. & chem. dev., Bristol Labs., P.O. Box 657, Syracuse, N.Y.; res. 139 Robineau Rd., Syracuse.
Engr., chem.; b. Washington, Ill., May 31, 1915; s. of Roy E. and Elsie M. (Pfeiffer) Risser; ed. 1936, Eureka Coll.; 1937, U. Ill., B.S.; 1940, Ph.D.; mem.: Psi Alpha Lambda (Eureka), Gamma Alpha (grad. fraternity, U. Ill.); m. Dorothy Reasoner, Sept. 9, 1939; ch.: Martha, Craig, Daniel. 1940-45, res. biochem., Abbott Labs., N. Chicago; 1945-47, group leader, penicillin & biochem. res., Bristol Labs., Syracuse; 1947-48, acting dir. engr. chem. dev.; 1948 to date, dir. engrg. & chem. dev. Commercial process for isolation of heparin; res. in amino acids; isolation of crystalline sodium penicillin G. and K.; penicillin process res. Mem.: Phi Lambda Upsilon, Sigma Xi, Phi Kappa Phi, A.C.S. Hobbies: skating, skiing, baseball, reforestation, gardening.

RITCHEY, Herbert E., prof. chem., Virginia Military Institute, Lexington, Va.; res. Lexington.
Tchr.; b. Rossville, Ind., Sept. 6, 1906; s. of Aaron F. and Christian Ritchey; ed. Ind. U., A.B.; Purdue U., M.S.; 2 yrs., U. of Ill.; m. Mary Louise Kirk, Dec. 24, 1932; ch.: Charles Robert, Mary Virginia, Myrna Louise. Ill. Steel Co., Gary, Ind., anal., 1928-29; Purdue U., grad. asst. chem. dept., 1929-30; Va. Mil. Inst., instr. chem., 1930-32; U. of Ill., textile res. fellow,

1932-34; Pikeville Coll., Pikeville, Ky., hd. sc. dept., 1934; Va. Mil. Inst., prof. organic chem., 1934 to date. Co-author: "Gen. Chem.," "Lab. Manual of Gen. Chem." Mem.: A.C.S., Va. Acdy. of Sc. Hobbies: fishing, stamps.

RITCHIE, James Lyall, exec. dir., U.S. Pulp Producers Assn., Inc., 122 E. 42nd St., N.Y. 17, N.Y.; res. 45 Greenacres Ave., Scarsdale, N.Y.
Trade assn. exec.; b. N. Adams, Mass., Nov. 24, 1905; s. of William and Catherine (McLeod) Ritchie; ed. Williams Coll., B.A. 1928; Harvard Law Schl., L.L.B. 1933; m. Elizabeth Sprague, 1934; ch.: Lyall. Am. Paper & Pulp Assn., 1934-45, asst. exec. secy.; U.S. Pulp Producers Assn., Inc., 1945 to date, exec. dir.

RITCHIE, Walter Stuntz, prof. of chem., hd. of dept., U. of Mass., Amherst, Mass.
Prof.; b. Ludlow, Ky., Apr. 11, 1892; s. of Walter T. and Mary (Stuntz) Ritchie; ed. Ohio State U., B.S. 1916; U. of Mo., M.S. 1918, Ph. D. 1922; mem.: Delta Tau Delta, Alpha Chi Sigma; m. Maggie Lee Bell, Apr. 29, 1922; ch.: Mary Ann. U. of Mo., student asst. 1916, asst. in chem. 1917-19, instr. chem. 1919-20, asst. prof. 1920-34; U. of Mass., prof. chem., hd. of dept., 1934 to date. Fld. of agric. chem., nutrition & org. chem. Mem.: Sigma Xi, Phi Kappa Phi, Gamma Alpha, A.C.S. Red Cross. Club: Rotary. Hobby: Boy Scout work.

RITTER, Burr Howard, gen. lab. dept. hd., Hooker Electrochem. Co., Niagara Falls, N.Y.; res. 3918 Lewiston Rd., Niagara Falls.
Chem.; b. Bklyn., N.Y., Apr. 21, 1886; s. of Charles J.F. and Alice E.B. Ritter; ed. Polytech. Inst. of Bklyn., 1911, Ch.E.; mem.: Pi Kappa Phi; m. Anna Josephine Anderson, May 25, 1918; ch.: Charles Nordin, John Howard. 1911, private asst. to Prof. John C. Olsen; 1912, U.S. Light & Heat Corp., Niagara Falls, N.Y., chem. lab.; 1913 to date, Hooker Electrochem. Co., Niagara Falls, N.Y., gen. lab. Pats. concerning the use of chlorine; numerous anal. meths. involving caustic soda & chlorine derivatives. Mem.: A.C.S., A.O.C.S., A.S.T.M. Vestryman of church & mem. of exec. council of Diocese of Western N.Y. Hobbies: gardening, golf, contract.

RITTER, George Joseph, sr. chem., U.S. Forest Service, Madison, Wis.
Chem.; b. Jan. 4, 1884, Appleton, Wis.; ed. U. of Wis., B.S., 1916; M.S., 1917; Ph.D., 1920; m. Flora E. Grambach, June 9, 1912. Supt. pub. schls., 1913-16; U. of Wis., instr. chem., 1916-20; res. chem., U.S. Forest Service, 1920 to date. Res. in chem. wood, cellulose, microstruct. cellulose fibers. Mem.: A.C.S. (chmn., cellulose div., 1935-36; exec. comm., cellulose div., 1936-37), A.A. A.S., Tech., Alpha Chi Sigma, Sigma Xi. Clubs: Madison Garden, Madison West End. Hobbies: magazines, books.

RITTMAN, Walter Frank, conslt. engr.; res. 6112 Alder St., Pittsburgh 6, Pa.
Conslt. engr. (not limited to one co.); b. Sandusky, O., Dec. 2, 1883; s. of Christian Adam and Louisa A. Rittman; ed. C.E., Ohio Northern U., 1905; A.B., Swarthmore Coll., Swarthmore, Pa., 1908; M.A., 1909; M.E., 1911; Ch.E., 1916; Ph.D., Columbia U. (chem.), 1914; mem.: Sigma Xi, Tau Beta Pi, Sigma Phi Epsilon; m. Anna F. Campbell, of Salem, O., Sept. 11, 1913; ch.: Frank Sears, William Campbell, Eleanor Anne. U.G.I. Phila., chem., 1909-10; U.S. Bur. of Mines, chem. engr., 1914-21; Carnegie Inst. of Tech., prof. & hd. of dept. commercial engrg., 1921-32; consltg. engr., Cov Penna, 1923-24; consltg. engr., U.S. Dept. of Agric., 1928-32. Res. in field of pet. and refining; experted in a number of important oil refining pat. litigations. Numerous publications in field of pet., refining, and in field of oil cracking. Mem.: A.S.M.E., A.I.M.E., A.I.Ch.E., A.A.A.S. (fellow), Franklin Inst. Trustee, Ohio Northern U., 1928-31. Clubs: Duquesne (Pittsburgh), Chemists' (New York), Union League (Chicago), University (New York).

RIVISE, Charles W, mem. Caesar & Rivise, 1321 Arch St., Phila. 7, Pa.; res. 6109 Wayne Ave., Germantown, Phila.
Patent attorney; b. Russia, Sept. 9, 1899; s. of Harry and Dora Revise; ed. U. of Penn., Ch.E., 1922; George Washington U., LL.B., 1926; Washington Coll. of Law, M.P.L.; m. Hadassah Greenfield, Apr. 3, 1927 (dec.). U.S. Patent Office, examiner, 1923-27; patent attorney, Caesar & Rivise, 1928 to date. Author: "Interference Practice," (1932); co-author: "Patentability and Validity," (1936); "Preparation and Prosecution of Patent Applications," (1933); "Interference Law and Practice," (1940, 1943, 1947). Mem.: A.C.S. (councilor), A.I.C., T.A.P.P.I. (chmn. pats. com.), Phila. Organic Chem. Club, Franklin Inst., Natl. Lawyers Guild, Amer. Pat. Law Assn., N.Y. Pat. Law Assn., Phila. Bar Assn. Club: Phila. Lawyers'. Hobbies: curious patents, writing on chem. patent subjects.

ROARK, Ruric Creegan, prin. chem. in chg., div. of insecticide investigations, Bur. of Entomology & Plant Quarantine, U.S. Dept. of Agric., Beltsville, Md.; res. 3163 Adams Mill Rd., Washington 10, D.C.
Chem.; b. Glasgow, Ky., Mar. 13, 1887; s. of Ruric Nevel and Mary (Creegan) Roark; ed. U. of Cincinnati, B.A., 1907; U. of Ill., M.A., 1908; Geo. Washington U., Ph.D., 1917; m. Anna Brown, Sept. 10, 1913. 1908-18, Dept. of Agric., Wash., D.C., mostly in insecticide and fungicide lab., Bur. of Chem.; 1918, U.S. Sanitary Specialties Corp. of Chicago; later, Gen. Chem. Co., Baltimore, Md., res. chem.; 1923, reentered Dept. of Agric.; 1927, acting chf., one year later chf. of insecticide investigations in the then Bur. of Chem. and Soils; div. transferred to the Bur. of Entomology & Plant Quarantine, 1934. Chem. meths. of examining a wide range of insecticides, fungicides, disinfectants; orig. and patented paradichlorobenzene deodorizing block; dev. and pat. a new barium tetrasulfide spray prod. used as a substitute for lime-sulfur solution; studied in Texas repellents for the screwworm fly; in cooperation with Dr. R.T. Cotton new grain fumigants were dev. and are now used for destroying insects in grain flour, packaged cereals, dried fruits, nuts and tobacco; the Natl. Archives Bldg. in Wash., D.C. uses one of these fumigants for killing insects attacking books and mss. of historical value; for these accomplishments Drs. Roark & Cotton were awarded a Modern Pioneer Award by the Natl. Assoc. of Mfrs., 1940. Commendation from Dr. Ross T. McIntire, Vice Admiral (MC), Surg. Gen., U.S.N., March, 1946 for "exceptionally meritorious service rendered to Naval forces throughout the world" for the Div. of Insecticide Investigations, Bur. of Entomology & Plant Quarantine (of which Dr. Roark had chg.); in May, 1948 the U.S. Dept. of Agric. awarded the Div. of Insecticide Investigations a cert. of Off. Commendation for Disting. Serv. "for chem. res. which disc. new insecticidal chems., new means of increasing the usefulness of insecticides, new meths. of chem. anal., and for inventing new ways of applying insecticides." Author of about 175 arts. dealing with the chem. and economics of insecticides and has been gtd. 10 U.S. pats. on new insecticides; the chemists under his direction (as of June, 1950), have pub. 1060 papers dealing with nearly every known insecticide; 158 pats. (U.S.) have been gtd. them. Mem.: Ill. Acdy. of Sc. (charter), Sigma Xi, A.C.S., A.A.A.S., A.A. Econ. Entomologists, Assoc. of Off. Agric. Chems., Entomolog. Soc. of Amer., Wash. Ento-

molog. Soc., Insecticide Soc. of Wash., Natl. Pest Control Assoc. (hon.).

ROBBINS, Gerald A., plant mgr., Frontier Chemical Co., Box 578, Denver City, Texas; res. P.O. Box 915, Seagraves, Texas.
Chem. engr.; b. Decatur, Iowa, Dec. 26, 1909; s. of Frank L. and Lena O. Robbins; ed. B.S. (chem. engrg.), Iowa State Coll., Ames, Iowa, 1935; m. Edna L. Alexander, June 4, 1948; ch.: Zane A. Robbins, Donna Louise Robbins. Trainee to Chlorine Div. supvr., Westvaco Chlorine Products Corp., 1935-46; supt. Chlorine Plant, Colorado Fuel & Iron Corp., 1947-48; engr. and supt., Chlorine Plant, Julius Hyman & Co., Denver, Colorado, 1949-50; plant mgr., Frontier Chem. Co., 1950 to date. Mem.: A.I.Ch.E., The Electrochem. Soc. Hobbies: hunting, fishing, photography.

ROBBINS, Paul Hebert, exec. dir., Natl. Soc. of Prof. Engrs., 1121-15th St., N.W., Washington, D.C.; res. 9329 Caroline Ave., Silver Spring, Md.
Engr.; b. Syracuse, N.Y., Feb. 15, 1914; s. of James Hebert and Jessie (Lair) Robbins; ed. Syracuse U., B.S. C.E. 1935 (cum laude); M.I.T., S.M. in C.E., 1936; Columbia U. grad. studies toward Ph.D., 1937-40; mem.: Tau Beta Pi, Phi Kappa Phi, Delta Sigma Rho, Sigma Tau; m. Hester F. Becker, 1937; ch.: Susan Jane, David Paul. Dftsman. and estimator, Pittsburgh Bridge & Iron Wks., 1936-37; instr., Cooper Union, 1937-40; instr., N.Y.U., summer 1939; instr., U. of Me., summers, 1938-40; lecturer, Cooper Union, 1940-46; expert examiner, N.Y.C. Civil Service Commis., 1938-41; conslt. on engrg. training, exec. off. of mayor of N.Y.C., 1941-43; dir. of training, N.Y. Port of Embarkation, 1943-46; conslt. on training, Chf. of Transportation, U.S. Army, 1944-46; exec. dir., N.S.P.E., 1946 to date. Devel. res. equip. in fld. of photogrammetry. Co-author with B.B. Talley of textbook: "Photographic Surveying," pub. by Pitman Pub. Co. Mem.: A.S.E.E., Amer. Soc. Photogrammetry, Army Transportation Assoc., Amer. Soc. Military Engrs., University Club, D. C.; awarded War Dept. Commendation for Meritorious Serv., 1946; winner White Oratorical Contest, Syracuse U., 1935; dir. of Fellowships, Tau Beta Pi.

ROBERTS, Frederick Hoffman, dir. plant labs., Union Carbide Corp., Carbide & Carbon Chemicals Div., S. Charleston, W.Va.; res. 1636 Kanawha Blvd., Charleston, W.Va.
Chem.; b. Chicago, Ill., Nov. 19, 1909; s. of Frederick D. and Jane Hoffman Roberts; ed. U. of Chicago, B.S., 1931; Ph.D., 1934. Carbide & Carbon Chemicals Div., Union Carbide Corp., 1934-50.

ROBERTS, George, Jr., mgr. res. dept., Stanolind Oil and Gas Co., Box 591, Tulsa, Okla.; res. 1536 E. 26 Pl., Tulsa.
Chem. engr.; b. Lexington, Ky., Aug. 15, 1911; s. of George and Rhoda (Elliott) Roberts; ed. 1932, U. Ky., B.S. Industrial Chem.; 1933, U. Mich., grad. wk., chem. engrg.; mem.: Sigma Alpha Epsilon; m. Eula C. Coleman, July 31, 1935; ch.: Diane C. Irwin, Patricia Roberts, Madolyn, Carolyn, Donna, George Roberts, III. M.W. Kellogg Co., 1933-43, patent dept. & chem. engr.; Stanolind Oil and Gas Co., 1943 to date, mgr., res. dept. Hydrocarbon synthesis and petro. chem. Mem.: A.P.I., A.I.Ch.E., A.C.S. Club: Tulsa Country. Hobbies: golf, fishing.

ROBERTS, Hayden, lab. mgr., Howco Labs., Halliburton Oil Well Cementing Co., Duncan, Okla.
Chem.; b. Jan. 1, 1894, Murray, Ky.; s. of Sidney J. and Lois (Beale) Roberts; ed. Georgetown Coll. (Ky.), B.S., 1918; N.C. State Coll., 1920-21; Ky. U. (summer, 1921); Peabody Coll., 1922; m. Elsie Bowie, Sept. 2, 1933; ch.: William Bowie, John Wells. Perry, Okla., H.S., instr., 1919-20; U.S. Bur. of Stands., summer 1920, lab. asst.; N.C. State Coll., instr., 1920-21; Chickasha, Okla., H.S., instr., 1921-29; Halliburton Oil Well Cementing Co., lab. mgr., 1930 to date. Mem.: A.C.S., A.I.C., Amer. Concrete Inst., A.S.T.M., E.S., Faraday Soc., A.P.I. Mem.: Masons (Scottish Rite & Knight Templar). Hobbies: B.S. of A. (recipient of Silver Beaver Award; mem. Order of the Arrow).

ROBERTS, Irving, div. engr., process div., res. & dev. dept., The Elliott Co., Jeannette, Pa.; res. Spanish Villa, Jeannette.
Chem. engr.; b. Bklyn, N.Y., Jan. 9, 1915; s. of Isador and Tillie Roberts; ed. C.C.N.Y., B.S., 1934; Columbia, M.A., 1935; Ph.D., 1937; mem.: Sigma Xi, Phi Lambda Upsilon; m. Phyllis Silver, 1938; ch.: Susan, Ellen (twins). Instr. asst. (Columbia U.), 1935-37; res. asst., 1937-39; chem. engr., Weiss & Downs, Inc., N.Y.C., 1939-43; group leader, Manhattan Proj., 1943-45; div. engr., process div., res. & dev. dept., The Elliott Co., 1945 to date. Separation of isotopes, tracer res., reaction kinet., cataly., organ., chem. plants, liquef. of gases, gas separation. Contrib. extens. to sc. and tech. jls. Mem.: A.S.M.E., A.I.Ch.E. (active), A.C.S., A.R.R.L. Lic. Prof. Engr. (N. Y. State, 1945; Pa., 1947). Club: Chemists' (N.Y.). Hobbies: amateur radio, bridge, tennis.

ROBERTS, John Alexander, pres., Pioneer Phosphate Co., 125 S.W. 4 St., Des Moines, Ia.; res. 721 Foster Dr., Des Moines.
Mfr. chem. fertilizers; b. Utica, N.Y., Oct. 1, 1905; s. of Walter F. and Daisy (Stewart) Roberts; ed. Groton Schl. 1925; Yale U., B.A., 1929; Harvard Bus. Schl., 1931; mem.: U. Club; m. Patricia Hennecart, Sept. 5, 1942; ch.: John A., Jr., Antoinette Lewis. Northwestern Mutual Life, spl. agt. life ins., 1930-38; Seymour Products Co., New England sales rep., 1938-40; Natl. Postal Meter, N.Y., sales rep., 1940-42; U.S.A., Capt., C.W.S., 1942-46; Pioneer Phosphate Co., v.p. & treas., 1946-49, pres., 1949-50. Res. in granulation of mixed fertilizers (pat. applied for). Mem.: Am. Plant Food Council, Midwest Shippers Adv. Bd., Execs. Assn., Des Moines C. of C. Clubs: Wakonda (golf), Embassy, Des Moines (all of Des Moines), Squadron A Assn. (N.Y. City), Harvard Bus. Schl. (Boston), Mory's Assn. (New Haven, Conn.).

ROBERTS, Joseph Kastle, gen. mgr. res. and dev., Standard Oil Co. (Ind.), 910 S. Michigan Ave., Chicago 80, Ill.; res. Bruce Ave., Flossmoor, Ill.
Chem. engr.; b. Berkeley, Calif., Jan. 13, 1905; s. of George and Rhoda Elliott Roberts; ed. B.S. (chem.), 1925, U. of Ky.; M.S. (chem. engrg.), 1928, M.I.T.; mem.: Alpha Tau Omega, Alpha Chi Sigma, Sigma Xi, Phi Beta Kappa; m. Marion A. Robb, Sept. 16, 1930; ch.: Joseph K., Jr., George R. Res. assoc., M.I.T., 1925-28; chem., Standard Oil Co. (Ind.), 1928; group ldr., 1929; asst. dir. res., 1934; asst. to gen. mgr., res. and dev., 1938; dir. of res., 1938; gen. mgr. of res., 1945; gen. mgr. res. and dev., 1949 to present. Dir. of Standard Oil Co. (Ind.) (since Sept., 1947). Mem.: A.C.S., A.I.Ch.E., A.P.I., Soc. of Chem. Ind., Newcomen Soc. of England. Association of Commerce and Industry (Chicago). Clubs: Chemists' (New York), Flossmoor Country, Chicago, M.I.T. Club (Chicago).

ROBERTS, Lathrop Emerson, prof. chem., U. Arizona, Tucson, Arizona; res. 1239 N. Highland Ave., Tucson, Ariz.
Chem. prof.; b. St. Joseph, Mo., Sept. 9, 1888; s. of Charles B. and Sarah Ellen (Bulkeley) Roberts; ed. S.B., U. of Chicago, 1914; Ph.D., 1919;

mem.: Phi Beta Kappa, Sigma Xi; m. Olga R. DeVries, Oct. 3, 1922; ch.: Lathrop E., Jr., Nancy Ellen. Instr., U. Pittsburgh, 1914-16; C.W.S., U.S.A., 1917-19; asst. dir. of res., Amer. Writing Paper Co., 1919-21; physical chem., U. S. Bur. of Mines, 1922-23; asst. prof. chem., U. Arizona, 1923-24; assoc. prof., 1925-26; prof., 1926 to date. Mem.: Phi Kappa Phi, A.C.S. Club: Masonic.

ROBERTS, Lawrence Morris, mgr., dev. and res. div., Research Corp., 123 E. Main St., Bound Brook, N.J.; res. 219 Willow St., Bound Brook. Chem. engr.; b. Slatington, Pa., Mar. 22, 1898; s. of William M. and Salina Roberts; ed. Penn. State Coll., B.S. Ch. Engrg., 1922; mem.: Lambda Chi Alpha; m. Mae B. Hellick, Mar. 24, 1950; ch.: Margaret H. N.J. Zinc Co., fld. wk., res. dept., 1922-23; Res. Corp., fld. engr., 1923-25; Wilmington Fibre Specialty Co., supv. in chg. of fibre mfr., 1925-29; Res. Corp., adm. in chg. of dev., tech. & gen. engrg. on operation & serv. phases of electrical precipitation, 1929-49; mgr. dev. & res. div., 1950 to date. Mem.: A.S.Ch.E., A.C.S., T.A.P.P.I.

ROBERTS, Walter Russell, mgr., silicate sales, Diamond Alkali Co., 300 Union Commerce Bldg., Cleveland 14, O.; res. 3358 Elsmere Rd., Shaker Heights 20, O. Sales mgr.; b. Hurley, Wis., Jan. 2, 1892; s. of Fred W. and Josephine Roberts; ed. Lasche Inst.; m. Roxne Miller, Sept. 2, 1921. Chf. chem., McKinney Steel Co., Bessemer, Mich., 1909-14; chf. chem., Moose Mountain, Ltd., Sellwood, Ont., 1916-20; conslt. wk., 1920-21; asst. supt., U.S. Indust. Alcohol Co., Peoria, Ill., 1921-22; sales, same company, New Orleans, La., 1922-23; sales, Benner Chem. Co., Chic., Ill., 1923-28; v.p., Buckeye Soda Prods., Cincinnati, O., 1928-31; sales mgr. Standard Silicate Co., 1931-36; mgr., Silicate Sales, Diamond Alkali Co., Cleveland, O., 1936 to date. Res. and published several papers on insoluble iron in iron ores, recovery of molybdic acid in phosphorus filtrates. Served on advisory bd. of W.P.B. in last war. Mem.: A.C.S., Drug & Chem. Assoc. (Chicago), Sodium Silicate Inst. Clubs: Cleveland Athletic, Audubon Soc. Hobbies: mineralogy, wild life and flowers, gardening, stamp collecting, amateur movies, coin collecting.

ROBERTS, William H., gen. mgr., Glyco Prods. Co., Box 110, New Martinsville, W.Va.; res. 236 Virginia St., New Martinsville. Engrg.; b. Detroit, Mich., Sept. 11, 1908; s. of W.H. and Gertrude E. Roberts; ed. S.B., S.M. (chem. engrg.), M.I.T.; M.B.A., Harvard Grad. Schl. of Business; mem.: Delta Upsilon; m. Esther Creagh, 1942; ch.: Martha, William. Sales trainee, Calco Chem. Co.; auditor, Arthur Anderson & Co.; sr. construction engr., supvr. sales engr., Hooker Electrochem. Co.; supt. antibiotic mfg., asst. chf. engr., E.R. Squibb & Sons; gen. mgr. Glyco Prods. Co. Design of plants for manuf. of antibiotic drug. Mem.: Lic. Prof. Engrs. (New York, New Jersey, West Va.). Clubs: Magnolia Yacht, Lions International.

ROBERTSON, Harold Foster, mgr. dev., thermoplastics dept., Bakelite Div., Union Carbide & Carbon Corp., 30 E. 42 St., N.Y., N.Y.; res. 24 Oak Lane, Scarsdale, N.Y. Chem. engrg.; b. Brantford, Ont., Jan. 31, 1898; s. of Milton Henry and Kate (Foster) Robertson; ed. B.S., 1923, U. Toronto; mem.: Psi Upsilon; m. Mary Gardner, July 16, 1927; ch.: Kate Foster, Myrta Gardner, Ellen Morton. Refractories fellow, Mellon Inst. 1923-26; chrome ore fellow, 1926-27; organ. synthesis fellow, 1927-36; sr. fellow, organ. synthesis, 1936-39; Carbide & Carbon Chem. Corp., N.Y. 1939-42; mgr. dev., plastics div., 1942-44; mgr. dev., thermoplastics dept., Bakelite div., 1944 to date. Res. in vinyl resins, chlor. copolymers, vinyl butyral. Mem.: A.C.S., A. I.C., S.P.I. Clubs: Chemists' (N.Y.), Scarsdale Golf. Hobby: photography.

ROBERTSON, John William, chem. conslt., Box 3063, Charlotte 3, N.C.; res. 1527 Lilac Rd., Charlotte 3. Chem. engrg.; b. Tuscaloosa, Ala., Aug. 17, 1906; s. of John R. and Mamie L. Robertson; ed. B.S., U. of Ala., 1927; M.S., Lafayette Coll., 1928; m. Lucile Darlington, Nov. 1, 1941; ch.: Mary Louise, Richard D. 1928-32, du Pont Co., dev. & prod.; 1933-36, Price Battery Corp., battery engr., tech. dir.; 1936-38, Artloom Corp., asst. chem.; 1938-39, Turner Chem. Co., chem. engrg. dev.; 1939-40, Jordan Mfg. Co., tech. sales engr.; 1940-43, Internatl. Tailoring Co., Northern Furniture Co., chem. dir.; 1943-46, Ellis-Foster Co., res. physicist; 1946-48, La France Industries, chem. dir.; 1948 to date, chem. conslt. Dev. wk. in use of radio frequency energy for chem. processing. Mem.: A.C.S., A.A.T.C.C., A.I.C. Club: Chemists' (N.Y.). Hobbies: reading, yard & garden.

ROBEY, Ashley, prof., hd. dept. chem., Roanoke College, Salem, Va.; res. 11 Cherrywood Rd., Stonewall Forest, Salem, (mail) P.O. Box 421. Chem. prof.; b. Fort Worth, Texas, Aug. 1, 1903; s. of Kennerly and Florence L. (Ashley) Robey; ed. B.S., 1923, Texas Christian U.; M.S., 1925, Texas A.&M. Coll.; Ph.D., 1932, Cornell U.; mem.: Acacia; m. Elizabeth E. Chadwick, Jan 2, 1932; ch.: William Bradford, Florence Elisabeth, George Kennerly. Stud. asst., Texas Christian U., 1922-23; instr., 1923, summer; fellow, U. Coll., 1923-24; fellow, Texas A.&M. Coll., 1924-25; grad. asst., Cornell U., 1926-27; asst. chg. inorg. labs. & recitations. Cornell U., 1927-31; acting asst. prof. chem., Cornell U., summer 1930; prof., hd. dept. chem., Ark. St. Coll., 1932-41; asst. prof. chem., Roanoke Coll., 1941-43; assoc. prof., act. hd. dept. chem., 1943-47; prof., hd. dept. chem., 1947 to date. Res. in fields of toxin of rattleboxbean; aliphatic sulfinic acids; fluorenyl magnes. bromide. Corres. ed. "The Chem."; ed. "The Blue Ridge Chem."; ed. (column) on Texas Precancel Stamps in various Precancel Stamp Mags.; ed. chg. Texas, Official Precancel Stamp Catalogs. Mem.: A.A.A.S. (fellow), A.C.S., A.I. C. (fellow), Va. Acdy. Sc., Al-Dejebar (hon. chem. soc., Cornell U.). Chmn., Salem Bd. of Health; distr. committeeman, Boy Scouts of Am. (Salem Dist. Roanoke Area Council). Clubs: Precancel Stamp Soc., Inc.; Precancel Stamp Soc. of Great Britain (hon. mem.); Roanoke Stamp & Coin; Salem Camera. Hobbies: precancel stamps, photography.

ROBEY, Richard Foerster, res. chem., Standard Oil Dev., Co., Linden, N.J.; res. 409 Orange Ave., Cranford, N.J. Chem.; b. Columbus, O., May 29, 1912; s. of Durward A. and Virginia (Foerster) Robey; ed. A.B. (high distinction in chem.), Ohio State U., 1933; M.S., 1934; Ph.D., 1937; mem.: Gamma Alpha; m. Ruth F. (Schumacher), Dec. 24, 1935; ch.: Jerilyn E., Richard D. Asst. in chem., Ohio State, 1933-37; res. chem., Esso Labs., chem. div., 1937; hd. physico-chem. & anal. dev. group, 1942; chmn., anal. standardization, 1939; chmn., Alcohol Prods. Comm., 1944-50; chmn., anal. comm., Petroleum Industry War Council, 1942-44. Kinetics of chem. reactions; phase equilibria, physical and anal. chem., of lower hydrocarbons and their derivatives; early stages of dev. of the cuprous ammonia process for extraction of butadiene; org. and leadership of pet. industry war-time committees for compilation and nation-wide distrib. of anal. methods for butadiene and Butyl-rubber raw materials; clarification of properties of butadiene, isobutylene, and isoprene; discovery of selective Diels-Alder reaction of geometrical isomers of diolefins, dev. of chem., and processes for manuf.

of pure ethyl, isopropyl, sec-butyl, and iso-octyl alcohols. Mem.: A.C.S., A.A.A.S., Sigma Xi, Phi Beta Kappa. Clubs: Esso Research, Cranford Historical Soc., Men's League of Cranford. Hobbies: woodworking, gardening, hiking.

ROBIE, Edward Hodges, secy., A.I.M.E., 29 West 39th St., N.Y. 18, N.Y.; res. Yorktown Heights, N.Y.

Metall. engr.; b. Whitney Point, N.Y., Nov. 30, 1886; s. of Harry A. and Alma H. Robie; ed. Cornell U., 1907-08; U. of Mich., B. in Ch.E., 1911; m. Agnes Purcell Parks, Oct. 10, 1914; ch.: Robert Hodges, Theodore Parks (d.), Edward Adams, John Adams (d.). Harrison Safety Boiler Wks., Phila., Pa., asst. chem., 1911-13; Canadian Copper Co. & Interntl. Nickel Co., Copper Cliff, Ont., asst. metall., 1913-19; "Engrg. & Min. Jour.," N.Y., N.Y., asst., assoc., and actg. ed., 1919-31; A.I.M.E., N.Y., N.Y., ed. (1932-48), actg. secy. & secy. 1948 to date. Mem.: A.I.M.E. (secy.), Canad. I.M. & Metallurgy. Clubs: Engrs., Mining (both of N.Y.). Hobby: gardening.

ROBIE, Norman Pierce, res. supvr., abrasives & grinding wheels, Electro Refractories & Alloys Corp., Willett Rd., Buffalo 19, N.Y.; res. 30 Sunnyside Dr., Hamburg, N.Y.

Res. chem.; b. Northbridge, Mass., May 19, 1903; s. of Harry A. and Ernestine (Pierce) Robie; ed. B.S. (chem.), Worcester Polytechnic Inst., 1925; M.Sc. (chem. engrg.), 1929; m. Beatrice L., 1928; ch.: Harry, David. Prod. & res., Carborundum Co., Niagara Falls, N.Y., 1925-28; schl., 1928-29; res. chem., Imperial Paper & Color Corp., Glens Falls, N.Y., 1929-30; asst. scientist, Bur. of Standards, Wash., D.C., 1930-33; res. supvr., Carborundum Co., 1933-48; res. supvr., Electro Refractories & Alloys Corp., Buffalo, N.Y., 1948 to date. Over 50 U.S. & foreign pats. pertaining to abrasives, plastics and abrasive prods. Mem.: A.C.S. Club: 3rd degree Mason. Hobbies: gardening, oil & water color painting, various handicrafts.

ROBINETTE, Hillary Jr., res. dir., Amalgamated Chemical Corp., Ontario and Rorer Sts., Phila. 34, Pa.; res. 1007 Remington Rd., Penfield Downs, Phila. 31.

Org. chem.; b. Wilmington, Del., Jan. 27, 1913; s. of Hillary and Lily (Mitchell) Robinette; m. Adele Jargowsky, Feb. 17, 1934; ch.: Hillary Robinette, III, Christine. Res. asst., Rohm and Haas Co., 1933-39; pres., W.H. and F. Jordan Jr. Mfg. Co., 1939-41; sales promotion div., Commercial Solvents Corp., 1941-42; Capt., U.S.A., QMC Res. Div., 1942-46; mgr., New Prods. Div., Publicker Inds., Inc., 1946-49; res. dir., Amalgamated Chem. Corp., 1948 to present. Publications and pats. in the textile chem. fld.; dev. of protective clothing for Army use. Awarded Army Commendation M. Mem.: A.C.S., A.I.C., A.A.T.C.C., SCI, Soc. of Military Engrs., Quartermaster Assoc., Natl. Res. Council Comm. on Quartermaster Problems. Club: Chemists'.

ROBINS, George Kenneth, treas., G.S. Robins & Company, 126 Chouteau, St. Louis 2, Mo.; res. 45 Loren Woods, Clayton 24, Mo.

Exec.; b. St. Louis, July 27, 1916; s. of George Stanley and Bessie (Alpaugh) Robins; ed. Colgate U., and Washington U. (St. Louis); mem.: Beta Theta Pi; m. Marjorie McCarthy, Nov. 9, 1940; ch.: Carol, Stephen, Barbara. Exec., G.S. Robins & Co., secy. & treas., 1936 to date. Mem.: A.C.S., Amer. Electroplaters Soc., Alpha Chi Sigma. Hobbies: amateur radio, tennis.

ROBINSON, Arthur Milton, chf., chem. engrg. sec., Esselen Res. Div., U.S. Testing Co., Inc., 857 Boylston St., Boston 16, Mass.; res. 67 Montview St., West Roxbury 32, Mass.

Chem. engrg. & res.; b. Boston, Mass., Aug. 25, 1904; s. of Ernest M. and Saidee E. Robinson; ed. B.S., M.I.T., 1929; m. Harriet H. Sears, July 5, 1927; ch.: June M. Res. lab., Eastman Kodak Co., 1929-33, res. chem.; Agfa-Ansco Corp., 1933-35, res. chem.; Esselen Res. Div., U.S. Testing Co., Inc., 1936 to date, chf., chem. engrg. sec. Mem.: A.C.S.

ROBINSON, Edmund G.; res. 909 Nottingham Rd., Wilmington, Del.

Retired chem. exec.; b. Feb. 23, 1886; s. of John C. and Elizabeth G. Robinson; ed. Swarthmore Coll. A.B., 1905; mem.: Phi Sigma Kappa; m. Amy M. Rile, 1909; ch.: Mrs. Thomas H. Pennock. Formerly gen. mgr., org. chem. dept., E.I. du Pont de Nemours & Co., until retirement in 1948. Dir. E.I. du Pont de Nemours & Co. Mem.: Sigma Xi, A.C.S., A.I.Ch.E. Clubs: Wilmington, Wilmington Country. Hobbies: bridge, golf, billiards, stamps.

ROBINSON, Edward Allan, chem., res. & dev. dept., Diamond Alkali Co., Painesville, Ohio; res. 1334 Winston Rd., So. Euclid, Ohio.

Chem.; b. Boston, Mass., Aug. 28, 1903; s. of Edward C. and Mary H. (O'Keefe) Robinson; ed. Norwich U., 1925, B.S. Chem.; m. Madge A. Greer, Jan. 17, 1929; ch.: Edward A., Jr., Jeanne, Elaine. Lever Bros. Co., washability lab., 1927-29; tech. supvr., bulk soap sales, 1929-32; res. dept., 1932-35; Diamond Alkali Co., tech. dir., Stand. Silicate Div., 1935-38; merchandising dept., 1938-43; Diakel Corp., chem. dir., 1943-45; Diamond Alkali Co., tech. adv., dir. sales, 1946-48; tech. serv. div., res. & dev., 1948 to date. Res. in power laundry field, alkaline detergents particularly sodium silicates, phosphates. Hobbies: philately, astronomy.

ROBINSON, Edwin Allin, asst. v.p., Nopco Chem. Co., Harrison, N.J.; res. 99 Fairmount Ave., Chatham, N.J.

Chem. sales; b. Denver, Colo., Nov. 17, 1907; s. of P.J. Edwin and Carrie M. Robinson; ed. U. of Denver, Denver, Colo., A.B., 1928; M.S., 1929; Ph.D., Columbia U., 1933; mem.: Beta Theta Pi, Phi Lambda Upsilon, Sigma Xi; m. Mary Louise Bartlett, June 6, 1933; ch.: Jane, George B., Thomas B. Instr. chem., U. Denver, 1928-29; dev. chem., Tenn. Eastman Corp., 1933-36; tech. dir., Nopco Chem. Co., 1936-48; asst. v.p., Nopco Chem. Co., 1948 to present. Res. in dev. of surface active chemicals and their evaluation in the processing of textiles, leather, paper, metals, rubber, and prep. of adhesives, deformers; special emphasis on rayon yarn processing (including all synthetics). Mem.: A.C.S. Club: Chatham fish and game. Hobbies: gardening, photography, golf.

ROBINSON, Guy Chapman, dir. of labs., Continental Baking Co., 630 Fifth Ave., New York 20, N.Y.; res. 216 Beverly Rd., Douglaston, L.I., N.Y.

Exec.; b. West Hartleypool, England, Sept. 13, 1893; s. of John George and Margaret Jane Robinson; ed. B.S., U. of Kansas, 1918; M.A., U. of Toronto, 1922; mem.: Alpha Chi Sigma and Acacia; m. Kathryn A. Bogert, June 14, 1924; ch.: Guy Schuyler, Cornelia Ann. Chem., res. chem., and bacteriol. Atlas Powder Co., 1918-19; res. fellow, Zymology, U. of Toronto, 1919-22; res. chem., United Bakeries Corp., 1922-24; dir. of labs., Continental Baking Co., 1924 to date. Pats. on industrial fermentation processes, equipment. Mem.: A.C.S. Clubs: Douglaston, Anglers Club of Long Island. Hobbies: fly fishing and fly-tying, hunting, gardening and woodworking.

ROBINSON, Harry J., asst. dir., Merck Inst. for Therapeutic Res., Rahway, N.J.; res. 563 Yorktown Rd., Union, N.J.

Res. exec., asst. dir.; b. Elizabeth, N.J., July 30, 1913; s. of Harry A. and Ann Robinson; ed. N.Y.U., 1940, B.A.; Rutgers, 1943, Ph.D.; Coll.

of Physicians & Surgeons, Columbia U., 1948, M.D.; mem.: Nu Sigma Nu; m. Marion Neunert, Sept. 9, 1939; ch.: Linda Ann, Harry, Jr., Raymond. Res. asst., 1934-40, Merck Inst.; res. assoc., 1940-43; asst. dir., 1943 to date. Res. in exp. chemotherapy sulfonamides, antibiotics. Mem.: N. Y. Acdy. Sc., S.A.B., Soc. Exp. Pharmacol. & Exp. Therapeutics.

ROBINSON, Reginald Heber, chem., Ore. Agric. Expt. Sta., Chemistry Hall, O.S.C., Corvallis, Oregon.
Chem.; b. Gladwin, Mich., Nov. 10, 1886; ed. Pacific U., A.B., 1909; U. of Calif., M.S., 1912; m. Helen M. Peer, July 28, 1917. U.S. Food & Drug Admin., asst. 1910; Ore. Expt. Sta., asst. chem. 1912-18; assoc. chem., 1918-24; chem., 1924 to date; Bur. Chem. and Soils, U.S.D.A., princ. chem., 1934 (temp. appt. on spec. wk.). Insect. and fung.; devel. hydrochloric acid fruit washing proc. for removal of lead and arsenic spray residue and other pesticide residues from apples and pears; pub. 66 tech. papers and Expt. Sta. bulletins. Mem.: A.C.S., Assoc. Econ. Entomolog., A.A.A.S., Phi Lambda Upsilon, Gamma Sigma Delta, Sigma Xi. Hobby: gardening.

ROBINSON, Rex Julian, prof. chem., Bagley Hall, U. Wash., Seattle 5, Wash.; res. 520 E. 59th St.
U. prof.; b. Maxwell, Ind., Nov. 15, 1904; s. of John P. and Ethel (Webb) Robinson; ed. A.B., DePauw, 1925 (Rector Scholar); M.A., 1927, Wis.; Ph.D., 1929; mem.: Alpha Chi Sigma; m. Ruth Clark, Aug. 18, 1932; ch.: Richard Clark, Neal Clark, Rex Clark. Lab. asst., U. Wis., 1925-29; instr. to prof., U. Wash., 1929 to date. Res. in colorimetric, micro, potentiom., meths. of anal. Mem.: A.C.S., Am. Soc. Limnol. & Oceanography; A.A.U.P., Sigma Xi, Phi Sigma, Phi Lambda Upsilon.

ROBINSON, Richard S., consulting chem., Arthur D. Little, Inc., Cambridge, Mass.; res. Magnolia, Mass.
Consult.; b. Gloucester, Mass., Sept. 9, 1914; s. of W. Raymond and Ruth (Tarr) Robinson; ed. Mass. Inst. Tech., B.S. Electrochem. Engrg., 1936; m. M. Eleanor Joyce, Sept. 11, 1937; ch.: Richard S., Jr., Diana Joyce, Craig Tarr. The Mathieson Alkali Wks., Inc., res. chem. 1936-40; The Solvay Process Co., res. chem. 1940-43; Submarine Signal Co., chf. chem. 1943-48; Arthur D. Little, Inc., consulting chem., 1948 to date. Numerous U.S., Brit., French patents. Mem.: A.C.S., E.S. Hobbies: music, photography, and three children.

ROBLIN, Richard Owen, Jr., dir., chemotherapy div., Amer. Cyanamid Co., 1937 W. Main St., Stamford, Conn.; res. Pierce Rd., Riverside, Conn.
Res. chem.; b. Rochester, N.Y., Dec. 11, 1907; s. of Richard Owen and Minnie (Jeffs) Roblin; ed. U. of Rochester, A.B., 1930; Columbia U., M.A., 1931; Ph.D., 1934; U. fellow in chem., Columbia; mem.: Alpha Delta Phi; m. Jane Millham Andrews, Oct. 10, 1936; ch.: Richard Owen, III, Linda Ann, William Murray. Amer. Cyanamid Co., res. chem., 1934-42; dir., chemotherapy div., 1942 to date. Chemotherapy relating to both infectious and non-infectious diseases; sulfa drugs, antithyroid agents, enzyme inhibitors, metabolite antagonists. Contrib. extens. to sc. and tech. journals. Numerous pats. Mem.: A.C.S. (dir., div. of medicinal chem.), A.S.Biol.C., Amer. Assn. of Immunologists, A.A.A.S., N.Y. Acdy. of Sc. (fellow), Sigma Xi, Phi Lambda Upsilon. Club: Riverside Yacht. Hobbies: gardening, fishing, photography.

ROCHE, Harry Edward, prod. mgr., chem. div., Koppers Co., Inc., Koppers Bldg., Pittsburgh 19, Pa.; res. 1195 4th Ave., Beaver, Pa.
Chem. engr.; b. Burlington, Ia., May 12, 1895; s. of Maurice A. and Ellen G. (Casey) Roche; ed. B.Ch., Cornell U., 1917; mem.: Scorpion; m. Helene S. Schry, Jan. 17, 1923; ch.: Mariellen (Mrs. E.H. Du Val), Dorothy Joan. Chem. engr., Barrett Co., 1917-18; chem. engr., Aetna Chem. Co., 1918; chem. engr. (Ordnance), U.S. Army, 1918-19; gen. foreman, asst. supt., Bethlehem Steel Corp., 1919-24; operations engr., Semet Solvay, 1924-25; unit supt., Hudson Valley Prods., 1925-27; operations engr., Koppers Co., 1927-34; asst. div. mgr., American Cyanamid Co., 1934-41; supt., plant mgr., prod. mgr., Koppers Co., Inc., 1941 to present. Mem.: A.I.Ch.E., Am. Soc. of Prof. Engrs., Soc. of Professional Engrs. (Pa.), Armed Forces Chem. Assoc. Clubs: Cornell (Pittsburgh), Fort McIntosh.

ROCHE, James Norman, mgr., creosote & pitch sales, Koppers Co., Inc., Tar Prods. Div., Pittsburgh, Pa.; res. 200 West Drive, Fox Chapel, Pittsburgh 15.
Chem., sales; b. Oct. 14, 1898; s. of John F. and Elizabeth C. Roche; ed. U. of Pittsburgh, B. Chem., 1924; Ph.D., 1927; mem.: Delta Tau Delta, Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi; m. Rebecca Pilgram, July 31, 1937; ch.: James Kenneth. 1927-29, chem. staff, U. of Pittsburgh; 1929 to date, Koppers Co., Pittsburgh; mgr. tech. dept., tar prods. div., 1944-49; mgr., creosote & pitch sales, tar prods. div., 1949 to date. Contrib. sev. papers on "Composition of Triglycerides" and "Creosote as a Wood Preservative." Mem.: A.C.S. (past chmn., Pgh. Sect.); Amer. Wood Preservers Assoc.; Amer. Railway Engrs. Assoc.; A.S.T.M. Club: Chemists' Club (Pgh., past pres.). Hobbies: gardening, golf, travelling.

ROCHEN, Leo Kant, pres., Arenol Chem. Corp., 40-33 23rd St., Long Island City, N.Y.; res. 4 Hampton Rd., Lynbrook, N.Y.
Chem.; b. Oct. 9, 1913, New York City; s. of Isadore and May Rochen; ed. B.S., C.C.N.Y., 1933; Ph.D., 1940, Northwestern U. (res. asst., 1938-40); m. Phoebe Elkan, June 15, 1941; ch.: Donald Michael, Jeffrey David. Chem., Lucidol Corp., Div. of Wallace & Tiernan, Buffalo, N.Y., 1940-43; chem., Wallace & Tiernan Co., Inc., Belleville, N.J., 1943-44; tech. dir., Empire Findings Co., Long Island City, N.Y., 1944-46; chf. chem., Keto Chem. Co., Inc., Long Island City, 1946-49; pres., Arenol Chem. Corp., Long Island City, 1949 to date. Res. in dioxones, org. peroxides, vitamins, medicinal chemls., pharmaceuticals, microbiologicals. Mem.: A.C.S., A.A.A.S., Sigma Xi, Phi Lambda Upsilon.

RODEBUSH, Worth Huff, prof. of physical chem., U. of Ill., Urbana, Ill.; res. 302 W. Mich. Ave., Urbana.
Prof. of chem.; b. Selden, Kan., May 24, 1887; s. of Milton L. and Rosa E. Rodebush; ed. A.B. 1912, A.M. 1914, U. of Kan.; Ph.D. 1917, U. of Calif.; m. Esther Kettredge, 1916; ch.: Harriet, Susan, Annette. Res. chem., U.S. Indus. Alcohol Co., 1919; Natl. Res. fellow, 1919-21; U. of Ill., 1921 to date. More than 120 publ. in chem. Author: "Textbook of Physical Chem." 1932; contrib. Treatise on Physical Chem., Frontier in Sc., Aerosols. Mem.: Phi Beta Kappa, Phi Beta Kappa Asciate, Sigma Xi, Natl. Acdy. of Sc., A.C.S., A. Phys.S. Mem. Advisory Bd., U.S. Naval Ordnance Test Station, Inyokern, Calif.

RODERICK, Howard F., gen. sales mgr., Wyandotte Chems. Corp., Gen. Sales Off., Wyandotte, Mich.; res. 9434 Lakewood Dr., Grosse Ile. Mich.
Chem.; b. Elkhart, Ind., Mar. 24, 1908; s. of William A. and Maude E. Roderick; ed. U. of Mich., B.S. in Ch.E.; mem.: Sigma Alpha Epsilon; m. Emily Olmsted, June 23, 1934; ch.:

Grace Legate, Sarah Elizabeth, Emily Olmsted, Judith Allen, James Howard. Wyandotte Chemls. Corp., res. chem., 1931-34; dir. res., 1934-45; product sales mgr., 1945-49; gen. sales mgr., 1949 to date. Res. in fld. of alkalies and pigments. Mem.: A.I.Ch.E., A.C.S., A.P.M.S.A., Chem. Mkt. Res., T.A.P.P.I., Nat. Sales Execs. Club, Chlorine Inst. (dir.). Clubs: Golf & Country (Grosse Ile), Chemists' (N.Y.), Uptown (N.Y.). Hobbies: farming, golf, tennis.

RODEWALD, Charles William, assoc. prof. chem., Washington U., St. Louis 5, Mo.; res. 17 Fair Oaks, St. Louis 17.
Tchr.; b. Rushville, Ill., Nov. 11, 1899; s. of C.W. and H. May (Denny) Rodewald; ed. B. S. (chem. engrg.), 1920; M.S. (chem.), 1921; Ph.D. (chem.), 1924; Ohio State & U. of Ill.; mem.: Kappa Sigma, Alpha Chi Sigma, Gamma Alpha; m. Claribel H. Peters, June 12, 1930; ch.: Harriet (Payne), Douglas, Charles (decd.), Eliza. Instr., U. of Neb., 1923-25; assoc. prof. chem., Washington U., 1925 to date. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S., A.A.A.S. (fellow). Club: University (St. Louis). Hobbies: cards, outdoors.

RODGERS, James Linn, Jr., gen. mgr., plastics & resins div., Am. Cyanamid Co., 30 Rockefeller Plaza, N.Y. 20, N.Y.; res. 375 Park Ave., N.Y.C.
Exec.; b. Columbus, Ohio; s. of James Linn, Sr. and Frances Fay Rodgers; ed. Williams Coll., 1917, A.B.; mem.: Chi Psi; m. Jane Stewart, Aug. 16, 1941; ch.: Mrs. Wm. Baker, James Linn III, John Geoffrey (by previous marriage). Plaskon Co., Inc., pres.; v.p. in chg. of Plaskon div., Libbey-Owens-Ford Glass Co.; gen. mgr., plastics & resins div., Am. Cyanamid Co. Clubs: Williams (N.Y.), Pine Valley Golf, Winged Foot Golf, University (Pitts.), University (N.Y.). Hobbies: golf, sailing.

RODGERS, Nelson Earl, res. mgr., Western Condensing Co., 935 E. John St., Appleton, Wis.; res. Rt. 3, Appleton.
Bacteriol., biochem.; b. May 18, 1915, Fredonia, Pa.; s. of Samuel B. and Elsie V. Rodgers; ed. B.S., Allegheny Coll., 1937; M.S., U. Wis., 1940; Ph.D., 1942 (fellow bacteriol., 1941-42); mem.: Beta Kappa; m. Nellie M. Russell, June 13, 1937; ch.: Russell S. Asst. biol., Allegheny Coll., 1936-37; asst. bacteriol. U. Wis., 1937-41; bacteriol., Wis. Natural Hist. Survey, 1938-39; Western Condensing Co., Appleton, 1942-46; res. mgr., 1946 to date. Res. in vitamin synth. by miscoorgan; acetone-butanol ferment; dev. by-prod. from whey; unidentified vitamins in animal nutrition. Mem.: A.C.S. (chmn., N.E. Wis. Sect., 1946-47). S.A. B., A.A.A.S., Phi Sigma.

RODMAN, Clarence James, pres., treas., dir., Alliance Ware, Inc., P.O. Box 809, Alliance, Ohio; res. 1315 South Union Ave., Alliance, O
Bus. exec., chem.; b. Milwaukee, Wis., July 10, 1891; s. of Rev. H.H. and L.M. (Schiek) Rodman; ed. A.B., Ripon Coll. (Wis.), 1913; M.Sc., U. of Wis., 1914; Grad. Schl. of Yale & Pittsburgh; D.Sc., Ripon Coll., 1947; LL.D., Mt. Union Coll., (Alliance, O.), 1948; m. Hazel Purcell, Nov. 19, 1925; ch.: James Purcell, Robert Ladd. Res. chem., Eastman Kodak Co., 1916-17; U.S.N., 1917; res. engr., Westinghouse Co., 1917-25; cons. engr., 1925 to date; dis. mgr., Reisert Automatic Water Purification Co., 1925-27; v.p., secy., dir., Alliance Mfg. Co., 1925-44; chmn., treas., dir., Alliance Porcelain Prods. Co., 1934-44; pres., treas., dir., Alliance Ware, Inc., 1944 to date; v.p., dir., Alliance Ware, Ltd., Vancouver, B.C., Can., 1945 to date; pres., dir., VitSteel Co., Oskaloosa, Ia., 1945 to date; dir. Mt. Union Bank, Alliance, Ohio, 1945 to date; pres., dir., George Lumber Co., Bergholz, Ohio, 1946 to date; pres., dir., STD, Inc., Alliance, O., 1946 to date; v.p., dir., Crane Steel Ware, Ltd., Quebec, P.Q., Can., 1947 to date; Dev. of Glissometer; Hydrovolifier; Inertaire Transformer; Fueless Incinerator Hitemp Microburner; Commercial Porcelain Enameled Steel Bathtub; inventor of numerous U.S. and foreign pats. Recip. of Navy Bur. of Ord. Award for outstanding res. and dev. of spec. anti-submarine device, W.W. II. Author: "Det. Moisture & Insulating Oils"; "Transformer Oil Sludge"; "Arc Action on Liquid Insulating Cmpds."; "Deoxidizing Enclosed Atmosphrs."; "Primary Elec. Batteries"; "Preventing Acidity in Oils"; "Deoxidizing Compds."; "Water Softening with Barium Salts"; "Systems for Reclaiming, Purifying, Elect. Insulating Oils"; "Photographic Developers by Electrochem. Reduction"; "The Permanence of Porcelain Protection," and others. Mem.: A.C.S. (past chmn. Pgh. Sect.); Am. Cer. Soc.; Engrg. Soc. W. Pa., 1917-32; Am. Photog. Soc.; A.S.T.M.; A.A.A.S.; A. E.S.; Am. Fdn. Study Cyc.; A.I.C. (past v.p., 1921); Ohio Chamber of Commerce; Natl. Mfrs. Assoc.; Natl. Small Business Men's Assoc. (Stark Co., Ohio); Army Ord. Assoc.; Alliance Schl. Bd. (past mem. and v.p.); Natl. Patent Council; Industry Advis. Comm. to Munitions Bd., U.S.A.; Natl. Security Resources Bd. (chmn. Advis. Comm. Formed Metal San. Ware); Natl. Industrial Conference Bd.; Am. Forestry Assoc. Clubs: Lakeshore (Chicago); B.P.O.E. (Alliance); Alliance Rotary (p.pres. 1928); Alliance Country; Tri-County Outdoor League (p.pres.); Mason 32nd. deg.; Al Koran (Cleveland); Shriner; Wranglers Club of Alliance (Philosophic); Y.M.C.A. (life); Union (Cleveland); Green Mill (dir.), (Cape May, N.J.); Tuna (N.J.); Corinthian Yacht (N.J.); Cape May Country; Natl. Comm. Edu. Alcoholism; Natl. Wildlife Fed.; Stark Co. Historical Soc.; Fed. Ry. Progress; Natl. Fire Pro. Assoc.; Alpha Chi Sigma; Boy Scouts Distr. (comm. and exec. bd. mem., McKinley Area Council). Hobbies: photography, travel, ornithology.

ROE, Joseph Hyram, prof. of biochem. and hd. of biochem. dept., Geo. Washington U., Schl. of Med., 1335 H St., N.W., Washington, D.C.; res. 1352 Jefferson St., N.W., Washington, D.C.
Biochem.; b. Winchester, Va., Dec. 27, 1892; s. of Joseph Ashby and Julia (Winkfield) Roe; ed. Roanoke Coll., A.B., 1916; Princeton U., A.M., 1917; Ph.D., George Washington U., 1923 (chem.); Ph.D., Yale U., 1934 (biochem.); mem.: Alpha Chi Sigma, Sigma Xi; m. Clara Grace Lauck, 1922; ch.: Joseph Hyram, Jr. At George Washington U.: assoc. prof. of biochem., 1919-22; prof. of biochem., 1922 to date; hd. of dept., 1922-32 and 1938 to date. Biochem. lab. meths.; galactose metabolism; nutrition and gastric function; pancreatic function; vitamin C; pentose metabolism. Author: "Principles of Chemistry." 7th edit., 1950; "A Lab. Guide in Chemistry," 2nd edit., 1950; co-author (with C.R. Treadwell), "A Lab. Manual of Biochemistry," 1946. Mem.: A.S.Bio.C., A.C.S., Am. Inst. Nutrition (secy. 1948-51), A.A.A.S., S.E.B.M. (chmn., Dist. of Columbia Sect. 1944-45), A.M.A., Wash. Acdy. Med., Wash. Acdy. Sc., Diabetes Assoc. of Dist. of Columbia. On bd. of dirs., Wash. Acdy. Med., on bd. of dirs., Diabetes Assoc. of Dist. of Columbia. Club: Cosmos.

ROEHL, Edward Judson, mgr. tech. dev., Thomas Steel Co., Warren, Ohio; res. 1727 Tod Ave., N.W.
Physical chem.; b. Bklyn., N.Y., Mar. 11, 1905; s. of Charles Edward and Emily (Judson) Roehl; ed. Cornell U., B.Chem., 1928; M.Chem., 1929; mem.: Beta Theta Pi; m. Mary Louise Murray, Dec. 21, 1934; ch.: Richard Winslow and Jane Emily. Arabol Mfg. Co., chf. chem.; Dorr Co., res. chem.; Prudential Ins. Co., prin. phys. chem.; International Nickel Co., res. chem.; Thomas

Steel Co., mgr. tech. dev. Res. in electrochem., corrosion and electroplating; deposit adhesion, dev. of new plating solns., plating at high current density, physical props. of electrodeposits. Mem.: A.C.S., A.A.A.S., E.S., R.E.S.A., A.S.T.M., A. E.S., A.S.M., Electrodep. Tech. Soc. Awards from A.E.S.: cash award, 1943; Gold m. 1947-48; Founders' Gold m. 1949; Gold m. 1949-50. Hobbies: sailboating, gardening.

ROEHM, Luther S., asst. gen. sales mgr., The Dow Chemical Co., Midland, Mich.; res. 2180 Chippewa Lane, Midland.
Chem.; b. Indianapolis, Ind., Feb. 19, 1911; s. of Carl and Marie Roehm; ed. A.B., Indiana U., 1932; A.M., 1934; Iowa State Coll., 1934-36; Ph.D., State U. of Iowa, 1938; mem.: Alpha Tau Omega; m. Louise Muncie, 1938; ch.: Marilyn Jean, Carol Ann, Stephen Carl. Grad. asst., Iowa State Coll., 1934-36; grad. asst., State U. of Iowa, 1936-37; The Dow Chem. Co., since 1937; biochem. res. lab., insect. dept.; technical service & dev. div., asst. dir., dir.; asst. gen. sales mgr. since 1949. Mem.: Alpha Chi Sigma, A.C.S., A.A. A.S., Inst. of Food Tech., Commercial Chem. Devt. Assn.

ROGALINER, Stanley De Wolfe, secy., sales mgr., Falk & Co., P.O. Box 1075, Pitts. 30, Pa.; res. 6407 Beacon St., Pitts. 17.
Sales, advertising mgr., secy.; b. Monessen, Pa., Mar. 8, 1915; s. of George A. and Besse R. Rogaliner; ed. U. of Pitts., Pitts., Pa., B.S.; mem.: Omicron Delta Kappa, Delta Sigma Rho, Pi Lambda Phi; m. Reva Neaman, Jan. 21, 1940; ch.: Lee Richard, Gary Alan. Falk & Co., 1947 to date. Pa. Falk Chem. Co. (secy.). Mem.: Paint, Varn. Prod. Club, Paint, Varn. & Lacq. Assn. (both Pitts.). Trustee, Emma Farm Camp. Club: Rotary (Carnegie, Pa., past pres.). Hobbies: photography, philately.

ROGER, Henry, owner-director, Rolab Photo Science Labs., & Rolab Studios, Sandy Hook, Conn.; res. same.
Bio-physicist, engr. (scientific conslt.); b. Berlin, Gy., June 16, 1891; s. of Hugo and Rosa Roger; ed. Berlin and Darmstadt (Heidelberg), Germany; Degree Engrg. Privat Docent—; m. Eleonore Zuehlke, July 12, 1928. Scientific photography optical—electr. instruments, Private Laboratory in Berlin, Gy. up to 1923; res. assoc. of Dr. Alexis Carrel (Nobel Prize Laureate) at Rockefeller Inst. for Med. Res., 1923-34; conslt. on and producer of scientific motion pictures, scientific photography; dev. of instruments, technical microscopy; est. Rolab at Sandy Hook, Conn. since 1934. Scientific conslt., Yale & Towne Mfg. Co., 1943-46, scientific conslt. The Lifwynn Foundation, 1943-45. Past pres., N.Y. Microscopical Soc. At present: Producer of chemical-industrial motion pictures. Res. and dev. in the technique of microcinematography as applied to res. Produced with Dr. A. Carrel the motion picture "The Structure of Living Cells." Dev. the first perfusion apparatus, 1929, (artificial heart and lung). Produced the film: "Colloids and Their Behavior." (Many articles on subjects mentioned above). Mem.: A.A. A.S. (fellow), Royal Microscopical Soc. (London, Eng.), Biological Photographic Assoc.; Soc. of Motion Pictures and Television Engineers. Club: Chemists'. Hobbies: art, photography, water sports, aviation.

ROGERS, Charles Herbert, dean, Coll. of Pharmacy, prof. pharmaceut. chem., U. of Minn., 101 Wulling Hall, Minneapolis 14, Minn.; res. 717-6th St., S.E., Minneapolis 14.
Dean & prof.; b. Belleville, Ill., May 28, 1889; s. of Charles Grant and Martha Elizabeth Updike Rogers; ed. St. Louis Coll. of Pharmacy, Ph.C., 1910, B.S., U. of Mich., 1913, M.S., U. of Minn., 1915, Sc.D., 1918; mem.: Phi Delta Chi, Sigma Xi, Phi Lambda Upsilon, Rho Chi, Alpha Chi Sigma; m. Edith Mae Blood, Aug. 10, 1913; ch.: Charles Thomas, Robert Gifford, M.D. Asst. in phar., chem., U. of Mich., 1910-13; instr. in chem., U. of Minn., 1913-14; assoc. prof. & hd. of dept. of pharmacy, U. of W.Va., 1914-17; prof. and hd. of dept. of phar., chem., U. of Minn., 1917-36; dean of Coll. of Phar. and prof. of phar. chem., since 1936; chem., Milk Condensing Co., Waterloo, Ill.; asst. chem., conslt. chem., Armour & Co., National City, Ill. Instr. in C.W.S. and Natl. Guard Regiment, 7th Corps Area. Author: "Textbook of Inorg. Phar. Chem.," 1930; rev. ed. 1947; co-author: "The Chemistry of Plant Constituents" 1938, rev. edition 1943, with O. Gisvold; co-author, with T.O. Soine, "Laboratory Manual of Inorg. Phar. Chemistry," 1947; contributor to professional jls. Mem.: pres., State Pharmacy Adv. Com. to Selective Service and W.M.C.; Am. Phar. Assoc. (chmn. House of Dels., 1938), Am. Assoc. of Colleges of Pharmacy (past pres., mem. Exec. Com. 1944); Minn. State Phar. Assoc. (pres. 1943, mem. exec. com. since 1944, chem. 1946; chmn. Sc. & Pract. Sect. since 1936); Natl. Assoc. Retail Druggists, A.C.S., Sigma Xi. Clubs: Midland Hills Country (St. Paul), The Campus Club (U. of Minn.). Hobbies: hunting and fishing.

ROGERS, Donald Atwater, adv. engr., Solvay Process Div., Allied Chem. & Dye Corp., Hopewell, Va.; res. Colonial Heights, Petersburg, Va.
Chem. & mech. engr.; b. Hannibal, N.Y., June 9, 1899; s. of Charles A. and Grace Atwater Rogers; ed. Hannibal H.S.; Cornell U., M.E.; mem.: Tau Beta Pi, Phi Kappa Phi (hon.); m. Dorothy Fox, 1924; ch.: Doris M., Sarah A. Diamond Match Co., Oswego, N.Y., dftsmn. 1916-20; Ithaca Gun Co., Ithaca, N.Y., dftsmn. 1920-22; Cornell U., Ithaca, N.Y., instr. exp. engrg. 1922-24; Atmospheric Nitrogen Corp., dev. engr. 1924-27; Solvay Process Co., nitrogen div., prin. chem. engr. 1927-37; Solvay Process Div., Allied Chem. & Dye Corp., actg. chf. engr. 1937-39, adv. engr. 1939 to date. Res. in dev. of synthetic nitrogen sodium nitrate, chlorine ammonium nitrate, phthalic anhydride mfr. Holder of var. pats. Mem.: A.S.M.E., A.C.S., A.I.Ch.E., Va. Acdy. Sc. Club: Central Va. Engrg. Hobbies: philately, gardening.

ROGERS, Harris White, assoc. prof., dept. chem., Colgate U., Hamilton, N.Y.; res. 38 Maple Ave., Hamilton.
Chem. prof.; b. Wellsbridge, N.Y., Jan. 15, 1898; s. of J.E. and Elnora (White) Rogers; ed. Colgate, B.S., 1920, M.S., 1922; Cornell U., Ph.D., 1933; m. Belle M. Chase, Aug., 1929; ch.: Jane Lucille, Catherine Lucy. Colgate, asst. in chem., 1920-23; Cornell U., asst. in chem., 1923-27; Colgate, asst. & assoc. prof., 1927 to date. Mem.: A.C.S., A.A.A.S., Phi Beta Kappa, Alpha Chi Sigma, Syracuse Tech. Club, Am. Electrochem. Soc., P.S. A. Clubs: Hamilton Masonic, Colgate Faculty. Hobbies: photography, firearms, natural history.

ROGERS, Horace Elton, prof. anal. chem., dept. chem., Dickinson Coll., Carlisle, Pa.; res. 120 Parker St., Carlisle, Pa.
Coll. prof.; b. Dec. 5, 1902; s. of William H. and Mary M. Semler Rogers; ed. Dickinson Coll., B. Sc., 1924; Lafayette Coll., M.Sc., 1925; Princeton U., Ph.D., 1930; mem.: Phi Beta Kappa, Kappa Sigma, Omicron Delta Kappa; m. Joy Marie Rommel, Mar. 27, 1926; ch.: Philip Eugene, William Edwin. Asst. chem., Ledoux Co., N.Y.C.; instr. sc. Dickinson Coll.; asst. chem., Princeton U.; assoc. prof. chem., Dickinson Coll.; prof. anal. chem.; add'l. during, after, W.W.II, instr., supvr. Pa. St. Def. Training Prog., hd. chem. dept., Pa. Area Coll., Harrisburg, Pa. Contrib. extens. to sc. and tech. jls. Mem.: Phi Beta Kappa, A.C.S.,

A.A.U.P. Trustee, Alumni Assn., Beta Pi Chpt., Kappa Sigma. Club: Rotary. Hobbies: music, gardening.

ROGERS, James, II, v.p. & gen. mgr., A.J. & J. Rogers Co., Au Sable Forks, N.Y.; res. same.
Sulfite pulp & paper mfr.; b. Au Sable Forks, May 1, 1902; s. of Henry Geer and Ada Spaulding Rogers; ed. M.E., Cornell U., 1925; mem.: Kappa Alpha; m. Margaret Humeston, Sept. 4, 1926; ch.: James, III, Pauline B., Ann C., Susan G. Supt., Sulfite Mill, 1923-24, 1925-31; supt. paper mill, 1931-46; mgr., both, 1946 to date; director, A.J. & J. Rogers Co., 1931 to date. Robeson Process Co., 500 5th Ave., N.Y.C., dir. Mem.: Am. Pulp & Paper Mill Supts. Assn., T.A.P.P.I. Trustee, Northwood School, Lake Placid, N.Y. Clubs: Rotary, B.P.O.E., F. & A. M., Lake Placid. Hobbies: pigeons, Boy Scouts.

ROGERS, James L., pres., The Central Pharmacal Co., Seymour, Indiana; res. 1015 W. 4th St., Seymour.
Phar. mfg.; b. Roachdale, Ind., Mar. 3, 1908; s. of E.G. and L.J. Rogers; ed. Indianapolis Coll. of Pharmacy, Butler U.; m. Evelyn Hall; ch.: Joan Evelyn. Formerly v.p., Allied Labs., Inc., Pitman Moore Co.; pres., The Central Pharmacal Co.; past pres., Am. Pharmaceutical Mfg. Assn.

ROGERS, Lorene Lane, res. scientist, Biochem. Inst., U. of Tex., Austin, Tex.; res. 1519 Murray Lane, Austin.
Res. chem.; b. Prosper, Tex., Apr. 3, 1914; d. of M.M. and Jessie L. Lane; ed. North Tex. State Coll., Denton, Tex., B.A., 1934; U. of Tex., Austin, Tex., M.A., 1946; Ph.D., 1948; m. Burl G. Rogers (dec.), Aug. 23, 1935. U. of Tex., Parke, Davis & Co. Fellow, 1944-46, Biochem. Inst., res. asst., 1946-47; Sam Houston State Coll., Huntsville, Tex., prof. chem., 1947-49; U. of Tex., Eli Lilly & Co. Post-Doctoral Fellow 1949-50, res. scientist, Biochem. Inst. June, 1950 to date. Res. in synthesis of hydantoins, metabolic interrelationships. Mem.: A.A.A.S., A.C.S., Sigma Xi, Iota Sigma Pi.

ROGERS, Marvin C., dir. of res., R.R. Donnelley & Sons Co., 350 E. 22 St., Chicago 16, Ill.; res. Cummings Lane, Flossmoor, Ill.
Chem. engr. (dir. res.); b. North St. Paul, Minn., May 13, 1904; s. of Charles W. and Marie Rogers; ed. U. of Minn., B.S. Ch.E., 1926; U. of Mich., M.S., 1927, Ph.D., 1929; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi, Iota Alpha, Scabbard & Blade; m. Evelyn B. Zehner, June 11, 1932; ch.: John William, Marvin Carson. Swenson Evaporator Co., Ann Arbor, Mich., chem. engr., 1929-31; U. of Mich., engrg. res. dept., res. investigator, 1932; Standard Oil Co. of Ind., Whiting, Ind., res. chem. engr., 1932-37; U. of Minn., Minneapolis, Minn., asst. prof. of chem. engrg., 1938-40; R.R. Donnelley & Sons Co., Chicago, dir. of res. 1940 to date. U.S. Army, petroleum adm. for war, Washington, D.C., industrial economist, 1942-45. Mem.: A.C.S., A.I. Ch. E., E.S. Club: A.F. & A.M. Hobbies: photography, radio.

ROGERS, Percy Lawton, plant chem., Riverton Lime & Stone Co., Riverton, Va.; res. Front Royal, Va., R.R.D. 1.
Chem. engr.; b. Savedge, Va., Dec. 24, 1899; s. of John T. and Laura Ackerman Rogers; ed. Va. Polytech. Inst., Blacksburg, Va., chem. engrg. B.S., 1924; m. Mortie Morgan, June 18, 1926; ch.: John T., Mary Jane, Colin Morgan, Charles Myrth. 1924-25 tchr., U. Schl. for Boys; 1925-28 Va. St. Highway Dept., chem.; 1928-30 Atmospheric Nitrogen Corp., anal.; 1930-32 Am. Tobacco Co., res. chem.; 1932 to date Riverton Lime & Stone Co., plant chem.; pres., Belmont, Inc., Front Royal, Va. Mem.: Am. Concrete Inst. (co repts.), A.S.T.M., Front Royal C.C. (pres.), Local Draft Bd. (chmn.). Hobby: gardening.

ROGERS, Russell Henry, Jr., chf. chem., Chicago Plant, Swift & Co., U.S. Yards, Chicago 9, Ill.; res. 10412 S. Spaulding, Chicago 43.
Chem.; b. Ocilla, Ga., Feb. 1, 1912; s. of Russell H. and Eugenia (Beckham) Rogers; ed. 1933, Emory U.; m. Evelyn Kincaid, Mar. 30, 1940; ch.: Walter R., Evelyn. Moultrie, Ga., H.S., tchr chem. & biol., 1933-34; Swift & Co., chem., Chicago, 1935, chem. in chg. Eastern Zone, Newark, N.J., 1940-48, chf. chem., Chicago Plant 1948 to date. Mem.: A.C.S., A.O.C.S., I.F.T. Hobbies: photography, golf.

ROGERS, Thomas H., Jr., chg. Latex res. section Goodyear T. & R. Co., research dept., Akron, O.; res. 532 Vinita Ave., Akron 20, O.
Chem., chem. engr.; b. Somerville, Mass., Jan. 23, 1915; s. of Thomas H., Sr. and Agnes T. Rogers; ed. B.S. Ch.E., Northeastern U., Boston, Mass., pres. of senior class; advanced work U. of Akron, O.; mem.: Alpha Kappa Sigma; m. Marie Jane Allen, Jan. 5, 1940; ch.: Audrey Dorothea, Thomas H., 3rd, Deborah Marie, Barbara Ann. Control and dev. chem., Vultex Chemical Co., Cambridge, Mass., 1934-37; held following positions with Goodyear T. & R. Co., Akron, O.: res. chem. on rubber and plastics, 1937-39; tech. sales, 1939-41; res. on coated fabrics, 1941-43; res. on rubber and latex, foamed latex sponge, etc., 1945 to present. Res. in vinyl plastics and foamed latex sponge. Holds num. U.S., British, Australian and other foreign pats. in his fld. Mem.: A.C.S., Reg. Chem. Engr., Ohio, No. 10994; past mem. of A.I.Ch.E. Club: Northeastern Alumni. Hobbies: golf, baseball, bridge, historical reading.

ROGERS, Walter Francis, chf. chem., Houston Lab., Gulf Oil Corp., 5311 Kirby Dr., Houston, Tex.; res. 3717 Chevy Chase, Houston.
Chem. engr.; b. Tyler, Tex., Apr. 3, 1905; s. of Frank and Sallie Lou Freeman Rogers; ed. U. of Pittsburgh, B.S. Ch.E., 1926, Chem. Engrg., 1934; mem.: Delta Tau Delta; m. Caroline Monroe, June 17, 1931; ch.: Sharon Ann, Nancy Kay. Gulf Refining Co., 1926-27; Gulf Oil Corp., 1927 to present. Res. in oil prod. and pipe line corrosion, oil well drilling fluids. Author: "Composition and Properties of Oil Well Drilling Fluids," 1949. Mem.: A.P.I., A.C.S., Natl. Assn. of Corrosion Engrs.

ROGERS, William, Jr., prof. of chem. and chmn. of dept., Temple U., Phila. 22, Pa.; res. 300 Chandler St., Philadelphia 11.
Tchr.; b. Nottingham, Eng., Jan. 17, 1900; s. of William and Eliza Ellen (Kerry) Rogers; ed. B.S., Princeton U., 1921, M.A., 1922, Ph.D., 1924; m. Doris Mildred Wright, June 29, 1927; ch.: Doris Mildred, Mildred. Temple U., 1924 to present. Mem.: A.C.S., Franklin Inst. Columbia Community Branch, Y.M.C.A. Clubs: Gateway, (Phila.). Hobby: gardening.

ROGIER, Francis John, supt. starch div., A.E. Staley Mfg. Co., Decatur, Ill.; res. 854 W. William, Decatur.
Chem. engr.; b. Patoka, Ill., Apr. 28, 1895; s. of John and Julia (Blacet) Rogier; ed. 1928, Internatl. Correspondence Schl., Ch.E.; m. Opal Farmer, June 23, 1917; ch.: Frank, Sue. 1925-26, anal. dept., 1927-40, chem. engrg. dept., 1941 to date supt. starch div., A.E. Staley Mfg. Co., Decatur, Ill. Mem.: A.I.Ch.E., A.C.S. Club: South Side Country (Decatur, Ill.). Hobbies: golf, bridge.

ROHDE, Hugo William, chf. chem. in chg. of prod. & control, Jos. Schlitz Brewing Co.,

235 W. Galena St., Milwaukee, Wis.; res. 2557 N. Lake Dr., Milwaukee.
Chem., chem. engr.; b. Milwaukee, Wis., Nov. 26, 1876; s. of Charles and Alwine Rohde; ed. Milwaukee Public Schls.; private schls.; U. of Wis., 1901 B.S. in chem.; m. Elsa Kahlo, July 3, 1920; ch.: Carl Herman. 1901-11, chem., instr., Ind. Chem. Inst. of Milwaukee (Hantke's Brewers' Schl.); 1911 to date, chf. chem., Jos. Schlitz Brewing Co.; 1922-25, part time assoc. chem., Eline's Inc. Enzyme chem. in connection with brewing. Papers & addresses publ. in trade jls., Lab. Manual for Brewing Schl. Students, Assoc. Editor "Letters on Brewing" quarterly publ. in English & German (1902-11). Mem.: A.C.S. (since 1905, Milwaukee sec. past pres., councilor), A.I.Ch.E. (since 1924), A.S.Brew.C. (founder mem., treas. 1934), Engrs. Soc. of Milwaukee (since 1920, secy. 1928-33, v.p. 1935-36, pres. 1936-37), A.A.C.C. (since 1935), Am. Inst. Food Technologists (since 1941), A.A.A.S. (since 1917), Am. Inter-prof. Inst. (past dir.), Chem. Circle of Milwaukee (1922 charter mem., pres. 1926, 1937, 1947), Wis. Acdy. of S.A.&L. (life mem.). Mem. Henry Harnishfeger German Essay Contest (8 yrs.); founder mem., 1942, Milw. Sc. Ed. Foundation; mem. advisory bd., Milw. Public Library; trustee, German-Am. Teachers' Seminary; past mem., advisory bd., chem. dept., U. of Wis. 1936; assoc. referee, Alcoholic Beverages, Assoc. Official Agric. Chem.; past treas., German Theater Stock Co., 1929-31; pres., German Theater Soc. 1930-31. Hobbies: postage stamp collector (U.S. & Germany), gardening at summer home, Lower Genesee Lake, Waukesha Co.

ROHRBACH, Nelson J., v.p., Botany Mills, Passaic, N.J.; res. 400 Hollywood Ave., Hohokus, N.J.
Exec.; b. Passaic, N.J., Mar. 5, 1906; s. of Frederick E. and Nellie Dunham Rohrbach; ed. Rutgers U., Litt. B.; mem.: Kappa Sigma; m. Edythe Herbell, Dec. 19, 1932; ch.: Carol, Janet, Nelson, Jr., Inc., v.p. & dir. Botany Millsfwfra Nelson, Jr., Frederick, Charles. V.p., Botany Mills, Inc., v.p. & dir. Botany Mills of Florida, Inc. Clubs: Country (Passaic), Country (Ridgewood), Pennington. Hobbies: golf, horticulture.

ROHRMAN, Frederick A., ex. dir. engr. expt. sta., res. prof. chem. engr., U. of Colo., Boulder, Colo.; res. 1333 Cascade Ave., Boulder.
Prof.; b. Pendleton, Ore., Jan. 10, 1904; s. of Charles and Ella Rohrman; ed. Ore. State Coll., B.Sc.; U. of Minn. M.Sc.; Columbia, Ph.D.; mem.: Sigma Phi Epsilon; m. Velma E. Birdwell, June 8, 1938; ch.: Douglas. Mich. Coll. Min. and Tech., asst. prof., assoc. prof. chem. and ch.e., 1931-41; Maj. and Lt. Col., U.S.A. 1941-45; Kan. State Coll., assoc. prof., prof. & hd. of dept. chem. engrg., 1945-47; U. of Colo., prof. 1947 to date. Pub. 45 papers on corrosion, materials of constrn., chem. engrg. Author: "Chem. Properties of Engrg. Materials" (1940). Mem.: A.I.Ch.E., A.C.S., N.A.C.E., A.S.E.E. Club: Rotary Internatl. Hobbies: hunting, fishing, numismatics.

ROLLAND, Guy Franklin, dir., exptl. lab., Atlas Powder Co., P.O. Box 271, Tamaqua, Pa.; res. P.O. Box 28, McKeansburg, Pa.
Res. & exptl. chem.; b. Orwigsburg, Pa., Dec. 1, 1899; s. of Franklin and Amanda Miller Roland (d.); ed. Orwigsburg H.S., 1918; Dickinson Coll., Carlisle, Pa. B.A., 1923; Lafayette Coll., Easton, Pa., M.A., 1924; Cornell U., Ithaca, N.Y., 1926-27; mem.: Phi Delta Theta, Phi Beta Kappa; m. Louise Scherer, Jan. 29, 1927; ch.: Joan M., Grey F. Atlas Powder Co., began wk. 1927, as chem.; hd. of blasting supplies sect., exptl. lab.; dir., exptl. lab. 1945 to date. Author: "Dev. of Essential Characteristics in E.B. Caps for Seismograph Prospecting," (Mar., 1937, Geophysics); "Safe Practice in Mfr. & Test. of Com. Detonators," (Penn. Dept. of Labor & Ind. 1941). Mem.: A.C.S., A.O.A., Soc. of Rheology, Franklin Inst. Treas., bd. of ed. (McKeansburg, Pa.). Hobbies: hunting, fishing.

ROLLE, Clifford J., res. chem., Interchem. Corp. Res. Lab., 432 W. 45 St., N.Y.C., N.Y.; res. 85 Mayflower Dr., Tuckahoe, N.Y.
Res. chem.; b. Cincinnati, Ohio, Oct. 13, 1894; s. of Adolph and Emma Rolle; ed. U. Cincinnati, B.A., 1915; M.A., 1916; Ph.D., 1918; mem.: Phi Beta Kappa; m. Kathleen Putt, June 22, 1920; ch.: Richard. Instr. phys. chem., U. Cincinnati, 1918-20; chf. chem., Van Schaack Bros. Chem. Wks., 1920-26; hd. lacq. dept., Ault & Wiborg Varn. Wks., 1926-34; res. chem., Interchem. Corp. 1934-43 & 1947 to date; tech. sales & serv., finishes div. 1943-47.

ROLLEFSON, Gerhard Krohn, prof. of chem., U. of Calif., Berkeley, Calif.; res. 14, Bonnie Lane, Berkeley 8.
Prof.; b. Grand Forks, N.D., Jan. 12, 1900; s. of Carl Jacob and Marie (Krohn) Rollefson; ed. U. of Wis., B.A., sr. high hon. 1920, M.A., 1921; U. of Calif., Ph.D., 1923; mem.: Alpha Chi Sigma; m. Nellie Marie Fogerty, Aug. 10, 1928; ch.: Gerhard Carl. U. of Calif., instr. 1923-27, asst. prof. 1927-31, assoc. prof. 1931-40, prof. 1940 to date., dir. of labs. 1945-47; Los Alamos Sc. Lab., conslt. 1947 to date. Res. in photochem. & reaction kinetics., edit. Annual Review of Physical Chem. Author: "Photochem. of the Halogens," Herman et Cie, Paris, 1938; "Photochem. & the Mechanism of Chem. Reactions" 1939; "Physical Chem." 1947. Mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, A.C.S., A.A.A.S. Club: Faculty (Berkeley, Calif.). Hobby: music.

ROLLER, Paul S., tech. dir., conslt., Gen. Hydro Co., 1621 Conn. Ave. N.W., Wash. 9, D.C.; res. 6209 Kilmer St., Hyattsville, Md.
Chem.; b. N.Y.C., Apr. 2, 1902; s. of Harry and Rose (Sohn) Roller; ed: Bklyn. Polytech. Inst., B.S. cum laude, 1923; Columbia U., M.S., 1924, Ph.D., 1928; m. Ella Gale, Mar. 30, 1929; ch.: David, Jane, Ann. Chem., chem. engr., res. div., Combustion Utilities Corp., 1923-24; asst. chem., Columbia, 1924-28; asst. chem. to sr. chem., U.S. Bur. Mines, 1928-47; chem. conslt., 1947-49; tech. dir., Gen. Hydro Co., 1949 to date. Res. & dev. in al. recovery from clays; particle size meths.; viscosity & plasticity; portland cement; refractories; titanium chem.; chem. anal.; phase equilibria; coal & gas; water treat. Mem.: A.C.S., A.I.M.E., A.S.T.M., A.A.A.S. (fellow), Wash. Acdy. Sc., Phil. Soc. of Wash.

ROMAINE, Jesse D(avis), secy., chf. agronomist, Am. Potash Inst., Inc., 1155 16th St. N.W., Wash. 6, D.C.; res. 206 Lexington Dr., Silver Spring, Md.
Agronomist; b. Phila., Pa., Nov. 8, 1901; s. of F. Clifford and Margaret (Leech) Romaine; ed. W. Phila. H.S., 1919; Pa. State Coll., B.S., 1923; Mich. State Coll., M.S., 1925; m. Rose Loretta Quidley, June 4, 1949; ch.: Robert K. Instr. in agronomy, asst. agronomist, Pa. State Coll., 1923-24; grad. asst. in soils, Mich. State Coll., 1924-25, instr. & res. asst. in soils 1925-28; asst. agronomist, N.V. Potash Export My., 1928-31, agronomist 1931-35; chf. agronomist, Am. Potash Inst., 1935 to date, secy. 1940 to date. Investigations in soil fertility. Mem.: Phi Sigma, Am. Soc. of Agronomy, Soil Sc. Soc. of Am., A.A.A.S., A.C.S. Club: University (Wash., D.C.).

ROMANOFF, Francis P., treas., gen. mgr., Empire Mfg. Co., 6433 S. State St., Chicago 21, Ill.; res. 6128 S. Rockwell St., Chicago 29.
Electrochem. engr.; b. Chicago, Ill., Dec. 7, 1902; s. of Louis and Katherine Romanoff; ed. M.I.T.,

B.S., 1926; m. Helen Wolberg, 1932; ch.: Sandra, Irene. Anaconda Copper Min. Co., Great Falls, Mont., chem.; Vacuum Can Co., Chicago, plating engr.; Apollo Metal Wks., Chicago, dir. res. integration leader; Empire Mfg. Co., Chicago, v.p.; Columbia U., Manhattan Project, process & dev.; Empire Plating & Mfg. Co., Chicago, treas. Res. in physical properties of electrodeposited metals; corrosion; electrodeposition of ductile nickel. Mem.: A.C.S., A.S.M., A.E.S. Clubs: Deer Park Country, S.P.R.S.-32 degree, A.F.&A. M. Hobbies: bowling, tropical fish.

ROMANS, Isabella B(radford), res. bacteriologist, Chloramine Co., 117 W. 13th St., N.Y. 11, N.Y. Bacteriologist, chem.; b. Waco, Texas, Jan. 26, 1906; d. of W.M.A. and Ella Elizabeth (Kelly) Romans; ed. A.B., Baylor U., 1926; postgrad. study Columbia U., postgrad. Med. Schl., 1929, 1932 respectively. 1926-27, lab. tech., City Health Dept., Ft. Worth, Tex.; 1927-30 res. chem., Royal Baking Powder Co.; 1930-33, res. bacteriologist, Wallace & Tiernan; 1930 to date, consltg. bacteriologist, Chloramine Co. (owner); res., Pease Labs., 1936-39; Pa. Salt Mfg. Co., 1944-48. Antiseptics, disinfectants, fungicides—chloramines, oligodynamic silver. Mem.: A.A.A.S. (fellow), A. I.C., Soc. Am. Bacteriologists, A.P.H.A., N.Y. Acdy. of Sc.

ROMER, John Boyd, conslt., res. & dev. dept., Babcock & Wilcox Co., Alliance, Ohio; res. 4554 Lahm Dr., Akron 19, Ohio. Chem., metallurgist; b. Chicopee, Mass., Apr. 11, 1889; s. of Theron Theodore and Elizabeth Pember (Wood) Romer; ed. M.I.T., 1912, S.B.; mem.: Sigma Phi Epsilon; m. Margaret Louise Read, June 6, 1916; ch.: Natalie Pember, Marshall W. (both dec.), Marguerite Louise. Sanitary District of Chicago, chem.; Serwin-Williams Paint Co., Chicago, chem.; Sherwin-Williams Paint Co., Cleveland, supt. linseed oil mill; Ordnance Dept., U.S.A., inspector; Babcock & Wilcox Co., Bayonne, N.J., Barberton, Ohio, chf. chem.; Babcock & Wilcox Co., Alliance, Ohio, conslt. Helped in organizing & was gen. secy. of Joint Res. Comm. of Boiler Feedwater Studies Comm. sponsored by A.S.M.E., A.S.T.M., A.W.W.A., E.E.I., A.R.E. A., A.B.A.I. Contr. to & recd. recognition by Norton for chapters in "Creep of Steel at High Temps." 1929, "Refractories" 1931. Numerous Publ. in tech. journals. Mem.: A.S.T.M., A.C.S., A.W.W.A., A.W.S., A.O.A. Club: Turkeyfoot Island. Hobby: photography.

RONK, Frank Hannum, chf. chem., Olympic Portland Cement Co., Bellingham, Wash.; res. Company res. at plant. Cement chem.; b. West Chester, June 20, 1881; s. of Henry S. and Emma L. Ronk; ed. B.S., Lafayette Coll., Easton, Pa., 1906; mem.: Delta Tau Delta; m. Ada L. Battersby, June 8, 1909. Hecla Cement, Bay City, Mich., 1906-07; Pacific P.C. Co., Cement, Calif., 1907-09; chf. chem., Union P.C. Co., Devil's Slide, Utah, 1909-14; chf. chem., Olympic P.C. Co., Bellingham, Wash., 1914 to present. Mem.: A.C.S., A.S.T.M. Clubs: Kiwanis, golf.

RONNEBERG, Conrad E., chmn. dept. chem., Denison U., Granville, Ohio; res. 104 E. Granville Rd., Granville. Prof. chem., author, conslt.; b. Waterville, Minn., Nov. 7, 1893; s. of Thore J. and Ellen Volla Ronneberg; ed. B.A., Lawrence Coll., 1916; M.S. Chem., M.I.T., 1922; Ph.D. Physical Chem., 1935; m. Florence L. Walter, Aug. 12, 1922; ch.: Ella Jean, Letha Aurell, Wanda Alice. 1922 instr. chem., M.I.T.; 1922-25 chg. chem., Itasca Jr. Coll., Coleraine, Minn.; 1925-34 secy. dept. chem., Crane Jr. Coll., Chicago; 1934-42 chmn. div. of physical sc., Chicago City Coll. (Herzl Br.); 1942-46 Capt. to Lt. Col., C.W.S., U.S.A.; 1946 to date chmn., dept. chem., Denison U. Res. in measuring temp. differences of the order of 10-7 degrees. Co-author: "The Study of the Physical World," 1942, rev. 1950. Mem.: Sigma Xi, A.C. S. Awarded Bronze Star M., U.S.A., for contrib. in European Thea. W.W. II. Hobby: photography.

ROON, Leo, pres., Nuodex Prods. Co., Inc., 830 Magnolia Ave., Elizabeth, N.J.; res. Lighthouse Farm, Southold, L.I., N.Y. Chem. engr.; b. N.Y.C., Aug. 6, 1892; s. of Julius A. and Gisella (Goodman) Roon; ed. Ph. C., Columbia U., 1910; M.S., N.Y.U., 1916; mem.: Tau Epsilon Phi; m. Anna Miesem, Oct. 24, 1917; ch.: Donald, Loisanne (Roon) Lauer. 1912-15, instr. chem., Columbia U.; 1916, asst., N. Y.U.; 1916-19, chf., chem. dir., E.R. Squibb & Sons; 1919-24 consltg. chem.; 1924-47 pres., Roxalin Flexible Finishes, Inc.; 1932 to date, pres. and dir., Nuodex Prods. Co., Inc.; 1937 to date, v.p. and dir., Nuodex Prods. of Canada, Ltd.; 1946 to date, pres. and dir., Nuodex Internatl., Inc.; Nuodex (Australia) Pty. Ltd. (dir.), Nuodex Internatl. (U.K.) Ltd. (dir.); 1941-42, pres., N.Y. Paint. Varn. & Lacquer Assn. Mem. Advisory Comm., Protective Coatings Div., O.P.M.; mem., Advisory Bd., Natl. Paint, Varn. & Lacquer Assn. Author: "Physical Significance of Emulsion." Mem.: A.I.C. (fellow), A.C.S., A.S.T.M. Dir., Eastern L.I. Hospital, Greenport, L.I., N.Y.; trustee, Columbia U. Coll. of Pharmacy, N.Y.C. Clubs: Chemists', N.Y. Paint, Varn. & Lacquer Assn., Southold Yacht, Internatl. Star Class Yacht Racing Assn. Hobbies: sailing, salt water fishing, photography.

RORER, Herbert Crawley, pres., William H. Rorer, Inc., Drexel Bldg., Independence Sq., Phila. 6, Pa.; res. "Fallow Field" Church Rd., Wyncote, Pa. Exec., chem.; b. Glenside, Pa., Feb. 15, 1906; s. of William Herbert and Helen (Crawley) Rorer; ed. Wyncote Grade Schl., Cheltenham H.S., Haverford Coll., B.S.; Phila. Coll. Pharmacy & Sc., post grad.; m. Adelaide Heilner Brown, June 22, 1929; ch.: Adelaide Faith, William H., 3rd, Ellen Whitney. With William H. Rorer, Inc. entire career, 1927-37 chem., 1937-40 tech. dir., 1945 to date pres. and dir. Mem.: A.C.S., Phila. Drug Exchange (dir.). Clubs: Phila. Cricket, Downtown, Pa. Soc. Sons of the Revolution, Military Order of the Loyal Legion.

ROSANE, Clarence B. E., asst. treas., Amer. Cyanamid Co., Bound Brook, N.J.; res. Middlebrook Rd., Bound Brook. Exec.; b. Boston, Mass., July 22, 1897; s. of Erik and Josephine Engberg Rosane; ed. Northeastern U., B.C.S., 1916; Boston U., M.B.A., 1919; mem.: Delta Sigma Pi; m. Emy Rosendahl, June 5, 1922; ch.: Robert E., Richard C. Merrimac Chem. Co., accountant 1918-20; C.F. Rittenhouse Co., partner 1920-29; The Calco Chem. Co., Inc., treas. 1929-39; Amer. Cyanamid Co., asst. treas. 1939 to date. Mem.: Amer. Inst. of Accountants, Natl. Assn. of Cost Accountants. Tr., Somerset Hosp., Raritan Valley Country Club.

ROSE, Arthur, assoc. prof., chem. engrg., Pa. State Coll., 100 Walker Lab., State Coll., Pa.; res. 525 S. Gill St., State Coll., Pa. Coll. prof.; b. Cincinnati, O., July 26, 1903; s. of Erhardt and Elizabeth Russell Rose; ed. U. of Cincinnati, B.A., 1925, M.A., 1926, Ph.D., 1927; mem.: Alpha Chi Sigma; m. Elizabeth Gates, 1928; ch.: Arthur William, Eleanor Russell, Edward Gates. Lehigh U., instr., chem., 1927-28; U. of Hawaii, instr., chem. 1928-29; Lehigh U., instr., chem. 1929-30; Penn. State Coll., asst. prof. chem., assoc. prof. chem., dir. chem. ext. 1930-41; U.S. Rubber Co., tech. dir., Scioto Ordnance Plant, 1942-43; conslt., Army Q.M. Gen. 1944-45; U.S. Rubber Co., gen. res. & dev.

lab., 1945; Pa. State Coll., assoc. prof., chem. engrg. 1946-50. Res. in theory of distillation. Co-author: "Gen. and Applied Chem." (1947); "Distillation Literature Index and Abstracts 1941-45," (1948); "Condensed Chem. Dictionary" (4th ed. 1950); "Distillation Theory," (part I of Vol. IV of "Technique of Organic Chem.") (1950). Mem.: Sigma Xi, A.C.S., A.I.Ch.E., A.I.C., A. A.A.S., N.Y. Acdy. of Sc., Phi Lambda Upsilon. Club: U. of State Coll. (Pa.). Hobby: work.

ROSE, Carlton Higbee, mgr. specification dept., National Lead Co., 105 York St., Brooklyn, N.Y.; res. 69 E. Hamilton Ave., Englewood, N.J.
Chem. engr.; b. Golden, Colo., Sept. 3, 1902; s. of Carlton Raymond and Winifred (Higbee) Rose; ed. B.S., U. of Calif., 1924; mem.: Delta Upsilon, Alpha Chi Sigma; m. Laverne D. Lindgren, (dec. 1942), June 20, 1932; ch.: Lynn, Carol. Held following positions with the National Lead Co.: chem., Oakland, Calif., 1924-26; tech. rep., San Francisco, Calif., 1926-32; hd., paint and pigment res. dept., Brooklyn, N.Y., 1932-49; mgr. spec. dept., Brooklyn, N.Y., 1949 to present. Mem.: A. S.T.M. (dir. 1945-48), A.C.S., Fed. of Paint and Varnish Prod. Clubs (pres. 1947-48), A.I.C., Am. Soc. for Quality Control. Club: Englewood Field (Englewood, N.J.).

ROSE, Clarence C., asst. chf. engr., Willard Storage Battery Co., 246-286 E. 131st St., Cleveland 1, Ohio; res. 2181 Mt. Vernon Blvd., E. Cleveland 12, Ohio.
Chem.; b. Cleveland, Ohio, Feb. 12, 1894; s. of Henry and Louisa Rose; ed. Case Inst. of Tech., B.S.; mem.: Tau Beta Pi, Sigma Psi; m. Ann Marie Mattingly, June 16, 1926. Dow Chem. Co., 1916-19; Damascus Mfg. Co., 1919-22; Willard Storage Battery Co., 1922 to date. Mem.: A.C. S., A.S.T.M., Electrochem. Soc. (chmn. battery div.). Hobbies: gardening, photography.

ROSE, Harold James, v.p., dir. res., Bituminous Coal Res., Inc., 2609 First Natl. Bk. Bldg., Pittsburgh 22, Pa.; res. 219 Lytton Ave., Pittsburgh 13.
Res. exec.; b. Pierre, S. Dak., May 9, 1896; s. of James A. and Abbie E. (Higbee) Rose; ed. Yankton Coll., S. Dak., B.A., 1918, (hon.) Sc. D., 1932; U. of Chicago; Carnegie Inst. of Tech.; m. Emma E. Lewis, 1919; ch.: Elizabeth C., Philip H., Donald L., Margaret E., Lucile J., Vincent H., Lawrence E. The Koppers Co., res. chem. in chg. coal & coke div. 1918-25, asst. chf. chem. 1925-28, asst. dir. res. 1928-30; The Koppers Res. Corp., dir., gen. lab. dept. 1930-32; Phila. and Reading Coal & Iron Co., res. mgmt. 1932-37; Anthracite Industries, Inc., v.p., chg. res. 1937-44; Bituminous Coal Res., Inc., v.p., dir. res., 1944 to date. Concurrent with above, was connected with Mellon Inst. of Industrial Res., as sr. fellow for each of preceding cos. 1918-44. Author nearly 60 pub. papers and 30 U.S. and foreign pats. relating to bituminous coal, coke and by-products, anthracite and utilization of solid fuels. Author: "Classification of Coal," chap. 2, Vol. I of "The Chem. of Coal Utilization" (Wiley); "Coal and Coke," chap. of Commodity Yr. Bk. 1948; "Coal," Vol. 4, Ency. of Chem. Tech. (Intersc. Ency., Inc.). Mem.: A.C.S., A.I.Ch.E., A.S.H.V.E., A. S.T.M., A.S.M.E., A.I.M.E. (chmn. or mem. num. com. of natl. scope of these and other groups); sc. conslt., Fed. Econ. Adm. (6 mos. in Europe, 1945). Award: Grasselli Gold M., S.C.I. (1928). Councillor, Pittsburgh Acdy. Sc. and Art. Reg. Prof. Engr., fuel tech. (Pa.). Hobbies: color photography, symphonic music.

ROSE, Jerome W., prod. & tech. dir., Fyn Paint and Lacquer Co., 979 Franklin Ave., Bklyn., N.Y.; res. 2 Fairway, Brookdale, Bloomfield, N.J.
Chem.; b. Milwaukee, Wis., July 31, 1910; s. of William and Clara Rose; ed. Pratt Inst., I. Ch.E.; m. Mildred L. Rothenberger, May 6, 1933; ch.: Robert William. Natl. Lead Res. Lab., photographic & microscopic wk. on pigments & paint oils, chem. res.; John W. Masury & Co., chem. control of lacquers, formulations of protective coatings, chg. prod.; Fyn Paint & Lacquer Co., prod. & tech. dir. Res. in graphical solution of Hoskins formula for determining the most probable number of B-coli in water anal. Mem.: A.C.S., A.I. C., N.Y. Paint & Varnish Prod. Club. Hobbies: photographic wks., Scout participation.

ROSE, William Barrett, Jr., asst. tech. dir., Westvaco Chem. Div., Food Mach. & Chem. Corp., 405 Lexington Ave., N.Y. 17, N.Y.; res. 36 Park Place, Noroton Heights, Darien, Conn.
Res. and dev., chemicals mfr.; b. Wadesboro, N. C., July 19, 1914; s. of William B., Sr. and Willia L. (Clifton) Rose; ed. U. of N. Car., B.S. Ch. Engrg., 1935; mem.: Alpha Chi Sigma; m. Arlene C. Paxton, June 18, 1937; ch.: Arlene Kayren. Food Mach. & Chem. Corp., Westvaco Chemical Div., res. engr. 1935-38; group leader, tech. dept. 1939-40, asst. sect. dir. 1941-42, sect. dir. 1943-48, asst. tech. dir. 1949 to date. Mem.: A.C.S., A.I.Ch.E. Club: Chemists' (N.Y.).

ROSE, William Cumming, prof. of biochem., U. of Ill., Urbana, Ill.; res. 710 W. Florida Ave., Urbana.
Teaching & res.; b. Greenville, S.C., Apr. 4, 1887; s. of John M. and Mary S. Rose; ed. Davidson Coll., B.S., 1907; Yale U., Ph.D., 1911; post doctoral study, U. of Freiburg, Ger., 1913; Davidson Coll., Sc.D., 1947; Yale U., Sc.D., 1947; mem.: Sigma Alpha Epsilon, Alpha Chi Sigma; m. Zula H. Hedrick, Sept. 3, 1913. U. of Pa., instr. 1911-13; U. of Tex., assoc. prof. 1913-14; U. of Tex., prof. 1914-22; U. of Ill., prof. biochem. 1922 to date; acting hd., chem. dept. 1942-45. Discovered amino acid "threonine" & demonstrated its structure; mem., Food & Nutrition Bd. (chmn. com. on protein foods), Natl. Res. Council, 1940-47; mem., Natl. Adv. Health Council, U.S.P.H. Serv. 1944-49; mem., Sc. Advisory Com., Nutrition Foundation, 1944 to date; pres., A.S.Biol.C., 1939-41; pres., Amer. Inst. of Nutrition, 1945-46; visiting lect., U. of Mich., summer, 1938; 14th Hektoen lect., Inst. of Med. of Chicago, 1935. Mem.: N.A.S., A.C.S., S.E.B.M., A.M.A., A.S.Biol.S., Amer. Inst. of Nutrition, Harvey Soc. (hon.), Ill. Acdy. of Sc. Award: Osborne and Mendel of Amer. Inst. of Nutrition (1949). Contrib. extens. to sc. and tech. journals. Tr., The McKinley Foundation (U. of Ill.). Clubs: Univ. (Urbana), Chaos (Chicago). Hobbies: photography, ornithology.

ROSEN, Aaron A., res. sec. hd., Joseph E. Seagram & Sons, Inc., Seventh St. Road, Louisville, Ky.; 1421 Homeview Dr., Louisville 8, Ky.
Chem.; b. Cincinnati, O., Aug. 21, 1914; s. of Samuel and Sarah (Fradkin) Rosen; ed. U. of Cincinnati, A.B., 1935, M.A., 1936, Ph.D. org. chem., 1938; mem.: Phi Beta Kappa, Sigma Xi; m. Gertrude Ginberg, June 2, 1946. Examiner's aide, U.S. Pat. Office, 1938; res. chem., Devoe & Raynolds, Ky., 1938-40; prod. & control chem., Jos. E. Seagram & Sons, 1940-41; U.S. Army, Med. & C.W.S., 1941-46; res. group leader, Jos. E. Seagram & Sons, 1946-47; res. sec. hd., Jos. E. Seagram & Sons, 1947 to present. Res. on chem. of whiskey flavor, by-product proteins and amino acids, anal. methods. Mem.: A.C.S., Acdy. of Sc. (Kentucky).

ROSENBAUM, Rudolph Raphael, chem., 6616 S. Laramie St., Chicago 38, Ill.; res. 630 Cornelia Ave., Chicago 13.
Chem.; b. Czechoslovakia, June 22, 1888; s. of

Carl and Fanny Rosenbaum; ed. Imperial State Coll., Bielitz, Austria; U. of Berlin, Ger., Ph.D.; m. Elsie Greenberg, Nov. 13, 1910; ch.: Carol, Edythe, Howard. Dr. L. Behrend, customhouse, Hamburg, Ger., chem.; R.O. Cooper, Vienna, Austria, supt.; Atlantic Ref. Co., Phila., Pa., res. chem.; Central Commercial Co., Chicago, Ill., product dev. chem.; self employed since 1922. Holds pats. on dephlegmation, petroleum cracking, dehydrating castor oil. Res. in colloidal, graphite, graphite products. Mem.: A.C.S., A.A.A.S., Amer. Tech. Soc. Hobbies: collecting bronze, pictures.

ROSENBLATT, Edgar Fritz, dir. of chem. res., Baker & Co., Inc., 113 Astor St., Newark, N. J.; res. 110 High St., Montclair, N.J.
Chem.; b. Germany, July 30, 1901; s. of Arthur S. and Marie (Schuster) Rosenblatt; ed. 1921, U. of Tuebingen; 1922-28 U. of Leipzig, Ph.D.; m. Herta Fischer, 1929; ch.: Christine, Gerd Matthias, Maria Johanna. 1929-34 asst. tchr. at U. of Leipzig; 1935-42 res. chem., Baker & Co., Inc.; 1942 to date dir. of chem. res. Res. in refining of platinum metals; res. on platinum metal catalysts. Mem.: A.A.A.S., A.C.S. Trustee, Montclair Monthly Meeting of Friends. Hobby: gardening.

ROSENBLATT, Girard B., Jr., proj. engr., Current Fluor Corp., Ltd., 2500 S. Atlantic Blvd., Los Angeles, Calif.; res. 421-28 St., Hermosa Beach, Calif.
Chem. engr.; b. Salt Lake City, Utah, Aug. 28, 1914; s. of Girard B., Sr. and Elsie Klein Rosenblatt; ed. Stanford U., A.B. (chem.), 1935; Columbia U., Chem. Engrg., 1937; m. Ruth Hamerton, Aug. 31, 1947. 1935, Shell Oil Co., Inc., Martinez, Calif., plant operator; 1937-39 tech.; 1940 priv. res., San Francisco; 1941-44 Permanente Metals Corp., Permanente, Calif., proj. dir.; 1944-47 Union Oil Co., Los Angeles, Calif., proc. engr.; 1947-50 Ralph M. Parsons Co., Los Angeles, proj. engr.; Current Fluor Corp., Ltd., Los Angeles, proj. engr. Res. in dir. design & operation, Am. pilot plant for dev. of Hansgirg Carbothermic Magnes. proc.; asst. Dr. F.G. Cottrell in early wk. on pebble heaters. Mem.: A.I.Ch.E., A.C.S. Hobbies: skiing, mountaineering.

ROSENBLUM, Charles, hd., radioactivity lab., Merck & Co., Inc., Rahway, N.J.; res. Greenhouse Dr., R.F.D. 3, Princeton, N.J.
Res. chem.; b. Bklyn., N.Y., Sept. 19, 1905; s. of Benedict and Celia Rosenblum; ed. Bklyn. Boys' H.S., 1923; U. of Rochester, B.S. 1923-27 (chem.); U. of Minn., Ph.D., 1927-31 (phys. chem.); U. of Louvain 1935-37, Imperial Coll. of Science, 1936; m. Fanny L. Hesdorffer, Oct. 12, 1933; ch.: Caroline Fanchon. Asst. instr., U. of Minn., 1927-30; du Pont Fellow, U. of Minn., 1930-31; res. assoc., U. of Minn., 1931-35; fellow of the Belgian Amer. Educational Foundation, U. of Louvain, 1935-37; instr. in chem., Princeton U., 1937-41; res. chem., Merck & Co., Inc., Rahway, N.J., 1941-42; Captain, C.W.S. & Corps of Engrs., U.S.A., 1942-46; Lab. Head, Kellex Corp. (Manhattan Distr.), 1944; tech. advis. N.Y. Area Engr. (Manhattan Distr.), 1944-45; section hd., Merck & Co., Inc., 1946-49; hd. Radioactivity Lab., Merck & Co., Inc., 1949 to date. Co-author (with I.M. Kolthoff) "Acid Base Indicators," 1937 (translation). Mem.: A.C.S., N.Y. Acdy. of Sc., A.A.A.S., Sigma Xi, Phi Lambda Upsilon; recip. of Levy M. of The Franklin Inst., 1940; recip. of Kellex Key, 1945. Club: Cercle des Alumni de la Foundation Universitaire (Belgium).

ROSENDAHL, Edward, exec. v.p., Glyco Products Co., Inc., 26 Court St., Brooklyn, N.Y.; res. 1355 Broadway, Hewlett, N.Y.
Exec.; b. Manchester, England, Aug. 9, 1902; s. of Jacob and Sophia Rosendahl; ed. B.S., U. of Manchester; m. Sophia C. Glickman, Nov. 3, 1929; ch.: Leonard. Chem., British Dyestuffs Corp., Manchester, England, 1922-24; hd. of Eng. Dept., Sassoon Coll., Baghdad, Iraq; res. chem., Van. Ameringen Haebler, Elizabeth, N.J.; tech. advisor, Glyco Products Co., Inc., Brooklyn, N.Y., 1930-34; exec. v.p., Glyco Products Co., Inc., Brooklyn, N.Y. 1935 to present. Mem.: A. C.S., A.I.C., (fellow), Acdy. of Scs. (New York). Member of Bd. of Directors, Am. Technion Soc.

ROSENQUIST, Edward Niles, asst. dir., Monsanto Chem. Co., Dayton, Ohio; res. 4004 Lenox Dr., Dayton 9.
Chem.; b. Boston, Mass., June 30, 1910; s. of Frans A. and Johanna Rosenquist; ed. M.I.T., S.B., 1932, Ph.D., 1935; m. June Palm, June 4, 1935; ch.: Edward P., Nancy Jean, Niles R. Res. chem., Thomas-Hochwalt Labs., 1935-36; res. chem., Central Res. Dept., Monsanto Chem. Co. 1936-40, group leader 1940-46, asst. dev. dir. 1946-50, asst. dir. 1950 to date. Alkylation of benzene, dehydrogenation. Mem.: A.C.S., A.A.A.S., Sigma Xi, Com. Chem. Dev. Assn. Club: Dads Sportsmens (Dayton, Ohio). Hobbies: gardening, hunting.

ROSENSTEIN, Ludwig, conslt., 111 Sutter St., San Francisco 4, Calif.; res. 2010 Lyon St., San Francisco 15.
Consltg. chem., chem. engr.; b. Cologne, Germany; s. of Simon and Carolina (Fulda) Rosenstein; ed. M.I.T., B.S. chem. engrg.; U. of Calif., Ph.D. phys. chem. Record of career too long for detail recounting; pres., Mell Res. Corp. 7 papers publ. in J.A.C.S. Mem.: Sigma Xi, A. C.S. (mem. bd. trustees, Calif. Sec.). Mem. Bd. of Dir., Pacific Hebrew Orphanage & Home Soc. Club: Commonwealth. Hobbies: painting, fishing, gardening.

ROSENTHAL, Harold, dir. of lab., Atlantic Gelatin Div. Gen. Foods Corp., Hill St., Woburn, Mass.; res. 490 California St., Newtonville, Mass.
Food technologist; b. Cambridge, Mass., Apr. 15, 1914; s. of Sol and Esther Rosenthal; ed. M.I.T., B.S., 1938; m. Amy Bram, Dec. 14, 1948. 1938-40, Atlantic Gelatin Div., Gen. Foods Corp., chem. bacteriologist, 1940-42 lab. supvr.; 1942-46, U.S. A.; 1946-47, Atlantic Gelatin Div., Gen. Foods Corp., asst. dir. of lab., 1947 to date, dir. of lab. Mem.: A.C.S., I.F.T., A.A.A.S., Boston Bacteriological Club, Tech. Comm. of Gelatin Res. Soc. of Am.

ROSENTHAL, Helman, consulting chem., 2500 S. Ervay St., Dallas, Texas; res. 6107 Woodland Dr., Dallas.
Chem. b. Latvia, June 5, 1890; s. of David N. and Margie Leah (Graff) Rosenthal; ed. A.B., Ohio State U., 1912; M.A., U. of Mo., 1914; m. Leona Meyers, Sept. 9, 1917; ch.: Margie Lee, Elaine, Helen. Fellowship, U. of Mo., 1912-14; chem., Columbus, O., Water Works, 1915-18; chf. chem., Dallas, 1918-23; dir. Dallas Labs., 1923 to date; consltg. chem., Dallas, Texas, 1927-30; pres., Sche Rose Mfg. Corp.; pres., Associated Laboratories. Sev. pats., a number of papers in tech. jls., featured sc. arts. in many papers. Mem.: A.C.S., Am. Pub. Health Assn., Assn. of Consulting Chems., and Chem. Engrs. (councillor), A.W.W.A. (life mem.), Am. Assn. of Cereal Chems., A.S.T.M., A.A.A.S., Acdy. of Sc. (Texas), Public Health Assn. (Texas), Acdy. of Sc. (Texas). Trustee, Temple Emanuel, Jewish Welfare Federation. Clubs: Technical, Columbian, Lakewood Country, Dallas Athletic Club.

ROSENTHAL, Herman H., pres., Rosenthal Bercow Co., 25 E. 26 St., N.Y.C.; res. 115 Central Park W., N.Y.C.
Importer, exporter, dist., chem. & related prods.: b. N.Y.C. Dec. 5, 1898; s. of Solomon and

Sarah Rosenthal; ed. public & prep. schls.; m. Ruth Schwartz, Sept. 18, 1921; ch.: Maurice L., Judith Eydenberg. Headed Rosenthal Bercow Co. & predecessor Company, H.H. Rosenthal Co. for the past 32 yrs. Clubs: Chemists', Masonic, Elmwood Country, Hobbies: family, books, community welfare.

ROSENTHAL, Morris S., pres., Stein, Hall & Co., Inc., 285 Madison Ave., N.Y. 17, N.Y.; res. 1185 Park Ave., N.Y. 28.
Corp. exec.; b. N.Y.C., Sept. 8, 1897; s. of Max and Henrietta Oppenheimer Rosenthal; ed. Columbia U., B.A., 1917; mem.: Beta Gamma Sigma; m. Helen R. Cohen, Mar. 29, 1936; ch.: (1st m.) Alan, Ann; (2nd m.) Jon, David. Stein, Hall & Co., Inc., asst. to secy., 1917-25, asst. secy., 1926-33, v.p., 1934-42; Bd. of Econ. Warfare, asst. dir., chg. office of imports 1941-43; Stein, Hall & Co., Inc., exec. v.p. 1944-48, pres. since Mar., 1948; dir. Hall Trading Corp.; v. p. & dir., Stein-Davies Co.; mem., Import Advisory Comm., Dept. of Commerce. Author: "Technical Procedure in Exporting and Importing," (1922), "Techniques of Internatl. Trade," (1950). Officier de L'Ordre du Merite Commercial of the French Republic. Pres.: Natl. Council of Amer. Importers, Inc.; Amer. Indonesian C. of C.; tr., U.S. Council of the Internatl. C. of C.; dir.: Amer. Arbitration Assn.; Rubber Trade Assn. Clubs: Chemists' (N.Y.C.), Cosmos (Wash., D.C.). Hobbies: sailing, carpentry.

ROSEVEARE, William Earl, res. assoc., E.I. du Pont de Nemours & Co., Richmond, Va.; res. 4300 Hillcrest Rd., Richmond 25.
Physical chem.; b. Ionia Co., Mich., Oct. 14, 1904; s. of Joseph and Olivia (Harrison) Roseveare; ed. Ariz., B.S., 1925, M.S., 1926; Calif., Ph.D., 1928; m. Harriet Newman 1930; ch.: Robert, David, Ronald. Instr., Calif., 1928-29; instr., Wis., 1929-39; Lalor fellow, Princeton, 1939-40; asst. prof., Wis., 1940-41, du Pont, res. chem. 1941-42, res. supvr. 1942-46, res. assoc. 1946 to date. Cellulose, kinetics, thermodynamics, theory of liquids. Mem.: A.C.S., Phi Kappa Phi, Phi Lambda Upsilon, Sigma Xi. Hobby: home shop.

ROSINGER, Arthur, tech. dir., chf. chem., Natural Products Refin. Co., 902 Garfield Ave., Jersey City, N.J.; res. 184 Mill St., Belleville 9, N.J.
Chem. engr.; b. Nagyvárad, Hungary, Feb. 1, 1887; s. of Jacob and Serena Lindenfeld Rosinger; ed. Royal Joseph Tech. U., Hungary, Dipl. Ch.E., 1908; Tech. Hoch schl., Berlin-Charlottenburg, Germany, scholarship 1910; Francic. Joseph U., Hungary, Ph.D. (cum laude), 1911; m. Rose Schwarz, 1939. Exptl. Station Lab., Kolozsvár, Hungary, Royal asst. chem. 1910-11; Exptl. Sta. Lab., Nagyvarad, Hungary, chf. chem. 1911-21; insp. pub. health, Cluj, Roumania, chf. chem. 1921-24; arrvd. in U.S.A. 1924; became cit. 1930; Natural Products Ref. Co., Jersey City, N.J., res. chem., asst. dir. res. & dev., later chf. chem. & dir. res. & dev., 1925 to date; also prof. Essex Coll. Med. & Surg., Newark, 1942-45. Contrib. extens. to sc. and tech. journals. Mem.: N.Y. Acdy. of Sc., A.C.S., A.A.A.S., A I.C. (fellow), Amer. Soc. of European Chems., National Geographical Soc. Hobbies: photography (color phot.), astronomy, collector of antiques (pottery, porcelain, ivory, glass), hist. of arts.

ROSNER, Lawrence, dir., Lab. of Vitamin Tech., 1411 E. 60th St., Chicago, Ill.; res. 5545 Ingleside Ave., Chicago.
Cons. chem.; b. Phila., Pa., Aug. 30, 1912; s. of Morris and Sadie (Weiss) Rosner; ed. Pa. State Coll., B.S., 1934, M.S., 1935; Northwestern U., Ph.D., 1937; mem.: Sigma Tau Phi; m. Harriet Lewis, 1938; ch.: Carol Beth. Northwestern U. Med. Schl., instr. in chemistry, 1937-41; Lab. of Vitamin Tech., chf. chem., 1941-45; Nopco Chem. Co, hd., Microchem. Labs., Vitamin Div., 1945-46; Lab. of Vitamin Tech., dir., 1946 to date; and pres. biolog. div. Lab. of Vitamin Tech., Inc. Co-author: "Methods of Vitamin Assay," (1947). Mem.: A.C.S., Assn. of Vitamin Chems. (pres. 1945), Assn. of Cereal Chems., A.A.A.S., A.O. C.S., Amer. Feed Man. Assn., Sigma Xi.

ROSS, Auburn A(bbott), mgr., plant dev. dept., Eli Lilly & Co., Indianapolis, Ind.; res. R.D. No. 1, Zionville, Ind.
Indus. engr.; b. Ticonderoga, N.Y., Mar. 25, 1904; s. of Charles L. and Esther A. Ross; ed. Ticonderoga (N.Y.) H.S. 1922; Middlebury (Vt.) Coll., A.B., 1926; Pa. State Coll., M.S., 1927; mem.: Chi Psi, Alpha Chi Sigma; m. Hilda L. Reske, Apr. 15, 1949. Eli Lilly & Co.: anal. chem. 1927-30; pharmaceu. chem. 1930-40; asst. supt., chem. mfg, 1940-47; mgr., plant dev. dept., 1947 to date. Res. in mfr. of syn. org. chemicals & pharmaceuts. Mem.: Phi Beta Kappa, A.C.S. (actv. in Ind. sect. as past chmn. & past secy.), A.I.Ch.E. Hobbies: philately, photography.

ROSS, Frank B., chmn. of bd., Frank B. Ross Co., Inc., 6-10 Ash St., Jersey City, N.J.; res. 151 Garrison Ave., Jersey City, N.J.
Importer & refiner of waxes; b. New York, N.Y.; s. of John and Ellen (Cooper) Ross; ed. Hoboken, N.J., H.S.; m. Grace, Oct. 25, 1907. Established firm of Frank B. Ross Co., Feb. 18, 1902; pres., Ross Adler Co., Inc.; treas., Six Ash St. Corp. Clubs: New York Athletic, Shanghai Tiffin.

ROSS, Manley Lawton, supt. prod., E.I. du Pont de Nemours & Co., Electrochem. Dept., Niagara Falls, N.Y.; res. 534 College Ave., Niagara Falls.
Chem. in chem. mfg.; b. Alden, Kansas, Dec. 24, 1899; s. of William and Ina Lee McManus Ross; ed. Sterling Coll., Sterling, Kans., 1920; Ottawa U., Ottawa, Kans., 1922; B.S. Chem.; Kansas U., Lawrence, Kans., 1923; U. Ill., Urbana, 1925, M.S. Chem.; mem.: Alpha Chi Sigma; m. Eva Werner, June 10, 1927; ch.: Paul W. Asst. instr. chem., U. Kans. 1922-23; chem., Continental Baking Co., 1923-24; asst. instr. chem., U. Ill. 1924-25; chem., Roessler & Hasslacher Chem. Co., 1925-30; this became a part of E.I. du Pont de Nemours & Co. in 1930; chem., E.I. du Pont to date. Exp. in mfgr. metal. sod., sod. cyanide, potass. cyanide, mtl. cyanides and their uses. Mem.: A.C.S., A.E.S., A.I.Ch.E. Mem. Bd. St. Paul's M.E. Ch. Club: Niagara. Hobbies: photography, outdoor life.

ROSS, Ron(ald) (Dudley), Washington correspondent, 1180 Natl. Press Bldg., Washington 4, D.C.; res. 43 N. Fenwick, Arlington, Va.
Journalist; b. Fargo, N.D., Apr. 19, 1921; s. of Earle Dudley and Ethel (Newbecker) Ross; ed. Iowa State Coll., B.S., 1943; m. Ann Klein, Dec. 24, 1943; ch.: Ronald Dudley, Jr., Elizabeth Ann. U.S. Navy Reserve (active duty), 1943-46; News Editor, Science Service, 1946-49; Washington correspondent, Electrical World, and mem. of Washington Bur., McGraw-Hill Pubs., 1949 to date. Mem.: Sigma Delta Chi, White House Correspondents Assn., Business Paper Correspondents Comm. Club: National Press.

ROSSBACHER, Henry John, Kearny engr. of mfr., West. Elec. Co., 100 Central Ave., Kearny, N.J.; res. 605 E. Broad St., Westfield, N.J.
Engrg. exec.; b. Kendallville, Ind., Dec. 19, 1889; s. of Henry John and Rosa Springer Rossbacher; ed. Purdue U., B.S., 1912, M.S., 1917; Chicago U., Ph.D., 1919; Loewenthal fellow 1917-18; Sigma Xi; mem.: Sigma Phi Epsilon; m. Agnes

Huntington, June 24, 1916; ch.: Dubois, Agnes. Chicago Paving Lab., chf. chem. 1915-20; West Elec. Co. 1921 to date. Supervision of mfg. engrg. dev. of tel. prods.; results include striking advances in flds. of lamps, vacuum tubes, transmitter carbon, electronic apparatus, wired & wireless carrier for telephony & television, and cables. Mem.: A.C.S., A.P.S., A.A.A.S. Hobbies: travel, reading.

ROSSER, Charles M., tech. supt., Sylvania Div., Am. Viscose Corp.; res. 1606 Franklin St., Fredericksburg, Va.
Chem.; b. Sidney, Ohio, Jan. 14, 1909; s. of John C. and Clara R. Rosser; ed. Wabash Coll., A.B., 1930, Phi Beta Kappa & gen. hon.; N.Y.U., M.S., 1932, Ph.D., 1935, Sigma Xi; mem.: Lambda Chi Alpha; m. Frances Archibald, Sept., 1933. 1934-35, chem., Seil, Putt & Rusby, N.Y.C.; 1935 to date, Sylvania Ind. Corp. & Sylvania Div., Am. Viscose Corp. Mem.: A.C.S., A.I.C., Va. Acdy. of Sc., Phi Beta Kappa, Sigma Xi. Club: Lions. Hobbies: gardening, home movies.

ROSSMAN, Joseph, pat. atty., 1820 Jefferson Pl., N.W., Washington 6, D.C., and Land Title Bldg., Phila., Pa.; res. 1714 Rittenhouse Sq., Phila. 3, Pa.
Pat. atty. spec. in chem. pats.; b. Phila., Pa., Oct. 5, 1899; s. of Louis and Rebecca Rossman; ed. B.S. in Ch.E., U. of Pa.; M.A., Geo. Wash. U.; LL.B., same U.; M.P.L., Wash. Coll. of Law; Ph.D., Amer. Univ.; m. Mildred Katzmann, July 1, 1927; ch.: Ronald Eugene. Pat. examiner, U.S. Pat. Off., 1923-35; pat. counsel for Marathon Corp., 1935 to date, and Ansul Chem. Co., as well as other cos.; mem.: Wash., D.C. Bar, 1927; U.S. Supreme Court Bar, 1930; Pa. Bar, 1948; Court of Customs and Pat. Appeals, 1930; lecturer, Pat. Law, U.S. Dept. Agr., also Inst. of Paper Chem. Contrib. num. arts. on legal and tech. subjs. to mags. and jls. Author: "The Psychology of the Inventor," 1931, 2nd edit., 1932, Swedish trans. 1935; "The Law of Pats. for Chems.," 1932; 2nd edit., 1935; "The Protection by Pats. of Sc. Discoveries," 1934. Editor, Jl. of Pat. Off. P.P.I., A.A.A.S. (fellow, chmn. com. pats., trademarks, etc.), Natl. Mfrs. Assoc. (mem. pat. Soc., 1931-35. Mem.: A.C.S., A.I.C., E.S., T.A. comm.), Pat Off. Soc., Mason.

ROST, Clayton Ord, prof., chf. div. of soils, U. of Minn., University Farm, St. Paul 1, Minn.; res. 1421 Hythe, St. Paul 8.
Coll. prof.; b. Ord, Nebr., Nov. 24, 1885; s. of David E. and Mary Elizabeth (Keller) Rost; ed. B.Sc., U. of Nebr., 1911, M.Sc., 1912; Ph.D., U. of Minn., 1918; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Alpha Zeta; m. Nina M. Churchill, Dec. 15, 1912; ch.: Clayton O., Jr., Nancy Ann. Asst. agr. chem., Expt. Station, Nebr., 1912-13; U. of Minn., instr. soils 1913-18, asst. prof. 1918-23, assoc. prof. 1923-35, prof. 1935 to date, chf. div. of soils 1942 to date. Res. in soil chem., fertility & genesis; soil colloids; replaceable bases of soils; fertilizer requirements of soils. Mem.: A.C.S., Soils Sc. Soc. of Am., Am. Soc. of Agronomy, A.A.A.S. Hobbies: golfing, fishing.

ROSTENBACH, Royal Edwin, asst. mgr., synthetic rubber sect., Office of Rubber Reserve, R.F.C., Washington 25, D.C.; res. 3912 N. Fourth St., Arlington, Va.
Chem., chem. engr.; b. Sept. 20, 1912; s. of Edwin R. and Ivah T. Rostenbach; ed. St. Ambrose Coll., Davenport, Ia., B.S., 1935; Catholic U. of Amer., Wash., D.C., 1935-36; State U. of Ia., Iowa City, M.S., 1937, Ph.D., 1939; m. Margaret E. Bridgens. Clark, Stewart & Wood Co., Lexington, Ky., conslt. 1939-40; U.S. Pub. Health Serv., Cincinnati, O. and Wash., D.C., chem. and pub. health engr., 1940-42; War Production Bd., Chem. Bur., Wash., D.C., indus. specialist 1942-43; R.F.C. (Rubber Reserve), Wash., D.C., chem. engr. 1943 to date. Production mgmt., sanitary and chem. engr. Mem.: A.C.S., A.I.C. (fellow) (councillor, natl. council 1948-49), A.I.Ch.E., Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi, Fed. of Sewage Wks. Assn. Reg. Prof. Engr., State of Md. Club: Chem. Engrs. (Wash., D.C.).. Hobby: sports.

ROSZKOWSKI, Edmund Simon, chf. chem., Anton Electronics Labs., 1226 Flushing Ave., Brooklyn, N.Y.; res. 190-06 D 69th Ave., Flushing.
Chem. engr.; b. N.Y., N.Y., Mar. 24, 1915; s. of Walter and Valerie Roszkowski; ed. Cooper Union, B.Ch.E., 1939; Mo. Schl. of Mines, M.S., 1941; Brooklyn Poly. Inst., D.Ch.E., 1947; m. Gene A. Korzinski, July 22, 1944. Astorloid Mfg. Co., N.Y. City, asst. mach. 1935-39; A. Robinson & Son, N.Y. City, res. electrochem., 1940 and 1941; Mo. Schl. of Mines, Rolla, Mo. res. fellow, 1940-41; Inst. of Electrochem. & Metall., N.Y. City, instr., 1941-42; City Coll. of N.Y., tutor in physics, 1941-42; U.S.A.A.F., engrg. officer 1942-45; Jacques Kreisler Mfg. Co., N.Y. City, res. supvr. 1947-49; Patterson Moos & Co., Inc., N.Y. City, res. electrochem. engr., 1949; Anton Electronics Labs., chf. chem. Dec., 1949 to date. Res. in electrodeposition of copper-lead alloys, nickel from phosphate baths. Contrib. extens. to sc. and tech. jls. Mem.: Amer. Electrochem. Soc., A.C.S., A.E.S., A.A.A.S., Sigma Xi, Phi Delta Upsilon, R.O.A., U.S. Army Organized Res., Res. & Dev. Group. Hobby: photography.

ROTH, Charles F., mgr. Exposition of Chem. Industries, Grand Central Palace, N.Y. City; res. Dreamthorp, Bedford Village, N.Y.
Exposition mgr.; b. N.Y. City, Dec. 24, 1886; s. of Charles and Annie (Hart) Roth; ed. Cooper Union, N.Y. City, 1912, B.S. in Ch.; m. Carol E. S. Thrall, June 2, 1920. Clerk, lab. asst. 1901-07; Nat. Brewers Acdy., control chem. 1907-10; Standard Oil Co. of N.Y., chem., chf. chem. 1911-14; Hartford Cast Stone Co., chem., mfg. mgr. 1914-15; Nat. Exposition of Chem. Industries, organizer, mgr. 1915 to date; Nat. Exposition Power & Mech. Engr. 1922 to date; Paper Industries Exposition 1922-24; Nat. Elec. Exposition 1929; Internatl. Heating & Ventilating Exposition 1930 to date; Pacific Air Conditioning Exposition 1941, San Francisco; Elec. Engrg. Exposition, 1947; S.W. Air Conditioning Exposition 1950, Dallas, Texas; Chicago Power Show (Chicago, Ill., 1937), Internatl. Exposition Co. (secy.-treas 1923-26; v.p. 1926-37; pres. 1937 to date), Roth Pinehurst Corp., N.Y. (pres. since 1924). Contrib. extens. to sc. and tech. jls. Mem.: A.C.S. (secy. N.Y. sect. 1917-18, council mem. 1918, mem. since 1911); E.S., Salesman's Assn. of Am. Chem. Ind., A.I.C., Am. Soc. of Heating & Ventilating Engrs. Club: Chemists' (N.Y.).

ROTHBARD, David, chf. chem., Tide Water Associated Oil Co., E. 22nd St., Bayonne, N.J.; res. 370 Central Park W., N.Y.C.
Chem.; b. June 15, 1893, in Poland; s. of Morris and Ray Rothbard; ed. B.S. Chem.; m. May 29, 1920; ch.: Murray Newton. Res. in lubrication, Natl. Bur. Stand., Wash., D.C., 1 yr.; res., Tide Water Assoc. Oil Co., 12 yrs., during which dev. anal. proced., subs. improvements of pet. prods., engaged in cooperative wk. with D-2 Comm. A.S.T.M. Mem.: A.C.S.

ROTHROCK, David A., Jr., sales mgr. plastics dept., Rohm & Haas Co., Phila. 5, Pa.; res. 14 Radcliffe Rd., Bala-Cynwyd, Pa.
Sales management; b. Bloomington, Ind., Dec. 29,

1910; s. of David A. and Helena Grace (Shirley) Rothrock; ed. Ind. U., A.B., 1932; Brown U., Ph.D., 1936; mem.: Sigma Chi, Alpha Chi Sigma, Phi Lambda Upsilon; m. Mary Estelle Sluss, July 18, 1936; ch.: Joan Elizabeth, David A., III. 1936-37, Brown U., res. instr.; 1937-41, Resinous Prods. & Chem. Co., res. chem.; 1941-44, Rohm & Haas Co., plastic sales dept., 1944 to date sales mgr. plastics dept. Mem.: Phi Beta Kappa, Sigma Xi, A.C.S., S.P.I.

ROTHROCK, Robert W., chf., indus. coordination, res. & engrg. div., Army Chem. Center, Md.; res. (home) Wash. C.H., Ohio, (mailing address) 10 W. 115th St., N.Y. 25, N.Y.
Prof. chem. & ind. engr.; b. Washington C.H., O., Dec. 8, 1895; s. of Philip E. and Ida Bell Rothrock; ed. O. State U., Columbus, O., B.Sc. Ch.E., 1925, M.Sc., 1930, Ph.D., 1933; U.S. School Military Aeronautics, 1918; Chemical Corps School, 1944; mem.: Phi Lambda Upsilon, Sigma Xi; m. Pauline E. Gault, 1921; ch.: Elizabeth Ann, Philip R. Regular Army 1917-18. Member Byron T. Gifford, consltg. engrs., Madison, Wis., evaluation public utilities 1920-22; Aluminum Co. of Amer., Massena, N.Y., chem. engr. electro-thermal process development 1925-26; Palmer Lime & Cement Co., York, Pa., chem. engr., tech. dir. 1926-28; Diamond Springs Lime Co., Diamond Springs, Calif., directing engr. plant construction and operation 1928-30; pvt. practice, consltg. chem. engr. Columbus, O. 1933-37; Columbus Varnish Co., Columbus, O., director research & process development synthetic resinous products 1937-39; Fed. Govt., Chem. Corps, War Dept., chem. engr., Chief, Industrial Mobilization Planning N.Y.C.W. Procurement District 1940-42. U.S. Army Lt. Col., A.U.S., Col. O.R.C, active duty 1942-50: tech. adviser for N.Y. Chem. Corps Proc. Dist. 1942-44; tech. adviser to chf. of Control Div., Office Chf., Chem. Corp, Wash., D.C. 1944-45; overseas: chf. industrial coordination in production control agency for German chem. industry—American Zone E.T.O., S.H.A.E.F. and U.S.F.E.T. 1945-46; comdg. offr., N.Y. and Boston Chem. Corps Dists. 1946-48; chf., indus. coordination, res. & engrg. div., office chf., chem. corps, Army Chemical Center, Md., 1948-50. Contrib. extens. to sc. and tech. journals. Licensed prof. engr. Ohio 1936. Certificate of Qualifications approved by Natl. Council of State Boards of Engineering Examiners. Mem.: A.I.Ch.E., Opt. S.A., Royal Microscopical Soc. (London), Armed Forces Chem. Assn., R.O.A., Am. Legion. Club: Engrs. (Wash., D.C.).

ROTHSCHILD, Jacquard H., Col., Chem. Corps, Commanding Officer, Tech. Command, Bldg. 330, Army Chemical Center, Md.; res. Quarters 293, Army Chem. Center, Md.
Army officer; b. Cincinnati, O., Dec. 22, 1907; s. of Julius J. and Gertrude H. Rothschild; ed. U. of Ill., 1925-26, B.S.; U.S. Military Academy, West Point, N.Y., 1926-30; M.S. Chem. engrg. practice, M.I.T., Cambridge, Mass., 1938-40; mem.: Phi Epsilon Pi; m. Phyllis Mills, Sept. 18, 1938; ch.: Susan, Ronald. Field Artilliery, U.S. Army, 1930-37; Chem. Corps, U.S. Army, 1937 to date. Mem.: A.C.S., A.I.Ch.E., Sigma Xi. Hobbies: tennis, squash, golf.

ROWAN, Hugh Williamson, Col., Chem. Corps, U.S. Army, Army Chem. Center, Md.; res. 30 Quincy St., Chevy Chase 15, Md.
U.S. Army Off.; b. Newport, R.I., Mar. 16, 1894; s. of Hamilton and Elizabeth H. Simpson Rowan; ed. Yale U., Ph.B., 1915; Harvard Grad. Schl., 1915-17; wk. for Ph.D. interrupted by World War I; m. Frances Bethel, June 28, 1928; ch.: Frances, Hamilton. Entered U.S. Army Oct., 1917, Coast Arty. Corps; original mem., Chem. Corps (then called Chem. Warfare Serv.), 1917; rank in World War I, 2nd Lt. to Capt.; div. chem. off., 89th Div., A.E.F.; discharged Sept., 1919; Tide Water Oil Co., Bayonne, N.J., chem., 1919-20; re-entered Chem. Corps, U.S. Army, 1920; served as 1st Lt. 1920 to Brig. Gen. 1944; breveted to Col., 1946; in World War II served as chf. chem. off., E.T.O. 1942-46; The Chem. Corps Board, pres., 1946 to date. Res. on sulphur in petroleum. Author textbks., Chem. Corps. Schl. (1920-36). Mem.: A.C.S. Awards: Legion of Merit, Bronze Star, Commendation Ribbon, Comdry. of the Brit. Empire, Chevalier of Legion d'Honneur, Croix de Guerre (silver). Clubs: Army & Navy (Wash., D.C.), Chevy Chase (Chevy Chase, Md.), Lake Placid (Essex Co., N.Y.). Hobbies: tennis, golf, music, camping.

ROWE, Charles A., chf. designs engr., engrg. dept., Stand. Oil Co. of Calif., San Francisco, Calif.; res. 350 Chapman Dr., Corte Madera, Calif.
Design of pet. plant facilities; b. Calumet, Mich., Dec. 22, 1915; s. of John T. and Catherine Rowe; ed. Mich. Coll. of Mining & Tech., 1933-37, B.S. chem. engrg.; U. of Wis., 1937-41, M.S., Ph.D. chem. engrg.; m. Jean Backus, June 22, 1940; ch.: Thomas MacLean, Robert Charles, Laura Jean, John Backus. 1939-41, U. of Wis., instr. dept. chem. engrg.; engrg. dept., Stand. Oil of Calif., 1941-46 engr.; 1947-49 hd. of process & chem. div.; 1949 to date, chf. designs engr. Hardness gradients in tempered steel cylinders; study of chem. kinetics of the hydrogenation of iso octane to iso octane. Mem.: Sigma Xi, Phi Lambda Upsilon, Blue Key. Club: Engineers (San Francisco).

ROWE, Lewis William, assoc. dir., bioassay div., Parke, Davis & Co., Detroit 32, Mich.; res. 806 Notre Dame Rd., Grosse Pointe 30, Mich.
Bioassayist (trained as chem.); b. Toledo, O., Feb. 2, 1891; s. of Lyman and Mary Rowe; ed. Purdue U., B.S., 1913, M.S., 1917 (Ebert Prize 1927); m. Amber Griffin, Jan. 28, 1915; ch.: Lyman, Virginia. Sun Oil Co., E. Toledo, O., chem. lab. summers, 1911 & 1912; Parke, Davis & Co., Detroit, Mich., res. dept. since 1913, as res. asst. in bioassay, then hd. of a bioassay sect. Res. in fld. of act. principles (hormones) of posterior lobe of pituitary gland. Contrib. extens. to sc. and tech. jls. Mem.: A.C.S., to 1935, A.Phar.A., A.A.A.S., Internatl. Torch Club. Hobbies: golf, fishing, formerly bowling.

ROWE, Richard Gregor, chf. chem. engr., Dictaphone Corp., Bridgeport 5, Conn.; res. Black Rock Turnpike, Redding Ridge, Conn.
Chem. engr.; b. Tacoma, Wash., Sept. 7, 1913; s. of Olin L. and Marie (Grotheim) Pederson; ed. B.Ch.E., U. of Minn., 1935; M.Engrg., Yale U., 1942; mem.: Phi Kappa Sigma; m. Theo. Valentine, Mar. 31, 1942; ch.: Pamela, Richard. Anal. and process engr., Swift & Co., Chicago, Ill., 1935-40; res. fellow, Yale U., 1940-42; dir. of Varnish Res., Calif. Ink Co., Berkeley, Calif., 1943-44; chf. chem. engr., Dictaphone Corp., Bridgeport, Conn., 1944 to date. Res. in fats and oils, hydrogenation of tall oil, varnish technology, sound recording media; staff member, "Chemical Abstracts." Mem.: A.I.Ch.E., A.C.S., A.S.T.M., Connecticut Registered Professional Engr. (Reg. No. 2159) Vestryman, Christ Church, Redding Ridge, Conn. Hobbies: chem. literature, gardening, amateur radio.

ROWE, Thomas Dudley, dean, Rutgers U. Coll. of Pharmacy, 1 Lincoln Ave., Newark, N.J.; res. 189 Alexander Ave., Upper Montclair, N.J.
Dean; b. Missoula, Mont., June 25, 1910; s. of Jesse Perry and Anna (Richards) Rowe; ed. U. of Mich., 1927-29; B.S., Mont., 1932, M.S., 1933;

Ph.D., Wis., 1941; mem.: Sigma Chi; m. Georgia Stripp, 1934; ch.: Thomas Dudley, Jr. Instr., Schl. of Phar., U. of Nebr., 1934-35; instr., Schl. of Phar., Md. Coll. of Va., 1935-37, asst. prof. 1937-40, assoc. prof. acting chmn. of dept. 1931-43, assoc. prof., chmn. dept. 1943-45, asst. dean, chmn. dept. 1944-45; asst. dean, prof. of phar., Rutgers Coll. of Phar. 1945-46, dean, prof. of phar., 1946 to date. Co-author: "Am. Pharmacy." Mem.: A. Ph.A. (chmn. public relations comm.), N.J. Ph.A., Conf. of Bds. Coll. of Phar. (secy.-treas. district No. 2), Rho Chi Soc. (past natl. pres.), Sigma Xi, Phi Beta Kappa, N.J. Formulary (editor), Amer. Assoc. of Colleges of Pharmacy (v.p., 1949-50).

ROWLAND, Edmund, v.p., secy., Henry Bower Chem. Mfg. Co., 2815 Gray's Ferry Rd., Phila. 46, Pa.; res. 456 Fairfax Rd., Drexel Hill, Pa.
Chem. engr.; b. Phila., Pa., Sept. 9, 1897; s. of Wm. L. and Clario H. Rowland; ed. U. of Pa., B.S. in Ch.E., 1920, Ch.E., 1929, sophomore honors; mem.: Phi Kappa Psi; m. Martha Keller, June 29, 1929; ch.: Martha Keller, Eliot Randal. Procter & Gamble Co., chem. supvr., Cincinnati, N.Y., Kansas City, 1920-23; Henry Bower Chem. Mfg. Co., Phila., 1924-42, v.p., secy.; War Prod. Bd. 1942-44, Wash., D.C., chf., nitrogen unit; Henry Bower Chem. Mfg. Co., Phila., 1944 to date, v.p., secy., dir. Mem.: A.I.Ch.E., Franklin Inst., Am. Soc. of Refrigerating Engrs. Compressed Gas Assn. (past pres.). Club: Chemists' (N.Y.). Hobbies: hunting, fishing, camping.

ROWLAND, George M., dir. of engrg. labs., Inland Mfg. Div., General Motors, Dayton, Ohio; res. Dayton.
Exec.; b. N.Y.C., Jan. 16, 1888; 1912-28 Goodyear Tire & Rubber Company in following capacities: supvr. tool room; supvr. molds, machinery & tools inpsect.; supvr. planing engrg.; supvr. physical testing lab.; 1928 to present, Inland Mfg. Div., General Motors Corp., as tech. supt. & dir. engrg. labs.

ROWLETT, Russell Johnston, Jr., assoc. edit., "Chem. Abstracts," Room 410, Chem. Bldg., Ohio State U., Columbus, Ohio; res. 457 Loveman Ave., Worthington, Ohio.
Chem.; b. Richmond, Va., Sept. 19, 1920; s. of Russell J. and Carmine (Smith) Roweltt; ed. U. of Va., B.S. in chem., 1941; M.S., 1943; Ph.D., 1945; intermediate hons., 1939; Am. Inst. of Chem. award 1941; mem.: Alpha Chi Sigma; m. Lillian F. German, June 18, 1943; ch.: Russell J., III, William Haines. Res. assoc., U. of Va., 1945-46; res. chem., E.I. du Pont de Nemours & Co., Wilmington, Del., 1946; asst. edit., "Chem. Abstracts" (A.C.S.), 1947-49; assoc. edit., 1949 to date. Syn. antimalarial res. for govt. during W.W. II; present mem. of nomenclature comm., org. div., A.C.S. Mem.: A.C.S., Sigma Xi, Raven Soc. (hon. scholastic soc., U. of Va.). Hobbies: photography, golf, bowling.

ROY, Wallace Robert, dir. of res., Minute Maid Corp., Plymouth, Fla.; res. 1115 Ridgewood Ave., Orlando, Fla.
Biochem.; b. Chicago, Ill., June 11, 1906; s. of Thomas L. and Agnes H. Roy; ed. B.S. chem., Clemson Coll., 1926; M.S. chem., U. of Ky., 1933; Ph.D., biochem., U. of Minn., 1941; mem.: Sigma Xi, Phi Lambda Upsilon; m. Lillian R. Patterson, 1929; ch.: Patricia W. 1926-27, teacher, coach, Chester, S.C., High Schl.; 1927-28, control chem., Goodyear, Akron, Ohio; 1928-35, asst. chem., res., Ky. Agr. Expt. Station; 1935-43, assoc. chem., U.S.D.A., Orlando, Fla.; 1943-45, Capt., nutritionist, Sanitary Corps, A.U.S.; 1945-46, sr. chem., Natl. Res. Corp.; 1946 to date, chf. chem., dir. of res., Minute Maid Corp., Plymouth, Fla. Minute Maid Groves Corp., mem. of bd. of dirs. Res. on functions of Cu, Mn, Zn, B, I, etc. in plant & animal metabolism; res. on frozen juice concentrates. Mem.: Sigma Xi, I.F.T., A.C.S. Club: Orlando Country. Hobbies: golf, fishing.

ROYAL, Herbert Franklin, dir., res., Champion Spark Plug Co., Ceramic Div., 8525 Butler Ave., Detroit 11, Mich.; res. 1073 N. Woodward Ave., Detroit.
Dir. of res.; b. Nantucket, Mass., Mar. 12, 1894; s. of Leon A. and Anne F. Royal; ed. Harvard Coll., A.B. (cum laude), 1917; m. Helen Josephine Matthews, Feb. 9, 1918; ch.: Herbert Franklin, Jr. U.S. Bur. of Standards, 1918-20; N.J. State Hwy. Com., 1920; Champion Spark Plug Co., Ceramic Div., 1920-50. Mem.: Amer. Ceramic Soc., A.C.S., Amer. Mineralogical Soc., A. Crys.S., A.A.A.S. Clubs: Harvard (Mich.), Engrg. Soc. (Detroit). Hobbies: music, philately.

ROYER, George Lewis, asst. dir., applied res. dept., Am. Cyanamid Co., Calco Chem. Div., Bound Brook, N.J.; res. 50 Mali Dr., North Plainfield, N.J.
Res. chem.; b. Akron, Ohio, Jan. 28, 1908; s. of Edward L. and May B. (Warstler) Royer; ed. Akron U., B.S., 1929; Cornell U., Ph.D., 1932; mem.: Alpha Chi Sigma; m. Elizabeth Hershey, Aug. 2, 1932; ch.: Joan Elizabeth, George L., Jr., Elizabeth Anne. Cornell U., lab. asst., 1930-32; Am. Cyanamid Co., Calco Chem. Div., 1932 to date; microscopist, microanal., res. chem., asst. dir. of physical chem. sec., asst. dir. of appld. res. dept. Chem. microscopy, microchem., spectrophotometry & various phases of physical chem.; particularly relative to dye application & mfr. Approx. 40 publ. & pats. Mem.: A.A.T.C.C. (Olney M. Award, 1950); A.A.T.T.; Soc. of Dyers & Colourists (England); Photo. Soc. of Am.; Metropolitan Microchem. Soc.; Biol. Photo. Assn. (fellow); N.Y. Microscopical Soc. (fellow); A.I.C. (fellow; former chmn. of N.J. Chap.); A.C.S. (former secy. treas.; chmn. of anal. div., chmn. of N. Jersey sec.). Hobbies: photography, gardening, electronics, philately.

RUARK, Robert Gordon, asst. to gen. mgr., chem. div., Corn Prods. Refining Co., Argo, Ill.; res. 547 Park Ave, River Forest, Ill.
Chem.; b. Wash., D.C., May 31, 1909; s. of Oliver Miles and Margaret (Smith) Ruark; ed. Johns Hopkins U., Baltimore, Md.; U. of Pitts., Pitts., Pa., B.S., 1935; m. Regina Y. Grego, Aug. 4, 1938; ch.: Robert G., Jr. 1929-30, civil engr., H.K. Ferguson Co., Baltimore, Md.; 1930-32, chem. engr., Western Elec. Co, Baltimore, Md.; 1932-41, chem. engr., Mellon Inst., Pitts., Pa.; 1941-44, dir., Aromatics & Intermediates Bur., W.P.B., Wash., D.C.; 1944-48, dir. of sales dev., Corn Prods. Refining Co., chem. div., Pitts., Pa., 1948 to date, asst. to gen. mgr., Argo, Ill. Pats. in org. syn. Mem.: A.C.S., T.A.P.P.I., A.S.T.M. Club: Chemist' (N.Y.). Hobbies: philately, photography.

RUBIN, Louis C., mgr., chem. mfg. div., M.W. Kellogg Co., ft. of Danforth Ave., Jersey City, N.J.; res. 46 Francisco Ave., W. Caldwell, N.J.
Exec.; b. Alamogordo, N.M., Jan. 26, 1905; s. of Carl (dec.) and LaVerne Rubin; ed. degree in pet. engrg., Colo. Schl. of Mines, Golden, Colo., 1927; M.S., chem. engrg., M.I.T., 1929; m. Eleanor Archer Coddington, Dec. 23, 1929; ch.: Richard C., Kenneth L., Betty Jean. 1925-28, plant chem., S.W. Shattuck Co.; M.W. Kellogg Co., 1930, tech. service div.; 1931, process engr., process div.; 1932; engrg. div.; 1935, asst. to pet. res. dir.; 1938, dir. of pet. res.; 1947 to date, mgr., chem. mfg. div. Wm. H. Walker Award, A.I.Ch.E., 1947. Mem.: A.C.S. (Wash., D.C.), A.I.Ch.E.

RUBIN, Saul Howard, dir. nutrition labs., res. coordinator, Hoffmann-La Roche, Inc., Nutley, N.J.; res. 62 Beech St., Nutley.
Chem.; b. N.Y., Oct. 15, 1912; s. of Maurice Lewis and Evelyn Rubin; ed. C.C.N.Y., B.S., 1931; N.Y.U., M.S., 1932; Ph.D. (biochem.), 1936; mem.: Phi Beta Kappa, Sigma Xi; m. Anne Bissom, Aug. 2, 1932; ch.: Barbara Gail, Richard Lewis. Littauer Res. Fund, N.Y.U., biochem. 1932-34; N.Y.U. Med. Schl., teaching fellow, biochem., 1934-36; res. biochem., nutrition & metabolism labs., 1936-41; Hoffmann-La Roche, dir. nutrition labs., 1941-49; res. coordinator, 1949 to date. Consultant to Q.M., Food & Container Inst. for the Armed Forces. Contrib. extens. to sc. and tech. jls. Author: chapter, "Chem. Meths. for Vitamin Assay" in P. Gyorgy's "Vitamin Methods," 1950. Mem.: A.C.S., Amer. Assn. of Biol. Chem., Am. Inst. of Nutrition, S.E.B.M., Animal Nutrition Res. Council. Hobbies: gardening, golf.

RUBY, Charles E(rnest), conslt., chem. engr. & pat. atty., 38 Westland Ave., Boston, Mass.
Chem. engr., pat. atty.; b. Louisville, Ky., Nov. 20, 1893; s. of Frederick W. and Anna R. Ruby; ed. B.S., U. of Ky., 1916; Ph.D., M.I.T., 1920; LL.B., Northeastern U. Schl. of Law, 1928; U. of Louisville, A.B., 1947. Indust. fellow, Mellon Inst. of Indust. Res., 1916-17; res. asst., Res. Lab. of Phys. Chem., M.I.T., 1917-18; instr. in inorg. chem., M.I.T., 1918-19; Fellow, Res. Lab. of Phys. Chem., 1919-20; res. assoc., 1920-22; conslt. chem., 1922 to date; pat. atty., 1931 to date; lecturer, pat. law; Boston U. Schl. of Law, 1934-35. Inventor (with Dr. Leighton B. Smith) of "Processes For Rendering Wool Shrink Resistant" (U.S. Pat.). Contrib. numerous arts. to sc. jls. and legal periodicals. Hobbies: literature, music.

RUDDIMAN, Edsel A(lexander), M.D., res. chem., phar., physician, retired; 22179 Long Blvd., Dearborn, Mich.
Chem., phar., physician; b. Dearborn, Mich., Dec. 27, 1864; ed. Phar.C., Michigan, 1886, Phar. M., 1887; M.D., Vanderbilt, 1893; m. Jennie E. Perry, 1889; ch.: Stanley P., E. Helen. Asst. in chg. pharmacog., Michigan, 1886-87; chem. in chg. labs., Williamson, Ingram & Griggs, 1887-90; prof. pharmacy and mat. med., Vanderbilt, 1890-1920; chf. chem., John T. Milliken & Co., 1921-26; res. chem., Ford Motor Co., 1926-42; retired. chem., Tenn. Bd. of Pharmacy, 1897-1920; U.S. food and drug inspection chem., 1907-14; Mem.: A.Phar.A., A.C.S.

RUDERT, Frank Joseph, dir., res. & dev., Red Star Yeast and Products Co., 325 N. 27 St., Milwaukee 8, Wis.; res. Dist. 763, Box 192, Milwaukee 14.
Res. bacteriol. & chem.; b. Swan Lake, N.Y., Feb. 2, 1917; s. of John and Ione Rudert; ed. Cornell U., A.B., 1937; Ph.D., 1940; m. Frances E. Williams, Aug. 29, 1941. Ore. State Coll., instr. bacteriol. 1940-41; Commercial Solvents Corp., res. bacteriol. & chem., 1941-45; Wm. S. Merrell Co., res. bacteriol. & chem., 1945-47; Red Star Yeast and Products Co., dir. of res., 1947 to date. Mem.: A.C.S., A.A.A.S., S.A.B., I.F.T., Sigma Xi. Hobby: photography.

RUDKO, William, chf. chem., Theroid Co., Nephi, Utah; res. 287 E. 7th N., Nephi.
Chem. engr.; b. N.Y.C., July 19, 1918; s. of Nicholas and Mary Rudko; ed. C.C.N.Y., B.Ch.E., 1940; m. Phyllis Kanicki, Mar. 4, 1944; ch.: William, Jr., Emily Mary. 1940-42, Am. Hard Rubber, chem.; 1942-45, John A. Roebling Co., chem.; 1945 to date, Thermoid Co., chf. chem., Nephi & Los Angeles divs. Mem.: A.I.Ch.E. Club: Lions.

RUDOLFS, Willem, chmn. and prof., Rutgers U., New Brunswick, N.J.; res. Hillcrest, R2, New Brunswick.
Tchr.; b. Wageningen, The Netherlands, Feb. 13, 1886; s. of Willem and Antonia (Petronella) Rudolfs; ed. Govt. U. Holland; U. of Ill.; Pasteur Inst., Paris; Rutgers U., Ph.D.; mem.: Sigma Xi; m. Sept. 20, 1920, Cornelia Gerdina VanLaar. Soil chem., U. of Ill.; res. fellow, Rutgers U., Pasteur Inst.; biochem., N.J. Agric. Exp. Sta.; chf. Div. Water & Sewage Res., N.J. Agric. Exp. Sta.; prof. Dept. Water Supplies & Sewage Disposal, Rutgers U. Mem.: A.S.C.E., A.C.S., Amer. Pub. Health Assoc., Fed. Sewage Wks. Assoc., A.I.C., N.J. Health and Sanit. Assoc., A.A.A.S., German Engrg. Soc., N.J. Prof. Engrg. Soc.

RUE, John Davison, wks. mgr., Tacoma plant, Hooker Electrochem. Co., 605 Alexander Ave., Tacoma, Washington; res. 516 North Yakima Ave., Tacoma, Washington.
Chem. mfg. exec.; b. New Jersey, 1882; s. of Gilbert D. and Annie M. Rue; ed. B.S., Princeton U., 1906; M.A., 1908; Heidelberg U., Germany; Zurich Polytechnikum, Switzerland; U. of Michigan; m. Mary K. Flagler in 1909. Lab. asst., chem., Princeton U., 1906-07; tchr., chem., Lawrenceville Schl., 1907-09; asst. prof. chem., U. of Okla., 1911-13; instr., chem. engrg., U. of Mich., 1913-17; Ordnance & C.W.S., 1917-18, Capt.; res., Mead Engineering and Dev. Co., Dayton, O., 1919-21; chf., pulp & paper sec., U. S. Forest Prods. Lab., Madison, Wis., 1921-27; res. dir., Champion Fibre Co., Canton, N.C., 1927-29; engr., Newsprint Service Bur., N.Y.C., 1929-31; sales service engr., Hooker Electrochem. Co., 1931-41; asst. to chf. engr., Hooker Electrochem. Co., 1942-46; wks. mgr., Tacoma Plant, 1946 to date. Res. in wood pulp processes, isolation, bleaching and purification of fibers. Numerous bulletins and arts. on utilization of wood for pulp and on bleaching and purification of fibers. Mem.: T.A.P.P.I., A.S.M.E., A.I.Ch.E., A.C.S., Phi Beta Kappa, Sigma Xi. Clubs: Tacoma, University-Union, Tacoma Country & Golf, Rainier (Seattle).

RUE, Sigurd O(scar), hd., sp. chem. supply sect., Ethyl Corp., 1600 W. 8 Mile Rd., Detroit, Mich.; res. 1772 Villa Rd., Birmingham, Mich.
Res. chem.; b. Westerville, S. Dak., Dec. 6, 1906; s. of Rev. Halvor S. and Martine Rue; ed. Luther Coll., Decorah, Ia., B.A., 1927; State U. Ia., Iowa City, M.S., 1938; Ph.D., 1941; mem.: Alpha Chi Sigma (Ia.); m. Geraldine Scott, July 18, 1931; ch.: John Sigurd, Rosalie Martin. Instr., High Schl., Chokio, Minn., 1927-29; Jackson, Minn., 1929-39; principal, 1938-39; grad. asst., chem. dept., St. U. Ia., 1939-41; res. anal., Ethyl Corp., Detroit, 1941-43; supvr. chem. res., 1943 to date. Author: "Perchloric Acid Meth. for Determ. of Silicon in Ferrosil.;" "Standardization and Stability of 0.1 N. Sod. Tthiosulf. Soluts. in Hot Weather." Quantitative spectroscopy; anal. methods; antiknock comp. and other gasoline additives. Mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi, A.A.A.S., A.C.S., Hobbies: athletics, outdoor sports.

RUEBENSAAL, Clayton Frederick, tech. dir., plastics & resins, Naugatuck Chem. Div., U.S. Rubber Co., Naugatuck, Conn.
Chem. engr.; b. Cleveland, Ohio, July 18, 1918; s. of Joseph F. (dec.) and Wilhelmina (Fassbender) Ruebensaal; ed. Case Inst. of Tech., B.S. in chem. engrg.; mem.: Alpha Chi Sigma. E.I. du Pont de Nemours & Co., res. chem., 1936-41; Glenn L. Martin Co., chem. div. tech. dir., 1942-49; Nauga-

tuck Chem. div., U.S. Rubber Co. (purchased assets of G.L. Martin Co.'s chem. div.), mgr. vinyl operation 1949-50; tech. dir. plastics & resins, 1950 to date. Prof Engr. State of Ohio (Lic. No. 13668); State of Md. (Lic. No. 1562). Numerous pats. in electrochem. wk. & plastics; served on plastic team which investigated German plastics ind. after W.W. II. Mem.: Alpha Chi Sigma, A.C.S., A.I.Ch.E., Soc. Plastics Inst., Soc. Plastics Engrs., A.A.A.S. Hobby: sailing.

RUEHLE, A(rchie) E(dwin), sr. res. chem., Mallinckrodt Chem. Wks., 3600 N. 2nd St., St. Louis, Mo.; res. 112 Wildwood Lane, Kirkwood, Mo.
Chemist; b. Port Townsend, Wash., Feb. 9, 1908; s. of Gustave A. and Mathilda K. Ruhle; ed. U. of Idaho, B.S. (cum laude), 1930; m. Fae Bauscher, Aug. 18, 1930; ch.: Patricia Ann, Paul Henry. Bell Tel. Labs., mem. of tech. staff, 1930-42; Int. Mining & Chem. Corp., Austin Magnesium plant, chf. chem., 1942-44; Mallinckrodt Chem. Wks., sr. res. chem., 1944 to date. Constitution of Vitamin Bi, spectrochem. anal., potentiometric titration, ultra-violet absorption, chem. of electronic tubes, purification of uranium, autooxid. of ether, high purity chems., graphic arts. Civilian with contractor, Manhattan Proj. & A.E.C. Mem.: A.C.S., Opt. S.A., Nat. Res. Council (past). Club: Greenbriar. Hobbies: golf, chess, classical music.

RUGAR, George Francis, asst. mgr., Tech. Serv. Div., Diamond Alkali Co., P.O. Box 430, Painesville, Ohio; res. 54 Waldamere Ave., Willoughby, Ohio.
Chem.; b. Penn Yan, N.Y., May 13, 1899; s. of Lewis M. and Essie G. Rugar; ed. U. Rochester, B.S., 1921; Columbia U., A.M., 1924; Ph.D., 1931; m. Myrtle E. Hayes, Aug. 4, 1923; ch.: Robert E., Jack A. 1921-24, prof. sc., math., Wagner Coll., Staten Island, N.Y.; 1924-26, asst. instr., Columbia U.; 1926-28, res. chem., Diamond St. Fiber Co., Norristown, Pa.; 1928-44, res. chem., mgr. sales prom., Hooker Electrochem. Co., Niagara Falls, N.Y.; 1944 to date, mgr. prod. dev., asst. mgr., Tech. Serv. Div., Diamond Alkali Co., Painesville, Ohio. Mem.: A.C.S., A.A.A.S., A.I.C., A.F.C.A., A.O.C.S., C.C.D.A., S.C.I. (Amer. sect.), Chem. Mkt. Res. Assn., Amer. Pulp and Paper Mill Supts. Assn. Club: Chemists'. Hobbies: gardening, hunting, fishing.

RUGG, Frank McLeran, res. physical chem., Bakelite Corp., 230 Grove St., Bloomfield, N.J.; res. 106 Smull Ave., W. Caldwell, N.J.
Chemistry; b. Thrasher, Miss., May 23, 1911; s. of Clarence W. and Mary Margaret Rugg; ed. Miss. Coll., B.A. (cum laude), 1933; La. State U., M.S., in physics, 1935; U. of Ill., Ph.D., in Chem., 1941; m. Alice Faye Reeves, June 4, 1936; ch.: Margaret, Mary Louise, Frank McLeran. La. Coll., prof., chem. & physics, 1935-38; Bakelite Corp., res. physical chem., div. hd. 1941 to date. Res. in fld. of metallic corrosion and protective coatings, infra-red spectroscopy, chem. structure of phenolic resins, plastics technology. Mem.: A.C.S., Opt. S.A., Phi Kappa Phi, Phi Lambda Upsilon, Sigma Xi. Hobbies: sports, ornithology, gardening.

RUHLE, George Cornelius, park naturalist, U.S. Natl. Park service, Crater Lake Natl. Pk., Box 672, Medford, Ore.; res. 50 Black Oak Dr., Medford, Ore.
Naturalist; b. Kankakee, Ill., Feb. 18, 1900; s. of Christian and Theresa (Radzom) Ruhle; ed. B.S., chem. engrg., U. of Ill., 1921, with final and spec. honors; Ph.D. in physical chem., U. of Calif., 1925; U. of Montana, 1930-31; Yale U., 1940-41; mem.: Sigma Chi, Phi Lambda Upsilon, Alpha Chi Sigma, Gamma Xi. Chf. metallurgist, Sears Roebuck & Co., Bradley, Ill. plant, 1918; instr., U. of Calif., 1925-26; assoc. prof., U. of Oklahoma, 1926-28; ranger and naturalist positions, U.S. Natl. Park Service, Yosemite, Yellowstone, Glacier, Great Smoky Mountains Natl. Parks, 1928-40, 1942 and 1946 to date. Dir. of Degaussing, Fifteenth Naval Dist., Balboa, C.Z., Lt. Cmdr., U.S. Navy, 1942-46. Co-owner, C. Ruhle, Kankakee, Ill. Res. in separation of radium from ores, disintegration of nitrogen atoms, thermodynamics of fused salt solutions. Author: "Guide to Glacier National Park," 1949. Secy., Crater Lake Natural History Assoc.; chmn., Advisory Bd. on Conservation, State of Oregon. Clubs: Explorers (N.Y.C.). Club de Exploraciones de Mexico. Hobbies: athletics, mountaineering, travel equitation, photography.

RUHM, Herman D., former v.p. and gen. mgr., Ruhm Phosphate & Chem. Co., address: 305 W. 7th St., Columbia, Tenn.
Mining and chem. engrg.; dealer in phos. land and rock; b. Nashville, Tenn., June 6, 1871; s. of John and Frances A. (Gregory) Ruhm; ed. Vanderbilt U., B.E., 1892; p.g. wk. in Eng. 1892-93; mem.: Beta Theta Pi (distr. chf., 1894); m. Margaret J. Ingram, Mar. 29, 1899 (dec. 1948); ch.: Rebecca Parker (dec.), Herman David, Jr. N.C. & St. L. Ry. 1888-93; phosphate business (Tenn.), 1894-1909; Niagara Alkali Co., pres., gen. mgr. 1909-16; Marden Orth & Hastings Corp., mgr. chem. dept., 1916-19; Calco Chem. Co., v.p. 1920; bus. for self as chem. broker and v.p. Ruhm Phosphate & Chem. Co., 1920 to 1947, when he retired on pension after 50 years' service. Pioneer in phosphate rock ind., continuously with it and fert. indust. 50 yrs.; first successful mfg. caustic potash in U.S.; contr. var. arts. phosphate, potash, paint, varnish and raw matls. Mem.: K.P., I.O.O.F. Club: Columbia Rotary (past pres., 100% attendance since 1924). Hobbies: gardening, dev. of southern resources.

RUHOFF, John Richard, v.p. & tech. dir., Mallinckrodt Chem. Wks., 3660 N. 2nd St., St. Louis, Mo.; res. 411 Woodlawn, Webster Groves 19, Mo.
Chem. exec.; b. DePue, Ill., June 29, 1908; s. of Otto E. and Alice (Spensley) Ruhoff; ed. U. Wis., B.S. (chem.), 1929; Johns Hopkins U., Ph.D. (chem.), 1932; mem.: Alpha Chi Sigma; m. Mary Bridges, Aug. 25, 1934; ch.: Anne Bridges, Mary Spensley. 1932-33, Johns Hopkins U., Balt., Md., tchg. asst.; 1933-35, Harvard U., Cambridge, Mass., res. asst.; 1935-37, Gen. Labs., U.S. Rubber Co., Passaic, N.J., res. chem.; 1937-42, Mallinckrodt Chem. Wks., St. Louis, Mo., dir. inorg. res. & dev.; 1942-46, Manhattan Dist., U.S.A.; 1946 to date, Mallinckrodt Chem. Wks., tech. dir. & dir.; v.p., 1950. Contrib. extens. to sc. and tech. jls. Mem.: A.C.S., Sigma Xi, Phi Lambda Upsilon.

RULEY, Marshall F., serv. mgr., The Flox Co., Inc., 1409 Willow St., Minneapolis 4, Minn.; res. 1751 Gulden Place, St. Paul 6.
Serv. mgr.; b. Oct. 15, 1911, St. Paul, Minn.; ed. B.Chem. Engrg., U. of Minn., 1934; m. Madeline L.; ch.: Douglas M., Nicholas L., Franklin M. Bookkeeper, Empire Natl. Bank, 1933-34; auditor, Farm Credit Admin., 1934-36; cost acctant. and estimator, Amer. Hoist and Derrick Co., 1936; joined The Flox Co., 1937; moved to Denver, 1938; moved to St. Paul, 1949.

RUPP, Virgil Richard, dir. of res., Kingan & Co., Inc., Indianapolis 6, Ind.; res. 4125 Ruckle, Indianapolis 5, Ind.
Chem.; b. Quincy, Ill., Nov. 26, 1900; s. of Fred G. and Anna Rupp; ed. Quincy Coll., Quin-

cy, Ill., B.S.; Catholic U., Washington, D.C., M.S.; m. Henriette Wiskirchen, Aug. 19, 1931; ch.: Richard H., John T. Moorman Mfg. Co., Quincy, Ill., control chem.; Russell Sage Inst. of Pathology, res. chem.; Inst. of American Meat Packers, res. chem.; Kingan & Co., res. chem., dir. of res. Nutrition; curing of meat; meat processing methods. Mem.: A.C.S., I.F.T. Clubs: K. of C., Riviera Club. Hobbies: golf, fishing, contract bridge.

RUPP, Walter Howard, supvg. engr., Stand. Oil Dev. Co., Linden, N.J.; res. Dogwood Way, Mountainside, N.J.
Chem. engr.; b. Pitts., Pa., Dec. 22, 1909; s. of John and Margaret Rupp; ed. 1930, U. of Pitts., high hons., B.S. in chem. engrg.; Rutgers U., 1932, grad. wk.; mem.: Phi Lambda Upsilon, Sigma Tau, Pi Tau Phi; m. Sidney Fawcett Stanton, May 21, 1937; ch.: Margaret Sidney, John Stanton, Leila Jane. 1929, Mellon Inst., Pitts., lab. asst.; 1930-36, Stand. Oil Co. of N.J., design, test & econ. engr.; Stand. Oil Dev. Co., 1936-45, light hydrocarbon design engr.; 1945-49, econ. & process archt.; 1949-50, hd., process test & engrg. res. div. Process design of light hydrocarbon plants such as alkylation, isomerization & polymerization plants for syn. Co. reports & articles, 17 patents. Mem.: A.I.Ch.E. Hobbies: badminton, economics, finance.

RUPRECHT, Rudolf W., v. dir. in chg., Central Fla. Exp. Sta., Box 327, Sanford, Fla.; res. 1516 Palmetto Ave., Sanford.
Agr. chem.; b. Brooklyn, N.Y., June 2, 1889; s. of Carl F. and Anna Ruprecht; ed. R.I. State Coll., B.S., 1911; Mass. State Coll., M.S., 1914; Ph.D., 1916; Cornell U., 1915-16; mem.: Theta Chi; m. Laura Fairbanks Thrasher, Apr. 27, 1918; ch.: Barbara Wardell, Elisabeth Ann. Mass. Exp. Sta., asst. chem. 1911-16; F.W. Tunnell Co., chem., supt., 1916-20; Fla. Exp. Sta., 1920-37, hd. dept. chem. and soils; 1937 to date, v. dir. chg. Central Fla. Exp. Sta. Mem.: A.C.S., Sigma Xi. Club: Rotary.

RUSH, Kenneth, v.p., Union Carbide & Carbon Corp., 30 E. 42 St., N.Y. 17, N.Y.; res. Purchase St., Rye, N.Y.
Lawyer, exec.; b. Walla Walla, Wash., Jan. 17, 1910; s. of David Campbell and Kate (Kidwell) Rush; ed. U. of Tenn. A.B., 1930; Yale Law Schl., LL.B., 1932; m. Jane Gilbert Smith, June 12, 1937; ch.: George Gilbert (dec.), David Campbell, Malcolm, Cynthia Shepherd, John Randall, Kenneth. Chadbourne, Wallace, Parke & Whiteside 1932-36; asst. prof. of law, Duke U., 1936-37; Union Carbide & Carbon Corp., 1936 and since 1937, counsel; subsequently v.p. & dir. of operating subsidiaries, mem. of operating comm., 1945 to date; v.p., 1949 to date. Linde Air Prods. Co. (dir.), Canadian Resins & Chem. Ltd. Canada (dir.), Bakelite Ltd., England (dir.), Niacet Chem. Corp. (dir.), Union Mines Dev. Corp. (dir.). Mem. of bd. of mgrs., North-Eastern Dispensary, N.Y.C. Clubs: Apawamis (Rye, N.Y.), Manursing Island (Rye, N.Y.), Pine Valley Golf (Pine Valley, N.J.), Uptown (N.Y.C.), N.Y. Southern Soc. (N.Y.C.).

RUSH, Richard Irwin, prof. of chem., hd. of dept., Centre College, Danville, Ky.; res. Green Acres, Danville.
Tchg.; b. Woodstock, Va., Oct. 11, 1900; s. of Dr. Josephus B. and Clara Elizabeth (Irwin) Rush; ed. Johns Hopkins U., A.B., 1922; Ph.D., 1927; mem.: Phi Kappa Tau; m. Marion Lincoln Fillinger, Aug. 31, 1926; ch.: Richard Marion. Bristol, Tenn. H.S., hd. sc. dept., 1922-24; Johns Hopkins U., grad. asst., 1925-27; Centre Coll. of Ky., prof. of chem., hd. of dept., 1927 to date. Study of structural changes in amorphous matls. silica gel.; banding of basic mercuric chloride in silica gel. Mem.: A.C.S., Sigma Xi, A.A.A.S., Ky. Acdy. of Sc., Methodist Church. Club: Kiwanis.

RUSHTON, J(ohn) Henry, prof. & dir. dept. of chem. engrg., Illinois Inst. of Tech., 330 Federal St., Chicago, Ill.; res. 10864 Longwood Dr., Chi. 43.
Educator, chem. engr.; b. New London, Pa., Nov. 25, 1905; s. of Edward W. and Daisy Rich Garber Rushton; ed. B.S. in Ch.E., U. of Pa, 1926; Ph.D., 1933; mem.: Theta Xi, Alpha Chi Sigma, Sigma Xi; m. Ellott May McLellon, Dec. 9, 1933; ch.: Edward Wester. Royal Electrotype Co., 1926-28; asst. prof., Drexel Inst of Tech. 1929-36; asst. prof., U. of Michigan, 1936-37; 1937 to date, consultant and dir. of res. Mixing Equipment Co.; prof. and dept. hd., U. of Va., 1937-46; tech. aide and section chf. in office of Scientific Res. & Dev. 1941-46; conslt. in pet., and oxygen production, 1946 to date, prof. and dir. dept. of chem. engrg., Ill. Inst. of Tech., 1946 to date. Mixing Equipment Co., dir. of research. Many tech. arts. in fld. of mixing and oxygen production. Text on process equipment, design for the chem industry. Author: "Process Equipment Design," 1945 (Van Nostrand); contrib. to "Application of Chemical Engineering," 1941, "Tchnique of Organic Chem.," 1950. Mem.: A.I.Ch.E., A.C.S., A.S.M.E., Soc. of Chem. Industry, A.S.E.E., Phi Lambda Upsilon. Clubs: University (Chicago), Chemists' (N.Y.), Southern Shore Yacht Club (Chicago). Hobbies: golf, boating, philately.

RUSSELL, Charles Daniel, Jr., res. chem., The Carter Oil Co., Tulsa, Okla.; res. 1441 S. Erie, Tulsa.
Petroleum res.; b. Niagara Falls, N.Y., Aug. 30, 1916; s. of Charles D. and Alice B. Russell; ed. Niagara U., B.S. in chem. (magna cum laude); Calif. Inst. of Tech., M.S. in chem.; Duke U., Ph.D. in chem.; 1941; mem.: Sigma Alpha Sigma, Phi Beta Kappa, Sigma Xi; m. Dorothy Jane Hummel, July 5, 1942; ch.: Martha Jane. Union Carbide, Niagara Falls, N.Y., anal. chem., summer 1937; Duke U., tchg. fellow, 1939-41; The Tex. Co., Beacon Lab., N.Y., res. chem., 1941-43; Calif. Milk Products Co., res. chem., 1943-46; The Carter Oil Co., Tulsa, res. chem., 1946 to date. Res. in magnetochem. of hemoglobin compounds, magnetochemistry & struct. of complex ions in solut., lubrication, deterioration of motor oils, bearing corrosion, milk sugar, milk proteins. Author: chapt. "Porosity, Permeability and Capillary Properties of Petroleum Reservoirs," in Parker Trask's "Applied Sedimentation," 1950. Mem.: A.I.C. (fellow; recd. Student M.), A.C.S., A.A.A.S., Phi Beta Kappa, Sigma Xi. Club: Chemists' (N.Y.). Hobbies: music, photography, travel.

RUSSELL, Charles Roberts, chem. engr., Bur. of Ordnance, U.S.N., Navy Bldg., Washington 25, D.C.; res. 1637 Roberts Lane, Falls Church, Va.
Chem. engr.; b. Spokane, Wash., July 13, 1914; s. of Marvin A. and Dessie C. Russell; ed. Wash. State Coll., B.S. Ch. Engrg., 1936 (highest honors); U. of Wis., Ph.D. Ch. Engrg., 1941; mem.: Phi Kappa Tau; m. Dolores M. Kopriva, May 17, 1943; ch.: Ann E., John C., David R., Thomas F. The Dow Chem. Co., Midland, Mich., res. chem., 1936-38; U. of Wis., grad. study, 1938-41; Procter & Gamble, Ivorydale, O., chem., engr., 1941-44; U S. Navy, Ordnance Res. Off., 1944-46; chem. engr., Bur. of Ordnance, 1946 to date; U. of Md., instr., 1946 to date. Res. in absorption of butane in gas oil in a bubble-cap tower.; treatment of butane with chlorine. Several patents.

Mem.: Phi Beta Kappa, Tau Beta Pi, Sigma Xi, Phi Lambda Upsilon, Sigma Tau, A.C.S., A.A.A.S. Hobby: golf.

RUSSELL, Earl A., chf. engr., Spaulding Fibre Co., Tonawanda, N.Y.; res. 62 Irving Terrace, Kenmore 23, N.Y.
Chem. engr.; b. Baldwinsville, N.Y., Sept. 26, 1895; s. of Newton E. and Jane A. Russell; ed. Syracuse U., B.S. in Chem. Engrg., 1919; mem.: Tau Beta Pi, Alpha Chi Sigma, Phi Kappa Phi; m. Naoma Fulmer, Aug. 2, 1920; ch.: Beverly (Mrs. Frank L. Crump, Jr.). Solvay Process Co., Detroit, Mich., chem. engr., 1920-23; Spaulding Fibre Co., Tonawanda, N.Y., foreman, 1923-27; sales engr., 1927-40; chf. engr., 1940-50. Mem.: Soc. of Plastics Engrs., A.S.T.M. (D 9 & D 20), N.E.M.A. (advisory tech. comm.; laminated products sect. & vulcanized fibre sect.). Club: Internatl. Torch. Hobbies: photography, yachting.

RUSSELL, Francis Robinett, section hd., process div., Esso Labs., Box 121, Linden, N.J.; res. 14 Bayberry Lane, Mountainside, N.J.
Chem. engrg.; b. Athens, Ohio, Feb. 18, 1911; s. of Kyle D. and Amanda L. Russell; ed. A.B., 1930, U. of Cincinnati (1927-31); M.S., 1932, M.I.T., D.Sc., 1936; mem.: Phi Beta Kappa, Sigma Xi; m. Janet Burt, Nov. 12, 1938; ch.: Kyle B., Beverly Anne, Glenn B. Tchg. asst., U. of Cincinnati, 1930-31; asst. dir., Bangor Station, M.I.T. Schl. Chem. Engrg. Practice, 1933; res. asst., M.I.T., 1934-36; Standard Oil Devel. Co., 1936 to date; at present, section hd., Proc. Res. Sect., Proc. Div., Esso Labs. Kinetics of polymerization, phase relations of hydrocarbons, res. at extreme pressures, devel. of electronic controls, incendiary munitions, cracking of hydrocarbons, gasification of coal and coke. Mem.: A.C.S., A.I.Ch.E., RESA. Club: Lake Mohawk Country. Hobbies: sailing, shooting.

RUSSELL, George Franklin, pres., chmn. bd. of dirs., Russell Engrg. Corp., 2521 Wroxton Rd., Houston 5, Texas; res. 6130 Charlotte, Houston 5.
Consltg. chem. engr.; b. McAlester, Okla., Feb. 11, 1913; s. of Geo. F., Sr. and Edna (Booth) Russell; ed. Southeastern State Coll., Durant, Okla.; 1933-34, U. of Houston, Texas; 1936-39; U. of Okla., 1941-43, B.S.ChE.; Gas Assn. Res. Fellowship, U. of Okla., 1943-44; 1944, M.S.Ch.E.; mem.: Phi Sigma Epsilon; m. Ruth Ella Boehm, May 11, 1935; ch.: Robert Franklin, Carolyn Ruth. 1944-45, U. of Okla., asst. prof. chem. engrg.; 1945-46, Stand. Oil Co. of N.J., Baton Rouge, La., chem. engr.; 1946-47, La. State U., Baton Rouge, assoc. prof. pet. engrg.; 1947-48, Hudson Engrg. Corp., Houston, Texas, process engr.; 1948-49, Consolidated Western Constructors, Inc., Houston, Texas, consltg. engr., mgr. of natural gas & gasoline div.; 1949-50, consltg. chem. engr., Houston, Texas; 1950 to date, Russell Engrg. Corp., Houston, Texas, pres., consltg. chem. engr. Reg. Engr. in Texas & Okla. Fractionation & absorption of hydrocarbons, vapor-liquid equilibria of absorbents (hydrocarbons & glycols) with natural gas at high pressures, water vapor content of natural gases at high pressures. Mem.: Sigma Xi, Tau Beta Pi, Sigma Tau, Alpha Chi Sigma, A.A.A.S., A.I.M.E., A.C.S., N.A.C.E., Natl. Soc. of Prof. Engrs., Texas Soc. of Prof. Engrs. Clubs: Houston Engineers, Presbyterian Men's Club of St. Andrews Church (chmn. of program comm.), Arabia Temple of Shrine (Houston). Hobbies: golf, hunting, fishing.

RUSSELL, John, chem., Eastman Kodak Co., Rochester, N.Y.; res. 16 Meadow Lane, Rochester 18, N.Y.
Chem.; b. Nanaimo, B.C., Canada, July 13, 1899; s. of George and Eliza Russell; ed. B.A., U. of B.C., 1917; M.Sc., McGill U., 1918; Ph.D., 1927; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, 1851 Exhibition Scholar, 1919-21; Governor General's Medal, 1926; m. Ruth V. Fulton, Dec., 1926; ch.: John B., Mary W. 1921-23, instr. in chem., Stanford U.; 1923-28, asst. prof. chem., U. of Western Ontario; 1926 National Res. Fellow. Mem.: A.C.S., A.A.A.S., Am. Electrochem. Soc., Sigma Xi.

RUSSELL, John C., sales mgr., Phila. Quartz Co., 1156 Public Ledger Bldg., Phila. 6, Pa.; res. Yellow Springs Rd., Paoli, Pa., P.O. Box 732.
Sales; b. Cleveland, Ohio, Apr. 10, 1903; s. of A. Curtin and Carrie (Brown) Russell (dec.); m. Lewine Hoefer, Dec. 26, 1934. 1924-41, sales dept., 1942-45 asst. sales mgr., 1946 to date sales mgr., Phila. Quartz Co.

RUSSELL, John Willliam, gen. mgr., Am. Lanolin Corp., Box 1078, Lawrence, Mass.; res. 16 Tavern Rd., No. Andover, Mass.
Textile chem.; b. Lawrence, Mass., Dec. 8, 1896; s. of William Henry and Mary Elizabeth (Haslam) Russell; ed. Lowell Tex. Inst., B.T. Chem., 1920; m. Harriet Frances Marston, Oct. 7, 1925; ch.: Jane. 1922-29, chf. chem., U.S. Worsted Corp.; 1929 to date, chf. chem., conslt., E. Frank Lewis Wool Scouring Co., & gen. mgr., asst. treas., dir., Am. Lanolin Corp. Res. on utiliz. of wool-scouring by-prod., lanolin, wool grease, polution probl. Mem.: A.A.T.Ch.C., A.O.C.S., A.S.M. Trustee and treas. Stevens Mem. Lib.,; trustee, Ridgewood Cemetery Assn. Hobbies: photography, ornithology, fishing.

RUSSELL, Kenneth L., asst. res. dir., res. & dev. dept., Colgate-Palmolive-Peet Co., 105 Hudson St., Jersey City, N.J.; res. 245 Grant Ave., Nutley, N.J.
Asst. res. dir.; b. Youngsville, Pa., July 5, 1910; s. of Lyman L. and Nora (Crippen) Russell; ed. Lebanon Valley Coll., B.S., 1931; N.Y.U., M.S., 1934; Ph.D., 1936; m. Pauline Elizabeth Bennett, Sept. 7, 1936; ch.: James Edwin, Jane Anne. Wash. Sq. Coll., N.Y.U., tchg. fellow, 1931-35; Colgate-Palmolive-Peet Co., res. chem., 1935 to date. Investigation of synthetic detergents in Ger. for fld. information agency tech., off. of tech. serv., U.S. Commerce Dept. Mem.: A.C.S., Amer. Inst. of Chems., A.A.A.S, S.C.C., N.Y. Acdy. of Sc., Sc. Sect. of Toilet Goods Assn. Hobbies: music, photography.

RUSSELL, Laurence Elton, mgr. of prod. dev., Mathieson Chem. Corp., Mathieson Bldg., Baltimore, Md.; res. 6303 Holly Lane Apt. A, Baltimore 12.
Chem. prod. dev.; b. Watertown, N.Y., Mar. 16, 1916; s. of Louis and Rosamond (Miller) Russell; ed. Syracuse U., Syracuse, N.Y., 1934-38, B.S.; mem.: Alpha Chi Sigma; m. Dorothy C. Stack, May 31, 1941; ch.: Jonathan Frank. Chem., St. Regis Paper Co., 1938-39; asst. sulphite supt., 1939-41; chem., Mathieson Chem. Corp., 1941-42; tech. rep., 1942-44; chem. market res., 1944-48; mgr. of prod. dev., 1948 to date. Mem.: Chem. Market Res. Assn. Club: Chemists' (N.Y.). Hobbies: reading, swimming.

RUSSELL, Walter Stokes, gen. mgr., Wollen Chem. & Supply Co., 126-6th Ave., Paterson 4, N.J.; res. 4 Bristol Place, Radburn, Fair Lawn, N.J.
Gen. mgr.; b. Richmond, Va., Jan. 20, 1918; s. of Edwin A. and Elizabeth (Stokes) Russell; ed. Moorestown Friends' Schl.; Lehigh U., B.S. Ch.E., 1940; mem.: Chi Phi, Omicron Delta Kappa; m. Virginia Edwards, Oct. 4, 1944; ch.:

Lynn Flagg. Food Mach. & Chem. Corp., Westvaco Chem. Div., salesman, control chem., night supt. (W.Va. plant), process control engr., asst. purchasing agt. (priorities), Wash. (Fed. Govt.) representative, east. dist. sales mgr., divisional sales mgr. (phosphates) 1940-48; Wollen Chem. & Supply Co., gen. mgr., 1950. Mem.: Salesmen's Assn. of Amer. Chem. Industry. Club: Chemists' (N.Y.C.). Hobbies: golf, home workshop.

RUSSELL, William Walker, prof., chem. dept., Brown U., Providence, R.I.; res. 651 Warren Ave., E. Providence, R.I.
Tchg. & res., anal. chem., catalysis; b. Franklin, Mass., Nov. 25, 1895; s. of William Schouler and Jennie May (Walker) Russell; ed. Brown U., Ph.B., 1918; Sc.M., 1920; Princeton U., M.A., 1923; Ph.D., 1926; m. Amy Harriet Edwards, Aug. 20, 1932; ch.: William Walker, Jr. Sayles Finishing Plants, Inc., chem., 1920-22; Brown U., chem. dept., 1924 to date. Res. heterogenous catalysis, quantitative anal.; publ. in tech. journals. Mem.: A.A.A.A. (fellow), Sigma Xi, A.C.S., A.A.T.C.C.

RUST, John B., v.p., Montclair Research Corp., 4 Cherry St., Montclair, N.J.
Chem.; b. N.Y.C., Dec. 29, 1909; s. of John W. and J. Belle Rust; ed. Yale, B.Sc., 1933; mem.: Theta Xi; m. Mary Pannone, May 15, 1943; ch.: Elizabeth B., Joan P., Mary J. Ellis-Foster Co., chem., 1933-41; Montclair Res. Corp., v.p., 1941 to date. Over 70 issued U.S. pats., many more pending. Co-translator book "Acetylene Chem." to to be publ. in 1950. Mem.: A.I.C., A.Phys.S., A.A.A.S. Hobby: gardening.

RUTENBER, Charles Blackmer, prof. of chem., Elmira College, Elmira, N.Y.; res. 301 Irvine Pl., Elmira, N.Y.
Tchr.; b. Blooming Grove, N.Y., Apr. 14, 1898; s. of Ralph Dudley and Margaret (Gerow) Rutenber; ed. B.Chem., Cornell U., 1921; Ph.D., 1930; m. M. Elizabeth Beckwith, Sept. 2, 1929. Instr., chem. & physics, Blackburn Coll., 1921-24; asst., Cornell U., 1924-28; asst. prof., Kenyon Coll., 1928-34; prof., Huron Coll., 1934-36; prof. Eureka Coll., 1937-38; prof., Springfield Coll., 1938-43; prof., Elmira Coll., 1943 to present. Mem.: A.C.S. Hobbies: bridge, golf.

RUTH, Burrell Franklin, prof. of chem. engrg., Chem. Engrg. Dept., Iowa State College, Ames, Ia.; res. 504 Welch Ave., Ames.
Tchr., chem. engr.; b. Traverse City, Mich., July 21, 1901; s. of Dalvin O. and Edith E. Ruth; ed. Mich. State Coll., B.S., 1923; M.S., 1925; U. of Minn., Ph.D., 1931; mem.: Delta Sigma Phi; m. Louise A. Friis, Aug. 23, 1933. U. of Minn., 1926-37; A.&M. Coll. of Tex., 1937-38; Ia. State Coll., 1938 to date. Mem.: A.S.M.E., A.I.Ch.E., A.C.S., A.A.A.S., A.S.E.E., Francis Bacon Soc. (London). Hobby: res. on the authorship of questioned wk. of lit. of the Elizabethan and Jacobean periods.

RUTHRUFF, Robert F., consltg. chem., chem. engr.; res. 18530 Klimm Ave., Homewood, Ill.
Chem. conslt. & engr., pat. agent; b. Huron, Ohio, July 25, 1902; ed. 1920-27, U. of Mich., B.S. chem., M.S. chem., Ph.D.; mem.: Alpha Chi Sigma, Gamma Alpha, Sigma Xi, Phi Lambda Upsilon. 1927-28, E.I. du Pont de Nemours & Co., res. chem.; 1928-36, Stand. Oil Co. (Ind.), chg experimental cracking & high pressure res.; 1936-39, M.W. Kellogg Co., tech. asst. to v.p.; 1939-48, Sherwin-Williams Co., res. dir.; 1948 to date, consltg. chem., chem. engr. Mem.: A.C.S., A.I.Ch.E., Chem. Soc. (London), S.C.I.

RUTSTEIN, Leo, chem & author, 104 Tennessee Ave., Long Beach, L.I., N.Y.
Chem., res. & writing; b. Yonkers, N.Y.; s. of Abraham and Bertha (DeNeitz) Rutstein; ed. Newark Tech. Schl., 1911-14; Newark Coll. of Engrg., 1914-17; N.Y.U., 1919-20; m. Lillian Pine, May 1, 1917; ch.: Robert Louis, Carol Ann. Asst. chem., Clark Thread Co., J. & P. Coats Co., Newark and Harrison, N.J. and Canada, 1911-13; assoc. edit., "Tech. Cellulose Esters," 1911-36; estab. Rutstein Lab. and Library, 1936 (Newark, N.J.); also Leo Rutstein and Assoc., 1937; in chg. construction smokeless powder plants in U.S. and England, W.W. I; also plants for mfr. cellulose acetate and viscose rayon; perfected meth. for mfr. fine grades of paper, textiles and cordage from wild pineapple fibers; increasing wet and dry strength of viscose rayon by incorp. alpha cellulose prep. from hemp; 1911, worked with Thomas A. Edison on perfecting film made from cellulose formate for "Home Kenetiscope"; also with Dr. Leo Baekeland on "Bakelite"; asst. chf. Wing Coating Sect. Bur. of Aeronautics, assigned to signal corps, U.S.A., 1917-20; sent to Eng., France, Germany, on spec. mission 1918-19, to estab. plants for mfr. cellulose acetate and dopes for airplanes; standardized all plants in U.S., Eng., and France; covered all airdromes at front instructing officers in repairing fabric wings and coatings after use at front, 1917-20. Co-author, "Aviation Chem.," 1914-18 (2 vols.); "Chem. of Aviation" 1914-20 (8 vols.) prep. for U.S., British and French govts. Military Intel. Div., War Dept., W.W. I and II; conslt. to Petroleum Admin. for War and Small War Plants Corp.; lectured on chem. warfare to newly org. def. councils in N.J. Author: "Cellulose Formate," 1912; "Viscosity Nitrocellulose," 1921; "Viscose Artificial Silk," 1912; "Tetrachlorethane," 1923. Editor, "Cellulose Acetate," 1915; "Tech. Cellulose Esters," 1921; "Tech. Cellulose Ethers," 1933. Co-editor, "U.S. Chem. Pats.," 1915-24. Bd. of editors, "Chemical Formulary"; "Cosmetic Formulary"; "Std. Chem. and Tech. Dictionary." Active in refugee rehabilitation and placing foreign scientists. Mem.: A.A.A.S., A.C.S., N.R.C., Spec. Library Assoc., Pi Gamma Mu, Mason 32nd deg., Shriner.

RYAN, Albert O., v.p., Redding Mfg. Co. Inc., 15 River St., Norwalk, Conn.; res. 17 Thames St., Norwalk.
Chem. engr.; b. Covington, Ky., Mar. 21, 1902; s. of Effie M. (Morgan) Revel; ed. U. of Cincinnati, Ch.E., 1927; M.S., 1928; mem.: Tau Beta Pi, Phi Lambda Upsilon; m. Esther M., Sept. 15, 1920; ch.: Albert O., Jr. (M.D.), Lois T. 1928-29, Emery Indust. Inc., Cincinnati, O., dev. engr.; 1929-34, U.S. Rubber Co., gen. lab., Passaic, N.J., dev. engr. new latex prods.; 1934-38, Filatex Corp., Trenton, N.J., res. dir.; 1938-41, Behr-Manning Corp., Troy, N.Y., dev. engr. and latex conslt.; 1941-42, Flintkote Corp., Rutherford, N.J., dev. engr.; 1942-43, Fed. Telephone & Radio Corp., Newark, N.J., Intelin Div., asst. res. dir. & dev. engr.; 1943-44, Acorn Insulated Wire Co., Bklyn., N.Y., factory mgr.; 1944-47, El Dorado Oil Wks., Oakland, Cal., res. dir.; 1947 to date, v. pres. & gen. mgr., Redding Mfg. Co., Inc. Expert knowledge and advanced dev. in fld. of continuous latex processes; rubber thread, latex wire insulation, electrostatic coating with flock; instrumentation in connection with these proc. Mem.: A.C.S., A.I.Ch.E. Hobbies: camera, guns, electronics.

RYAN, Emmett Patrick, chf. chem., Curtis Pub. Co., Independence Square, Phila., Pa.; res. 1440 Westwood Lane, Phila. 31.
Chem. and mgr. (div.); b. Aug. 13, 1902; s. of Thomas G. and Hannah E. Ryan; ed. Poly. Inst., Bklyn., B.S. Chem., M.S. Chem.; mem.: Iota Eta Sigma, Phi Lambda Upsilon; m. Irene McGeough, Sept. 7, 1935; ch.: James Thomas, Paul Emmett.

J.M. Huber Co., Bklyn., N.Y., chem., 1926-31; Eagle Printing Ink Co., Jersey City, N.J., chem., 1931-32; Woodward & Tiernan Printing Co., St. Louis, Mo., chem., 1932-37; Frederic H. Levey Co., Philadelphia, Pa. chem., 1937-39; Curtis Pub. Co., Phila., Pa. chf. chem., 1939 to date. Mem.: A.C.S., Franklin Inst. (Phila.). Clubs: Overbrook Golf, Down Town. Hobbies: golf, bowling.

RYAN, George H., tech. dir., The White & Bagley Co., Worcester, Mass.; res. 22 Prospect St., Millbury, Mass.
Chem.; b. Millbury, Mass., Feb. 27, 1887; s. of Herbert A. and Mary (Colburn) Ryan; ed. Worcester Polytech. Inst., 1908; mem.: Sigma Xi; m. Dorothy Park, 1916; ch.: Mary Lydia, Dorothy Lovell, Ethel Miriam. Engaged for a time in assay and analytical wk. with old Boston & Montana Smelter, Great Falls, Mont.; connected also with The McCord Mfg. Co. of Detroit, Mich. and Gen. Elec. Labs. in Pittsfield, Mass.; active for a time in sheep-raising indus. of the Northwest; 1926 to date, with The White & Bagley Co. of Worcester, Mass. Reg. Prof. Engr. (Mass.). Mem.: A.C.S., A.A.A.S., A.S.T.M., Worcester Engrg. Soc., Millbury Baptist Ch., A.F.&A.M.

RYAN, Leo E., exec. v.p., Monsanto (Canada) Ltd., Box 6103, Montreal, P.Q., Can.; res. 20154 Lakeshore Road, Baie D'Urfe, P.Q., Canada.
Chem. engr.; b. Montreal; s. of Leo G.; ed. Selwyn House Schl., Coll. Ste. Marie, Loyola Coll. & McGill U.; B.Engrg., 1932, Montreal, P.Q.; mem.: Delta Kappa Epsilon; m. Madeleine Surveyer, July 9, 1936; ch.: Leo Arthur, Elizabeth Ann Eileen, Donal Patrick, Mallinckrodt Chem. Wks., Ltd., Toronto & Montreal, 1931-44, left as dir. in chg. of mfg.; Monsanto Canada Ltd., 1945 to date; successively dir., v.p. & dir., & exec. v.p. Wingate Chem. Co. Ltd., Montreal, P.Q. (v.p., dir); Betz Labs. Ltd., Montreal, P.Q. (pres., dir.); Sunnyside Investments Ltd., Montreal, P.Q. (secy., dir.). Mem.: A.I.Ch.E., A.C.S., Canadian Inst. of Chem. (fellow), S.C.I. Clubs: Montreal Amateur Athletic Assn., Beaconsfield Golf. Hobbies: fishing, golf.

RYAN, Lonnie Watterson, tech. conslt., 432 W. 45th St., New York 19, N.Y.; res. 932 Woodmere Dr., Westfield, N.J.
Chem.; b. Monongalia County, West Va., Dec. 6, 1887; s. of Waitman T. and Sarah Elizabeth (Martin) Ryan; ed. B.S., W. Virginia U., 1911; M.S., The U. of Chicago, 1914; mem.: Sigma Nu, Theta Nu Epsilon, Sphinx, Mountain; m. Jane Garges, Feb. 26, 1916; ch.: Barbara Jane, Donald Alan. Res. chem., The Lindsay Light Co., Chicago, 1914-19; chf. chem., 1919-23; res. chem., Titanium Pigment Co., Niagara Falls, N.Y., 1923-28; dir. res., Brooklyn, N.Y., 1928-32; dir. res., United Color & Pigment Co., Newark, N.J., 1932-35; tech. dir., 1935-44; mgr. physical dept., Interchemical Corp. Res. Labs., 1944-49. Technical conslt., 1949 to present. Civilian with A.E.C., O.S.R.D., U.S.N. Titanium, zirconium, theoriom, rare earths, triphenylmethane dyes, iron pigments, colored pigments, lithopene, surface chem., general physics, paints, inorganic chem. Mem.: A.A.A.S., A.C.S., Amer. Physical Soc., A.S.T.M. Clubs: Echo Lake Country (Westfield, N.J.). Hobbies: music, gardening.

RYAN, Victor A(nthony), dir. res., Crown Cork & Seal Co., Baltimore 3, Md.; res. 1506 E. 33rd St., Baltimore 18, Md.
Res. dir., field of physical-org. chem.; b. Wilmington, Del., Apr. 15, 1893; s. of Edward P(aul) and Charlotte V.M. (Williams) Ryan; ed. Drexel Inst. of Art, Sc., and Indus., Phila., Pa., graduate in chem., 1916; m. Marie M(argaret) Ryan, Nov. 29, 1916; ch.: Victor J(oseph) and Margaret M(arie). Chem., E.F. Houghton Co., Phila., Pa., 1916-17; chf. chem., Marden, Orth & Hastings Corp., Chicago, Ill., 1917-20; res. dir., Irvington Varnish & Insulator Co., Irvington, N.J., 1920-30; res. dir., Durium Prods., Inc., New York City, 1930-33; conslt. chem., self employed, Phila., Pa., 1933-36; dir. res., Crown Cork & Seal Co., Inc., Baltimore, Md., 1936 to present. Res. in dev. of sheet, compound & liquid elec. insulating matls.; food & beverage liners and closures; pet. lubricants and additives; org. metal and paper coatings; res. in ultraviolet and infrared absorption spectroscopy and spectrophotometric measurement of color, also in ultrasonics and vapolytic deposition of metals. Author: "Some Geographic and Economic Aspects of the Cork Oak," 1948. Mem.: A.C.S., A.A.A.S., Amer. Intl. Acdy. (chmn., sec. on chem., 1942-44; trustee 1942-45), Amer. Soc. Lubrication Engrs. (chmn. Baltimore Sec., 1948-49; Natl., dir., 1949 to present). Hobbies: bridge, translation of tech. German, conversational German and Spanish.

RYBOLT, Charles Henry, sales mgr., Lucidol Div., Novadel-Agene Corp., 1740 Military Rd., Buffalo 5, N.Y.; res. 255 Zimmerman Blvd., Kenmore 17, N.Y.
Chem. engr., tech. sales; b. Cincinnati, O., May 3, 1912; s. of Alva and Mary E. (Green) Rybolt; ed. chem. engr., Rensselaer Polytechnic Inst., Troy, N.Y., 1934; m. Helen Berger, June 5, 1937; ch.: Barbara Lee. Metall. res., Armco Steel Corp, Middletown, O., 1931-35; chem. engr., Crystal Tissue Co., Middletown, O., 1935-41; sales engr., Wallace & Tiernan Co., Inc., Belleville, N.J., 1941-43; chem. engr., Wallace & Tiernan Products Inc., Belleville, N.J., 1943-46; sales mgr., Lucidol Div., Novadel-Agene Corp., 1946 to date. Mem.: A.C.S., Comm. Chem. Dev. Assoc., Society of Plastics Ind., Sigma Xi, Am. W.W.A.

RYDSTROM, Arthur Gordon, assoc. of Claude K. Boettcher, 828 17th St., Denver 2, Colo.; res. 3901 S. Gilpin St., Englewood, Colo.
Banker, exec.; b. Boston, Mass., Dec. 24, 1905; s. of Alvah W. and B.M. Rydstrom; ed. A B., Dartmouth, 1929; mem.: Delta Kappa Epsilon; m. Harriett L. Lowry, Oct. 23, 1931; ch.: Carolyn Clay, Donald Hooper. Bankers Trust Co., N.Y.C., 1929-49, v.p.; trustee, U. of Denver, v.p. & trustee, Boettcher Foundation. Am. Crystal Sugar, Denver Dry Goods, Denver Tramway Corp., Denver Natl. Bank, Ideal Cement Co., Potash Co. of Am., Lowry and Company, Inc., N.Y.C.; pres. & dir., Ritz-Carlton Corp., Court House Sq. Corp. Clubs: Denver (Denver, Colo.), Denver Country (Denver), Country (Denver), Cherry Hills Country (Denver), Down Town Assoc. (N.Y.C.). Hobby: golf.

RYLAND, Edward, v.p. (retired) Virginia-Carolina Chem. Corp., 401 E. Main St., Richmond, Va.; res. 4024 Chevy Chase St., Richmond, Va.
Retired exec.; b. King & Queen Co., Va., July 5, 1880; s. of Josiah, Jr., and Lucy O. (White) Ryland; ed. Va. Mil. Inst., 1901; mem.: Kappa Alpha; m. Kathleen Winston, Dec. 15, 1920; ch.: Josiah, Patsy Marshall, Kathleen W. Chem., 1901-04; acidmaker, 1904-06; supt. 1906-09; travelling acidmaker, 1909-17; dir. mgr. 1917-34; gen. mgr. 1934-39; v.p. 1939-50; retired July, 1950, Virginia-Carolina Chem. Corp.; dir., 1949-50, Va.-Carolina Chem. Corp.; dir., 1949 to date, Algonquin Chem. Co. Club: Hermitage Country. Hobby: golf.

RYLAND, Garnett, prof., chem. (emeritus), U. of Richmond, Richmond, Va.
Chem.; b. Lanefield, King & Queen Co., Va.; s. of Charles Hill and Alice (Garnett) Ryland; ed. Richmond Coll., M.A., 1892; Johns Hopkins U.,

Ph.D., 1898; mem.: Phi Gamma Delta; m. Lewolla Payne, Dec. 21, 1909; ch.: Mary McClintock, Charles Hill, Alice Garnett, Payne, Hannah. U. of Me., assoc. prof. chem., 1898-1901; Converse Coll., S.C., prof., 1901-03; Georgetown Coll., Ky., prof., 1903-17; U. of Richmond, Va., prof., 1917-45, prof. emeritus, 1945 to date. Res. on liquid mixtures of constant boiling points. Mem.: Va. Acdy. of Sc. (pres., 1929), A.C.S., A.A.A.S., Phi Beta Kappa, Chem. Soc. of London (Brit.). Trustee, Va. Union U. Hobby: hist. of chem.

RYZNAR, John William, tech. dir., Nat. Aluminate Corp., 6216 W. 66th Place, Chicago 38, Ill.; res. 425 N. Catherine Ave., La Grange Pk., Ill.
Chem.; b. Sharpsburg, Pa., May 27, 1912; s. of Thomas and Caroline Ryznar; ed. Kent State U., B.S. in Ed., 1934; O. State U., M.S., 1935; Ph.D., 1937; mem.: Gamma Alpha; m. E. Virginia Steger, Aug. 15, 1937; ch.: Carolyn Lucille, Marilyn Jane. Nat. Aluminate Corp. fellowship, 1937; res. chem. 1937; asst. dir. res.; dir. res. to date. Contrib. to numerous pubs. and pats. in fld. of indus. water treating problems, corrosion, foaming, scale prevention, colloids. Mem.: Sigma Xi, A.C.S., N.A.C.E. Hobbies: painting, woodcarving, photography, music, reading, poker, fishing, hunting.

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SABINE, David B., asst. secy., plant supt., Arlington Chem. Co., Yonkers 1, N.Y.; res. 484 Hawthorne Ave., Yonkers 5.
Chem.; b. Wakefield, Mass., June 28, 1902; s. of Edward D. and Elizabeth (Hulburd) Sabine; ed. Tufts Coll., Medford, Mass., B.S. in Chem., 1924; mem.: Theta Delta Chi; m. Alma Hopkins, June 4, 1926; ch.: Mary D.L. Arlington Chem. Co., chem. 1925, chf. anal. chem. 1926, chf. mfg. chem. 1936, chf. chem. & plant supt. 1942, asst. secy. 1943-50. Mem.: A.C.S., Metropolitan Microchem. Soc. (past pres.), S.A.B., N.Y. Acdy. of Sc., I.F.T., A.A.A.S.

SACHS, Albert Parsons, consulting chem., 314 W. 100th St., New York 25, N.Y.; res. same.
Consulting chem.; b. Brooklyn, N.Y., June 12, 1892; s. of Louis Semon and Julia Schapiro Sachs; ed. "Chemist" Columbia U., 1913, M.A., 1915; divorced; ch.: Alberta Saletan (married). Plant supt., Aetna Explosives Co., Noblestown, Pa., 1915; chf. chem., Central Research Lab., Aetna Explosives Co., N.Y., 1916-17; chf. chem., Stubner Chem. Wks., Elizabeth, N.J., 1917-18; chf. chem., Organic Salt & Acid Co., Newark, N.J., 1918-19; tech. dir., Byron-Heffernan Co., Bayway, N.J., 1920-21; conslt. since 1921. Inventor of Hippuran (for x-ray visualization of the urinary tract), numerous pats. in chem. and pet. tech., inventor of Larvex (mothproofing agent). Mem.: Licensed prof. engr., N.Y. State, Assn. of Consulting Chems. and Chem. Engrs. (past pres.), A.I.C. (fellow), A.C.S. (life member), Soc. of Chem. Ind. (Great Britain), Chemical Soc. (London), Swiss Chem. Soc. (life member), Société Chimique de France (life member). Hobbies: chess, stamp collecting, rare books.

SACHS, George, v.p., Horizons, Inc., 2891 E. 79th St., Cleveland, Ohio; res. 2177 S. Overlook Rd., Cleveland.
Metallurg., mech. engrg.; b. Moscow, Russia, Apr. 5, 1896; ed. Engrg. Schl., Berlin, Germany, Dipl. Ing., Dr. Ing.; mem.: Sigma Xi, Tau Beta Pi. About 10 books, 200 papers (physics of metals, physical metallurgy, metals processing). Mem.: A.I.M.E., A.S.M.E., S.E.S.A., Inst. of Metals (London).

SACHS, Walter E., investment banker, 30 Pine St., N.Y.C.; res. 49 East 80th St., N.Y.C.
Banker; b. N.Y.C., May 28, 1884; s. of Samuel and Louise (Goldman) Sachs; ed. Harvard Coll., A.B., 1904; partner, Goldman Sachs & Co.; dir., Merck & Co. Inc., Lehn & Fink Prods. Corp.; May Dept. Stores Co.; Barker Bros. Inc.; Brown Shoe Co. Inc.

SADTLER, Philip, pres., Samuel P. Sadtler & Son, Inc., 2100 Arch St., Phila. 3, Pa.; res. 115 W. Springfield Ave., Chestnut Hill, Phila.
Consltg. chem., chem. engr.; b. Flourtown, Pa., July 19, 1909; s. of Samuel S. and Helena (Sachse) Sadtler; ed. Lehigh U., 1934, B.S.C.; m. Gurney Thomas, 1940; ch.: Joanna, Philip B., Samuel P. Sadtler & Son, Inc., 1934 to date. As a consltg. chem., many types of problems have been solved, such as the investigation of the smog in Denora, Cleveland, Ohio, Tampa, Fla.; res. on foods, beverages, whiskey, fermentation, plastics, textiles, lacquers, asphalts, pet., paper, infrared & micro chem. Author: "Catalog of Infra-red Spectrograms," 1947 to date. Mem.: A.C.S., A.O.C.S., A.A.T.C.C., T.A.P.P.I., Franklin Inst., A.C.C.L., A.S.T.M., Prof. Engr. State of Pa. Clubs: Rotary (Phila.), Chemists'. Hobbies: photography, golf, bowling, stamps.

SAGE, Bruce Hornbrook, prof. chem. engrg., Calif. Inst. Tech., 1201 E. Calif. St., Pasadena, Calif.; res. 3216 Mt. Curve Ave., Altadena, Calif.
Prof. chem. engrg.; b. State Coll., New Mex., Nov. 24, 1909; s. of Archibald Bruce and India June Hornbrook Sage; ed. St. Coll., New Mex., B.S. Chem. Engrg., 1929; Calif. Inst. Tech., M.S. Chem. Engrg., 1931; Ph.D. Mech. Engrg., 1934; m. Ruth Field Herron, Oct. 7, 1944. Calif. Inst. Tech., teach. fellow, mech. engrg., 1930-34; res. fellow. chem. engrg. 1934-35; sr. fellow, chem. res. 1935-37; asst. prof. 1937-39; assoc. prof. chem. engrg. 1939-44; prof. chem. engrg. 1944 to date. Naval Ord. Test Sta., Inyokern, China Lake, Calif., hd., explos. dept., 1945-49; assoc. dir., engr., 1949 to July, 1950, sr. conslt., July, 1950 to date. Appl. res. in thermody. of pet., propellants, high explos.; proc. dev. of propellants and high explos.; rocket ordnance dev.; applied res. material and thermal transfer. Co-author many sc. publs.; "Volumetric and Phase Behavior of Hydrocarbons," 1939; "Theromodyn. Prop. of the Lighter Hydrocarbons," A. Pet. Inst. 1950. Mem.: A.I.M.E., A.I.Ch.E., A.C.S., Calif. Nat. Gas Assn., Tau Beta Pi, Sigma Xi. Awards: M. Merit, Ord. 1948, A.C.S., Precision Sc., Pet. Chem. 1949.

SAGER, DeWitt Dunn, asst. chf., tech. div., res. and chem., Picatinny Arsenal, Dover, N.J.; res. Qtrs. 1109, Picatinny Arsenal, Dover.
Chem.; b. Franklin, Pa., June 27, 1901; s. of Albert T. and Florence A. Sager; ed. McPherson Coll., B.S., 1922; Mich. State Coll., M.S., 1925; mem.: Sigma Alpha Epsilon; m. Estelle Marie Amberik, Dec. 27, 1947. H.S., Coldwater, Kans., prin. 1922-23; Mich. State Coll., grad. asst. 1923-25; H.S., Lansing, Mich., sc. teacher, 1925-27; Jr. Coll., Chariton, Ia., hd. chem. dept. 1927-29; Picatinny Arsenal, res. chem. 1929-40, chf. res. sect. 1940-42, chf., chem. res. subsect. 1942-45, chf., gen. lab. sect. 1945-48, asst. chf., tech. div., testing & material, 1948-50, res. and chem. 1950 to date. Res. on nitrocellulose, explosives, ingredients of propellants. Mem.: A.A.A.S., A.C.S., A.I.C. (fellow), A.S.T.M., Amer. Ord. Assoc. Morris County Engr. Award: Meritorious serv. (1944), Certificate of commendation as mem. of mission on German and Italian explosives (1945). Clubs: N.J. S.A.E. Alumni Assn., Hub. Rifle & Pistol, Morris & Sussex Shrine. Hobbies: smallbore rifle shooting, hunting.

SAGUE, Mary Louise Landon (Mrs. James Edward), prof. chem., chmn. dept., Vassar Coll., Poughkeepsie, N.Y.; res. 42 Barnard Ave., Poughkeepsie.
Prof. chem.; b. Burlington, Vt., Sept. 29, 1885; d. of Sealand Whitney and Helen Frank Weeks Landon; ed. schls. Burlington, Vt., Bordentown, Trenton, N.J.; Vassar Coll., A.B., 1907; Col. U., A.M., 1914; Ph.D., 1920; mem.: Sigma Xi; m. James Edward Sague, June 14, 1928; ch.: Isobel Sague Carter (stepdau.). Teacher, H.S., Bordentown, N.J. 1907-08; asst., dept. chem., Vassar, 1908-10; instr. 1910-13; 1914-17; asst. prof. 1919-24; assoc. prof. 1924-28; prof. 1928 to date; chmn. dept. 1924 to date. Mem.: A.C.S., A.A.A.S. (fellow), Biochem. Soc. (England), A.I.C. (fellow), N.Y. Acdy. Sc., A.A.U.P. Honorary D.Sc., Middlebury Coll. (Vt.); held fellowship, Vassar, Columbia while grad. stud. Trustee: Vassar Bros. Hosp., mem. comm. Schl. Nursing of Hosp.; mem. bd. dirs. Assoc. Alumn. Vassar Coll., Fam. Welfare Assn. Club: Garden. Hobbies: gardening, philately.

SAHYUN, Melville, dir. and owner, Sahyun Res. Labs., 316 Castillo St., Santa Barbara, Calif.; res. 1425 Bath St., Santa Barbara.
Chem.; b. Beirut, Lebanon, June 2, 1895; s. of Dr. Faris and Neffajeh Sahyun; ed. Amer. Univ., Beirut, 1916; M.S., Stanford U., 1929; Ph.D., 1930; two Stanford U. fellowships, 1929, 1930; mem.: Sigma Xi; m. Geraldine V. Valde, May 6, 1935; ch.: Melville Richard. 1916-19, instr., Amer. U. at Beirut; 1919, apptd. to Secretariat of Commandant of Brit. Mediterranean Navy (Army and Navy of Occupation); thereafter transf. and took chg. of English corresp. of S/S Prince Line Agency of Beirut; 1920, went to Cairo, Egypt and engaged in literary wk.; came to U.S. summer, 1923; 1923-28, biochem. investigations on insulin and cancer, Santa Barbara Cottage Hosp., dur. which time pub. 12 sc. papers on insulin and carbohydrate metab. and dev. one of earliest and most accurate meths. for standardization of this hormone; after rec. M.S., 1929, wkd. under Dr. Carl L. Alsberg (former Chf. of Bur. of Chem. in Wash.), dir. of F.R.I. and rec. Ph.D. in biochem. and phys.; apptd. res. assoc. of F.R.I. of Stanford U., 1931; 1934 apptd. dir. of biochem. res., Frederick Stearns and Co., where he dev. first commercial proc. for mfr. of crystalline insulin; also dev. two prolonged acting insulins; 1943 apptd. dir. of res. at Frederick Stearns & Co., under his dir. a new Org. Res. Dept., Pharmacolog. Res. Dept., Bacteriolog. Res. Dept. and Pharmaceut. Res. Dept. were created; apptd., 1944, v.p. Sterling Drug, Inc. and dir. of res. of Frederick Stearns and Co. Div.; now chem. conslt. to the Dow Chem. Co., Midland, Mich.; Cutter Labs., Berkeley, Calif., and The Trubek Labs. Inc., East Rutherford, N.J. Editor and author of "Outline of the Amino Acids and Proteins," and of 'Proteins and Amino Acids in Nutrition," both pub. by Reinhold Pub. Corp., N.Y.; also author of more than fifty sc. papers on such subjs. as insulin, carbohydrates, proteins, amino acids, enzymes, etc. Res. in crystallization of insulin, dev. of iron preps. for anemia, res. in org. synth. on anesthetics, antihistaminics and vasoconstrictors; also dev. of amino acids for parenteral use in man. Mem.: A.C.S., S.E.B.M., Sigma Xi, fellow, A.A.A.S. In 1949, estab. Sahyun Res. Labs., Santa Barbara, Calif. Became a naturalized U.S. cit., 1929. Club: Chemists' (N.Y.C.). Hobby: gardening.

ST. JOHN, Ancel, sr. abstractor, Library of Congress, Wash. 25, D.C.; res. 3915 7th St. S., Arlington 4, Va.
Physicist, professional engr.; b. Plainfield, N.J., June 20, 1882; s. of Edward and Eliza (Rhees) St. John; ed. U. of Rochester, 1902-06, Ph.B. 1906, Phi Beta Kappa; Columbia U., 1909-10; Clark U., 1912-17, Ph.D. 1917; mem.: Alpha Delta Phi; m. 1. Edith Almond (dec.), July 3, 1909; 2. Mabel Hale, Sept. 1, 1933. 1906-09, instr. in chg. of physics dept., Syrian Protestant Coll.; 1909-10, asst. in physics, Columbia U.; 1910-12, acting prof., Emory & Henry Coll.; 1912-17, instr., Worcester Polytech. Inst.; 1917-18, prof., Lake Forest Coll.; 1918-24, res. physicist, Carbide & Carbon Res. Labs.; 1924-43, consltg. physicist & physical metallurgist; 1930-33, pres., St. John X-Ray Serv. Corp.; 1931 to date, licensed professional engr. N.Y.; 1933-43, v.p. & consltg. engr., St. John X-Ray Serv., Inc., 1943 to date v.p.; 1943-48, metallurgist, Ordnance Dept., U.S.A.; 1948 to date, sr. abstractor, Library of Congress. Discovered pseudographite, dev. x-ray diffraction meths. of chem. anal., est. competence of such meths. in pat. litigation, dev. techniques & specs. for inspecting fusion welded pressure vessels now approved. Co-author: "Indus. Radiography" 1st edit. 1934; "Indus. Radiology" 2nd edit. of I, 1943; author: "Photoelements & their Applications," 1938. Mem.: Phi Beta Kappa, Sigma Xi, A.S.M., A.I.M.E. (past mem.), A.S.M.E., A.S.T.M. Hobby: gardening.

SALATHE, Albert, expert philatelist, retired chem. and engr., 415 Kress Bldg., Long Beach 12, Calif.; res. same.
Dealer postage stamps for collectors; b. N.Y.C., Nov. 1, 1887; s. of Matthew and Augusta (Baker) Salathe; ed. A.B., 1910, A.M., 1912, Colgate U.; Ph.D., chem. and physics, U. of Chicago, 1922; mem.: Phi Delta Theta; m. Sophia C. Erka, June 28, 1917. Athletic coach and tchr. German and math., Ashtabula H.S., Ohio, 1910-11; lab. instr. in inorg. chem., Columbia U., 1911-12; instr. in chem., Union Coll., Schenectady, N.Y., 1912-19; asst. in chem., U. of Chicago, 1919-20; prof. of chem., Albany Coll. of Pharmacy, Albany, N.Y., 1920-21; prof. of physics, Iowa Wesleyan Coll., Mt. Pleasant, Iowa, 1922; prof. of sciences, Centenary Coll. of Louisiana, Shreveport, La.; prof. of chem., Sweet Briar Coll., Va., 1922-24; hd. chem. engineering, Syracuse U., Syracuse, N.Y., 1927-37; traveling res. coordinator, Brown Company, Portland, Maine, 1937-38; organized corporations in Wall Street, 1938-40; stamp dealer in Long Beach, Calif., 1940 to date; lectured in chem. engineering at U.C.L.A. 1942; secy., Organic Products Corp., Schenectady, 1916-19. Res. in absorption spectra, thallium, pet., water, milk. Contrib. extensively to sc. and tech. jls. Mem.: Phi Beta Kappa, Sigma Xi, Alpha Chi Sigma, Pi Kappa Delta, A.C.S. (emeritus), A.I.C. (fellow), officer in local sections A.C.S. Dir., Long Beach Assn. of Phi Beta Kappa, past pres. and councillor L.A. chapt. of A.I.C. Clubs: Syracuse U. Faculty, Syracuse Stamp, Long Beach Stamp Collectors'. Hobbies: stamp collecting, contract bridge, travel.

SALLEY, Donovan Joseph, asst. dir., res. div., Am. Cyanamid Co., 1937 W. Main St., Stamford, Conn.; res. Wire Mill Rd., Stamford.
Physical chem.; b. Red Lake Falls, Minn., Dec. 4, 1905; s. of Joseph and Ida Salley; ed. B.A., N. Dak., 1927; fellow, 1927-28; M.S., 1928; fellow Princeton, 1932; Ph.D., 1932; mem.: Tau Sigma Rho; m. Helen B. McLaughlin, Sept. 15, 1941; ch.: Stephen Jonathan. Tech. staff, Bell Tel. Labs., 1928-29; asst., Princeton U. 1929-31; Plaut fellow 1931-32; Text. Foundation, fellow, 1932-35; res. assoc., M.W. Kellogg Co., N.J., 1935-36; physical chem. Am. Cyanamid Co., 1936 to date. Mem.: A.C.S., A.Phys.S., Alpha Chi Sigma, Sigma Xi, Phi Beta Kappa, A.A.A.S.

SALLS, Dr. Carroll M(organ), high explosives unit, indust. div., Off. Chf. of Ord., Washington 25, D.C.; res. 504 Bashford Lane, Alexandria, Va.

Chem. engr.; b. Burlington, Vt., Dec. 19, 1893; s. of Horace R. and Annette M. Salls; ed. U. of Vt., B.S. in Chem., 1916; McGill U., Indust. fellow 1920; Columbia U., Goldschmidt fellow 1922, Ph.D. in Chem. Engrg., 1923; mem.: Sigma Xi; m. Barbara C. Davison, 1934. Miller Rubber Co., Akron, O., anal. chem. 1916-17; Canadian Explosives, Ltd., Beloeil, P.Q., plant supvr. & res. chem. 1917-19; N.Y. State Labor Dept., N.Y.C., chem. engr., indust. health hazards, 1923-28; Amer. Cyanamid Co., N.Y.C., res., dev., tech. exec. 1928-33; consltg. chem. engr., Cranford, N.J. (plastics, waxes, resins) 1933-42; Off., Chf. of Ordnance, Wash., D.C., chem. engr. 1942-50. Res. in prod. engrg. dev. of R.D. compositions as mil. explosives. Mem.: A.C.S., A.O.A., Citation for meritorious civilian serv. Club: Chemists' (N.Y.).

SALTER, William Thomas, M.D., prof. of pharmacology, Yale University, New Haven, Conn. Prof. of pharmacology; b. Dec. 19, 1901, Boston, Massachusetts; s. of William T.H. and Frances B.F. (Patten) Salter; ed. Harvard U., B.A., 1922, M.D., 1925; Yale U., M.A. (Priv.), 1941; m. Eleanor Vallandigham, June 27, 1935; ch.: Frances V., Eleanor C., Katharine C. Med. intern at Mass. Gen. Hosp., 1925-27; med. resident, same hosp., 1927-28; Research Fellow there, 1927-28; Moseley Traveling Fellow, Harvard U., 1928-29, and Research Fellow in Med., 1929-32, tutor in biochem. scs., 1929-39; from 1929-39 assoc. physician, Huntington Memorial Hosp.; 1932-36 junior assoc. in med. at Peter Bent Brigham Hosp., becoming assoc. in med., 1937; Research Fellow in biochem., Harvard Cancer Commis., 1929-39, and faculty instructor in med., 1932-34; asst. prof. of med., 1934-41 at Harvard Med. Schl.; 1939-41 assoc. physician at Thorndike Memorial Lab.; 1939-41 jr. visiting physician at Boston City Hospital; in 1941 apptd. prof. of pharmacology, Yale U. Thyroid chem., acidbase metabolism; calcium and phosphate metabolism; vitamin deficiency; hormones and enzymes in cancer chem.; carbohydrates in nutrition; chem. of proteins in relation to disease; endocrine function of iodine; action of drugs; these studies resulted in pub. of over 110 papers. Author: "The Endocrine Function of Iodine"; "Pharmacology for Physicians and Medical Students" (textbook) to be pub. by Saunders & Co. Mem.: Amer. Acdy. of Arts & Sciences; A.A.A.S.; Amer. Assoc. for Cancer Research; Amer. Assoc. for the History of Medicine; A.C.S.; Amer. Coll. of Physicians; Amer. Inst. of Nutrition; A.M.A.; A. Physiol. S.; Amer. Soc. Clinical Investigation; Assoc. of Amer. Physicians; Assoc. for the Study of Internal Secretions; Amer. Soc. for Pharmacology & Experimental Therapeutics; Biochem. Soc. (English); Classical Assoc. of New England; History of Science Soc.; Mass. Med. Soc.; Conn. State Med. Soc.; N.Y. Acdy. of Scs.; Soc. for Experimental Biology and Medicine; Soc. of Pharmacology & Therapeutics of the Argentine Med. Assoc., Argentina, S.A. (honorary mem.); U.S. Pharmacopoeia; Alpha Omega Alpha; Phi Beta Kappa; Sigma Xi. Clubs: Harvard, Classical, University, New Haven Graduate, Faculty of New Haven. Chmn., com. on Scope, United States Pharmacopoeia.

SALVESEN, Jorgen Richter, dir. of Central Res., Marathon Corp., Rothschild, Wis.; res. 1033 Graves Ave., Wausau, Wis. Chem.; b. Bergen, Norway, Dec. 30, 1901 (U.S. cit. naturalized 1936); s. of Jörgen Richter and Ragnhild (Richter) Salvesen; ed. Norwegian Inst. of Tech., Trondheim, Norway, 1924 (Diploma Chem. Engrg., (equiv. to M.S.); m. Gunvor Eberhardt, 1932; ch.: Arne Richter, Leif Richter. 1925-26 chf. chem. Norwegian Govt. Gun Factory; 1927 res. asst. U. of Oslo, Norway; 1927-30 fellow, Scandinavian-Amer. Foundation; 1930-42 chf. res. chem. Marathon Corp., Rothschild, Wis.; 1943-49 dir. of res. Chem. Div., same co.; 1950 to date dir. of Central Res. same co. Res. in wood and lignin utilization; vanillin; tanning agents; dispersing agents; boiler water cmpds.; rubber cmpds.; cement additives; fine chems.; acetovanillone. Contrib. numerous arts. to sc. jls. holds sev. pats. and others are pending on above mentioned subjs. Mem.: A.C.S., A.A.A.S, T.A.P.P.I., Am. Leather Chemists Assoc., Am. Forestry Assoc. Club: Wausau.

SAMARAS, Nicholas N.T., central res. dir., Monsanto Chem. Co., Dayton, Ohio; res. 10 Wisteria Dr., Dayton 9. Chem., chem. engr.; b. Greece, Oct. 15, 1906; s. of Triantaphyllos and Helena Samaras; ed. Greek Gymnasium; Case Inst. of Tech., B.S., chem. engrg., 1927; Yale U., Ph.D., 1931; m. Emily Virginia Weisheit, Dec. 25, 1935; ch.: Nicholas Weisheit, Ellen Virginia, Claire Irene. 1931-34, hon. fellow, Yale U.; 1934-36, res. chem., Thomas & Hochwalt Labs. Inc., Dayton, Ohio; 1936-42, group leader, Monsanto Chem. Co., central res. dept., Dayton; 1942-44, asst. dir. & 1944-50, dir. of res., plastics div., Springfield, Mass.; 1950 to date, central res. dir. Shawinigan Resins Corp., Shawinigan, Mass., mem. of exec. comm. & bd. of dirs., 1944 to date. Fundamental investigations in pure sc. during university yrs.; many indus. contribs.; closely associated with dev. of Monsanto's "Santomerse" series of wetting-out agents & detergents; with lab. & pilot plant dev. of a process for prod. of monomeric styrene culminating in the Texas City plant; improved processes for styrene polymerization; processes for prod. of monomeric vinyl chloride as well as polymers & copolymers; dev. of new melamine resins for applications in textile, laminating & coating flds.; improved phenolic resins for molding powders in special applications; thermoplastics of materially improved properties; physical behavior of plastic compositions; theories of plasticization & polymer degradation. During W.W. II, active on many important projects & cited for contribs. to atomic bomb dev. & to the Off. Q.M.G. Many publs. & pats. on catalysis, detergents & plastics. Mem.: Tau Beta Pi, Sigma Xi, A.C.S. (past chmn. & councilor, Dayton Sec.), A.A.A.S. (fellow), S.C.I. Clubs: Chemists' (N.Y.), Reality (Springfield, Mass.). Hobbies: stamps, photography, music.

SAMPEY, John Richard, prof. chem., Furman U., Greenville, S.C.; res. 8 Nona St., Greenville. Teacher; b. Louisville, Ky., Aug. 5, 1896; s. of John R. and Annie (Renfroe) Sampey; ed. U. of Chicago, S.B., 1920; S.M., 1921; Ph.D., 1923; mem.: Sigma Xi, Gamma Alpha, Alpha Epsilon Delta; m. Jewell Cheatham, Sept. 4, 1925; ch.: John R., III, Jane Renfroe. Grad. asst., U. Chicago; Grafflin Scholar, Johns Hopkins U.; assoc. prof., prof., Howard Coll.; A.P.I. (fellow); prof., chem., Furman U. Author: numerous papers contrib. to sc. & tech. jls. Mem.: A.A.A.S. (fellow), A.C.S., A.A.U.P., S.C. Acdy. of Sc., Res. Offrs. Assn. Hobbies: travel, feature article writing.

SAMPSON, Arthur Haskell, New England mgr., Calco Chem. Div., Amer. Cyanamid Co., 35 Hartford St., Boston, Mass.; res. 10 Indian Hill Rd., Belmont, Mass. Exec.; b. Gorham, Me., Sept. 15, 1885; s. of Albert H. and Lucy J. Sampson; ed. U. of Me., B.S., 1907; m. Lillian Pearl Diffin, Aug. 11, 1915; ch.: Lucy, Arthur, Jr. Asst. chem., Wood Worsted Mills, Amer. Woolen Co.; chem., Globe and Fulton Mills, Amer. Woolen Co.; hd. chem., Cleveland Worsted Mills; present position since July 1, 1917. Mem.: Amer. Assn. Textile Chems. Colorists (charter). Corporator, Home Savings Bank (Boston). Clubs: Drysalters of New England (ex. pres.), Belmont Riding and Driving (pres.). Hobbies. fishing, hunting, baseball, refinishing antique furniture.

SAMUELS, Leo T(olstoy), hd., dept. biochem., U. Utah, Salt Lake City, Utah; res. 452 Ninth Ave., Salt Lake City.
Instr., res. biol. chem.; b. Indianapolis, Ind., Nov. 15, 1899; s. of John MacElvaney and Lillie Alice (Davisson) Samuels; ed. A B., Emmanuel Coll., Berrien Springs, Mich., 1925; Ph.D., U. Chicago, 1930; mem.: Theta Kappa Psi; m. Barbara Katherine Petri, Mar. 11, 1935. Biochem., Kellogg Foundation for Cancer Res., 1930-31; res. biochem., White Mem. Hosp., Los Angeles, 1931-34; instr. phar., Med. Schl. U.S.C., 1934-37; asst. prof. physiol. chem., U. Minn., 1937-43; assoc. prof., 1943-44; prof., hd. dept. biochem., U. Utah Med. Schl., 1944 to date. Res. in endocrinol., nutrition, intermediary steroid metabolism. Author: "Nutrition and Hormones," 1948. Mem.: A.C.S., Soc. Study Internal Secretions, S E.B.M., A.S. Biol.C., A.S.P.E.T., A.A.A.S., Sigma Xi, N.Y. Acdy. Sc., Am. Inst. Nut., Assn. Cancer Res.

SAMUELSON, G(ilbert) J(ustus), sr. res. chem., Petrolite Corp. Ltd., 937 E. Pacific Ave., Webster Groves 19, Mo.; res. 217 Arbor Lane, Webster Groves 19.
Res. chem.; b. Omaha, Nebr.; s. of J.P. and Albertina Samuelson; ed. B.Sc., cum laude, 1929, Nebr. State Normal Coll., Chadron, Nebr.; M.Sc., 1932 & Ph.D., 1934, U. of Nebr.; tchg. scholarship, Nebr., 1930-34; m. Ida Frey, Aug. 28, 1934; ch.: Karen, Judith Ann. 1935-42, instr. to assoc. prof. chem., Texas A.&M. Coll., Coll. Sta.; 1942-43, assoc. prof. chem., North Texas Agr. Coll., Arlington; 1943-46, res. chem., Petrolite Corp., Long Beach, Calif.; 1946 to date, res. chem., Webster Groves. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S. Hobby: sports.

SANCIC, Frank A., secy., Harwick Standard Chem. Co., 60 S. Seiberline St., Akron 5, O.; res. 1546 17th St., Cuyahoga Falls, O.
Exec.; b. Cleveland, O., May 6, 1913; s. of Frank and Caroline Sancic; ed. Kent State U., Kent, O.; Acturl. Bus. Coll., Akron, O.; Akron Law Schl.; mem.: Kappa Sigma Chi; m. Mary A. Keck, Aug. 14, 1937; ch.: F. Aaron, Margery Jean. Webb-Sutter Cigar Co., Akron, bookkeeper-clerk, 1934-36; Federal Paper Co., Akron, asst. treas., credit mgr., 1936-40; Summit Mold & Mach. Co., Akron, acct., purch. agt. 1940-41; U.S. Army, pvt. to staff sgt., 106th Inf. Div., 1942-46; Harwick Standard Chem. Co., asst. secy.-treas., secy., bd. of dirs., 1946 to date. Mem. Akron Rubber Group (div., A.C.S.). Clubs: Akron City, Nat. Assn. of Credit Men (Akron Chap. secy.-treas.), Akron C. of C. (past dir., Jr. C. of C.). Hobby: sports.

SANDBORN, Lloyd Thompson, asst. dir., res. lab., Crossett Lumber Co., Crossett Res. Lab., Crossett, Ark.; res. 909 Elm St., Crossett.
Chem.; b. Appleton, Wis., July 29, 1900; s. of Manly Jay and Flora Delphia (Thompson) Sandborn; ed. Lawrence Coll., B.A., 1923; U. Ill., M.S., 1925; Ph.D., 1927; m. Edna Mae Jones, 1927; ch.: Susanne, Elinor Mae. du Pont Exp. Sta., chem., 1927-29; Marathon Corp., res. chem., 1929-41; Mellon Inst., sr. fellow, 1941-46; Crossett Lumber Co., res. lab., res. chem., 1946-48; asst. dir. res., 1948 to date. Chem. utiliz. of wood; devised proc. for making vanillin from lignin by-prods., sulfite pulping proc. Mem.: A.C.S., T.A.P.P.I., Forest Prods. Res. Soc., Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon. Club: Rotary.

SANDEL, Clayton John, plant mgr., Elect. Engrs. Equipment Co., Melrose Pk., Ill.; res. 1004 Roslyn Lane, Highland Pk., Ill.
Chem. engr.; b. Cleveland, O., July 10, 1906; s. of A. Ray and Katharine E. (Geis) Sandel; ed. Case Inst. of Tech., Cleveland, O., B.Sc. Chem. Engrg., 1928; Chem. Engrg., 1938; mem.: Alpha Chi Sigma; m. Irma E. Fuerst, Dec. 11, 1931. 1928-31, chem. engr., Willard Storage Battery Co., Cleveland; 1931-42, plant supt., The Beryllium Corp. of Pa., Reading; 1942-50, plant mgr., Fansteel Metallurgical Corp., N. Chicago, Ill.; 1950 to date, plant mgr., Elec. Engrs. Equipment Co, Melrose Pk., Ill. Dev. process & equipment in chem. & metall. fld. of rare metals, tantalum, tungsten, beryllium, molybdenum, columbium & titanium. Mem.: A.I.Ch.E. (active). Reg. Prof. Engr., Ill. and Pa. Hobbies: photography, gardening.

SANDER, Dr. Frank V., pres., Washington Tech. Labs., Inc., 42 Bridge St., Washington, Pa.; res. 395 N. Wade Ave., Washington.
Res. chem.; b. Wheeling, W.Va., Apr. 19, 1890; s. of Christian and Ida May (Hibberd) Sander; ed. U. of W.Va., Morgantown, B.S., 1912; U. of Chicago, Ph.D., 1921; m. Etna B. South, 1913; ch.: Frank V., Jr., M.D. 1924-40, dir. tech. res., Johnson & Johnson; 1940-44, dir. labs., Ortho Phar. Corp.; 1946-47, dir. control & res., anhyd. div., Amer. Home Foods; 1947-48, asst. to pres., Lakeside Labs., Milwaukee, Wis.; 1948 to date, pres., chmn. bd. of dirs., Washington Tech. Labs., Inc.; mem. bd. dirs., Household Products, Inc. Dev. new phar., med. & contraceptive products. Mem.: A.C.S., Boy Scouts, Salvation Army. Hobbies: tennis, squash, fishing, hunting.

SANDERS, George Patrick, chem., Bur. Dairy Industry, U.S. Dept. of Agr., Washington 25, D.C.; res. 214 N. Edgewood St., Arlington 1, Va.
Res. chem.; b. Aitkin, Minn., Oct. 24, 1894; s. of Patrick and Hannah (McKay) Sanders; ed. Coll. of Agr., U. of Minn, St. Paul, Minn., 1915-18; B.S., 1923-24; M.S., 1926; Geo. Washington U., Washington, D.C., evening classes, 1926-30; Amer. U., Wash., D C., Ph.D., 1930; grad. honor student at Amer. U.; m. Blanche C. Boudreau, 1925; ch.: George P., Jr., Margaret Ann. Grad. asst. in dairy res., Coll. of Agr., U. of Minn., 1925-26; chem., Bur. Dairy Industry, U.S.D.A., 1926 to date. More than 50 pubs. in chem. res. on dairy prods., dev. sev. new res. meths. in chem. of milk prods.; invention of meth. for dehydration of cheese to conserve qual. & reduce weight & volume for shipping; dev. of phosphatase test for dairy prods. as index of effectiveness of pasteurization; fundamental chem. of cheese ripening. Superior Service Award of U.S.D.A., May 25, 1950, for outstanding serv. in chem. of milk prods. Coauthor: "Fundamentals of Dairy Science," a monograph of the A.C.S., 2nd edition, 1935. Mem.: Chi Psi Omega (grad. hon. soc., Amer. Univ.), A.C.S., Amer. Dairy Sc. Assoc., Internatl. Assoc. of Milk & Food Sanitarians. Hobby: gardening.

SANDERS, Malcolm D., v.p., dir., Gallowhur Chem. Corp., 801 2nd Ave., N.Y., N.Y.; res. Wilton, Conn.
Sales exec.; b. Tucson, Ariz., Nov. 29, 1916; s. of Walter Murray and Louise Droste Sanders; ed. Yale U.; m. Margaret Plummer, Feb. 1, 1948. Club: Yale.

SANDERS, Marshall T(homas), chem. engr., Atlas Powder Co., Wilmington 99, Del.; res. 403 Shipley Rd., Wilmington, Del.
Chem. engr.; b. Co. Monaghan, Ireland, Sept. 7, 1894; s. of William Henry and Sarah (Bell) Sanders; ed. Washburn Coll., Topeka, Kans., A. B., 1916; 1 yr. at M.I.T.; m. Margaret Webb, Oct. 19, 1918; ch.: Marcia, Emily, William E., Christina. With Atlas Powder Co. since 1917.

Mem.: A.I.M.E., E.S., A.C.S., A.I.Ch.E. Club: Chemists' (N.Y.).

SANDERS, Roy Yates, Jr., v.p. chg. sales, The Arner Co. Inc., 303 Michigan Ave., Buffalo, N.Y.; res. 4 Keswick Rd., Eggertsville 21, N.Y. Mfg. pharm. chem., exec.; b. Atlanta, Ga., Dec. 18, 1921; s. of Roy Yates, Sr. and Clara Bell (Rives) Sanders; ed. Emory U., Atlanta, Ga.; U. of Ga., Athens, Ga., B.S., 1943; mem.: Chi Phi; m. Doris G. Rich, Aug. 17, 1946; ch.: Eleanor Claire. With The Arner Co. Inc. since lvg. coll.; v.p. in chg. sales, mem. bd. dirs. Clubs: University (Buffalo), Buffalo. Hobbies: golf, swimming, boating, riding, hunting.

SANDERSON, John McEntee, tech. dir., plastics & resins div., Am. Cyanamid Co., 30 Rockefeller Plaza, New York, N.Y.; res. 142 Sequams Lane West, Babylon, L.I., N.Y.
Chem. engr.; b. New Hartford, N.Y., Nov. 3, 1889; s. of Benjamin and Agnes D. Sanderson; ed. Lehigh U., 1910, B.S. Chem. Engrg.; mem.: Tau Beta Pi (jr. year), Phi Gamma Delta; m. Anna Bidwell, Jan. 3, 1914; ch.: John Paul. Glidden Varnish Co., chem., grinding dept., 1910-14; Ohio Varnish Co., chf. chem., supt., 1914-18; Larkin Co., mgr. paint div., 1918-29; Natl. Varnish Co., v.p., gen. mgr., 1929-31; Am. Cyanamid Co., tech. dir., plastics & resins div., 1931 to date. Sanderson Drying Time Meter (A.S.T.M. Proceedings, 1925-26); contrib. extens. to sc. and tech. jls. Mem.: A.C.S., A.S.T.M., Fed. Paint and Varn. Prod. Clubs (hon. mem.). Club: N.Y. Gyro. Hobbies: swimming, carpentry, boating, ping pong, fishing.

SANDERSON, Robert Thomas, prof., hd. div. of inorg. & anal. chem., State U. of Ia., Iowa City, Ia.; res. (temp.) 1519 S. Carroll Ave., Freeport, Ill.
Chem., tchr.; b. Bryson City, N.C., Dec. 25, 1912; s. of Albert Dyer and Edith E. Sanderson; ed. Yale U., B.S. (in chem.), 1934; U. of Chicago, Ph.D. (in chem.), 1939; m. E. Bernice Shafer, Oct. 22, 1939; ch.: Joanne Lou, Sue. du Pont, anal. chem., 1934-35; U. of Chicago, lab. instr., 1936-39; U. of Chicago, Univ. fellow, 1938; West. Geophysical Co., Los Angeles, chf. chem., 1939-40; The Texas Co., Beacon, N.Y., res. chem., project leader, 1940-49; U. of Florida, assoc. prof. chem., 1949-50; State U. of Ia., prof. of inorg. chem., hd. div. of inorganic and alal. chem., 1950 to date. Res. in fld. of aluminum borohydride; critical evaluation of chem. exploration for petroleum; dev. of aviation superfuels, synthetic lubricating oils; correlation and evaluation of viscosity-temp.-pressure properties. Author: "Vacuum Manipulation of Volatile Compounds," (1948). Mem.: A.C.S., A.A.A.S., Sigma Xi. Hobbies: writing, music, drawing, painting, gardening.

SANDIDGE, Prescott, dir. personnel relations, Monsanto Chem. Co., St. Louis 4, Mo.; res. 1025 Warson Woods Dr., Kirkwood 22, Mo.
Personnel relations; b. Louisville, Ky., Oct. 28, 1903; s. of Edwards and Florence M. Sandidge; ed. U. Louisville; m. Lucy Ross Stillwell, Nov. 10, 1923; ch.: Harriet. 1923-26, engr. res. asst.; 1927-38, asst. to gen. mgr., phosphate div.; 1939-46, comptroller, plastics, Texas divs.; 1946-50, exec. dir., atomic energy projs.; 1950 to date, dir. personnel relations. Mem.: A.C.S. Club: Missouri Athletic. Hobbies: bridge, woodworking, astronomy, chess.

SANDSTEDT, Harry A., treas., U.S. Industrial Chems. Inc., 60 E. 42nd St., N.Y. 17, N.Y.; res. 69 Lynmouth Rd., Malverne, N.Y.
Exec.; b. Bklyn., N.Y., Oct. 7, 1907; s. of John A. and Laura A. Sandstedt; ed. P.S. 88, Queens; Newtown H.S., Elmhurst, L.I., N.Y.; m. Florence Fetten, June 21, 1936; ch.: Harry N., John P. 1923-26, Bushwick Savings Bank; 1926-33, Cornell, Linder & Co., Inc.; 1933-35, Larkin & Sandstedt, Inc., pres.; 1935 to date, U.S. Industrial Chem. Inc., asst. treas., asst. secy., treas. Cuba Distilling Co., asst. treas. Mem.: Natl. Tax Assn., Federal Tax Forum, Inc.

SANDSTEDT, Rudolph M., prof. agr. chem., Coll. of Agr., U. of Nebraska, Lincoln; res. 2213 N. 64 St., Lincoln.
Res. cereal chem.

SANFORD, James C., tech. dir., Basic Food Materials, Inc. Vermilion, O.; res. West River Rd., Vermilion.
Food chem.; b. Stryker, O., May 19, 1903; s. of N.B. and Alice M. Sanford; ed. Dennison, 1922-24; B.S., Ohio State, 1927; M.S., 1930; mem.: Phi Gamma Delta; m. Mary E. Williams, June 21, 1930; ch.: James R., Thomas B. Supt., public school, 1930 to 1944; Basic Food Materials, Inc., 1944 to present.

SANFORD, John Edgar, pres., Armour Fertilizer Wks., Inc., Atlanta, Ga.; v.p., Armour and Co., Chicago, Ill.; res. 8 W. Andrews Dr., Atlanta.
Exec.; b. Huntsville, Ala., Dec. 7, 1879; s. of J.J. and C.E. (Collins) Sanford; ed. Huntsville Public schls.; m. Dora Bradford, June 6, 1905; ch.: John B., Dorothy. Started in 1900 as salesman with Armour Fertilizer Wks.;—divisl. mgr., exec. v.p., then pres. in 1929. Armour and Company, Chicago, Ill., v.p.; First Natl. Bank, Atlanta, Ga., dir.; Am. Plant Food Council, Inc., (Wash., D.C.), dir.; indust. Advisory Comm., Fed. Reserve Bank, Dist. 6, mem. Trustee, Crawford W. Long Hospital, Atlanta, Ga. Member C. of C. (Atlanta). Clubs: Piedmont Driving, Capital City, Homosassa Fishing (Atlanta), Rotary (Atlanta).

SANN, Edward Wesley, Jr., asst. to v.p., Atlas Powder Co., Wilmington, Del.; res. 30 Court Dr., Wilmington.
Chem. engr.; b. Chicago, Ill., Aug. 24, 1912; s. of Edward W. and Louise K. Sann; ed. M.I.T., 1929-31; B.S., 1935, U. of Minn.; M.S., 1936; mem.: Alpha Tau Omega; m. Rosemary N. Glover, Dec. 15, 1943; ch.: Jonathan Edward, Christopher, Karen Louise. Du Pont, 1936, res. chem.; U.S. Govt., 1936-37, chem. engrg.; Atlas Powder Co., 1937-38, res. chem.; 1938-42, salesman; 1945-47, Chicago br. mgr.; 1947-50, asst. dir. sales; 1950 to date, asst. to v.p. Mem.: A.I.Ch.E., A.C.S.

SANTORO, Wilfred E., tech. dir., dir. labs., Standard Varnish Wks., Staten Is., N.Y.; res. 32 Cubberly Pl., New Dorp, S.I. 6.
Chem. engr.; Perth Amboy, N.J., Aug. 1, 1906; s. of Pasquale and Vincenza Santoro; ed. Pratt Inst., Ch.E.; m. Evelyn Loihle; ch.: John Anthony. Murphy Varn. Co., Newark, N.J., 1925-39, tech. dir., varn. dept., chg. of prod., control, res., testing; Stand. Varn. Wks., Staten Is., 1930 to date, tech. dir., dir. labs. Pioneered res. & dev. wk. in the metal decorating & canning indus.; dev. the first glossy white coating for use in the canning indus. to wk. on lithographic color presses; outstanding contributions to the protective coatings indus. in the form of new finishes of liners for food cans, marine finishes, wrinkle, metallic & hammer finishes, dipping & indus. enamels; high heat & chem. resisting finishes. Mem.: A.C.S. (div. of plastics & paint), A.O.C.S., A.S.T.M., A.I.C. (fellow), Forest Prods. Res. Soc. (charter mem.), N.Y. Paint & Varn. Prod. Club (treas.). Hobbies: athletics, sports, gardening, photography.

SARCHET, Bernard R., supv. of dev., Koppers Co., Inc., P.O. Box 37, Oil City, Pa.; res. N.S.St.Rte., Pinoak, Oil City.
Chem. engr.; b. Byesville, O., June 13, 1917; s. of Elmer C. and Nellie M. Sarchet; ed. O. State U., B.Ch.E., 1939; U. of Del., M.Ch.E., 1941; mem.: Phi Eta Sigma, Phi Lambda Upsilon, Tau Beta Pi, Sigma Xi (all hon.); m. Lena V. Fisher, Dec. 13, 1941; ch.: Renee, Dawne. U. of Del., grad. asst. chem. engrg.; Newark, Del., lectured in metalography & taught labs. on metalography & chem. engrg., 1939-41; Koppers Co., Inc., operating dept., engrg. & constrn. dev., 1941-42; gen. foreman, butadiene div., 1942-45; supv. chem. engr., res. dept., 1945-46; supv. chem. engr., chem. engrg. dept., 1946-47; plant mgr., Oil City plant, chem. div., 1947-49; supv. of dev., 1949 to date. Contrib. extens. to sc. and tech. jls. Mem.: A.I. Ch.E., A.C.S., Amer. Soc. of Lubrication Engrs., N.West. Pa. Soc. of Engrs., Profnl. Engr. Club: Rotary. Hobbies: photography, music.

SARETT, B.L., pres., Vita-Zyme Labs. Inc., 546 W. Washington Blvd., Chicago 6, Ill.; res. 7339 Constance Ave., Chicago 49.
Exec.; b. Jan. 17, 1896; Russia.

SARETT, Lewis Hastings, asst. dir. of org. res., Merck & Co., Inc., Rahway, N.J.; res. 7 Greenholm, Princeton, N.J.
Res. chem.; b. Champaign, Ill., Dec. 22, 1917; s. of Lew and Margaret (Husted) Sarett; ed. B.S., Northwestern U., 1939 (summa cum laude); Ph.D., Princeton U., 1942; Clarion DeWitt Hardy Scholar, 1935-39; Charlotte Elizabeth Proctor Fellow, 1942; mem.: Phi Kappa Psi; m. Mary Adams, Mar., 1944. Res. chem., Merck & Co., 1942-50; asst. dir., 1950 to date. Partial synthesis of cortisone and of dehydrocorticosterone. Mem.: A.C.S., Phi Beta Kappa, Sigma Xi, N.Y. Acdy. Sc., Phi Lambda Upsilon. Baekeland Award, 1950. Club: Nassau. Hobbies: hunting, fishing, tennis.

SARGENT. Elmer Lawrence, prof., hd. chem. dept., Long Island U., 380 Pearl St., Brooklyn 1, N.Y.; res. Route One, Lebanon, N.J.
Chem. prof.; b. Dec. 16, 1895, Keokuk, Ia.; s. of Martin and Nora Sargent; ed. Colo. State Coll., B.S., 1917; Rutgers U., M.S. in Chem., 1922; Columbia U., M.A. in Chem., 1925; mem.: Phi Lambda Upsilon; m. Marguerite Nelson, Oct. 27, 1927; ch.: Mary, Ruth, Roger, Jonathan, Cynthia. Colo. West. State Coll., instr., 1917-18; Rutgers U., instr., 1921-27; Long Is. U., now prof. and hd. dept., 1927 to date. Mem.: Sigma Xi.

SARGENT, Florence Celia (Mrs. Sydney P. Sargent), prof. chem., Simmons College, 300 The Fenway, Boston, Mass.; res. 139 Woburn St., West Medford, Mass.
Tchr.; b. Aug. 19, 1890; d. of Gustavus Foss and Celia (Philbrook) Sargent; ed. Simmons Coll., B.S., 1911; Radcliffe Coll., M.A.; grad. wk., Harvard Med. Schl. (Dr. Edwin C. Cohn), 1927-30 & 1936; m. Sydney Peabody Sargent, July 5, 1919. Res. asst. to Dr. S.P. Mulliken, M.I.T., 1912; abstractor French, German, English arts. on phosphorus in metabolism for the Wooster Agr. Exp. Sta., Wooster, Ohio, 1913; chem. food & drugs, Mass., 1918 (summer); instr. chem., Simmons Coll., 1913-22; asst. prof., 1923-39; assoc. prof., 1939-48; prof., 1949 to date. With Dr. Edwin C. Cohn, Harvard Med. Schl., liver extract analysis; identification of org. cmpds., with Dr. Mulliken. Author: "Experiments in Org. and Biochem.," 1930, revised 1946 & 1950. Mem.: A.C.S., A.A.U. Women. Club: West Medford Reading. Hobby: travelling.

SARKISON, Harold Philip, mgr. fld. sales dept., Merck & Co. Inc., Rahway, N.J.; res. 1419 Deer Path, Mountainside, N.J.
Exec.; b. Butler, N.J., Aug. 25, 1909; s. of Richard and Laura Sarkison; ed. City Coll., Detroit, Mich., 1932-34, B.Adm.; m. Verta A. Lyons; ch.: Donna L. Johnson & Johnson, 1934-47, New Brunswick, N.J.; 1934-35, fld. chain store promotion; 1935-39, salesman, South Jersey; 1939-42, wholesaler contact rep., Phila., Pa., 1942-43, Northeastern div. mgr.; 1943-47, Eastern div. mgr.; Merck & Co. Inc., 1948 to date; asst. mgr. fld. sales, 1948; mgr. fld. sales, 1949. Club: Plainfield Country (Plainfield, N.J.). Hobby: golf.

SAUER, Robert Olvin, dev. mgr., silicone products, Gen. Elec. Co., Waterford, N.Y.; res. 1072 Waverly Place, Schenectady, N.Y.
Chem.; b. Independence, Ia., Apr. 27, 1914; s. of Olvin Charles and Dorothy (Geiser) Sauer; ed. Coe Coll., B.A., 1936; U. of Ill., Ph.D., 1940; mem.: Alpha Chi Sigma; m. Beula Jean Carson, Dec. 23, 1938; ch.: Jon Robert, Richard Wayne, Lawrence Douglas, Paul Alan. 1940-49, chem., res. lab., Gen. Elec. Co.; 1949 to date, dev. mgr., chg. of product dev. & appl. engrg. of silicone products. Mem.: A.C.S.

SAUNDERS, Arthur Percy, prof. emeritus, Hamilton Coll., Clinton, N.Y.; res. Clinton, N.Y.
Retired prof.; b. London, Ont., Mar. 22, 1869; s. of William and Sarah (Robinson) Saunders; ed. Toronto U., A.B.; Johns Hopkins, Ph.D.; Göttingen U., Germany; LL.D., Hamilton Coll.; mem.: Sigma Phi, Phi Beta Kappa; m. Louise Brownell, 1900; ch.: Silvia, Olura, William Duncan (dec.), Percy Blake. Instr. in chem., U. of Wis.; res. fellow, Cornell U.; prof. of chem., Hamilton Coll. Mem.: A.A.A.S., A.C.S. Hobby: hybridization of peonies.

SAVAGE, Samuel S., dir. export sales, Diamond Alkali Co., 122 E 42nd St., New York City; res. Chateau Burgundy, Scarsdale, N.Y.
Sales; b. Ashland, Ky., July 19, 1909; s. of Harlow D. and Edna W. Savage; ed. B.S., Sheffield Sc. Schl., Yale U., 1932; mem.: Delta Psi; m. Ellen Maria Klass, June 6, 1948; ch.: Edna Maria. Sales, Mathieson Chemical Co., 1932-34; sales, Am. Rad. & Stcl. Sanitary Corp., 1934-42; Lt. Cmdr., U.S.N., 1942-46; dir. export sales, Diamond Alkali Co., 1949 to present. Clubs: American Yacht (Rye, N.Y.), Yale (New York). Hobbies: golf, travel.

SAVIDGE, Robert Whitlock, chf. chem., Union Pacific R.R. Co., Omaha, Nebr.; res. 4920 Dodge St., Omaha 3.
Chem. engr.; b. Omaha, Nebr., Dec. 11, 1887; s. of Charles W. and Anna B. Savidge; ed. U. of Chicago, 1905-09, A.B.; Phi Beta Kappa (4 yr. scholarship); m. Anne M. Lane, Dec. 27, 1926. 1909-10, grad. asst., U. of Ill., Urbana, Ill.; 1911-12, chem., Cudahy Packing Co., Omaha; 1913, chem., Chicago Bd. of Health; 1914, chem., Natl. Carbon Co., Cleveland, O.; 1915, chem., Amer. Smelting & Refining Co., Omaha; 1916, chem., Geo. H. Lee Co., Omaha; 1917-23, chem., Union Pacific R.R. Co., Omaha; 1923-47, hd. chem.; 1947 to date, chf. chem. Mem.: A.C.S., A.I.Ch.E., A.S.T.M. Club: Engrs. (Omaha).

SAVILLE, Thorndike, dean, College of Engrg., prof. sanitary and hydraulic engrg., N.Y.U., University Heights, N.Y. 53; res Spaulding Lane, Riverdale, N.Y. 63.
Dean, prof. of sanit. and hydraul. engrg.; b. Malden, Mass., Oct. 3, 1892; s. of Caleb Mills and Elizabeth (Thorndike) Saville; ed. 1910-14, Harvard U., A.B., 1914; Dartmouth (Thayer Schl. of Civ. Engrg.), B.S. (magna cum laude), 1914; C.E., 1915; D.Engrg. (hon.), Clarkson Coll. of Tech., 1944; 1915-17, grad. student, candidate for D.Sc., M.I.T., Harvard; M.S., from both colls.,

1917; asst. in sanit. engrg., asst. in geol. Harvard; mem.: Sigma Xi, Tau Beta Pi, Phi Beta Kappa; m. Edith Stedman Wilson, Sept. 10, 1921; ch.: Thorndike, Jr. 1917-19, 1st lieut., U.S.A., chg. construc. and partial design of case iron distrib. mains, sanit. and storm sewerage systems, and sewage treatment plant; also subsoil drainage of flying fld. at Langely Field, Va.; in chg. of complete design and partial construc. of Big Bethel Water Supply and Filtration Plant for Langley Fld. and Fort Monroe; 1919, Sheldon Travelling Fellow, Harvard U.; England and France to investigate river regulation and sewage treatment processes; 1919-32, assoc. prof. and prof. of hydraulic and sanit. engrg., U. of N.C.; 1920-32, chf. engr. N.C. Geolog. Survey and its successor, N.C. Dept. of Conservation and Dev., in chg. of water resources and engrg. div.; 1932 to date, prof. hydraulic & sanit. engrg., N.Y.U.; 1935 to date, assoc. dean and dean, Coll. of Engrg., N.Y.U.; 1916 to date, inaugurated and carried out var. projs. of research; pub. over 40 arts. in standard engrg. periodicals and jls.; 1920 to date, conslt. engr.; 1926-27, conslt. engr., Rockefeller Found., to Govt. of Venezuela, on leave from positions in N.C.; 1929, conslt. to bd. on beach erosion and sand movement, U.S.A., Corps Engrs.; 1930 to date, mem. U.S. Beach Erosion Bd., Off. of Chf. Engrs., U.S.A.; 1934, conslt., U.S. Geolog. Survey and Miss. Valley Comm., P.W.A., investigation flood frequencies; 1934-35, exec. engr., water resources sect., N.R.B. (partial lve. from N.Y.U.); 1935-43, mem., water resources comm., N.R.C.; chmn. sub-comm. on stds. for hydrologic data & sub-comm. on evaluation of water projs.; chmn., proj. review comm., 1942-43; mem., spec. adv. comm. on water pollution, 1938-43; 1943-45, civilian conslt. War Dept., A.S.T.P.; 1944, mem. Governor's Tech. Adv. Comm., N.Y.S. Dept. of Commerce; 1941-45, mem. Natl. Adv. Comm., Engrg. Sc. and Mgmt. War Training; 1947-49, advisor, Pub. Wks. Comm., Hoover Commission on Reorgan. of Fed. Exec. Depts.; 1947-52, engr. mem., N.Y.S. Pub. Health Council; 1948-53, mem. Natl. Adv. Health Council, U.S. Pub. Health Serv. Mem.: A.S.C.E. (secy., N.C. sec., 1922-32; dir., v.p. & pres. Metropolitan sec. 1937-43; dir. of the soc. 1945-48; also on numerous committees), A.S.E.E. (mem. of council, 1942-45; v.p. 1948-49; pres., 1949-50; served on sev. comms.), A.W.W.A. (secy. N.C. sec., 1921-26), N.E. W.W.A., Boston Soc. Civ. Engrs., A.I. Consulting E., A.A.A.S. (fellow, v.p. Sect. M., 1943-44), Fed. of Sewage Wks. Assns., Am. Soc. of Planning Officials, A.P.H.A. (fellow), Harvard Engrg. Soc. (pres., 1947-48). Clubs: Harvard (N.Y.C.), Engineers' (N.Y.), mem. bd. of govs., 1947-52), Mayflower Descendants.

SAVITT, Sidney Allan, tech. dir., Consolidated Prods. Co., 15 Park Row, N.Y. 7, N.Y.; res. 275 E. Gun Hill Rd., Bronx 7, N.Y.
Chem. engr.; b. Bklyn., N.Y., Apr. 14, 1920; s. of Joseph and Rose Savitt; ed. B.S., C.C.N.Y., 1940; M.Ch.E., Polytech. Inst. of Bklyn, 1945; D.Ch.E., 1948; mem.: Sigma Xi, Phi Lambda Upsilon; m. Malvina Meister, Sept. 15, 1946; ch.: Jill Alison, Polytech. Inst. of Bklyn., instr., 1944-47; M.W. Kellogg Co., process engr., 1947-49; Consolidated Prods. Co., tech. dir., 1949 to date. Numerous papers on distillation operations of coal tar acids & bases, market survey of coal tar chems., separation process of meta & para cresol, consltg. chem. engr. Mem.: A.C.S., A.I.Ch.E., A.I.C., A.A.A.S. Hobbies: photography, sports, trumpet.

SAVOLAINEN, Unto U., hd. of engrg., thermostat metals dept., gen. plate div., Metals & Controls Corp., Attleboro, Mass.; res. 8 Hazelwood Ave., Attleboro.
Engr.; b. Tampere, Finland, Feb. 29, 1912; s. of Carl E. and Hulda M. Savolainen; ed. 1935, Tufts Coll., Medford, Mass., B.S. in chem. engrg. (cum laude); 1936, M.S.; mem.: Tau Beta Pi; m. Ina Helsten, Oct. 22, 1938; ch.: Eric Carl, Arnold Mark. 1936, Simmons Chain Co., metallurgist; 1936-37, gen. plate div., Metals & Controls Corp., asst. met.; 1937, hd. of engrg. thermostat metals dept. Collaborator: "Engrg. Laminates" by Dietz. (Mem.: A.C.S., A.S.T.M. Hobbies: photography, golf, archery, gardening.

SAWENS, Russel Hale, dir. tech. serv., The Solvay Proc. Div., A.C.D., Syracuse, N.Y.; res. 1904 W. Colvin St., Syracuse, N.Y.
Chem. conslt.; b. Sweden, N.Y., Sept. 25, 1889; s. of Russel W. and Elizabeth (Hale) Sawens; ed. Syracuse U., B.S., 1912; M.I.T., 1914-15; mem.: Pi Kappa Alpha; m. Jane M. Gates, Sept. 24, 1927; ch.: Elizabeth Katherine, Susan Jane. 1912-14, chem., Eastman Kodak Co., Rochester, N.Y.; 1915 to date, with The Solvay Proc. Div. Prof. Engr., N.Y. State. Mem.: Amer. Soc. of Refrig. Engrs., A.C.S., Tech. Club (Syracuse), A.S.T.M. Club: Masonic.

SAWYER, Frederick George, adm., Air & Water Pollution Res., Stanford Res. Inst., Stanford, Calif.; res. 933-C Alice Lane, Menlo Park, Calif.
Chem. engr.; b. Bklyn., N.Y., Mar. 14, 1918; s. of Frederick S. and Lillian Sawyer; ed. Bklyn. Polytech. Inst., B.Ch.E. 1939, M.Ch.E. 1941, D. Ch.E. 1943; mem.: Pi Kappa Phi; m. Marjorie Birck, Aug. 5, 1950. 1939-43, teaching fellow, instr., Polytech. Inst. of Bklyn.; summer 1941, chem. engr., Eastman Kodak Co., Rochester, N. Y.; 1943-46, chem. engr., Am. Cyanamid Co., Stamford, Conn. & N.Y.C.; 1946-50, assoc. edit., A.C.S., San Francisco, Calif.; 1950 to date, adm., Air & Water Pollution Res., Stanford Res. Inst., Stanford, Calif. Res. flds. adsorption, wood processing, resin colloids, tech. writing. Num. contribs. to sc. & tech. jls. Mem.: A.C.S., A.I. Ch.E., A.I.C., Western Chem. Market Res. Group, Sigma Xi, Phi Lambda Upsilon, A.A.A.S. Clubs: San Francisco Press, Commonwealth (Calif.). Hobbies: collection of bells, dictionaries, Hudson River lore, orthoëpy, early music.

SAWYER, Roscoe Hall, asst. chem. dir., Devoe & Raynolds Co., Inc., P.O. Box 328, Louisville, Ky.; res. Manslick Rd., R.F.D. 2, Box 660, Louisville.
Chem.; b. Gray, Me., Aug. 5, 1903; s. of Fernald D. and Susie (Hall) Sawyer; ed. B.S., 1925, Harvard Engrg. Schl.; M.A., 1927, Harvard Grad. Schl. Arts & Scs.; mem.: Alpha Chi Sigma; m. Priscilla Paradis, Jan. 1, 1931. 1925-27, asst. chem., Harvard U.; 1927-28, instr. chem.; 1928-30, instr. chem., Bates Coll.; 1930-37, chem., E.I. du Pont de Nemours & Co., Inc.; 1937-44, res. div. hd.; 1944-48, res. supvr.; 1948 to date, asst. chem. dir., Devoe & Raynolds Co., Inc. Mem.: A.C.S., A.S.T.M. (chmn., sub. comm. VII, comm. D-1). Club: Chemists' (N.Y.). Hobbies: flying, stock price fluctuation.

SAXL, Erwin J., pres. and gen. mgr., Saxl Instrument Co., Pin Hill, Harvard, Mass.
Consltg. physicist & chem.; b. Vienna, Austria, May 7, 1904; s. of Richard Saxl; ed. Dr., summa cum laude, Vienna, 1927; Univ. of Berlin, 1928; Univ. of Freiburg-Baden, 1929; mem.: Budowisia (Vienna); m. Lucretia Hildreth, Sept. 9, 1944; ch.: Erwin J., II, Richard Hildreth, Ellen. Saxl Instrument Co., pres., gen. mgr., 1935 to date; testing instruments for the textile, rubber, paper, wire and allied industries; measurement and control of tension and torque for textile yarns, oil drilling equipment and machine tools; magnetic fluid clutches; mercury contacting mechanisms. Spec. dev. in colloid chemistry and physics; micro-

anal. wk., including spec. meths. for determin. particle-size and chg. of pharmacologically active colloidal suspensions; precious metal sols and isotopes in cancer and leukemia research. Contrib. extens. to sc. and tech. jls. Author: "Chem. Tests," "Physical Tests," "Methods of Identification," for Rayon & Synthetic Yarn Handbk., Rayon Handbk. Co., 1939. Mem.: Royal Soc. of Arts (fellow), A.A.A.S. (fellow), Inst. Radio Engrs., A.S.T.M. and numerous others. Trustee, Charlotte Saxl Estate. Club: Men's (Harvard, Mass.), Edgewood Yacht. Hobbies: boating, photography, gardening.

SAYLER, Galen H., chf. chem., Parker Pen Co., Janesville, Wis.; res. 324 S. Bluff St., Janesville.
Chem. engr.; b. Elmo, Mo., Sept. 28, 1900; s. of Harley L. and Christie E. (Hargis) Sayler; ed. B.S., Ia. State Coll., 1922; M.S., M.I.T., 1924; mem.: Phi Lambda Upsilon (hon.); m. Muriel Scott, July 3, 1926; ch.: Galen, Diana. Chem. engr., Dennison Mfg. Co., Framingham, Mass., 1924-28; res. chem., Miner Labs., Chicago, Ill., 1928-30; chf. chem., Parker Pen Co., 1930 to date. Res. in water-resist. crepe paper; dev. writing inks, Parker Quink, Parker "51" ink, Parker Superchrome ink. Mem.: A.C.S. Club: M.I.T. (Chicago). Hobby: color photography.

SAYLOR, John Henry, prof. chem., exec. off. dept. chem., Duke U.; res. 707 Club Blvd., Durham, N.C.
Chem. prof.; b. Lamar, Mo., July 22, 1904; s. of James Clyde and Mary (Shackelford) Saylor; ed. So. Meth. U., A.B., 1925; Duke U., M.A., 1928; Ph.D., 1930; m. Lettie McLane, Apr. 3, 1926; ch.: Letty Lois, John Henry, Jr. Instr. Fredericktown, Mo., High Schl., 1925-27; Duke U., asst. chem., 1927-28; part-time instr., 1928-30; instr., 1930-35; asst. prof., 1935-42; assoc. prof., 1942-46; prof., 1946 to date; exec. off., 1947 to date. Res. in physical, anal. chem. Co-author: "Element. Chem." 1937; "Lab. Man. for Element. Chem." 1937. Mem.: A.C.S., A.A.U.P., A.A.A.S., Sigma Xi, Phi Lambda Upsilon. Hobbies: photography, tennis.

SAYRE, Morris, pres., Corn Products Refining Co., 17 Battery Pl., N.Y. 4, N.Y.; res. 36 Prospect Ave., Montclair, N.J.
Exec.; b. Montrose, Pa., Nov. 27, 1885; s. of Samuel Huntting and Annie Woolsey Morris Sayre; ed. B.S., B.A., 1906, U. Rich.; D.Sc. (hon.), 1948; M.E., 1908, Lehigh U.; mem.: Phi Gamma Delta, Phi Beta Kappa, Omicron Delta Kappa, Tau Beta Pi; m. Anna Mulford Hand, Sept. 18, 1912; ch.: John Morris, William Mulford. Corn Products Refining Co., stud. engr., plant mgr.; Corn Prods. Ref. Co., Granite City, Ill., 1908-16; Corn Prods. Ref. Co., Argo, Ill., plant mgr., 1916-27; Corn Prods. Ref. Co., N.Y.C., prod. mgr. 1928; v.p. 1933-45; exec. v.p. 1942-45; dir. 1929 to date; pres. 1945 to date; dir.: N.E. Grain Co., N.Y. Trust Co. Mem.: Natl. Assn. Mfgrs. (dir. 1947; pres. 1948; chmn. bd. 1948-50). Trustee, Phi Gamma Delta Ed. Found.; trustee U. Richmond; trustee & treas., Nutrition Found.; trustee, Found. for Am. Agr.; chmn. Citizens Comm., Hoover Report Greater N.Y. Clubs: Whitehall (N.Y.C.), Phi Gamma Delta (N.Y.C.), Tavern (Chicago).

SCALERA, Mario, asst. dir. of res., Calco Chem. Div., Am. Cyanamid Co., Bound Brook, N.J.; res. Foothill Rd., Somerville, N.J.
Chem.; b. Italy, Sept. 4, 1909; s. of Rev. D. and Flora F. Scalera; ed. Yale, B.S., 1932 magna cum laude, Ph.D., 1935; m. Mildred Van Etten Newkirk, July 8, 1935; ch.: Philip Van Etten, Garrett Newkirk, Richard De Witt. Calco Chem. Div., Am. Cyanamid Co. since grad.: 1935-39 res. chem., 1939-43 group leader, 1943-49 sec. dir. of org. sec., 1949 to date asst. dir. of res. Res. in flds. of dyestuffs, pigments & intermediates, resulting in some 30 or 40 pats. Mem.: A.C.S., A.I.C., Sigma Xi, Somerville Y.M.C.A. (pres.), Somerville Area Community Chest (v. chmn.). Hobby: gardening.

SCALLET, Barrett L., sec. dir., res. div., Anheuser-Busch, Inc., 721 Pestalozzi St., St. Louis 18, Mo.; res. 7 Haddington Court, Clayton 24, Mo.
Chem.; b. St. Louis, Mo., May 13, 1916; s. of Maurice J. and Flora L. Scallet; ed. B.S., 1937, M.S., 1943, Ph.D., 1946, Washington U., St. Louis. Control chem., res. chem., project leader, section dir., Anheuser-Busch, Inc., 1937 to date. Res. and publications on carbohydrates, proteins, corn products, beer.

SCARLETT, Andrew Jackson, Jr., prof. of chem., Dartmouth Coll., Hanover, N.H.; res. 14 N. Balch St., Hanover.
Coll. prof.; b. W. Boylston, Mass., Mar. 17, 1889; s. of Andrew J. and Clara (Bullard) Scarlett; ed. Dartmouth Coll., A.B., 1910; Columbia U., A.M., 1914, Ph.D. 1917; mem.: Sigma Alpha Epsilon; m. Bertha E. Torsleff, Sept. 5, 1917; ch.: Mrs. Marjorie Miner. Instr., Dartmouth 1911-13, 1917-18, asst. prof. 1918-25, prof. 1925 to date; asst., Columbia, 1913-17; hd. of dept., Am. Army U., Biarritz, France, 1945. Surface tension of mixed liquids; emulsification by solid powders. Co-author: "Gen. Coll. Chem." 1946, "Brief Coll. Chem." 1942, both with L.B. Richardson. Mem.: A.C.S., Sigma Xi, A.A.U.P., New England Assn. of Chem. Teachers.

SCARRITT, Elwood William, v.p., chem. dir., Elgin Softener Corp., Elgin, Ill.; res. 325 N. Commonwealth Ave., Elgin.
Chem. (water conditioning); b. Chicago, Ill., July 31, 1901; s. of Charles E. and Lulu N. Scarritt; ed. U. of Ill., B.S., 1923 (spec. honors in chemistry), M.S., 1925; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi; m. Isabel Campbell, Sept. 11, 1926; ch.: Susanne, William Elwood. Paige & Jones Chem. Co., Hammond, Ind., chem. engr., 1925-27; Elgin Softener Corp., positions incl. chf. chem., chemical dir., asst. gen. mgr., dir. of sales, v.p., 1927 to date. Reg. prof. engr. Author: "Zeolite Deconcentration of Boiler Water," pub. in tech. jl. Mem.: A.C.S., A.W.W.A.

SCARTH, Virgil, tech. chf., Pat. Dept., Phillips Pet. Co., Bartlesville, Okla.; res. 2059 Dewey Ave., Bartlesville.
Chem. engr.; b. Okeene, Okla.; s. of Wiliam Henry and Mary Ola Scarth; ed Ph.D., State U. of Iowa; mem.: Alpha Chi Sigma, Phi Lambda Upsilon; m. Lorraine Williams, June 27, 1933; ch.: Mary Elda, Alice. Prof. chem., Geneva Coll., 1931-32; hd. chem. dept., Phillips U., Enid, Okla., 1935-38; prof. pet. engrg., Okla, A.&M. Coll., Stillwater, Okla., 1938-43; tech. chf., pat. dept., Phillips Pet. Co., Bartlesville, Okla., 1943 to date. Pat. extractive distillation with furfural, prevention of corrosion in furfural systems, pipe line transportation of fine solids, purification and recovery of furfural in extractive distillation of hydrocarbons. Mem.: A.C.S., A.I.Ch.E. (chmn., Okla Sec., 1947-48). Club: Phillips Mens'.

SCATCHARD, George, prof., physical chem., Mass. Inst. of Tech., Cambridge 39, Mass.; res. 984 Memorial Dr., Cambridge 38.
Prof.; b. Oneonta, N.Y., Mar. 19, 1892; s. of Elmer Ellsworth and Fannie Lavinia (Harmer) Scatchard; ed. Amherst Coll., A.B., 1913; Columbia U., Ph.D., 1917; Amherst Coll, hon. D.Sc., 1938; mem.: Phi Gamma Delta; m. William Beau-

mont, July 28, 1928. Goldschmidt fellow, Columbia 1915-16; asst. chem., Columbia U., 1914-15, 1916-17; assoc. prof., Amherst Coll. 1919-23; nat. res. fellow, M.I.T. 1923-24, asst. prof. 1924-26, assoc. prof. 1926-37, prof. 1937 to date. Guggenheim Mem. Foundation fellow 1931-32; sc. adv. substitute alloy material labs., Columbia U. 1943-46; Harvard Med. Schl. 1943-46; Office Mil. Govt., Berlin, 1946-47. U.S. Army 1917-19. Mem.: Phi Beta Kappa, Phi Lambda Upsilon, Sigma Xi, A.C.S., A.A.A.S., A.A.U.P., N.Y. Acdy. of Sciences, Amer. Acdy. Arts & Scs., N.A.S.

SCATTERGOOD, Allen, asst. prof. org. chem., Lowell Textile Inst., Lowell, Mass.; res. 475 Beacon St., Boston, Mass.
Chem.; b. Chicago, Ill.; s. of Otis O. and Eva (Allen) Scattergood; ed. Columbia Coll., A.B., 1933; Princeton U., Ph.D., 1940. Instr., Union Jr. Coll., Cranford, N.J., 1936-43; res. assoc. & instr., Princeton U., 1941-43; resident dir., Sugar Res. Foundation Lab., M.I.T., 1944-50; asst. prof. org. chem., Lowell Textile Inst., 1950 to date. Res. in carbohydrates. Mem.: A.C.S., Sigma Xi. Hobbies: photography, skiing.

SCHADE, Carlisle, chem., Schade-Peper Lab., 9600 Natural Bridge Rd., St. Louis Co., Mo.; res. same.
Chem.; b. St. Louis Co., Mo., Mar. 22, 1903; s. of Wilfred and Harriet Schade; ed. Cornell Univ., 1925; mem.: Sigma Xi. Commonwealth Steel Co., Granite City, Ill., 1926-28; Mellon Inst., Pittsburgh, Pa., 1928-33; Schade-Peper Lab., 1933 to date; mem. bd. of govs., Wabash Frisco & Pacific Assn., Inc.; owner, Schade-Peper Lab. Mem.: A.C.S., A.W.P.A. Hobby: narrow gauge railroads.

SCHAEFER, Herbert Carl, mgr. Nutrition Res. Labs., Ralston Purina Co., 835 S. 8th St., St. Louis, Mo.; res. 7478 Amherst.
Biochem.; b. Aug. 19, 1900, Calumet Co., Wis.; s. of August and Emma Thiel Schaefer; ed. B.S., M.S., U. Wis.; mem.: Phi Lambda Upsilon, Phi Sigma, Phi Kappa Phi, Alpha Zeta, Farm House; m. Anna Seybold, July 2, 1927. Wisconsin U. faculty, 1925-27; Nutrition Res. Labs. Ralston Purina Co. 1927 to date; mgr. 1944 to date. Res. in animal nutrition, feed., cereal anal., vitamin assay. Mem.: A.C.S., Poultry Sc., A.S.A.P., I.F. T., A.O.C.S.

SCHAEFER, Joseph J(ohn), chem conslt., 50 E. 41st St., New York 17, N.Y.; res. 184 Columbia Heights, Bklyn. 2, N.Y.
Conslt. chem. and chem. engr.; b. Dayton, O., Dec. 19, 1898; s. of Joseph J. and Mary (Bueker) Schaefer; ed. B.Ch.E., U. of Dayton, 1919, M.S., M.I.T., 1921; m. Mary B. Kette, Oct. 4, 1921; ch.: Joseph J., Jr., Mrs. Mary S. Lamontagne. Schaefer Cigar Co., 1921-25; chem. conslt. and teaching, Univ. of Dayton, 1925-28; Niacet Chem. Corp., 1928-34; dir. of res., Sharples Chem., Inc., 1934-36, v.p. res. & dev., 1936-44; dir. of dev., Wyandotte Chemicals Corp., 1944-49; chem. conslt., 1949 to present. Research, development and application of synthetic organic chemicals. Mem.: A.C. S., A.I.Ch.E. (past chmn., Detroit Sec.), Com. Chem. Dev. Assn. (dir.), Chem. Market Res. Assn. Clubs: Chemists' (New York), Uptown New York). Hobbies: golf, bridge.

SCHAEFER, Ralph A., dir. of res., Cleveland Graphite Bronze Co., 17000 St. Clair Ave., Cleveland 10, Ohio; res. 18028 Hiller Ave., Cleveland 19.
Res. chem.; b. Grafton, Ohio, Aug. 16, 1913; s. of Edward F. and Mary E. Schaefer; ed. A.M., 1935, M.S., 1936, Ph.D., 1941, Western Reserve; m. Lucille Deimling, June 11, 1941; ch.: Donna, Edward, Ronald. Cleveland Graphite Bronze Co., res. chem. 1936-41, supvr. chem. res. & dev. 1941-45, dir. of res. 1945 to date. Res., dev. & prod. experience in flds. of pickling, cleaning & fluxing of ferrous & non-ferrous metals for composite strip, powdered metallurg. dev. for bearings & friction elements, electrochem. dev. & res. in heavy deposits of single metals & eletroplated alloys for sleeve bearing applications, especially the metals & their alloys of silver, lead, tin, antimony & copper. Mem.: Am. Soc. Metals, A.S.T.M., Inst. Min. & Metal. Engrs., Electroplaters Soc., Electrochem. Soc., Electrodepositors Soc., A.C.S.

SCHAEFFER, Florence Louise, prof. chem., hd. of dept., Woman's Coll. of Univ. of N.C., Greensboro, N.C.; res. 203 Tate St., Greensboro.
Teacher; b. Jersey City, N.J., Apr. 13, 1900; d. of John Andrew and Louise Bernhardt Schaeffer; ed. pub. schls., Jersey City, N.J., Barnard Coll., A.B. cum laude, 1920, Mt. Holyoke Coll., M.A., 1922, Univ. of Chicago, Yale Univ.; mem.: Iota Sigma Pi. Mt. Holyoke Coll. (chem. dept.), teaching fellow 1920-22; Woman's Coll. of Univ. of N.C., instr. of chem., 1922-25, asst. prof. of chem., 1926-28, assoc. prof. of chem., 1928-34, hd. of dept. of chem., 1934 to date. Res. in polypeptide hydantoins, isomerism of phenylphthalimide, iodophenols (published in chem. jl.). Mem.: A.C S., N.C.E.A., N.C. Acdy. of Sc., Phi Beta Kappa. Hobby: philately.

SCHAEFFER, George W., dir., dept. of chem., assoc. prof. chem., St. Louis U., 1402 S. Grand Ave., St. Louis, Mo.
Prof. chem.; s. of George W. and Catherine C. Schaeffer; ed. Central Y.M.C.A. Coll., B.S., 1940; U. of Chicago, Ph.D., 1946; Sigma Xi, U. of Chicago, 1942; m. Rita A. Mulhern, June 14, 1947; ch.: Daniel, Nora. Instr., Central Y.M.C.A. Coll., 1940-41; instr., U. of Chicago, 1942-46; asst. prof., U. of Chicago, 1946-48; assoc. prof., dir. dept. of chem., St. Louis U., 1949 to date. Res. in flds. of hydrids and boron & volatile boron, nitrogen compounds. Mem.: A.C.S., A.A.U.P., A.A.A.S.

SCHAEFFER, Harold F(ranklin), asst. prof., dept. of chemistry, Valparaiso Univ., Valparaiso, Ind.; res. 703 Franklin Ave., Valparaiso.
Teacher, consultant; b. Phila., Pa., Sept. 21, 1899; s. of Franklin P. and Margaretta (Morgan) Schaeffer; ed. Muhlenberg Coll., B.S., 1922, Univ. of N.H., M.S., 1926, spec. wk., Univ. of Pittsburgh and W.Va. Univ., 1938-42; mem.: Alpha Chi Sigma, Phi Lambda Theta; m. Katherine Arlene Fisher, Apr. 4, 1932. Waynesburg Coll., prof. of chem. & hd. of dept., 1926-41; Univ. of Mo. gen. & physical chem., 1942-43; Coll. of Our Lady of the Elms, gen. & anal. chem., 1943-44; Univ. of Ala., res. assoc., sulfur-organic cmpds., 1944-48; Valparaiso Univ., teach. & res. 1948 to date, also assoc. conslt., Research & Development Corp. (Chicago) since 1949. Contrib. extens. to sc. and tech. jls. Abstractor for "Chem. Abstracts" jl. Author: "Microscopy for Chemists," text & lab. manual (1950). Mem.: A.C.S., A.I.C. (fellow), A.A.U.P., South. Assoc. for Sc. & Industry, Ind. Acdy. of Sc. Club: The Cosmos. Hobbies: photography, philately, collecting 18th & 19th century bks. on the microscope.

SCHAFFEL, Gerson S., dir. plastics res., Res. Lab., Gen. Tire & Rubber Co., Akron, Ohio; res. 2480 Whitelaw St., Cuyahoga Falls, Ohio.
Chem.; b. Braddock, Pa., Mar. 17, 1918; s. of Max and Fannie Schaffel; ed. Geneva Coll. (2 yrs., no degree, 1935-37); Carnegie Inst. Tech., B.S., 1939; M.S., 1940; D.Sc., 1942; m. Freda B.

Jaffe, Jan. 31, 1943; ch.: Judith Diane, Karen Joan. 1942 Westinghouse Postdoctorate fellow, Westinghouse res. lab., East Pitts., Pa.; 1943 group leader, plastics sect.; 1946 to date dir., plastics res., Gen. Tire & rubber Co. Contrib. extens. to sc. and tech. jls. Mem.: A.C.S., Sigma Xi, Phi Kappa Phi.

SCHAFFERT, Roland Michael, res. conslt., graphic arts res. dev., Battelle Mem. Inst., 505 King Ave., Columbus 1, O.; res. 1924 Bedford Rd., Columbus 12, O.
Indus. and sc. res.; b. Minden, Ia., Nov. 9, 1905; s. of Michael L. and Elizabeth Miller Schaffert; ed. Doane Col., Crete, Nebr., A.B., 1930; U. of Cincinnati, M.A., 1931, Ph.D., 1933, Laws fellowship 1930-33; mem.: Iota Delta Chi; m. Isabelle Krehbiel, Dec. 31, 1934; ch.: Teresa Frances, Christina Marie. Cincinnati, O., consltg. wk., infrared spectroscopy, 1933-34; Duquesne U., Pittsburgh, Pa., instr. of physics, 1934-36, asst. prof. of physics 1935—; Mergenthaler Linotype Co., Brooklyn, N.Y., res. physicist 1936-41; Battelle Memorial Inst., Columbus, O., 1941, res. engr., 1943 asst. supvr., 1945 supvr., graphic arts res., 1950 to date res. conslt., graphic arts res. Res. in fld. of infrared absorption spectra; gen. fld. of graphic arts, incl. photography, photomech. processes, printing processes & var. process of producing & reproducing graphic materials; xerography & xero-printing. Num. pats. connected with graphic arts. Co-author: "Ferric Chloride Etching of Copper for Photoengravings," (1949). Mem.: A.Phys.S., E.S., Soc. Rheology, Photographic Soc. of Am., Am. Soc. for Metals, T.A.L.I., T. A.P.P.I., A.A.A.S., Internatl. Assn. Printing House Craftsmen, Res. & Engrg. Council of the Graphic Arts Industry, Reg. Prof. Engr. (O.). Clubs: Craftsmen's, Battelle Rod and Gun. Hobbies: photography, fishing, hunting, bowling.

SCHALL, Josef William, chf. of process dev. sec., Houdry Process Corp., Marcus Hook, Pa.; res. 436 E. Thompson Ave., Springfield, Del. Co., Pa.
Chem. engr.; b. Phila., Pa., Jan. 11, 1920; s. of Josef P. and Helen Schall; ed. B.S., Lehigh U., 1941; M.S., U. of Rochester, 1942; m. Virginia Alcorn, Nov. 18, 1946; ch.: Josef W., Jr., William A. Calvert Distilling Co., 1942-44, prod. planner & adm. 1943-44; Houdry Process Corp., 1944 to date, dev. engr. 1944-48, chf. process dev. sec. 1948 to date. Mem.: A.I.Ch.E.

SCHANBACHER, Karl L., pres. Carlisle Chem. Wks., Inc., Reading, Ohio; res. R.R. 6, Box 65, Cincinnati, Ohio.
Exec.; b. St. Louis, Mo., Mar. 13, 1905; s. of Charles and Emma Schanbacher; ed. U. Ill., B.S., 1927; Royal Conservatory, Stuttgart and Charlottenburg, Germany; m. Iris Carlisle, 1930; ch.: Barbara Sue, Kathryn Lynn. Victor Chem. Wks., Eastern sales mgr.; Emery Industries, gen. sales mgr.; Carlisle Chem. Wks., Inc., pres.

SCHANTZ, Jacob Mack, mgr. tech. serv., Naval Stores Dept., Hercules Powder Co., Wilmington, Del.; res. 214 Edgewood Dr., Wilmington 274.
Exec.; b. Maplewood, Pa., June 13, 1895; s. of Jacob and Mary Louise (Mack) Schantz; ed. 1918, Pa. State, B.S. in ind. chem.; mem.: Phi Lambda Upsilon; m. Dorothy V. Crowe, Feb. 28, 1938; ch.: Suzanne M. Res. chem., 1918-22, asst. plant supvr. 1922-24, res. chem. 1924-25, Hercules, Kenvil, N.J.; tech. serv. 1926-34, mgr. tech. serv. 1934 to date, Hercules, Wilmington, Del. Engaged in finding new & extended uses for Naval stores prods. & their derivatives for the past 25 yrs. Mem.: A.S.T.M., Armed Forces Chem. Assn., A.C.S., Phi Lambda Upsilon, Com. Chem. Dev. Assn.

SCHARWACHTER, Albert, mgr., Specialty Products Dept., Industrial Chemicals Div., 30 Rockefeller Plaza, New York, N.Y. c/o Amer. Cyanamid Co.; res. 106 Plymouth Rd., Rockville Centre, L.I., N.Y.
Bus. exec.; b. Brooklyn, N.Y., June 15, 1897; s. of Rudolph and Elizabeth Scharwachter; ed. Bklyn., N.Y. pub. schls. and sev. specialized courses in languages, also com. & bus. courses at night schls.; m. Bertha M. Rhodes, Apr. 19, 1919; ch.: Albert A. Started career with A. Klipstein & Co., N.Y., Aug. 22, 1911; salesman, 1917-26, mgr. of tanning matls. dept., 1926 to Jan. 1, 1931, at which time A. Klipstein & Co. was acquired by Amer. Cyanamid Co.; dept mgr. as indicated above, 1931 to present. Acted in advisory capacity to sev. divs. W.P.B. & O.P.A. during W.W. II. Mem.: Amer. Leather Chemists Assoc. Clubs: Lake Shore of Chicago, Hempstead Golf (Hempstead, L.I.), Masonic (Lynbrook, L.I.), Amer. Legion, Rockefeller Center Luncheon (New York), v.p., dir., Tall Oil Assn. of New York. Hobbies: golf, photography fishing.

SCHATZ, Louis William, pres., Gen. Plastics Mfg. Co., 3423 So. Union Ave., Tacoma, Wash.; res. 10035 De Koven Dr., Tacoma 9, Wash.
Exec.; b. Pittsburgh, Pa., Jan. 20, 1912; s. of Charles T. and Clara Louise Schatz; ed. B.S., Penn. State, 1934, M.S., U. of Calif., Berkeley, Calif., 1940, Ph.D., U. of Mich.: mem.: Delta Chi; m. Evelyn Ohm, May 11, 1940; ch., Henry Thomas, Gordon Carl. Appraiser, U.S. Forest Service, Texas, 1934; res., Lake States Forest Exper. Station, 1935-37; asst. mgr., West Fork Timber Co., 1937-40; pres., General Plastics Mfg. Co., 1941 to present. Res. in formulation and production of plastic finishes & impregnating compounds. Club: Tacoma. Hobbies: hydroponics, golf.

SCHATZEL, Rudolph A., v.p. and dir. of Engrg. and Res., Rome Cable Corp., Rome, N.Y.; res. 1101 N. George St., Rome, N.Y.
Exec.; b. Kingston, N.Y., Aug. 15, 1895; s. of John J. and Margaret Schatzel; ed. B.S. in Chem., 1921, Union Coll.; M.S. in Chem., 1923; mem.: Lambda Chi Alpha; m. Magdalene S. Bockmann, Sept. 5, 1917; ch.: Barbara Ann. 1920-22, res. chem., Gen. Elec. Res. Labs., Schenectady, N.Y.; 1922-23, instr. in chem., Union Coll.; 1923-24, instr. in physical chem. and grad. student, M.I.T., Cambridge, Mass.; 1924-26, asst. res. dir., Rome Wire Co., Rome, N.Y.; 1926-35, tech. dir., Gen. Cable Corp., Rome, N.Y.; 1935-45, dir. of res., Gen. Cable Corp., Bayonne, N.J.; 1945 to date, v.p., dir. of Engrg. and Res., Rome Cable Corp., Rome, N.Y.; dir. Farmers Natl. Bank, Rome, N.Y.; dir., Master Pneumatic Tool Co., Cleveland, Ohio. Author of var. arts. pub. in tech. jls. on Synth. Elastic Polymers in the Cable Industry; The Water Absorption Characteristics of Rubber Ins. Pwr. Cable; Synth. Rubber in the Wire & Cable Industry; also Dept. of Commerce Reports (1946), German Rubber Industry, Schatzel-White; also author of "Rubber Insulated Wires and Cables," E.A. Hauser Handbuch der Gesammten Kautschuk Technologie (1935). Mem.: A.C.S., A. S.T.M., Brit. Inst. of Metals, Brit. Inst. of Rubber Industry, A.I.E.E., A.I.M.E., Sigma Xi, A. I.C. (fellow), T.I.I.C. Rubber Team to Investigate Prod. & Tech. of German Rubber Industry. Trustee, Central N.Y. Schl. for the Deaf; v.p., Ft. Stanwix Council of Boy Scouts; on bd. of dirs., Y.M.C.A., Rome, N.Y.; pres., Rome Bd. of Education; former mem. bd. of dirs., Rubber Div.; former Natl. Councilor of A.C.S. representative of the Rubber Div. Clubs: Elks, Chemists' (N.Y.), Teugega Country (Rome, N.Y.). Hobbies: fishing, golf, hunting.

SCHEFFLER, George Henry, dir. of res., Darco Corp., Marshall, Texas; res. 312 E. Merritt St., Marshall, Texas.

Chem., physical & colloid; b. Chicago, Ill., Feb. 3, 1908; s. of Henry E. and Frieda L. Scheffler; ed. Lewis Inst., Chicago, 1923-26, B.S., U. of Mich., 1927, M.S., 1928, Ph.D., 1930; mem.: Phi Lambda Upsilon, Alpha Chi Sigma, Gamma Delta, Sigma Xi; m. Edna M. Wurster, July 23, 1930; ch.: Kathleen M. Res. chem., Atlas Powder Co., 1930-33; res. chem., Darco Corp., 1934-36; dir. of res., 1936 to Aug. 1, 1950; director, exptl. lab., Darco Department, Atlas Powder Co., Aug. 1, 1950 to present. Mem.: A.C.S. Hobby: gardening.

SCHEIBEL, Edward George, chem. engr., hd. chem. engrg. group, Hoffmann La Roche, Inc., Nutley 10, N.J.; res. 75 Harrison Ave., Montclair, N.J.
Chem. engrg.; b. Bklyn., N.Y., Jan. 15, 1917; s. of Edward A. and Frances W. Scheibel; ed. B.S. in Ch.E., 1937, Cooper Union Inst. of Tech.; M.Ch.E., 1940, D.Ch.E., 1943, Polytech. Inst. of Bklyn.; mem.: Sigma Xi, Phi Lambda Upsilon; m. Lucille J. Boyle, 1945; ch.: Joan Frances, Elaine Lucille, Edward John. 1937-42, H.C. Bugbird Co., Carlstadt, N.J., asst. chem. later plant supt.; 1942-43, M.W. Kellogg Co., N.Y.C., chem. engr.; 1943-44, Polytech. Inst. of Bklyn., res. assoc.; 1944-45, Hydrocarbon Res. Inc., N.Y.C., process engr.; 1945 to date, Hoffmann La Roche, Inc., Nutley, N.J., chem. engr.; 1942-50 Polytech Inst. of Bklyn., instr. in chem. engrg., appointed adjunct prof. 1945. Design of liquid extraction & distillation equipt.; received Jr. Award of A.I. Ch.E., 1949, for papers on fractional liquid extraction & principles of extractive distillation; first paper described extraction column pat. & marketed in this country & abroad as Scheibel Column. Mem.: A.I.Ch.E., A.C.S., Reg. Prof. Engr. N.Y. Hobbies: photography, swimming.

SCHENCK, Willard Allan, res. chem., Riegel Paper Corp., Milford, N.J.; res. 11 Orchard St., Milford.
Chem.; b. Worden, Mont., July 24, 1917; s. of William and Malissa (Snyder) Schenck; ed. Mont. State Coll., B.S. chem., 1938; Inst. of Paper Chem., M.S., 1940, Ph.D., 1942; mem.: Sigma Alpha Epsilon, Alpha Chi Sigma; m. Mary Whitbeck, Aug., 1943; ch.: Lawrence Allan, Robert William. A.P.W. Paper Co., Albany, N.Y., chem., 1942-44; Poly. Inst. of Bklyn., Bklyn., N.Y., res. assoc., 1944-45; Riegel Paper Corp., Milford, N.J., res. chem. 1946-48, hd. of dev. group 1948 to date. Mem.: T.A.P.P.I.

SCHEPP, William John, pres., conslt. chem., res. dir., Wm. J. Schepp Co. Inc., The Schepp Labs., 21-23 Summit Ave., E. Paterson, N.J.; res. 151 River Dr., E. Paterson.
Exec. chem.; b. July 8, 1889, Paterson, N.J.; s. of William and Anna Schepp; ed. Cooper Union, N.Y., 1912; G.C. (Graduate Chemist); m. Amelia Giger, Oct., 1916. Chem., Cassella Color Co. 1909-12; instr., Y.M.C.A. (N.Y.), 1910-12; Lederle Labs., 1912; chf. chem., textile expert, Natl. Cloak & Suit Co. 1912-18; exec. Schepp & Rosenthal and Wm. J. Schepp, Inc., 1919-37; exec. conslt. Schepp Labs., Wm. J. Schepp Co. Inc. 1937 to date. Specializing in conslt., formulae devel. and improve., and industrial res.; agr. chem., medical chem., phar. chem., physiolog. chem., surface chem.; anti-statics; dispersions, emulsions, suspensions, colloidal prods.; protections against photolysis and thermal change; prod. small particles and powdered metals and alloys; planning proj. on chem. studies of nucleic acid metab. in cancer. Mem.: A.A.A.S., A.C.S., Assoc. Conslt. Chem. & Chem. Engrs., N.Y. Acdy. of Scs., E. Paterson Planning Bd. (chmn.), E. Paterson Chamber of Commerce (1st v.p.), fellow, A.I.C. Hobbies: archeolog. chem., Bible study in Greek and Hebrew.

SCHERER, Philip Carl, prof. phys. chem., Va. Polytech. Inst., Blacksburg, Va.; res. Blacksburg.
Tchg., res. and conslt.; b. Bklyn., N.Y., June 21, 1893; s. of Philip C. and Lily A.J. Scherer; ed. Ph.B., Brown U., 1915; M.Sc., 1923; Ph.D., 1925; mem.: Delta Upsilon; m. Hilda K. Curtin, June 14, 1926. 1915-16, anal. chem., Stillwell and Gladding, N.Y.; 1916-17, instr., N.Y. Military Acdy., Cornwall, N.Y.; 1917-18, chem., Century Color Corp., Nutley, N.J.; 1918-19, Sergeant, C.W.S., U.S.A.; 1919-20, chem., Zobel Color Co., Bklyn., N.Y.; 1920-22, instr., N.Y. Military Acdy., Cornwall, N.Y.; 1922-23, grad. asst., Brown U., Providence, R.I.; 1923-24, du Pont Fellow in Chem., Brown U.; 1925-26, asst. prof. chem., Denison U., Granville, Ohio; 1926-27, instr. in chem., Western Reserve U., Cleveland, O.; 1927-29, res. chem., Brown Co., Berlin, N.H.; 1929-32, asst. prof. chem., V.P.I., Blacksburg, Va.; 1932-40, assoc. prof. phys. chem., 1940 to date, prof. phys. chem. Author: "Lab. Manual for Phys. Chem.," Edwards Bros., Ann Arbor, Mich., 1939; "Cellulose and Its Chem. Properties," Chapt. IV, "Matthews Textile Fibers," 5th ed., John Wiley, 1947; also author and co-author of numerous tech. arts. in sc. jls.; holds many U.S. and foreign pats. in fld. Mem.: Va. Acdy. of Sc., A.A.A.S., A.C.S., A.A.U.P., Sigma Xi, Phi Lambda Upsilon. Hobby: swimming

SCHIERZ, Ernest Rudolf, hd. dept. of chem., U. of Wyoming, Laramie, Wyoming; res. 1512 Garfield Ave., Laramie.
Prof. chem.; b. Milwaukee, Wis., Mar. 9, 1894; s. of Robert W. and Anna Schierz; ed. Milwaukee; m. Lois Lillian Daniels, June 24, 1925; ch.: Ernestine L. Instr., chem., U. of Pittsburgh, Sept., 1917 to Jan., 1918; 1st Lt. C.W.S., U.S.A., Jan., 1918 to Feb., 1919; chem., Natl. Carbon & Battery Co., E. St. Louis, Ill., 1919; instr. chem. U. of Wis., 1919-22; chem., Agr. Experiment Station, U. of Wyoming 1922-24; assoc. prof., hd. dept. of chem., U. of Wyoming, 1924 to present. Res. in decomposition of formic acetic anhydride, esters of hexabromostearic acid, history of chem. Mem.: A.C.S. (Colo.), Acdy. of Sc. (Wyoming), Sigma Xi, A.A.U.P. Hobby: fishing.

SCHILLER, Alejanro Tomas, chem. engr., E.F. Drew & Cia., 616 Avenida R.S. Pena, Buenos Aires, Argentina; res. 341 Calle Yerbal 3 B. Buenos Aires, Arg.
Exec.; b. Budapest, Hungary, Apr. 1, 1900; s. of Isidoro and Maria (Poljak) de Schiller; ed. Polytechnicum Budapest-Hungary, 1923; m. Isabel Lorand, Nov. 28, 1928; ch.: Juan Thomas. 1923-28 jr. chem., First Hungarian Soap Fact., Budapest; 1928-30 res. chem. Swift Internatl., Buenos Aires test clerk; 1930-41 asst. supt. Cia, de Prod. Conen S.A. Buenos Aires; 1941-46 tech. dir., I. F.R. Matarazzo Sao Paulo (Brasil); 1946-47 conslt. engr. Buenos Aires; 1947 to date mgr. dir. E.F. Drew & Cia., Argentina, S.A. Buenos Aires; dir., E.F. Drew & Co., Ltd., Sao Paulo, Brasil. Glycerin distillation, pat. in Argentina. Mem.: A.O.C.S.

SCHILT, Earl Alfred, chem. engr., Zaremba Co., 506 Crosby Bldg., Buffalo 2, N.Y.; res. 140 McKinley Ave., Kenmore 17, N.Y.
Chem. engr.; b. Minneapolis, Minn., Sept. 4, 1915; s. of Alfred P. and Hanna O. Schilt; ed. U. of Minn., B.Ch.E., 1937; m. Mary Belk, Oct. 21, 1944; ch.: Susan Clare, Margaret Anne. General Mills, Inc., Minneapolis, Minn., control chem., 1937; Northwest Paper Co., Cloquet, Minn., anal. chem., tech., asst. shift foreman, shift foreman (pulp mill), bleach plant supt., 1937-42; chem. warfare serv., Huntsville Arsenal, Huntsville, Ala., plant engr., asst. supt., 50 ton chlorine-caustic

plant, Jan., 1942-Apr., 1944; Apr., 1944 to Apr., 1946, U.S. Navy Ensign & Lt. (j.g.); Zaremba Co., Buffalo, N.Y., chem. engr., May, 1946 to present. Mem.: Natl. Soc. Prof. Engrs., A.I.Ch.E., Armed Forces Chem. Assn., T.A.P.P.I. Tr., Augustuna Trinity Luth. Ch., Buffalo, N.Y. Mem.: Masons, R.O.A., Boy Scouts of Am., Alumni Assoc. of U. of Minn., U.S.N.R. Hobbies: handicraft, photography, tennis, boys' guidance wk.

SCHILTHUIS, Jan Jacob, dir. of processes, Am. Enka Corp., Enka, N.C.; res. 12 White Oak Rd., Biltmore Forest, N.C.
Chem. engr.; b. Groningen, The Netherlands, Mar. 28, 1892; s. of P.W. and Sara H. (van Egmond) Schilthuis; ed. Delft Engrg. Acdy., 6 yrs., chem. engr.; Tech. H.S., Berlin, Germany, cert. in metallography; m. Maria S. Hoevers, July 17, 1929; ch.: Jan Jacob, Jr., Alida W. Charlotte. 1916, asst. for tech. botany, Delft, Netherlands, Engrg. Acdy.; 1917-22, wood technologist, Vibem, Amsterdam, Netherlands, Semarang, Java, Palembang, Sumatra; 1922-23, consltg. engr., Inst. for Textile Matls., Delft; 1923-28, chem. engr., A.K. U., Arnhem, The Netherlands; 1928-Feb., 1950, chf. chem., Am. Enka Corp., Enka, N.C., Feb. 1950 to date, dir. of processes. Holds num. pats. in flds. of mfr. of rayon, mfr. of artificial silk & by-prod. recovery therefrom; mfr. of syn. fibers; mfr. of artificial matls.; tension control. Mem.: A.I. Ch.E. Clubs: Enka Lake (Enka, N.C.), Biltmore Forest Country.

SCHLEICHER, Francis Grant von Magius, pres., W.D. Wilson Printing Ink Co. Ltd., 5-38 46th Ave., L.I.C., N.Y.; res. 33-12 210th St., Bayside, N.Y.
Chem., chem. engrg. N.Y. State Lic. No. 13541 prof. engr.; b. L.I.C., Oct. 22, 1893; s. of Francis Joseph and Marion F. (Grant) Schleicher; ed. Cornell U. B.Sc., 1916, M.Sc., 1917; Cornell Medical Schl. 1918; m. Florence Kelsey, 1924; ch.: Ruth, Joan, Anne Grant. W.D. Wilson Printing Ink Co. Ltd.: chem. 1916-17 part-time, supt. 1919-39, pres. 1939 to date and dir. Author: "History of Printing Ink" Am. Ink Maker (mag. 1937). Mem.: N.Y. Paint & Varn. Prod. Club (past pres.), N.Y. Printing Ink Prod. Club (past pres.), A.I.C., A.I.Ch.E. Trustee, Storm King Scl., trustee Boy Scout Camp, Troop No. 110, Bayside, N.Y. Clubs: Cornell of N.Y., Bayside Yacht.

SCHLEICHER, Rowell Anton, pres., Black Bear Co., Inc., 44-45 23rd St., Long Island City 1, N.Y.; res. Seven Archway Pl., Forest Hills, N.Y.
Chem. & engr.; b. Long Island City, N.Y., Sept. 28, 1899; s. of Francis J. and Marion F. (Grant) Schleicher; ed. B.A., Amherst Coll., Amherst, Mass., 1921, U. of Chicago, 1922, Columbia U. 1923; mem.: Psi Upsilon; m. Susan Rankin Towles, July 3, 1924; ch.: Burke Powers, Rowell Anton von Magius, Barret Towles. Asst. to pres., Mutual Chem. Co.; Clarkson & Ford Co.; treasurer, Wilson Printing Co., Ltd.; v.p. then pres., Black Bear Company, Inc.; treas. Werner Motor Corp. Mem.: A.C.S., A.A.A.S., Soc. of Automotive Engrs., Am. Soc. Lubrication Engrs., Soc. of Am. Etchers. Clubs: Amherst (NY.), Cornell (N.Y.), West Side Tennis.

SCHLENK, Fritz, prof. of bacteriology, Sc. Hall, Ia. State Coll., Ames, Ia.; res. 129 State Ave., Ames.
Teaching and res.; b. Munich, Ger., 1909; s. of Wilhelm and M. (von Hacke) Schlenk; ed. U. of Berlin, Ph.D. in chem., 1934; m. T. Eberle, 1940; ch.: Margaret Karin, Edward Frederick. U. of Stockholm, Stockholm, Sweden, res. assoc., Biochem. Inst. 1934-40; U. of Tex., asst., assoc. prof., hd. biochem. dept., Cancer Res. Hosp., conslt. of nutrition, U. Hosps. 1940-47; Ia. State Coll., prof. of bacteriology 1947 to date. Res. in chem. constitution of coenzymes; B-vitamins, bacterial growth factors and enzymes. Mem.: A.C.S., A.S. Biol.C., S.E.B.M., S.A.B. Hobbies: sports, music.

SCHLESINGER, Albert, conslt. res. chem. Endo Products, Inc., Richmond Hill, N.Y.; res. 33-27 83rd St., Jackson Heights, L.I., N.Y.
Res. chem.; b. Gambach, Germany, Sept. 6, 1905; s. of Moses and Babette Schlesinger; ed. U. of Frankfort, Germany, physical chem., organic chem. 1927; Ph.D., 1930; m. Charlotte S. Kriss, Nov., 1948. Chf. chem. with Dr. R. & Dr. O. Weil, Frankfurt am Main, Germany, 1930-36; conslt. res. lab., Milano, Italy, 1936-39; U. of Louvain, Belgium, res. chem., Phar. Inst., 1939-40; Products Chimiques du Dauphin, Bourgoin, France, 1940-46; Endo Products, Inc., Richmond Hill, N.Y., conslt. res. chem., 1946 to date. Res. in fld. of essential oils, antihistimines, spasmolytics, and synth. pharmaceuticals, technical products. Mem.: A.C.S., N.Y. Acdy. of Sc. Hobbies: swimming, hiking.

SCHLESINGER, Hermann I(rving), prof., emer., of chem., U. of Chicago, Chicago 37, Ill.; res. 5822 Blackstone Ave., Chicago 37.
Prof. of inorg. chem.; b. Minneapolis, Minn., Oct. 11, 1882; s. of Louis and Emily (Stern) Schlesinger; ed. A.B., 1903; Ph.D., 1905, U. of Chicago; student at Berlin and Strassburg, 1905-07; m. Edna M. Simpson, Apr. 2, 1910; ch.: Richard B., H. Alan. Hopkins, asst. phys. chem., 1907; Chicago, assoc. chem., 1907-10, instr. 1910-11, asst. prof. 1911-17, assoc. prof. 1917-22; prof. and prof. emer. 1922 to date; secy. Dept. of Chem., 1922-33; exec. secy. 1933-45. Res. in electrolytes in acid solutions; inorg. comps., complex ions. Author: "Gen. Chem.," 1925, 1930, 1937, 1950; "Lab. Manual Gen. Chem.," 3 editions. Mem.: A.C.S., A.A.A.S., Sigma Xi, Phi Beta Kappa, Natl. Acdy. of Scs., George Fisher Baker Nonresident Lecturer, Cornell U., 1950; hon. LL.D. Bradley U., 1950. Trustee, Chicago Sect., A.C.S. Clubs: Chemists', Quadrangle.

SCHLESMAN, Carleton H., div. hd., Naval Ordnance Lab., Silver Spring 19, Md.; res. 2938 Chew St., Allentown, Pa.
Exec.; b. Allentown, Pa., Nov. 20, 1901; s. of Charles H. and Mary M. (Hecker) Schlesman; ed. Lehigh U., Ch.E., 1922; du Pont Fellow, Johns Hopkins U., 1924-25; awarded Ph.D., Johns Hopkins 1925; mem.: Sigma Xi, Gamma Alpha. Atlantic Refining Co., Phila., Pa., engr. 1924; (Socony Vacuum Oil Co.) Socony Vacuum Labs., chf. automotive engr. 1925-35, Bklyn., N.Y.; Socony Vacuum Labs., Paulsboro, N.J., 1935-36, asst. mgr. of labs., hd. res. & dev. div. 1936-45, assoc. mgr. 1946-47; div. hd., Naval Ordnance Lab., Silver Spring, Md., 1947 to date. 17 issued U.S. pats. high pressure & catalytic equipt.; chem. processes chem. syn. & instrumentation; specialist in fld. of fuels & combustion in aircraft engines & diesel engines. Mem.: A.A.A.S., A.C.S., A.Phys. S., S.A.E., Inst. of Radio Engr., Franklin Inst. Club: Chemists' (N.Y.C.).

SCHLOSSBERG, Louis, Dir. Metals Res., Quaker Chems. Prods. Corp., Conshohocken, Pa.; res. 6415 N. 16th St., Philadelphia 26, Pa.
Res. chem.; b. Brooklyn, N.Y., June 3, 1923; s. of Julius and Julia Schlossberg; ed. C.C.N.Y., B.S., 1944, Temple U., M.A., 1947; m. Martha A., Mar. 29, 1947; ch.: David, Allen. 1944 to date, Quaker Chem. Prods. Corp., res. chem., Dir Metals Res. Res. & dev. wk. in metal specialty prods. Mem.: A.C.S., Natl. Assoc. of Corrosion Engrs.

Club: Conshohocken Assn. Hobbies: painting, sketching, breeding tropical fish, carpentry.

SCHLOTTERER, Ray C., trade assn. mgr., 220 Fifth Ave., N.Y. 1, N.Y.; res. "Crossroads," Saddle River, N.J.
Chem.; b Phila., Pa., Sept. 30, 1898; s. of Charles and Katherine Humma Schlotterer; ed. Princeton, B.S., 1922; Columbia U., grad. schl. (economics); Northwestern U., (Inst. Trade Assn. Exec.); chem., Braden Copper Co., Chile, S. Am.; secy., Drug, Chem. & Allied Trades Section, N.Y. Bd. of Trade (1930-40); secy. N.R.A. Code of Natural Org. Prods. Indust. (1933-34); secy. Botanical Drug Assn. (1933-37); Water Soluble Gum Assn., secy. (1933 to date); mgr. dir. Essential Oil Assn. U.S.A. (1934 to date); secy. Vanilla Bean Assn. (1934 to date), ex. secy. Federal Wholesale Druggists Assn. of U.S., Canada (1940 to date); secy., treas. Natl. Drug Trade Conf. (1944 to date), instr. Drug Marketing Staff, C.C.N.Y. Author: "Federal Phar."; contrib. extens. to sc. and tech. jls.; Citation, W.P.B. wk. on Natl. War Salvage Program. Mem.: Am. Trade Assn. Execs., A.Phar.A., Sales Execs. (N.Y.), Advertising (N. Y.), A.A.A.S. (fellow). Dir., Am. Foundation Phar. Ed, Bur. Ed. on Fair Trade, St. Comm., Phar. Manpower Comm., exec. comm.

SCHMERLING, Louis, res. chem., Universal Oil Products Co., Riverside, Ill.; res. 183 Lawton Rd., Riverside.
Res. chem.; b. Milwaukee, Wis., Apr. 20, 1912; s. of Max and Bertha Schmerling; ed. U. of Wis., B.S., 1932, Northwestern U., Ph.D., 1935; m. Annette Frazin, July 25, 1937; ch.: Judith M., Michael A. Universal Oil Products Co., res. chem., 1935 to present; Univ. Coll. of Northwestern Univ., lect. in org. chemistry, 1941-42. Res. in catalysis & hydrocarbon reactions, mechanisms of the alkylation of isoparaffins & of the isomerization of paraffins, alkylation of aromatic hydrocarbons, condensation of alkyl halides with olefins & haloolefins, condensation of isoparaffins with haloolefins. Contrib. to "Advances in Catalysis." Mem.: Phi Beta Kappa, Phi Lambda Upsilon, Sigma Xi, Ipatieff award 1947. Hobbies: photography, philately, early chemistry books.

SCHMIDT, Fredric Cowles, assoc. prof. chem., Chem. Dept., Ind. U., Bloomington, Ind.; res. 209 So. Union St.
Assoc. prof. chem.; b. New Haven, Conn., Feb. 19, 1904; s. of William and Mary H. Cowles Schmidt; ed. Brown U., Sc.B.; Sc.M.; Ph.D.; mem.: Alpha Chi Sigma; m. Ruth Howell Champlin, June 11, 1931; ch.: Peter Champlin, Katherine Cowles. 1930 res. chem., Oldbury Electrochem., Niagara Falls, N.Y.; 1932-37 instr. Union Coll., Schenectady; 1937-42, asst. prof.; 1943-47, assoc. prof., 1947 to date assoc. prof. Ind. U. also 1944-45 prof. Albany Coll. of Pharmacy; summer 1946 assoc. prof. Yale U. Res. in thermochem. of liquid ammonia soluts.; reaction in liquid ammonia. Mem.: Sigma Xi, Phi Lambda Upsilon. Hobby: raising tropical fish.

SCHMIDT, Reese Boise, anal. chem., W.A. Sheaffer Pen Co., Ft. Madison, Ia.; res. 2109 Ave. H.
Chem.; b. Knoxville, Ia., May 16, 1913; s. of Horace B. and Josephine A. Reese Schmidt; ed. Central Coll., Pella, Ia., 1930-34, B.A.; Ia. St. Coll., Ames, Ia., 1937-40; m. 1939, 1949. Calif. Pack. Corp., Rochelle, Ill. 1940-42, frmn. exp. canning; Texas Coll. Arts and Inds., Kingsville, Texas, 1943, instr. chem.; U.S. Rubber Co., Des Moines, Ia., Ordn. Plant, 1944-45 asst. chf. chem., supvr. chem. lab.; W.A. Sheaffer Pen Co., Ft. Madison, Ia., 1946 to date, anal. chem. Mem.: A.C.S. Hobbies: photography, fishing, boating.

SCHMIDT, Walter A., pres., gen. mgr., Western Precipitation Corp., 1016 W. 9 St., Los Angeles, Calif.; res. 356 So. Hudson Ave., Los Angeles.
Chem. engr.; b. Los Angeles, Calif., Aug. 26, 1883; s. of August and Adele Ott Schmidt; ed. U. Calif., Coll. Chem., B.S., 1906; mem.: Sigma Xi, Phi Lambda Upsilon; m. Ethel Mary Proudfoot, Oct. 17, 1910; ch.: Walter Malcolm Schmidt. 1908-11, engr. Western Precipitation Co., 1911 to date, pres., gen. mgr. now Western Precipitation Corp.; pres., Internatl. Precipitation Co., Precipitation Co., Canada, Ltd. Res. in dev. elect. dehydration proc. for breaking pet. emulsions; dev. and comm. applicat. elect. precipitation proc. for separaration of suspended part. from gases. Contrib. extens. to sc. and tech. jls. Mem.: A.C.S. (dir. 1931-33; 1934-36; 1943 to date). E.S., A.I.Ch.E., A.I.M.E., A.I.E.E., A.A.A.S. Clubs: Calif., Univ., Athletic (Los Angeles), Chem. (N.Y.). Hobbies: gardening, photography.

SCHMIDT, Willy Albin, coordintaor of res., Central Res. Lab., Gen. Aniline & Film Corp., Easton, Pa.; res. R.D. 4, Easton.
Res. chem.; b. Leipzig, Germany, Aug. 25, 1898; s. of Albin E. and Anna Maria Schmidt; ed. Ph. D., 1924, U. Leipzig; m. Sibylle Louise Jueling, June 16, 1931; ch.: Christoph Harald, Brigitta Helene Sibylle, Roland Jueling. Instr. Chemisches Laboratorium, Universitaet Leipzig, 1924-27; chem., X-ray spec.; I.G. Farbenindustrie, Berlin, 1927-28; dept. hd. chg. labs., Agfa Ansco Corp., Binghampton, N.Y. 1929-31; asst. prod. mgr., 1931-37; asst. prod. mgr., hd. res. dept., 1937-42; res. sect. leader Central Res. Lab., Gen. Aniline & Film Corp., Easton, Pa., 1942-49; coordinator res., 1949 to date. Mem.: A.C.S., A.A.A.S., S.C.I.

SCHMIEL, Edgar M., representative, Baker Perkins, Inc., 111 W. Washington St., Chicago, Ill.; res. 7339 Chappel Ave., Chicago.
Chem. engr.; b. Grand Rapids, Mich.; s. of Herman J. and Martha Schmiel; ed. U. of Mich., 1923; m. Louise W. Schuitema, May 31, 1923. 1923-25, Cutler Hammer Co., res.; 1925 to date, Baker Perkins Inc. Mem.: A.C.S., A.I.Ch.E. Club: South Shore Country.

SCHMITT, Milton George, dev. chem., Thilmany Pulp & Paper Co., Kaukauna, Wis.; res. 123 W. 9th St., Kaukauna.
Chem.; b. Kaukauna, Wis., June 5, 1912; s. of Joseph and Ella Schmitt; ed. Kaukauna H.S., U. of Wis., misc. E.S.M.W.T., vocational, correspondence; m. Rosemary Hooyman, Sept. 7, 1935; ch.: Thomas, Charles, Virginia. Tech. asst., physics dept., Inst. of Paper Chem., Appleton, Wis., 1934-35; positions held with Thilmany Pulp & Paper Co.: anal. and gen. chem., 1935-40, res. and dev. 1940 to date; 1935 to date, repair and construct. scientific equipment in own shop. Wk. unpublished because of its nature; principally deals with asphalts and waxes and their application to paper; 1937 some basic wk. in sulfur chem. in Kraft recovery. Published only in abstract. Mem.: A.C. S., T.A.P.P.I., United Horological Assn., Watch and Clock Collectors Assn., Local section, A.I.E. E. Hobbies: scientific instruments, including watches.

SCHNEIDER, Richard Bell, res. conslt., Arthur D. Little, Inc., Cambridge, Mass.; res. 270 Glen Rd., Weston 93, Mass.
Indus. consltg. chem.; b. Binghamton, N.Y., Mar. 14, 1906; s. of Frederick G. and Rose Bell Schneider; ed. Binghamton, N.Y. pub. schls.; Harvard U., B.S. in Ch., 1927; mem.: Kex Club; m. Irene Mildred Edmonds, Apr. 18, 1931; ch.: Richard E., Gretchen. Atmospheric Nitrogen Corp.; E.I. du Pont de Nemours & Co., Ammonia Dept.; The Solvay Process Div., Allied Chem. & Dye

Corp. 1933-34; Arthur D. Little, Inc., since 1944. Res. in product & market dev., sales dev., tech. & econ. surveys. Mem.: A.C.S., Chem. Market Res. Assn., S.C.I., Com. Chem. Dev. Assn., Boston Security Anal. Soc. Clubs: Harvard (N.Y. City), Harvard (Boston), Chemists' (N.Y. City). Hobbies: tennis, golf.

SCHNELLER, George H., dir. of pharmaceutical application, Calco Chemical Div., American Cyanamid Co., Bound Brook, N.J.; res. 429 Watchung Ave., North Plainfield, N.J.
Phar. chem.; b. New York, N.Y., Sept. 8, 1913; s. of Joseph John and Beatrice (Vydra) Schneller; ed. B.S. (pharmacy) summa cum laude, St. John's U., (Bklyn., N.Y.) 1935; M.S., New York U., 1941; Ph.D., org. chem. Polytech., Inst., Bklyn., N.Y., 1947; m. Marjorie E. Cooney, June, 1945; ch.: Marjorie A., Beatrice M. Chem., Carroll Dunham Smith Pharmacal Co., N.J., 1936-40; res. chem., Vick Chemical Co., N.Y., 1940-42; chf. chem., Ammonium Perchlorate Plant, Greensboro, N.C., 1943-44; res. fellow, Polytech. Inst., Bklyn., 1944-46; dir. phar. res., Wm. S. Merrell Co., O., 1946-47; Calco Chemical Div., American Cyanamid Co., 1947 to present. Res. in dev. and evaluation of phar. prods. and preparations, vitamins, sulfa drugs, quaternary ammonium germicides, emulsions. Contrib. extens. to sc. and tech. journals. Mem.: A.A.A.S. (fellow), A.C.S., A.Phar. A., A.I.C. (fellow) Acdy. of Sc. (New York), Sigma Xi, Phi Lambda Upsilon. Clubs: Chemists' (New York). Hobbies: horticulture, golf, hiking, birds.

SCHNITZER, Robert Julius, hd. chemotherapy labs., Hoffmann-La Roche, Inc., Nutley 10, N. J.; res. 28 N. Spring Garden, Nutley 10.
M.D.; b. Berlin, May 16, 1894; s. of Manuel and Kate (Kraemer) Schnitzer; ed. U. of Berlin, M. D., 1913-19; m. Peggy Rosenberg, Dec. 21, 1926; ch.: Muriel, Bertram. 1919-28 bacteriol., Robert Koch Inst., Berlin; 1928-38 chemotherapist, Bayer Corp., Frankfurt-Hoechst; 1939-41 res. assoc., Connaught Labs. U. Toronto, Can.; 1941 to date Hoffmann-La Roche, Inc. Chemotherapy of bacterial & potozoan infections. Mem.: A.A.A.S., N. Y. Acdy. Scs., Res. Soc. of Am. (R.E.S.A.), S. E.B.M., N.Y. Soc. Trop. Med.

SCHOCH, Eugene Paul, prof. of chem. engrg., U. of Texas, Austin, Texas; res. 2212 Nueces St., Austin.
Teacher & consltg. chem. engr.; b. Berlin, Germany, Oct. 16, 1871; s. of Oscar and Jenny (Fink) Schoch; ed. U.T.C.E. 1894; M.A. 1896; U. of Chicago, Ph.D. 1902; fellow, U.T. 1893-94; fellow, U. of Chicago, 1899-1900; mem.: Sigma Nu; m. Clara Gerhard, June 14, 1902; ch.: Arthur Gerhard, Margaret, Eugene Paul, Jr. Instr. in chem., U. of Texas, 1897-1905, adj. prof. 1905-08, assoc. prof. 1908-11, prof. 1911-40, prof. of chem. engrg. 1940 to date, dir., Bur. of Ind. Chem., 1928 to date. The reversible ionization potential of nickel; raw dehydrated lump lignite; new meth. for extracting potassium sulphate from polyhalite; large current glow discharges in gases under high pressures. Co-author: "Gen. Chem." with Felsing (McGraw-Hill), 1938; "Gen. Chem." with Felsing & Watt (McGraw-Hill), 1946. Mem.: A.C.S., A. I. Ch.E. Hobbies: golf, violin playing.

SCHOEFFEL, Eugene Wilhelm, dir. of res. & dev., Salvo Chem. Corp., Rothschild, Wis.; res. Trails End, Box 1067, Rothschild.
Chem.; b. Stuttgart, Germany, Jan. 25, 1903; s. of Conrad F. and Sofia (Riethmueller) Schoeffel; ed. Hohenheim Diplagr 1925, Munich, 1923; Wis., 1933, Ph.D.; m. Corinne Sadler-Morton, Jan. 6, 1948; ch.: Michael, Tess, Beth, Gail. 1925, Chamber of Agr., Stuttgart, Germany, res. fellow; 1929-36, U. of Wis., Wis. Alumni Res. Foundation fellowship; 1935-41, Am. Medical Assn., Chicago, Ill., chem.; 1941-45, Merck & Co., Rahway, N.J., res. chem. & conslt.; 1945 to date, Salvo Chem. Corp., Rothschild, Wis., dir. of res. Microchem., fats, alkaloids, phar., lignin. chem., chem. engrg. & process design. Mem.: A.C.S. Club: Wausau. Hobbies: sailing, farming, gardening, photography, ceramics.

SCHOELD, Edmund A., chf. chem., Potash Co. of Am., Carlsbad, New Mex.
Chem.; b. Dec. 9, 1903; s. of Andrew and Jennie Schoeld; ed. Gustavus Adolphus Coll., B.A., 1924 (summa cum laude); U. Minn., M.S., 1935; m. May Woodard, June 11, 1931; ch.: Edmund, James, Katherine. High Schl. princ., Tyler, Minn., 1925-27; instr. chem., Waldorf Coll., Forest City, Ia.; dean Coll., 1935-42; chf. chem., Potash Co. Am., 1942 to date. Anal., chem. res. studies on potassium chloride, sodium chloride flotation. Mem.: A.C.S., A.I.M.E., A.A.A.S.

SCHOENBORN, Edward Martin, prof. & hd. dept. of chem. engrg., N.C. State Coll., Raleigh, N.C.; res. 2512 Kenmore Dr., Raleigh.
Prof. of chem. engrg.; b. Columbus, Ohio, May 3, 1909; s. of Edward M. and Emma (Wolfram) Schoenborn; ed. Ohio State U., B.Ch.E., 1932, M.S., 1934, Ph.D., 1941; mem.: Phi Kappa, Tau Beta Pi, Sigma Xi, Phi Lambda Upsilon; m. Virginia Walter Harrington, June, 1940; ch.: Edward M., III. 1942-45, collaborated with A.P. Colburn on various cooperative res. projects bet. U. of Delaware, dept. of chem. engrg. & Rubber Reserve Corp., Pratt & Whitney Aircraft, Natl. Advisory Comm. for Aeronautics, The Andale Co. & A.S.T.M.; engrg. res., Pratt & Whitney Aircraft, East Hartford, Conn., July, 1944; res. & consltg., Syn. Rubber Program, Koppers Co., Butadiene Div., Pitts., Pa., summer 1942; 1942-45, assoc. prof. of chem. engrg., 1939-42 asst. prof. of chem. engrg., 1938-39, instr. in chem. engrg., 1935-39 instr. in chem., U. of Delaware, Newark, Del.; Nov., 1945 to date, prof. & hd. dept. of chem. engrg., N.C. State Coll., Raleigh. Mem.: A.C.S., A.S.M.E., A.S.T.M., A.S.E.E., A.A.A.S., A.I.Ch. E., A.A.U.P. Clubs: Raleigh Engrs., Carolina Country. Hobby: music.

SCHOENE, Dwight Lorin, mgr. org. res., Naugatuck Chem. Div., U.S. Rubber Co., Naugatuck, Conn.; res. Morris Rd., Woodbridge, Conn.
Chem.; b. Milan, Mo., Feb. 14, 1914; s. of Walter E. and Gladys (Payne) Schoene; ed. Central Coll., Fayette, Mo., A.B., 1935 Chem.; Iowa State Coll., Ames, Iowa, Ph.D., 1939 Biophysical Chem.; m. Elizabeth Roost, Oct. 23, 1939; ch.: Janet, Gay. U.S. Rubber Co.: res. chem., Gen. Labs., Passaic, N.J., 1939; res. chem., plantation div., Sumatra, 1939-42, res. chem., Naugatuck Chem. Div., 1942 to date, mgr. org. res., Naugatuck Chem. Div., 1947 to date. Dev. of mold-bran amylolytic agent; cross-linked GR-S; growth regulators, fungicides, rubber chem., natural latex & crude rubber. Mem.: Sigma Xi, A.C.S. (chmn. New Haven Sec. 1950). Hobbies: sports, gardening.

SCHOENFELD, Frank Koch, v.p.-tech., B.F. Goodrich Chem. Co., div. of B.F. Goodrich Co., 324 Rose Bldg., E. 9th & Prospect Ave., Cleveland 15, Ohio; res. 18402 Lynton Rd., Shaker Heights 22, Ohio.
Exec.; b. Pitts., Pa., Dec. 7, 1904; s. of George and Rose Schoenfeld; ed. B.S. chem. engrg., Mich., 1927; M.S., Western Reserve, 1933, Ph.D., 1937; mem.: Alpha Chi Sigma; m. Helen Mars Wood, Oct. 10, 1930; ch.: Gretchen Ann. B.F. Goodrich Co., 1927 chem. gen. lab., 1929 res. chem., 1939 mgr. res. & dev., 1942 dir. koroseal & plastics res., 1943 tech. supt. chem. div., 1944 dir. tech. & dev.; B.F. Goodrich Chem. Co., div. of B.F. Goodrich

Co., 1946 to date v.p.-tech. Various chem. pats. & applications. Mem.: A.C.S., Chem. Market Res. Assn., A.I.Ch.E., Cleveland Chamber of Com. Club: Shaker Heights Country.

SCHOENFELD, William Alfred, dean, dir., O.S. C., 112 Agr. Bldg., Corvallis, Ore.; res. 506 N. 35th St., Corvallis.
Adm.; b. Limbach, Saxony, Germany, Sept. 16, 1888; s. of Gustavus Adolphus and Amalie (Mueller) Schoenfeld; ed. 1910-14, U. of Wis., B.S.; 1920-22, Harvard Grad. Schl. of Bus. Adm.; m. Mabel Pearl Wagner, July 25, 1913; ch.: Arthur Raymond, Robert W. (dec.), Benj. Franklin (dec.), Harold Paul, Barbara Ruth. 1904-07, engrs. apprentice, M.H.L. & T. Co., Milwaukee, Wis.; 1907-10, asst. engr., U.S.R.S., Roosevelt, Ariz.; 1913-14, secy., Agr. Exp. Station, Madison, Wis.; 1914-15, lecturer, U. of Texas, Austin, Tex.; 1915-20, v.dir., U. of Tenn., Knoxville, Tenn.; 1921-22, lecturer, M.I.T., Cambridge, Mass.; 1921-33, secy., mgr., New England Res. Council, Boston, Mass.; 1922-24, asst. chf. Bur. of Agr. Economics, U.S.D.A., Wash., D.C.; 1924-26, agr. attache., N. Europe, U.S.D.A.; 1926-31, regional representative, Fed. Farm Bd. & U.S.D.A., Wash., D.C.; 1931 to date, dean, dir., O.S.C. & Agr. Exp. Station. Dir. & chmn. of bd., Federal Land Bank, Federal Intermediate Credit Bank, Production Credit Corp., Bank for Cooperatives, Spokane, Wash.; trustee, Refrigeration Res. Foundation, Berkeley, Calif.; v.p., Agr. Res. Foundation, Corvallis, Ore.; v.p., Agr. Engrg. Res. Foundation, Corvallis, Ore.; chmn., Filbert Control Bd., Portland, Ore.; secy., Ore. Flax & Linen Bd., Salem, Ore.; mem. State Soil Conservation Comm., Corvallis, Ore. Adm. wk. directing staff of gen. & biochemists. Govt. & state bull. & reports. Mem.: A.A.A.S.

SCHOENHOLZ, Daniel, res. group dir., Wax, Paint & Varn. Sect., Foster D. Snell, Inc., 29 W. 15th St., N.Y.C.; res. 196-43 Dunton Ave., Hollis, L.I., N.Y.
Chem.; b. N.Y.C., Aug. 9, 1917; s. of Max and Rose Schoenholz; ed. B.S., C.C.N.Y.; m. Alice O., 1943; ch.: Judith Ann. 1941-43 chem., U.S. C.W.S.; 1943 to date res. group dir., Foster D. Snell, Inc. Papers on elect. micros. studies of wax emulsions, test. device for testing wax polishes, gen. characteristics of polishes. 3 patents on paint brushes, wax comp., 5 patents pend. on polyvinyl, emulsion paints, other finishes. Mem.: A.C.S.

SCHOFIELD, Samuel Biggs, prof. of chem., Western Md. College, Westminster, Md.; res. 82 W. Green St., Westminster.
Tchr.; b. Georgetown, Md., Feb. 13, 1898; s. of Andrew J. and Rachel F. (Biggs) Schofield; ed. Western Md. Coll., 1915-19, A.B., 1919; Cornell U., summers 1920-21-22; Princeton U. 1924-28, A.M., 1925; Sc.D. (hon.), Dickinson Coll., 1949; m. Corinne Troy, June 22, 1929; ch.: Corinne Troy. Western Md. Coll., 1919-24, 1928 to date. Trustee, Asbury Home for the Aged, Gaithersburg, Md. Mem.: A.C.S.

SCHOLES, Samuel Ray, hd. dept. glass tech., N. Y. State College of Ceramics, Alfred U., Alfred, N.Y.; res. Alfred.
Tchg.; b. Marquette, Wis., Jan. 22, 1884; s. of Samuel and Harriet (Newell) Scholes; ed. Ripon Coll., A.B., 1905; Yale U., Ph.D., 1911 (Loomis Fellow in chem.); mem.: Acacia, Alpha Chi Sigma, Keramos; m. Lois Elizabeth Boren, Apr. 10, 1914; ch.: Samuel R., Jr., Lois Ann (Mrs. B.H. Colvin), Addison B., James B. Fellow, Mellon Inst., 1911-13; asst. dir., 1914-17; chem., H.C. Fry Glass Co., 1913-20; chem., Federal Glass Co., 1921-29, 1931-32; chem., Fostoria Glass Co., 1929-31; prof., N.Y. State Coll. of Ceramics, Alfred U., 1932 to date; dean, 1946-48. Author: "Modern Glass Practice," (1935); "Glass Tank Furnaces," (a translation) 1938. Mem.: Amer. Ceramic Soc. (fellow) (chmn., glass div. 1920; secy., glass div. 1935-48), A.A.A.S. (fellow), Soc. of Glass Tech. (fellow), A.S.E.E. Clubs: Wellsville (N.Y.) Country, Wellsville Rotary. Hobbies: golf, etymology.

SCHOLL, Allen W., prof. of chem., hd. dept., Marshall College, Huntington 1, W.Va.; res. 669 S. Terrace, Beverly Hills, Huntington 3.
Chem. prof.; b. Alvada, Seneca Co., O., Mar. 15, 1908; s. of William Henry and Laura Grace (Crawford) Scholl; ed. Ashland Coll., B.Sc., 1930; Penn. State Coll., M.S., 1932 (grad. asst.; Phi Lambda Upsilon); Ph.D., 1934 (grad. asst.; Sigma Xi). Ashland Coll., Ashland, O., assoc. prof. chem., 1934-36; chem. & physics, 1936-38; Westminster Coll., prof. chem. & hd. dept., 1938-39; Penn. Coll. for Women, instr. chem., 1939-42; assoc. prof. chem. & physics, 1942-43; Penn. State Coll., ext. E.S.M.D.T. & E.S.M.W.T. war training program, Pittsburgh; Firestone Tire & Rubber Co., res. lab., sr. res. physicist, 1943-45; sr. res. physical chem., 1945-46; sr. res. anal. chem., 1946-48; Marshall Coll., prof. chem. & hd. dept. 1948 to date; dir. of res., Marshall Coll. Res. Inst., 1949 to date. Activ. coefficients of salts in anhydrous acetic acid and of sulfuric acid in anhydrous ethyl alcohol; heat embrittlements tests and cutting resistance test for natural & synthetic rubbers. Damon Runyon Res. Grant for Cancer res. 1950-51; Frederick Cottrell Res. Grant, Natl. Res. Corp., 1950-51. Mem.: A.C.S., Am. Phys. Soc., Chem. Soc. (London), W.Va. Acdy. of Sc., Am. Assn. of Geneal., Kappa Sigma Pi, Mu Sigma Chi, Chi Beta Phi. Hobbies: photography, genealogy.

SCHOMAKER, Verner, prof. of chem., Calif. Inst. of Tech., 1201 E. California, Pasadena 4, Calif.; res. 418 S. Michigan Ave., Pasadena 5.
Res. & tchg. physical chem.; b. Nehawka, Nebr., June 22, 1914; s. of Edwin H. and Anna (Heesch) Schomaker; ed. B.Sc., U. of Nebr., 1934; M.Sc., 1935; Ph.D., Calif. Inst. of Tech., 1938; mem.: Alpha Chi Sigma; m. Judith Rooke, Sept. 9, 1944; ch.: David, Eric, Peter. Tchg. asst., Calif. Inst. of Tech., 1935-38; Hale Fellowship, 1938-40; sr. res. fellow, 1940-45; asst. prof. chem., 1945-46; assoc. prof., 1946-50; prof., 1950 to date. Res. in molecular structure. Mem.: Sigma Xi, Sigma Tau, Pi Mu Epsilon, Phi Lambda Upsilon, A.C.S., Am. Crystallographic Assn., A.A.A.S. Hobbies: music, golf, skiing.

SCHORMULLER, Anton, dir. res., Clifton Products, Inc., Painesville, O.; res. Fairfield Rd., Painesville.
Chem.; b. Olching, Bavaria, Ger., June 8, 1905; s. of Josef and Anna Schormuller; ed. Inst. of Tech., Munich, Ph.D.; m. Margaret N. Novak; ch.: Elizabeth Anne, Margaret Louise. Asst. to Dr. Hans Fischer, Inst. of Tech., Munich, 1928-30; fellow, Rockefeller Inst. for Med. Res., N.Y. City, 1930, 1932-34; res. chem., Diamond Alkali Co., 1935-40; chf. chem., Clifton Prod., Inc., Painesville, O., 1940-44; dir. res., 1944 to date. Contrib. extens. to sc. and tech. jls. Mem.: A.C. S., A.A.A.S.

SCHRAMM, Edward, dir. of res., Onondaga Pottery Co., Syracuse, N.Y.; res. 321 Kensington Rd., Syracuse.
Chem.; b. N.Y.C., Dec. 22, 1886; s. of Louis and Wilhelmina Schramm; ed. C.C.N.Y., B.S., 1906, Phi Beta Kappa; Columbia U., Chem. E., 1909; Ph.D., 1913, Sigma Xi; m. Gladys Ord, Aug. 16, 1915; ch.: Dorothea Jones, Carolyn Harper, Wilson. Asst. chem., Bur. of Stands., 1913-16; res.

chem., Am. Zinc, Lead & Smelting Co., 1916-18; Bridgeport Brass Co., 1918-20; dir. of res., Onondaga Pottery Co., 1920 to date. Dev. of bodies, glazes, colors & processes for mfr. of china tableware. Publ. chiefly in "Jl. Am. Ceramic Soc." Mem.: A.C.S., Am. Ceramic Soc. (fellow), A.A.A.S.

SCHREIBER, Frederick Walter, chf. supvr., standards and quality, Pepsodent div., Lever Bros. Co., 6901 W. 65 St., Chicago 38, Ill.; res. 2691 Western Ave., Park Forest, Ill.
Chem.; b. Phila., Pa., Sept. 13, 1913; s. of Frederick A. and Emily K. Schreiber; ed. Phila. Coll. of Pharmacy & Sc., B.Sc. Chem., 1934; M.Sc. Chem., 1936; mem.: Alpha Sigma; m. Ruth Barrow, Aug. 29, 1936; ch.: Diane, Frederick. Wyeth, Inc., control chem., res., 1934-39; Personal Products div., Johnson & Johnson, chf. chem., dir. of res. 1939-47; Pepsodent div., Lever Bros. Co., chf. supvr., standards & quality, 1947 to date. Res. in fld. of phar., surgical dressing, cosmetics. Mem.: A.C.S., Am. Soc. Quality Control, T.A.P.P.I. Hobby: photography.

SCHRENK, Walter Theodore, chmn., dept. chem. engrg., Missouri Schl. of Mines & Metallurgy, Rolla, Mo.; res. 111 Olive St., Rolla.
Chem.; b. Golconda, Ill., May 24, 1891; s. of Albert and Bertha Schrenk; ed. Monmouth Coll., B.S., 1915; U. of Wis., M.S., 1919; Ph.D., 1922; mem.: Acacia, Alpha Chi Sigma, Phi Kappa Phi, Sigma Xi, Phi Lambda Upsilon, Gamma Alpha; m. Alberta May Taylor, Aug. 2, 1921 (d.); m. (2nd) Irene Heimberger, Dec. 30, 1942. Genesco, Ill., chem. and physics, 1915-17; U. of Wis., chem. dept., instr., 1917-23; Mo. Schl. of Mines, chem. engrg. dept., asst. prof., 1923-24; prof., 1924-30; prof., chmn. chem. engrg. dept., 1930 to date. Res. in copperlead alloys from ethylene diamine solutions; pyrochem. changes in Mo. Halloysite; quantitative determination of lead by electrolytic deposition of lead dioxide. Contrib. extens. to sc. and tech. jls. Mem.: A.C.S., A.S.E.E. Clubs: C. of C., Lions. Hobbies: hunting, fishing.

SCHREYER, James Marlin, asst. prof. dept. of chem., U. of Ky., Lexington, Ky.; res. 1310 Highland Pk. Dr., Lexington.
Coll. tchr., conslt. chem.; b. Asheville, N.C., Dec. 26, 1915; s. of Roy and Vinnetta Schreyer; ed. Brevard Coll., Brevard, N.C., 1934-36; U. of N.C., Chapel Hill, 1936-38, A.B.; Ore. State Coll., Corvallis, Ph.D., 1948. Asheboro H.S., Asheboro, N.C., chem. tchr., 1938-41; War Dept., Radford Ordnance Wks., Radford, Va., insp. powder explosives, 1941-42; War Dept., Badger Ordnance Wks., Baraboo, Wis., chem. engr., 1942-43; U.S. Rubber Co., Charlotte, N.C. process engr., 1943-44; Sulphonics, Inc., Baltimore, Md., res. engr., 1944-45; Ore. State Coll., grad. tchg. asst., 1945-47; tchg. fellow, 1947-48; U. of Ky., Lexington, asst. prof., 1948 to date. Meth. of preparation & purification of K2FeO4; anal. meths., anal. of K2FeO4 & ferrate (VI) ion in soluts. based on oxida. of arsenic III & of chromium III in alkaline solut.; properties of K2FeO4 & ferrate (VI) ion in solut. Mem.: A.C.S., Sigma Xi, Kappa Delta Pi. Club: Moose. Hobbies: music, dancing, gardening.

SCHROEDER, Bernard A., chf. chem., U.S. Testing Co., Hoboken, N.J.; res. 73 Clover Ave., Floral Park, L.I.
Chem.; b. Bklyn., N.Y., May 29, 1915; s. of Bernard John and Anna (Kargl) Schroeder; ed. B.S., magna cum laude, St. John's U., 1934; M.A., chem., Columbia U., 1936; mem.: Roger Bacon Sc. Soc. U.S. Testing Co., Hoboken, N.J., 1936-44, chem.; 1944 to date, chf. chem. Physico-chem. properties of detergents, molecular orientation of silk. Mem.: A.C.S., A.C.C.E., A.S.T.M., Oil Chem. Soc., T.A.P.P.I., Soc. Applied Spectroscopy.

SCHROEDER, Carl Robert, mgr. metals sales, Metal and Thermit Corp., 100 E. 42nd St., N.Y. 17, N.Y.; res. 27 Glenwood Dr., Short Hills, N.J.
Exec.; b. Hoboken, N.J.; s. of C.T. Rudolph and Marie (Siemons) Schroeder; ed. Stevens Inst. of Tech., 1911, M.E.; m. Gertrude M. Heath, Apr. 19, 1920; ch.: Rosalind H. (Schroeder) Truax, Robert H. 1911-14, Pub. Serv. Gas Co., cadet engr. (Newark, N.J.); 1914-16, Pub. Serv. Elec. Co., evaluation wk. (Newark); 1917-27, Metal and Thermit Corp., asst. supt., Jersey City Plant; 1927-46, supt., same plant; 1947 to date, mgr. metal dept., N.Y. off.; 1927-32, spec. lecturer, indust. org. & sales mgmt., Rutgers U.

SCHUETTE, Henry August, prof., U. of Wis., Dept. of Chem., Madison 6, Wis.; res. 719 Farwell Dr., Madison 4.
Chem.; b. Green Bay, Wis., Jan. 11, 1885; s. of Frederick and Helene (Gieseler) Schuette; ed. U. of Wis., B.S., 1910; M.S., 1912; Ph.D., 1916; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Gamma Alpha, Sigma Xi; m. Jean Fyfe Frederickson, Nov. 2, 1918; ch.: Helene C. (Schuette) Young, John F., Henry G. U. of Wis., asst. in chem., 1910-14; instr., 1914-18; asst. prof., 1918-28; assoc. prof., 1928-36; prof., 1936 to date; interim summer pos. with Wis. Geol. Natl. Hist. Survey, Wis. Dairy & Food Comm., Bur. Aircraft Prod. (1918), Forest Prods. Lab. (1919). Res. in chem. of foods, particularly fatty oils, plant waxes, honey; anal. meths. pertinent to functional groups; fresh-water plankton & aquatic vegetation; hist. certain foods; author approx. 150 scientific papers. Mem.: A.C.S. (chmn. Wis. sec. 1927; editor 1922-29 & 1944; secy., div. agric. & food chem., 1928-30 & chmn., 1932-34; councilor for 3 terms), A.A.A.S. (fellow), A.O.C.S. (pres. 1940; mem. comm. on anal. of fats. & oils since 1939, Wis. Acdy. of Sc., Arts & Letters (secy., 1933-36; pres., 1944-46), I.F.T. (assoc. edit. "Food Tech."). Clubs: University (Madison), Mendota Yacht. Hobbies: philately, gardening.

SCHUH, Arthur Eugene, dir. res. & devel., U.S. Pipe & Foundry Co., Burlington, N.J.; res. 621 Riverbank, Delanco, N.J.
Physical chem., metallurgy; b. Nuremberg, Germany, Nov. 7, 1899; s. of Henry F. and Sophie M. Schuh; ed. Univ. of Chicago, B.S., 1921; Ph.D., 1929; m. Marian R. Platt, Sept. 30, 1933; ch.: Arthur G. C.F. Pease Co., Chicago, chem., 1921; Univ. Oil Products Co., Riverside, Ill., chem. 1922-23; West. Elec. Co., Chicago, chem. engr., 1923-29; Bell Tel. Labs., N.Y., N.Y., physical chem., 1929-38; U.S. Pipe & Foundry Co., Burlington, N.J., dir. res. & devel., 1938 to date. Res. in organ. coating tech. Contrib. to sc. and tech. jls. Awards: U.S. Ordnance Dept. (1944); Secys. Navy & Army (1946). Co-author: "Protective Coatings for Metals," A.C.S. Monograph (1938). Mem.: A.C.S., A.F.S., A.S.T.M., A.S.M., Sigma Xi (1926). Club: Riverton Country. Hobby: loafing.

SCHULMAN, James Herbert, hd., luminescent materials section, Naval Res. Lab., Washington, D.C.; res. 4363 Nichols Ave., S.W. Washington.
Chem.; b. Chicago, Ill., Nov. 15, 1915; s. of Max and Minnie Schulman; ed. Mass. Inst. Tech., S.B. and Ph.D., 1936-41; m. Doris Greenfield, Dec. 25, 1940; ch.: Norma, Barbara, Michael. M.I.T., tchg. fellow, 1939-41; Suffolk Univ., instr., 1940-41; Div. Industrial Coop., M.I.T., staff mem.; M.I.T., 1941-42; N.D.R.C. res. 1942-44; Sylvania Elec. Products, Inc., sr. engr., 1944-46; Naval

Res. Lab., hd. luminescent materials sect., 1946 to date. Contrib. numerous papers on luminescence, polymorphism, photoelec. cells, polarography. Author: chapt. in "Luminescent Materials," Wiley Press (1948). Mem.: A.Phys.S., E.S., Sigma Xi, Wash. Acdy. of Scs. Hobbies: painting, music, photography, chess.

SCHULTZ, Fred Henry, Jr., dir., phar. res. div., Commercial Solvents, 1331 S. 1st St., Terre Haute, Ind.; res. 2266 Deming St., Terre Haute. Res. pharmacologist; b. Rockford, Ill., May 13, 1909; s. of Fred Henry, Sr. and Amy (Weir) Schultz; ed. Carthage Coll. A.B., 1932; U. of Ill. (summer), 1933; U. of Colo. Schl. of Med., M.S., 1935; Ph.D., 1938; Yale Med. Schl., post doctorate fellowship, 1939-40; m. Barbara L. Hewlett, Dec. 28, 1940; ch.: Robert Weir, Peter Hewlett, Barbara Atwater. Am. Cyanamid Co., res. pharmacologist, 1940-43; U.S. Army Air Force, aviation physiol., 1943-46; Pitman-Moore Co., res. pharmacologist, 1946; Wayne Univ. Med. Schl., res. physiol., 1946-47; Commercial Solvents, 1947 to present. Res. in physiol., biochem., synthetic chem., pharmacol. of spasmolytics and local anesthetics, of drugs affecting body temp, of antibiotics. Mem.: A.S. Expermtl. Pharmacol. & Therapeutics, A.C.S., N.Y. Acdy. of Sc., Ind. Acdy. of Sc., Sigma Xi, A.A.A.S., Amer. Industrial Hygiene Assn., Natl. Soc. for Med. Res. Club: Elks. Hobbies: golf, fishing, gen. sports.

SCHULTZ, P(eter) Daniel, prof. of chem., Friends U., Wichita 12, Kans.; res. 624 Hiram Ave., Wichita 12.
Tchg.; b. Mountain Lake, Minn., Aug. 17, 1884; s. of David and Susanna Schultz; ed. Bethel Coll., Newton, Kans., B.A.; U. of Minn., M.S.; Us. of Colo., Kans., Wis. & Chicago, grad. study; m. Justina Wiebe, June 16, 1915; ch.: Paul E., Ellen M. Substitute prof., Bethel Coll., 1915-16; hd., sc. dept., Beatrice H.S., Beatrice, Nebr., 1916-18; prof., chem., Friends U., Wichita, Kans., 1918 to date. Res. in imbibition of var. liquids by vulcanized caoutchouc; diffusion of dyes into organic gels; diffusion of methylene blue in tubes of various diameters. Mem.: A.C.S., Kans. Acdy. of Sc., Natl. Sc. Teachers Assn. Hobby: gardening.

SCHULZ, Helmut William, grp. leader, Carbide & Carbon Chem. Div., S. Charleston, W. Va.; res. 1700 Kanawha Ave. S.E., Charleston, W. Va.
Chem. engr.; b. Berlin, Germany, July 10, 1912; s. of Herman L.W. and Emily Schulz; ed. Columbia Coll., Columbia Engrg. and Columbia Grad. Faculties, 1933, B.S.; 1934, Ch.E.; 1942, Ph D. Carbide & Carbon Chem. Corp., supvr. process dev., grp. leader process dev. lab., 1934 to date. Separation of uranium isotopes by centrifugation; dev. of high pressure syntheses of org. chem. from olefins & CO; res. on the synthesis of acrolein. Mem.: A.I.Ch.E., A.C.S, Sigma Xi, Phi Lambda Upsilon, Epsilon Chi. Dir., Charleston Open Forum. Clubs: Larchmont Yacht, Edgewood Country. Hobbies: sailing, riding.

SCHULZ, John A., res. asst. prof. animal chem. & nutrition, Iowa State College, 306 Chem. Bldg., Ames, Ia.; res. 606 Lynn Ave., Ames.
Chem.; b. Elmwood, Ill., Oct. 15, 1894; s. of John and Johanna Schulz; ed. U. of Ill, B.S., 1917; Ia. State Coll., M.S.; mem.: Cosmopolitan Club; m. Helen Lamb, Sept., 1925; ch.: John Theodore, Jacqueline Ann. Ohio Agric. Expt. Sta., Wooster, O., chem., 1917-21; Ia. Agric. Expt. Sta., Ames, Ia., chem., 1921 to date. Res. in fld. of nutrition and metabolism of mineral salts & elements & fats; biol. value of proteins. Mem.: Sigma Xi, Phi Kappa Phi, Phi Lambda Upsilon, A.C.S., A.A.A.S., Ia. Acdy. Sc. Club: K. of C. Hobby: flower growing.

SCHULZE, Else Louise, Dr., tech. librn., The Procter & Gamble Co., Ivorydale, Cincinnati 17, O.; res. 4008 Floral Ave., Norwood, Cincinnati 12.
Library chem.; b. Cincinnati, O., Oct. 19, 1901; d. of Louis C. and Emilie (Berckhemer) Schulze; ed. U. of Cincinnati, B.A. (cum laude), 1923; M.A., 1924; Ph.D., 1926; mem.: Alpha Chi Omega. Contrib. extens. to sc. and tech. jls. Mem.: Phi Beta Kappa, Iota Sigma Pi, Sigma Xi, A.C.S., Spec. Libraries Assn. Hobbies: sports, travel.

SCHUMB, Walter Cecil, prof. inorg. chem., M.I. T., 77 Mass. Ave., Cambridge 39, Mass.; res. 9 Garden St., Milton 86, Mass.
Prof.; b. Boston, Mass., Sept. 10, 1892; s. of Martin J.C. and Theresa V. (Laviska) Schumb; ed. Harvard, A.B. summa cum laude, 1914; A.M., 1916; Ph D., 1918; Sheldon Travelling Fellow, 1914-15, Magdalen Coll., Oxford, Eng.; mem.: Alpha Chi Sigma, Phi Beta Kappa; m. Margaret V. West, June 30, 1934. Asst. prof., Vassar Coll., 1919-20; asst. prof. inorg. chem., M.I.T., 1920-26; assoc. prof., 1926-34; prof., 1934 to date; dir. res. lab. of inorg. chem., 1930-46. Res. on various topics in fld. of inorg. chem., esp. halides of metals and non-metals, fluorine chem., chem. of silicon. Mem.: A.C.S., Am. Acdy. of Arts & Scs.

SCHUNK, Oliver Henry, res. chem., Buck X-Ograph Co., 8709 X-Ograph Ave., St. Louis, Mo.; res. 8711 Granada Pl., St. Louis 21.
Res. chem.; b. Milwaukee, Wis., Sept. 8, 1892; s. of Edgar and Anna (Burkhardt) Schunk; ed. U. of Wis., B.S., 1917; Ph.D., 1926; mem.: Square & Compass. Grasselli Chem. Co., chem., 1917-18; U.S. Pub. Health Serv., chem., hygienic lab., 1918-19; Mellon Inst., indust. res. fellow, 1920-21; du Pont Film Mfg. Co., res. chem., 1926-31; Atlantic Gelatin Co., res. chem., 1932-33; Hammer Dry Plate Co., res. chem., 1934-38; conslt., 1939-40; 1941, Prismacolor, Chicago, Ill., conslt.; 1942, Todd & Brown, La Porte, Ind., spec. chem.; 1943 to date, Buck X-Ograph Co., St. Louis, Mo., res. specialist photographic emulsions. Mem.: Sigma Xi, A.C.S. Clubs: F. & A.M., Square & Compass Frat. (past pres). Hobby: gardening.

SCHUR, Milton Oscar; dir. res., dev., Ecusta Paper Corp., Pisgah Forest, N.C.; res. 106 Stuyvesant Rd., Biltmore Forest, Asheville, N.C.
Res. chem.; b. Boston, Mass., Sept. 5, 1895; s. of Eugene Harry and Martha (Reinherz) Schur; ed. B.S., M.I.T., 1916; m. Etta Ruth Lavine, Sept. 2, 1917; ch.: Bertram H. Res. chem., M.I. T., 1916-17; chem. engr., Chem. Prods. Co., Wash., D.C., 1917-18; res. chem., U.S. Bur. Mines & C.W.S., U.S.A., 1918-19; Brown Co., Berlin, N.H., 1919-44; dir. res. & dev., 1940-44; Ecusta Paper Co., dir. res. & dev., 1944 to date. Specializing in mfr. of wood pulps, their purification & utilization; many patents and contrib. extens. to sc. and tech. jls. Mem.: A.I.Ch.E, A.C.S., A.I.C., A.A.A S., T.A.P.P.I., Can. T. A.P.P.I., S.C.I., F.P.R.S., E.S. Club: Chemists' (N.Y.C.). Hobby: musicology.

SCHUYLER, William Hilliard, asst. prof. chem. engrg., Engrg. Bldg., Bucknell U., Lewisburg, Pa.; res. College Park, Lewisburg.
Tchg. and res.; b. Sept. 6, 1890; s. of Charles M. and Agnes Schuyler; ed. Bucknell U., B.S. Chem. E. (cum laude); Columbia U., U. of Virginia, M.S. Chem.; mem.: Sigma Phi Epsilon, Alpha Chi Sigma (professional); m. Arbutus Harner, Aug. 30, 1920; ch.: Harold H., Charles M.,

William H., Jr. Bucknell U., instr. in chem., 1915; C.W.S., Wash., D.C., res. on toxic gases; Bucknell U., 1920; Columbia U. grad. wk. org. chem.; Bucknell U. asst. prof. chem.; U. of Va. (du Pont fellow in chem. tchg. and res. for Ph.D.); Bucknell U. Jr. Coll. at Wilkes Barre, Pa., hd. Chem. Dept.; Bucknell U., res. prof. Res. on mustard gas, Lewisite gas; res. on gaseous equilibrium of volatile liquids; res. on emulsions. On Bd. of Editors, "Handbook of Chemistry and Physics," since 1922; on Bd. of Editors, "The Chemical Formulary," each volume. Mem.: A.A.A.S., Am. Soc. for Engrg. Education, A.A.U.P., A.C.S. Clubs: Masonic Lodge (past master), 32 degree Mason, Royal Arch Mason. Hobbies: photography, bee culture, rose culture.

SCHUYTEN, Hartwig Andrew, chem., South. Regional Res. Lab., U.S.D.A., 2100 Robt. E. Lee Blvd., New Orleans, La.; res. 329 Audubon St., New Orleans.
Chem.; b. New Orleans, La., Sept. 3, 1912; s. of Ernest E. and Louise (Knops) Schuyten; ed. Loyola Univ., B.S. in Chem., 1936; Univ. of Detroit, M.S., 1938; m. Luella Frances Bonnabel, Aug. 24, 1939; ch.: Louisette Ernestine, Hartwig Andrew, Jr. U. Detroit, grad. asst., 1936-38, instr. chem., 1938-40; Loyola U. of the South, instr. chem., 1940-45; New Orleans br., Pittsburgh Testing Lab., chf. chem., 1942-43; Southern Reg. Res. Lab. U.S.D.A., chem., GS 9, 1945-48, chem. GS 11, 1948 to present. Res. in chem. modification of cotton cellulose espec. to produce water repellency; meth. of determining water repellency in textile fabrics. Mem.: A.I.C. (fellow), A.C.S., Sigma Xi. Hobbies: wood and metal wk., building small boats, fishing.

SCHWAB, Charles Munhall, sales mgr., chem. div. & dir., Shawingigan Products Corp, 350 Fifth Ave., New York 1, N.Y.; res. 147 Halsted St., East Orange, N.J.
Chem. sales.; b. Pittsburgh, Pa., Feb. 18, 1897; s. of Joseph Edward and Esther (Munhall) Schwab; ed. Horace Mann Schl, N.Y.C., 1906-14, Pa. State Coll., 1914-16; mem.: Sigma Chi (Aplha Chi Chapter); m. Margaret Lethbridge, Dec. 14, 1921; ch.: Charles Munhall, Jr., Peggy (Mrs. Calvin D. Doig). Lieut. j.g., U.S.N, 1916-19; automobile industry and distribution, 1919-31; investment house (statistician) 1931-39; sales mgr., chem. div., Shawingigan Products Corp., 1940 to present.

SCHWARCZ, Morton, chf. chem., Edwal Labs., Inc., Ringwood, Ill.
Chem.; b. N.Y., Oct. 13, 1918; s. of Charles and Leah Schwarcz; ed. U. Ill., B.S. (highest hon.); mem.: Phi Eta Sigma, Phi Lambda Upsilon; m. Harriet Jacobsohn, Nov. 16, 1946; ch.: L. Edan. 1940, res. chem., animal nutrition sta., U. Ill.; 1940-41, res. chem., Edwal Labs. Inc.; 1941-44, supvr., pilot plant & dev. dept.; 1944-46, electron. maint. officer, U.S.N.; 1946-49, chf. res. chem., Edwal Labs., Inc.; 1949 to date, chf. chem. Synthesis of organ. chem. Mem.: A.C.S., Chicago Chem. Club, A.I.C. (fellow), Sigma Xi. Hobbies: chess, photography, mountaineering.

SCHWARTZ, Edward, tech. rep., Glyro Products Co., Inc., 912 Morris Bldg., Phila. 2, Pa.; res. 1527 W. Chew St., Phila. 41, Pa.
Chem. engr.; b. Phila., Pa., Nov. 19, 1899; s. of Samuel and Bertha (Weinberg) Schwartz; ed. Northeast H.S., Phila., Pa., 1917; Univ. of Penn. B.S. in Ch.E., 1921; m. Beatrice Hart, June 10, 1923; ch.: Sylvia. Powers Weightman Rosengarten, Inc., 1921-25; James Good, Inc., 1931-45; Glyro Products Co., Inc., 1945 to date. Mem.: A.C.S. Clubs: Phila. Organic Chems. Club, Phila. Chem. Club, Phila. Bakers Production Club. Masons.

SCHWARTZ, Frederick W., emeritus prof., anal. chem., R.P.I., Troy, N.Y.; res. 27 Manning Blvd., Albany 3, N.Y.
Consulting chem.; b. Albany, N.Y., Sept. 7, 1883; s. of Lewis and Martha L. Schwartz; ed. R.P.I., B.S.; Columbia U., Ph.D.; mem.: Sigma Xi, Phi Lambda Upsilon; m. Mary H. Holland; ch.: Eleanor L., Kathryn H., Richard F., Dorothy A. (Mrs. J.D. Sullivan). R.P.I., Troy, N.Y., asst., 1905-10; instr., 1911-19; asst. prof., 1919-25; prof. anal. chem., 1925-49; asst., Columbia U., 1910. Contribs. to sc. jls. Mem.: A.A.A.S. (fellow), A.C.S. Hobby: gardening.

SCHWARTZ, George Lewis, chem., retired; res. 7712 32nd St. S.W., Seattle 6, Washington.
Chem.; b. Paragould, Ark., Mar. 17, 1887; s. of George M. and Pauline (Alleman) Schwartz; ed. U. of Wash., Seattle, B.S., 1915; M.S., 1917; Johns Hopkins, 1924; mem.: Delta Upsilon, Phi Lambda Upsilon, Sigma Xi; m. Julia Reeves Welch, July 14, 1917; ch.: George, Dehn. 1906-15, phar.; fellow chem., Washington U., 1916; instr. chem., 1917; Johns Hopkins, 1925; jr. chem. Forest Prods. Lab., 1917; res. chem., Exper. Sta., E.I. du Pont de Nemours & Co., Inc., 1917-41; safety supvr., 1941-49; retired 1949; lecturer chem. U. of Wash., 1949. Res. in nitrocellulose solvs. and softeners, textile modifiers, paper making chems., floor coverings. Sr. Gas Off. of Wilmington, Del., Civ. Def., 1943-45. Now writing textbook on Chem. Safety Educ. Mem.: A.C.S., A.A.A.S., Amer. Soc. Safety Engr., U.S. Text. Res. Council, T.A.P.P.I., Brit. Text. Inst. Club: Delaware Safety Engrs. (Wilmington). Hobbies: photography, travel, mountaineering.

SCHWARTZ, Harry A(dolph), mgr. res., National Malleable & Steel Castings Co., 10600 Quincy Ave., Cleveland 6, O.; res. 2979 Yorkshire Rd., Cleveland 18.
Metallurgist; b. Oldham Co., Ky., Apr. 13, 1880; s. of Adolph and Olga (Koehler) Schwartz; ed. Rose Poly. Inst., B.S., 1901; M.S., 1903; M.E., 1905; Ch.E., 1931; hon. Sc.D., 1933; hon. D. Engrg., Case Inst. Tech.; 1936; mem.: Sigma Xi; m. Alice J. Hill, June 22, 1918. Asst. sta. supt., Louisville Ry. Co., summer 1901; instr., Rose Poly-Inst., 1910-02; Natl. Malleable & Steel Castings Co., 1902 to date; mech. engr., chem., plant metall., asst. supt., supt., all at Indianapolis Wks.; mgr. res., Cleveland, 1920 to date. Res. in graphitization of white cast iron. Author: "Amer. Malleable Cast Iron" (Penton, 1922); "Foundry Sc." (Pitman, 1950). Penton M., A.F.S.; Fox M., Inst. of British Foundrymen; Foundation lecturer, A.F.S.; Williams lecturer, Inst. of British Foundrymen. Mem.: A.C.S., A.S.T.M., A.S.M.E., A.F.S. (hon. life mem.), Assn. Tech. de Fondrie Belgique (hon.), A.S.M., Amer. Ord. Assn. (fellow), A.A.A.S. (fellow). Club: Univ. (Cleveland).

SCHWARZ, David Robert, asst. secy.-treas., Schwarz Labs., Inc., 202 E. 44th St., N.Y. 17, N.Y.; res. 702 Bradley St., Mamaroneck, N.Y.
Chem. engr. exec.; b. Mar. 28, 1917; s. of Robert and Sylvia (Weingart) Schwarz; ed. Harvard Coll., B.S., 1937; Columbia U., M.A., 1938; m. Jeanne Lasser, Jan. 1, 1939; ch.: Susan, Jane, Judith. 1938-40, chem. engr., tech. dir., Natl. Grape Corp., Brocton, N.Y.; 1940-43, chem. engr., Schwarz Labs., Inc.; 1944-46; electronics off., U.S.N.R., Naval Res. Lab., Wash., D.C.; 1946 to date, mgr. prod., res. & dev., asst. sec.-treas. Schwarz Labs., Inc. Lic. Prof. Engr., N.Y. State. Mem.: A.C.S., A.I.Ch.E. (Jr.), I.F.T., A.A.A,S., A.S.B.C., A.S.T.M. Hobbies: tennis, golf, painting.

SCHWARZ, Sigmund Caesar, chem. engr., Portland Gas & Coke Co., Pub. Serv. Bldg., Portland, Oregon; res. 4235 N.E. Glisan St., Portland 13.

Chem. engr.; b. Mar. 25, 1897, Portland, Ore.; ed. Ore. State, B.S. in Ch.E., 1920; Ch.E., 1936; m. Helen Dahlgren, June 5, 1923; ch.: 2 sons. To 1920, misc. employment, prof. photographer, auto. mech., machinist; 1920-21, chem. engr., Northwestern Turp. Co.; 1921 to date, mech. engr., chem. and chf. chem., chem. engr. and tech. supt., Portland Gas & Coke Co. U.S.N.R.F., 1918; 2nd Lt. R.O.T.C., Signal Corps, 1919-20. Contrib. to sects. on Stoichiometry, Formulas for oil rates in oil-washing, "Gas Engineer's Handbook," 1934. Recovery & dev. by-prods. in oil-gas indus. incl. tar, light-oil, lampblack, sulfur, naphthalene, cyanides; co-invent. R-S tar de-emulsifying proc.; design and operat. plant for large-scale utiliz. crank case oils and recov. byprods. from re-ref. same. Mem.: Phi Kappa Phi, Tau Beta Pi, Sigma Tau, Kappa Sigma, A.C.S., A.I.Ch.E., Prof. Engrs., Oregon, Pacific Coast Gas Assoc., Oregon Tech. Council, Oregon State Bd. of Engrg. Examiners. Club: A.F.&A.M. Hobbies: fishing, golfing, skiing, photography, philately.

SCHWENK, Erwin, chem. engrg. res. assoc., Worcester Foundation for Exp. Biology, 222 Maple Ave,, Shrewsbury, Mass.

Chem.; b. Prague, Czechoslovakia, Oct. 19, 1887; s. of Adolf and Johanna Schwenk; ed. Vienna, Austria, H.S.; Tech. Hochschule, Chem. Engrg., 1909; Dr. Tech. Sc., 1910; m. Rsacha, Aug. 4, 1914; ch.: Lilli (Mrs. Hornig). 1910-12, asst., Schl. of Wine Chem., Geisenheim on Rhein, Germany; 1912-13, asst., Univ. Erlangen, Bavaria, Germany; 1913-14, asst. H.S. of Tech., Vienna, Austria; 1914-16, asst., Kaiser Wilhelm Inst., Berlin; 1916-28, dir. of res., Chem. & Metall. plants, Aussig, Czechosl.; 1928-33, asst. dir. of res., Schering A.G., Berlin, Germany; 1933-48, dir. of res., Schering Corp., Bloomfield, N.J.; 1949 to date, res. assoc., Worcester Found. for Exp. Biol., Shrewsbury, Mass.; also conslt. to Schering Corp., Bloomfield, N.J. Res. in anthraquinone vat. dyes; sex hormones; pharmaceuticals, antihistaminics. Author: "Grundlagen u. derzeitiger Stand der Chemotherapie," 1913, Stuttgart. Mem.: N.Y. Acdy. Scs., A.C.S., Chem. Soc. (London), Amer. Soc. of Europ. Chems. and Phars. Hobbies: color photography, painting, stamp collecting.

SCHWING, Karl Joseph, prof. of chem., hd. of dept., Upsala Coll., E. Orange, N.J.; res. 49 S. Munn Ave., E. Orange.

Coll. teacher; b. Balzfeld, Germany, Feb. 27, 1897; s. of Gottlieb and Marie Schwing; ed. U. Freiburg i. Br. Baden, Germany, Ph.D. Instr. of chem., U. Freiburg, 1922-23; res. chem., I.G. Farben Indus. Hoechst a. Main 1923-24; res. chem., E.I. du Pont de Nemours & Co., Wilmington, Del., 1924-25; res. chem., Amalgamated Dye & Chem. Co., Newark, N.J., 1925-29; res. chem., Barrett Co., Edgewater, N.J., 1929-31; assoc. prof. of chem. & physics, 1931-40, prof. of chem., hd. of dept., 1940 to date, Upsala Coll. Res. anthraquinone dyes, protein chem., isolation of amino acids from natural sources, coal-tar prods., stereoisomerism in the cyclohexane series. Mem.: A.A., A.C.S., A.A.U.P.

SCHWOB, Claude R., chf. chem. branch, Naval Radiolog. Defense Lab., San Francisco Naval Shipyard, San Francisco 24, Calif.; res. 1619 Gough St., San Francisco 9.

Chem.; b. Dobbs Ferry, N.Y., June 16, 1910; s. of Jules and Suzanne (Petit) Schwob; ed. Fordham U., B.S., magna cum laude, 1930; M.S., cum laude, 1931; Ph.D., 1933. 1933-35, instr. chem., St. Peter's Coll., Jersey City, N.J.; 1935-43, asst. prof. physical chem.; 1943, asst. prof. chem., Carnegie Inst. Tech., Pitts., Pa.; 1944, asst. chf., anal. sec., Metallurg. Lab., Chicago, Ill.; 1945, radiochem., Los Alamos Scientific Lab., Los Alamos, New Mexico; 1945-48, asst. prof. chem., Carnegie Inst.; 1948 assoc. prof. chem.; 1948 to date, chf., chem. branch, Naval Radiolog. Defense Lab., San Francisco Naval Shipyard. Catalytic properties of charcoal, kinetics, radiochem. Coauthor: Chapter X, "The Effects of Atomic Weapons," 1950. Mem.: A.C.S., A.A.A.S., Sigma Xi. Hobby: photography.

SCLAR, Martin D., mgr., Industrial Chemical Products Co., Detroit, Mich.; 3777 Bellevue Ave., Detroit 7, Mich.; res. 18444 Littlefield Ave., Detroit 35.

Chem.; b. Phila., Pa., Nov. 20, 1908; s. of Herman and Mary Sclar; ed. A.B., Temple U., 1930; Ph.D., Pa., 1935; LL.B., Wayne U., 1944; m. Charlotte Lev, 1938; ch.: Lee, William. Chem., Industrial Chem. Products Co., Detroit, Mich., 1937-46; mgr., 1946 to date. Mem.: A.C.S., Sigma Xi, Engineering Soc. of Detroit, Mich. State Bar.

SCOFIELD, Francis, chem., Natl. Paint, Varnish & Lacquer Assn., 1500 Rhode Island Ave., N.W., Washington 5, D.C.; res. "Hilltop," Lanham, Md.

Chem.; b. Washington, D.C., Dec. 18, 1905; s. of C.S. and Emma (Scott) Scofield; ed. B.S., in chem., Lehigh U., 1931; George Washington U., no degree; m. Elizabeth S. Dawson, Apr. 15, 1936; ch.: Evelyn Ste. Croix, Carolyn Damon. Scientific aide, Natl. Bur. of Standards, 1931-36; chem., Natl. Paint, Varnish & Lacquer Assoc., 1936 to present. Contrib. extens. to sc. and tech. jls.; editor, "Abstract Review," 1941-47. Mem.: A.C.S., A.S.T.M., A.O.C.S., Fed. Paint & Varnish Production Clubs (pres., Baltimore Club, 1944), Am. Inst. of Chemists, Optical Soc. of America. Vestryman and treasurer, Holy Trinity Episcopal Church. Club: Cosmos. Hobby: flowers.

SCOGGIN, Baxter Irvin, Jr., mgr. Res. & Devel. Dept., Anderson Prichard Oil Corp., 1000 APCO Tower, Oklahoma City, Okla.; res. 2601 N.W. 29th, Oklahoma City.

Chem. engr.; b. Kent County, Texas, Sept. 8, 1909; s. of Baxter Irvin and Bonnie B. Scoggin; ed. B.S., Okla. U., 1931, Harvard Advance Management, fall, 1947; mem.: Tau Beta Pi, Sigma Tau, Sigma Epsilon; m. Hazel Irene Powell, Jan. 3, 1935; ch.: Linda Dianne, Thomas Andrew. 1931-34, asphalt chemist, Col-Tex Refg. Co., Colorado City, Texas; 1934-37, chf. chem.; 1937-39, sales dept., Anderson Prichard Oil Corp., Okla. City; 1939 to date, mgr. res. & devel. dept., same corp. Soil Stabilization With Emulsified Asphalt in Mid Continent Area—Highway Research Bd., Dec., 1939. Mem.: A.C.S., A.S.T.M., S.A.E., Asphalt Institute, N.A.I.D.M.

SCOLES, Dwight L., prof. of chem., Albright College, Reading, Pa.; res. 1502 North 15th St., Reading.

Chem. prof.; b. Fredericktown, O., Jan 8, 1884; s. of James Lewis and Ellen (Hunter) Scoles; ed. Berea, B.S., 1914; Iowa State, M.S., 1920; Columbia, Ph.D., 1926; m. Alice Cary Hail, Jan. 31, 1916; ch.: 1 dau. Knox Co., O., pub. schl. tchr., 1902-09; Berea Coll. stud. tchr., 1909-14; Monroe, Wis., H.S., sc. tchr., 1914-15; Iowa State Coll., asst. chem., 1915-17; instr. chem., 1917-19; asst. prof. chem., 1919-20; Wesleyan, prof., hd. dept., 1920-21; Robert Coll. (Turkey), prof. hd. dept., 1921-24; L.I.U., prof., hd. dept., 1927-45; prof. chem. Albright Coll., 1945 to date. Res. on determ. phos. in presence of vanadium; replace. of molybdenum by vanadium in ammonium phospomolybdate. Mem.: A.A.A.S. (fellow), A.C.S., Sigma Xi, Phi Lambda Upsilon, A.I.C. (fellow).

SCONCE, James Silas, res. supvr., Hooker Electrochem. Co., Niagara Falls, N.Y.; res. 714 Buffalo Ave., Niagara Falls.
Chem.; b. Sidell, Ill., Oct. 13, 1906; s. of Harvey J. and Eva F. Sconce; ed. U. of Ill., B.S., 1928; mem.: Delta Kappa Epsilon. Cornstalk Products Co., chem., 1928-30; Hooker Electrochem. Co., chem., 1930-41; res. supvr., 1942 to date. Mem.: A.C.S., A.I.Ch.E., A.L.C.A., E.S., A.O.C.S. Clubs: Niagara, Youngstown Yacht.

SCOTT, Albert B., asst. dir. chem. control, Merck & Co., Rahway, N.J.; res. Westfield, N.J.
Org. chem.; b. Moundsville, W. Va., Feb. 15, 1906; s. of Albert B. and Edith P. Scott; ed. A.B., West Va. U., 1926; M.S. (org. chem.) Northwestern U., 1927; Ph.D. (org. chem.), 1929; mem.: Alpha Chi Sigma, Delta Tau Delta; m. Miriam Fisher, Oct. 19, 1934; ch.: Melinda, Karen, Marie. Div. of chem. pharmacol., Rockefeller Inst., 1929-31; hd. org. arsenical sec., Parke, Davis & Co., 1931-37; dir. res. & dev., Norwich Pharmacal Co. (and Eaton Labs.), 1939-47; asst. dir. chem. control, Merck & Co., 1948 to date. Publ. in syn. & structural org. chem., pats. on arsenicals, furan derivatives & pharmaceuticals. Mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, A.C.S., N.Y. Acdy. of Scs., A.A.A.S. Hobbies: golf, amateur geology.

SCOTT, Alfred Witherspoon, prof., hd. dept. chem., dir. div. of physical sc., U. of Ga., Athens, Ga.; res. 238 Springdale, Athens.
Chem., prof.; b. Macon, Ga., June 25, 1896; s. of George Edward and Mamie Lee Wing Scott; ed. U. of Ga., B.S. 1918; U. of Minn., 1919-20; Princeton U., Ph.D. 1921; mem.: Phi Delta Theta, Alpha Chi Sigma; m. Jane Sams, Aug. 8, 1923; ch.: Alfred Witherspoon, Jr., Richard Sams, George Edward. U. of Ga., assoc. prof. 1922-26, prof. 1926 to date, hd. dept. chem. 1927 to date, dir. div. physical sc. 1935 to date. Contrib. to sc. and tech. journals. Author: "A Lab. Manual of Inorganic Chems. and Qualitative Anal." (1924); "A Lab. Manual of Inorganic Chem. and Semimicro Qualitative Anal." Mem.: Sigma Xi, Phi Beta Kappa, Phi Kappa Phi, Gamma Sigma, Phi Lambda Epsilon, Gamma Sigma Epsilon, A.C.S. (chmn. Ga. sect. 1936 to date), Georgia Acdy. Scs. (pres. 1935). Club: Athens Country. Hobbies: fishing, golf.

SCOTT, Arthur F(erdinand), prof. chem., Reed College, Portland, Ore.; res. 6608 S.E. 32nd Ave., Portland.
Prof. chem.; b. Coytesville, N.J., Aug. 14, 1898; s. of G.J. and Carrie (Kerwien) Scott; ed. Colby Coll., B.S., 1919; Harvard U., M.A., 1921; Ph.D., 1924; U. Munich, 1922-23; mem.: Delta Kappa Epsilon, Alpha Chi Sigma, Phi Lambda Upsilon; m. Vera Prasilova, Mar. 19, 1925; ch.: Kytja Kerwyn, Nadia Kerwyn, Dascha Kerwyn. 1923-26, asst. prof. chem., Reed Coll.; 1926-37, asst. prof., Rice Inst.; 1937 to date, prof. chem., Reed Coll.; summer 1937, geophysicist, Humble Oil Co.; summer 1941, chem. adv., Bur. Statist. Res., O.P.M.; 1942-45, acting pres., Reed Coll.; Am. Delg., Internatl. Cong. Chem., Rome 1938; trustee, Catlin-Hillside Schls. Mem.: Phi Beta Kappa, Sigma Xi, A.C.S., Ore. Acdy. Sc.

SCOTT, Eugene W(arren), exec. secy., interdepartmental comm. on sc. res. & dev., U.S. Atomic Energy Commission, 19th & Constitution Ave. N.W., Wash., D.C.; res. 5601 Oakmont Ave., Bethesda 14, Md.
Chem.: b. Arrowsmith, Ill., Feb. 8, 1907; s. of Paul E. and Lena H. Scott; ed. U. of Ill., 1924-28, B.S.; Cornell U., 1928-31, Ph.D.; mem.: Theta Nu Epsilon, Gamma Alpha, Sigma Xi, Phi Lambda Upsilon; m. Dorothy M. Lewis, Jan. 1, 1931; ch.: Paul C., Robert L., Martha A. Res. chem., Wm. S. Merrell Co., 1931-34; res. assoc., Kettering Lab., U. of Cincinnati, 1934-42; chf. gas officer, O.C.D., 1943-44; asst. liaison officer, O.S.R.D., 1944-46; deputy dir., programs div., joint res. & dev. bd., 1946-47; asst. exec. secy., res. & dev. bd., 1947-49; exec. secy., interdepartmental comm. on sc. res. & dev., 1949 to date. Furane rearrangements; syn. of medicinal agents; indus. hygiene of syn. org. cmpds. Pres. Cert. of Merit, 1948; King's M. for Service in Cause of Freedom (British), 1948. Mem.: A.C.S. Club: Cosmos. Hobbies: golf, woodworking.

SCOTT, Ewing Carruth, assoc. prof. chem., Syracuse U.; res. 741 Livingston Ave., Syracuse, N.Y.
Tchg.; b. Iola, Kans., Aug. 28, 1894; s. of Chas. F. and May Brevard (Ewing) Scott; ed. U. of Kans.; Leland Stanford, Jr. U.; A.B., 1916, U. of Calif.; Chicago U., Ph.D., 1927; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Phi Beta Kappa, Gamma Alpha, Sigma Xi; m. Dorothy E. Carnine, June 24, 1927; ch.: Dorothy Langellier, Betty Ruth, Ewing C., Jr. 1916-17, asst. in chem., U. of Calif., Berkeley; 1917-19, C.W.S., A.E.F.; 1920, assayist, Phelps-Dodge Corp.; 1920-25, asst. & instr. chem., Premed. Schl., Peking Union Med. Coll., Peking, China; 1926-44, prof. chem., hd. dept., Sweet Briar Coll.; 1944-45, commodity specialist., chem. div., U.S. Tariff Commis.; 1945 to date, assoc. prof. chem., Syracuse U. Co-author: "Textbook of Chem." Elder, Scott & Kanda, Harper & Bros. 1947. Mem.: A.C.S. Hobbies: photography, mountains, cars.

SCOTT, George Clytus, v.p., Green Giant Co., 1100 Summit St., Le Sueur, Minn.; res. 328 S. Main St., Le Sueur.
Exec.; b. Arrowsmith, Ill., Dec. 6, 1900; s. of Henry M. and Mary Mae Scott; ed. Ill. Wesleyan U., B.S., 1923; Ia. State Coll., M.S., 1925; mem.: Phi Gamma Delta; m. Dorothy Craven, Dec. 26, 1925; ch.: George C., Jr. Parsons Jr. Coll., Parsons, Kans., prof., chem., 1925-26; Amer. Can Co., Maywood, Ill., res. chem., 1926-29; Green Giant Co., Le Sueur, Minn., dir. res. to v.p. in chg. of prod. & res., 1929 to date. Mem.: A.C.S., A.I.C., A.A.A.S., I.F.T., Pub. mem. Minn. Water Pollution Control Comm. Club: Minneapolis Athletic. Hobbies: fishing, golf, hunting.

SCOTT, Gordon N(ickelsen), conslt. engr., 555 South Flower St., Los Angeles, Calif.; res. 608 North Canon Dr., Beverly Hills.
Corrosion mitigation; b. Seacombe, England; s. of James and Laurie Amy (Nickelsen) Scott; ed. U. of Calif., A.B. in chem., 1922; B.S. (cum laude) in chem. engrg., 1922; Ph.D. in phys. chem., 1926; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi; m. Ethel Delilah Allan, Jan. 1, 1926; ch.: Maile Ruth, Lauredith, James Gordon, Allyne, Susan, Angela. James Wakefield & Sons, Honolulu, T.H., 1926-27, plant supt.; commercializ. of the Algaroba tree; Mid-Continent Petroleum Corp., Tulsa, Okla., 1927-28, res. chem.; distillation characteristics of oil fractions and plasticity of parafine base oils; A.P.I., N.Y.C., 1928-34, res. assoc. at the Natl. Bur. of Stds., Wash., D.C.; corrosion mitigation in the oil indust. (conducted nationwide tests of protective coatings on operating pipe lines); 1935-36, A.P.I. pipe line tech., Dallas, Tex.; correlation of pipe line corrosion information; conslt., Los Angeles, Calif., 1936 to date. Field, corrosion mitigation. Registered Prof. Engr. (Calif.; chem. engrg. cert.; electrical engrg. cert.). Contrib. num. tech. arts. to sc. jls. Mem.: A.P.I., E.S., N.A.C.E. Hobby: corrosion.

SCOTT, Henry Thomas, dir. biol. res., Wisconsin Alumni Res. Foundation, 506 N. Walnut St.,

Madison 6, Wis.; res. 2242 W. Lawn Ave., Madison.
Biochem.; b. Portage, Wis., Dec. 27, 1900; s. of John and Mary J. Scott; ed. B.S., 1925; U. of Wis.; M.Sc., 1927; Ph.D., 1929; m. Frona Stackman, Aug. 17, 1929; ch.: Eugene H., James A. Asst. biochem., U. Wis., 1925-28; instr. biochem., 1928-30; chem., Wisconsin Alumni Res. Foundation, 1930-33; dir. biol. research, 1933 to date. Res. in calcium, metabolism, vitamin D, irradiation of foods. Mem.: Sigma Xi, A.C.S., A.P.H.A. (fellow), Am. Dairy Sc. Assn., I.F.T., Phi Lambda Upsilon, Phi Sigma. Club: Rotary. Hobby: trapping.

SCOTT, Jasper Paul, dir., indust. engrg. div., Eli Lilly and Co., Indianapolis, Ind.; res. R.R. 12, Box 249, Indianapolis.
Chem.; b. Johnson Co., Ind., Dec. 9, 1897; s. of James Madison and Carrie Dell Scott; ed. Franklin Coll., A.B. (magna cum laude; high hon. chem.). 1919; D.Sc. (hon.), 1939; mem.: Phi Delta Theta; m. Helen Glessner, June 17, 1920; ch.: Robert Paul, Martha Ann, Charles Edwin. Instr., chem. & physics, Bedford High Schl., Bedford, Ind., 1919-20; Eli Lilly and Co., 1920 to date; biochem. res., 1920-30; asst. dir., res. & dev., 1930-43; dir. res. contacts, 1943-46; dir. indust. engrg., 1946 to date. Mem.: A.C.S., A.A.A.S. (fellow), Ind. Acdy. Sc., Soc. Adv. Mgt., A.Phar. A. Hobby: horticulture.

SCOTT, John A., asst. to v.p. in chg. res. & dev., Sinclair Refining Co., 630 5th Ave., N.Y. 20, N.Y.; res. 150 E. 39th St., N.Y. 10.
Res. chem. engr.; s. of William and Francis Scott; ed. U. of Minn., B.Ch.E., summa cum laude; mem.: Phi Lambda Upsilon, Tau Beta Pi. Sinclair Refining Co., res. & dev. dept., advancing from lab. tech. to asst. to v.p. in chg. res. & dev., 1934 to date. Res. chem. engrg. in dev. of com. hydrofluoric acid alkylation process. Mem.: A.I.Ch.E., S.A.E. Hobbies: golf, music.

SCOTT, John Mark, assoc. prof., dept. of chem., Tulane U., New Orleans, La.; res. 4506 St. Charles Ave., New Orleans.
Chem. tchr.; b. Winfield, Kan., Dec. 9, 1897; s. of John H. and Martha Grace (Hatler) Scott; ed. B.A., Southwestern Coll., Kan.; M.S., Iowa State Coll.; Ph.D., U. of Iowa, Phi Kappa Phi, Phi Lambda Upsilon, Sigma Xi; mem.: Alpha Tau Omega, Gamma Alpha, Alpha Chi Sigma; m. Mary Louise Price, Aug. 29, 1922; ch.: Betty Grace, Louise Price. Grad. asst., Iowa State Coll., 1919-22; asst. res. engr., Anaconda Copper Co., 1922-23; asst. prof., U. of the South (Tenn.), 1923-32; assoc. prof., 1932-43; U.S.N., 1943-46, Lt. & Lt. Cmdr., U.S.N.R.; assoc. prof., Tulane U., 1946 to date. Res. in dielectric properties of org. cmpds.; dipole moments, changes in dielectric properties with frequency, etc. physical properties & constitution; history of chem. Several publ. papers on res. Mem.: A.C.S. (councilor La. sec., 1948-50), A.A.U.P., New Orleans Acdy. of Sc. Hobbies: meteorology & weather prediction.

SCOTT, Lloyd Linton, mgr. Eastern plants, C. K. Williams & Co., Easton, Pa.; res. 101 E. Wayne, Easton.
Chem. engrg. exec.; b. Hillman, Mich., Feb. 21, 1903; s. of C.W. and Vivian (Western) Scott; ed. U. of Mich., B.S. in Ch.E. (with hon.), 1925; mem.: Alpha Chi Sigma, Phi Lambda Upsilon; m. Jean Alice Hodgins, June 23, 1928; ch.: Nancy Caroline, Lawrence John. Stand. Oil Co. (Ind.), process engr.; Pan Am. Pet. & Transport, asst. gen. supt. of Aruba, N.W.I., refinery; Ethyl Gasoline Corp., coordination hd.; Mallinckrodt Chem. Wks., chf. engr.; mgr. Eastern plants, C.K. Williams & Co.

SCOTT, Robert Creighton, dir., tech. serv. lab., American-Marietta Co., 3400 13th Ave., S.W., Seattle, Wash.; res. 4357 E. 57 St., Seattle.
Chem. engr.; b. Boston, Mass., May 11, 1912; s. of Creighton A. and Grace I. (Fox) Scott; ed. U. of Wash., B.S. in Chem. Engrg., 1937; m. Wava I. Harrison, Aug. 7, 1943; ch.: Larry Allan, Carol Wava, Marjorie Ann. Pruitt Labs., Wenatchee, Wash., anal. chem., 1937; Bioproducts Co., Astoria, Ore., chem. engr., 1937-38; Okanogan Indus. Lab., Okanogan, Wash., anal. chem., 1938; U.S. Bur. of Fisheries, Seattle, Wash., anal. chem., 1938-39; Amer.-Marietta Co. (successor to Adhesive Prod. Co.), Seattle, Wash., res. dev., serv., anal. & control depts., now in chg. tech. serv. lab. & some wk. in personnel dept. Pres., chmn. bd., Group Health Coop., Puget Sound (clinic & hosp. group); advisor to Students Cooperative Assn. at U. of Wash. (former mem. & pres.); mem. bd., former pres., Students Cooperative Alumni Assn. Mem.: A.C.S. Hobbies: wk. with students & coops., gardening, hiking.

SCOTT, Walter Moody, asst. chf., Bur. Agr. & Indus. Chem., U.S. Dept. of Agr., Washington, D.C.; res. 6318 Brookville Rd., Chevy Chase, Md.
Chem.; b. June 13, 1892, Pequabuck, Conn.; s. of George A. and Elizabeth S. (Moody) Scott; ed. Yale Sc. Schl., Ph.B., 1912; Yale U., Ph.D., 1915; mem.: Alpha Chi Sigma; m. Ruth M. Plumb, Sept. 1, 1917; ch.: Sara S. (Scott) Beard, Lois A. Chf. chem., Cheney Bros., Manchester, Conn., 1915-26; tech. advisor sales dept., Natl. Aniline & Chem. Co., N.Y.C., 1927-28; service mgr., Munsell Color Co., Balt., Md., 1928-30; service mgr., Gustavus J. Esselen, Inc., Boston, Mass., 1930-39; chf. cotton chem., finishing div., S. Regional Res. Lab., U.S.D.A., New Orleans, 1939-42; Col., C.W.S., U.S.A., 1942-46; lab. dir., S. Regional Res. Lab., U.S.D.A., New Orleans, 1946-50; asst. chf. Bur. Agr. & Indus. Chem., Wash., D.C., 1950 to date. Res. in textile and dye chem.; extensive contribs. to sc. and tech. jls.; 3 U.S. pats. Mem.: A.S.T.C.C., A.S.T.M., A.C.S., A.I.Ch.E., Textile Inst. of England, Textile Res. Inst., A.A.A.S. Clubs: Yale Alumni (Wash., D.C.), Textile Round Table (Wash., D. C.), Army & Navy Club (Wash., D.C.).

SCOVILLE, Herbert, Jr., tech. dir., Armed Forces Special Weapons Project, P.O. Box 2610, Wash., D.C.; res. McLean, Va.
Dir. chem. & physics res.; b. N.Y.C., Mar. 16, 1915; s. of Herbert and Orlena (Zabriskie) Scoville; ed. Yale U., B.S.; Cambridge U., England; U. of Rochester, Rochester, N.Y., Ph.D.; mem.: Chi Phi, Sigma Xi; m. Ann Curtiss, June 26, 1937; ch.: Anthony Church, Thomas Welch, Nicholas Zabriskie, Mary Curtiss. U. of Rochester, N.D.R.C. contract, Div. 10, 1941-44, res. assoc.; Northwestern U., N.D.R.C. contract, Div. 10, 1944-45, res. assoc.; U. of Ill., N.D.R.C. contract, Div. 10, 1945, res. assoc.; N.R.C., 1945-46, exec. secy. to comm.; U. of Calif., Los Alamos contract, 1946-48, sr. scientist; Armed Forces Special Weapons Project, Dept. of Defense, 1948 to date, tech. dir.

SCOVILLE, Loren Palmer, mgr. prod. dept., Jefferson Chemical Company, Inc., 711 5th Ave., New York 22, N.Y.; res. 5 Ridge St., Crestwood, Tuckahoe 7, N.Y.
Chem. engr.; b. Pasadena, Calif., Feb. 7, 1906; s. of Frank C. and Bess P. Scoville; ed. A.B., U. of Redlands, Calif., 1928; U. of Oregon, 1928-29; M.S., Inst. of Tech., Calif., 1930; m. Angelynn L., 1930; ch.: Dianne, Kenneth. Chem. engr., Southwestern Engineering Co., Calif., 1930-32; sr. engr., The Texas Co., New York City, 1932-44; chf. engr. and mgr., prod. dept., Jefferson Chem. Co., Inc., 1944 to date. Res. in heat

transmission, flow of oil and gas through sands. Mem.: A.I.Ch.E., A.C.S.

SCOWE, Norman Douglas, pres., Mineral Pigments Corp., Muirkirk, Md.; res. Ellicott City, Md.
Exec.; b. Minnesota, 1908; ed. B.S. chem. engrg., Johns Hopkins U.; mem.: Kappa Sigma; m. Jean Collins North, 1941. Am. Chem. & Pigment Corp., dir., v.p.; Mineral Pigments Corp., pres., chmn. of bd.

SCRIBNER, Allison Kenneth, v.p., gen. mgr. & dir., Va. Smelting Co., W. Norfolk, Va.; res. 201 Park Rd., Portsmouth.
Chem., chem. engr.; b. Boston, Mass., Sept. 9, 1898; s. of Corey A. and Anna A. Scribner; ed. Roxbury Latin Schl., 1916; Harvard U., 1920, A.B. (cum laude; Chem.); m. Marie Elizabeth Dougan, Nov. 10, 1923; ch.: Allison Kenneth, Jr. Dunlop Tire and Rubber Co., 1920, sales trainee; Harvard U., instr. chem., 1921; Va. Smelting Co., 1921 to date; tech. salesman, prod. supvr., res. chem., mgr. indust. sales, mgr. sales, prod. mgr., asst. mgr., gen. mgr. Res. in dev. indust. uses of liquid sulfur dioxide. Mem.: A.C.S., Portsmouth Schl. Bd. Clubs: Portsmouth Rotary (past pres.; dir.), Country, Hampton Rds. Engrs., C. of C. (past pres., dir.).

SCRIBNER, Bourdon Francis; chf. spectrochem. sec., Natl. Bur. of Standards, Wash., D.C.; res. 4801 Conn. Ave.
Physical chem.; b. Westernport, Md., Apr. 13, 1910; s. of Bourdon W. and Nellie V. Scribner; ed. Geo. Wash. U., B.S. Chem., 1933; U. Md., College Park, Md., M.S.Chem., 1939; mem.: Alpha Chi Sigma (chem.). 1927-35, asst. spectroscopy, Natl. Bur. Stands.; 1936-45, chg. spectrochem. lab.; 1942-46, Manhattan Proj.; 1947 to date, chf. spectrochem. sect., Natl. Bur. Stands. Descrip. atomic spectra; investig. of structure of spectra; dev. and applica. spectrog. meths. anal.; physical basis for spectro. anal. Mem.: Opt.S.A., A.C.S., A.A.A.S., A.S.T.M., Wash. Acdy. Sc. Club: Cosmos. Hobbies: color photography, sailing.

SCRIBNER, Bourdon Walter, chf. of paper sec., Natl. Bur. of Standards, Wash., D.C.; res. 3901 Connecticut Ave., Wash., D.C.
Technologist; b. Ridgway, Pa., Nov. 21, 1884; ed. Pa. State Coll., B.S. chem., 1908; mem.: Phi Delta Theta. Burton Powder Co., chem., 1908-09; W. Va. Pulp & Paper Co., dir. lab., 1909-23; Natl. Bur. of Stands., 1923 to date, chf. of paper sec. Supervision of chem. res. relating to paper with particular reference to dev. of testing meths. & preservation of records. Author many articles dealing mainly with quality stands. for paper & preservation of records. Mem.: A.C.S., T.A.P.P.I. (Gold M., awarded annually for outstanding contributions to tech. advancement of the indus.).

SCRIBNER, Leonard, chf. engr. (tantalum), Fansteel Metallurgical Corp., N. Chicago, Ill.; res. Prospect Ave., Lake Bluff, Ill.
Engr.; b. Albion, Mich., Feb. 10, 1909; s. of John W. and Martha Scribner; ed. Albion Coll., A.B. (high honors), 1932; A.M., 1933; U. of Ill., Ph.D. in Chemistry, 1936; Mem.: Delta Tau Delta, Sigma Xi, Phi Lambda Upsilon; m. Mary Cahill, Aug. 23, 1934. St. Xavier Coll., chem. dept., 1936-37; Fansteel Metallurgical Corp., 1937 to date. Licen. Prof. Engr., Ill. Mem.: A.C.S., A.I.Ch.E., Natl. Assn. of Corrosion Engrs.

SCRIPTURE, Edward Wheeler, Jr., chf. operations, v.p. in chg. of res., Master Builders Co., 7016 Euclid Ave., Cleveland 3, Ohio; res. 17415 Shelburne Rd., Cleveland Heights 18.
Exec.; b. New Haven, Conn., Dec. 19, 1899; s. of Edward W. and May (Kirk) Scripture; ed. Harvard Coll., A.B., 1921; M.A., 1922; Ph.D., 1924; mem.: Alpha Chi Sigma; m. Annabel Reid, Apr. 18, 1925; ch.: Anne Eugenia, Joan Kirk. 1923-24, instr. chem., Lowell Textile Inst., Lowell, Mass.; 1924-28, res. chem., Onandaga Pottery Co., Syracuse, N.Y.; 1928-29, chf. chem., Am. Zeolite Corp., Paterson, N.J.; 1929-30, res. chem., Al. Co. of Am., New Kensington, Pa.; 1930-42, dir. of res., Master Builders Co., Cleveland, Ohio; 1942-46, U.S.A., W.W.II; 1946 to date, v.p. in chg. of res., Master Builders Co.; 1949 to date, chf. of operations, dir. Mem.: Am. Concrete Inst., A.S.T.M., A.C.S., S.C.I., A.A.A.S., Am. Railroad Engrg. Assn.; Officier d'Academie Republique Francaise, Le Ministre de l'Education. Clubs: University, Harvard (Cleveland), Assn. of Harvard Chems.

SCRUTCHFIELD, Paul H., consulting chem., 1237 Church St., Hannibal, Mo.
Chem. consult.; b. Clarence, Mo., May 20, 1907; s. of Manly H. and Leona C. Scrutchfield; ed. Central Coll., A.B., 1930; Iowa State Coll., B.S., 1930; Northwestern U., M.S., 1932; Ph.D., 1935; mem.: Alpha Chi Sigma; m. Marguerite C. Brinkmeier, June 1, 1930; ch.: Valerie Ann. Gen. Elec. Co., devel., 1930-31; Hercules Powder Co., res. and devel., 1934-42; Pierce and Stevens, Inc., dir. of res., 1942-43; Amer. Cyanamid Co., 1943-48; group leader, consulting chem., 1948 to present. Res. and devel. of synthetic resins for use in protective coatings, adhesives, paper, textiles, ion exchange and plastics. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S. Club: '49ers. Hobby: horticulture.

SCULL, Charles Wesler, dir. of dev. res., Smith, Kline & French Labs., 1530 Spring Garden St., Phila. 1, Pa.; res. 508 York Rd., Abington, Pa.
Res. exec.; b. Richmond, Ind., July 31, 1905; s. of William and Louise B. Scull; ed. Earlham Coll., 1922-26, B.S.; U. of Ill., 1926-29; M.S., 1927; Ph.D., 1930; m. Marion Jessie Kincaid, Sept. 6, 1929; ch.: Marion Louise, William Kincaid. Asst. metabolic chem., Phila. Gen. Hosp.; acting assoc. prof. chem., Earlham Coll., Richmond, Ind.; assoc. prof. physiolog. chem. assigned to med., U. of Pa.; dir. res., literature dept., Smith, Kline & French Labs.; asst. dir., res. div.; dir. of dev. res.; conslt. biochem., Abington Memorial Hosp. Mem.: N.Y. Acdy. Scs., A.C.S., Amer. Rheumatism Assoc., A.A.A.S., Phi Lambda Upsilon, Gamma Alpha, Phi Eta, Sigma Xi.

SCURLOCK, Arch Chilton, pres., res. dir., Atlantic Res. Corp., 812 N. Fairfax St., Alexandria, Va.; res. 1 Wakefield Chapel Rd., Fairfax, Va.
Chem. engr.; b. Beaumont, Texas, Jan. 29, 1920; s. of Marvin and Mary (Chilton) Scurlock; ed. U. Texas, B.A. (physics), B.S. (Chem. Engrg.), 1941; U. Chicago (met.), 1943; M.I.T., M.S. (chem. engrg. pract.), 1943; Sc.D. (chem. engrg.), 1948; mem.: Phi Eta Sigma, Phi Beta Kappa, Tau Beta Pi, Sigma Xi, Kappa Alpha; m. Maurine Jane, Nov., 1945; ch.: Arch Chilton, Jr., Susan. Lt. (S.G.) Navy, agrologist, planning div. Off. Naval Res. (guided Missile wk.), 1942-46; res. assoc., chem. engrg. dept., combustion group, M.I.T., 1946-48; asst. dir., chem. sect., Eng. Res. Assoc., 1948-49; v.p., Atlantic Res. Corp., 1949; pres., dir. res., 1949 to date.

SEABORG, Glenn Theodore, prof. dept. of chem., U. of Calif., Berkeley 4, Calif.; res. 2808 Ellsworth Ave., Berkeley 5.
Tchr., chem.; b. Ishpeming, Mich., Apr. 19, 1912; s. of Theodore and Selma Olive (Erickson) Seaborg; ed. U. of Calif., Los Angeles, B.A., 1934; U. of Calif., Berkeley, Ph.D., 1937; mem.: Alpha Chi Sigma, Phi Lambda Upsilon; m. Helen Lucille Griggs, June 6, 1942; ch.: Peter Glenn,

Lynne Annette, David Michael. U. of Calif., Coll. of Chem., res. assoc. with Prof. Gilbert N. Lewis, 1937-39; instr., Dept. & Coll. of Chem., 1939-41; asst. prof., 1941-45; prof., 1945 to date; on leave from U. of Calif., res. chem. at Metall. Lab., U. of Chicago, 1942-46. Co-discoverer of plutonium, americium, curium, berkelium, californium, U233, Pu239, Np237, neptunium (4n plus 1) radioactive series; lab. dev. of chem. separation procedures used with mfr. of plutonium at Clinton, Tenn., & Hanford, Wash.; correlations & interpretations concerning electronic struct. of heaviest elements. Co-editor: "Nat. Nuclear Energy Series, Plutonium Project Record, Vol. 14B "The Transuranium Elements: Res. Papers" (McGraw-Hill Bk. Co., Inc., N.Y. City, 1949). Awards: Pure Chem. of A.C.S. (1947); Wm. H. Nichols M. by N.Y. sect., A.C.S. (1948); John Ericsson Gold M. of Amer. Soc. of Swedish Engrs. (1948). Apptd. by Pres. Truman to nine-man gen. adv. com. to Atomic Energy Comm. (1946-50); Nieuwland Lect., U. of Notre Dame (1947); mem. com. on standards & units of radioactivity & subcom. on nuclear constants of com. on nuclear sc., N.R.C., since 1947; mem. joint com. on standards, units & constants of Radioactivity, Internatl. Council of Sc. Unions since 1946. Mem.: A.C.S. (2nd annual Harrison Howe Mem. Lecturer, Rochester, N.Y. sect., Nov., 1946; councillor-at-large, 1947, secy.-treas., div. of phys. and inorg. chem., 1949-50; Editorial Board, "J. Am. Chem. Soc.," 1950 to date; A.A.A.S., Sigma Xi, Amer. Physical Soc. (fellow), Phi Beta Kappa, Nat. Acdy. of Sc., Royal Swedish Acdy. of Eng. Sc., Amer. Inst. of Chem. Club: Faculty (U. of Calif. at Berkeley).

SEAGREN, George William, adm. fellow, Mellon Inst. of Indus. Res.; dir. of res., Stoner Mudge, Inc., 4400 Fifth Ave., Pitts. 13, Pa.; res. Box 357, R.D. 4, Pitts. 9.
Corrosion protection by org. coatings; b. Bklyn., N.Y., May 24, 1906; s. of Carl Anton and Julia (Nelson) Seagren; ed. Pa. State Coll., 1932, B.S.; grad. wk., U. of Pitts., 1937-40; mem.: Alpha Chi Sigma, Sigma Gamma Epsilon, Phi Lambda Upsilon; m. Nancy G. Diven, May 31, 1941; ch.: Barry D., Dean A. Bell Telephone Labs., 1924-29, res. on corrosion; Radio Corp. of Am., 1932-37, res. & dev. engr.; Mellon Inst. of Ind. Res., Stoner-Mudge fellowship on protective coatings, 1937 to date; adm. fellow 1944 to date, res. dir. of Stoner Mudge Inc., 1946 to date. Res. & dev. in fld. of corrosion & corrosion prevention by means of org. coatings. Contr. author to "Corrosion Handbook" 1948; publ. many articles in tech. jls. Naval Ordnance Dev. Award, 1945; U.S.N. Cert. of Achievement, 1945; Ordnance Distinguished Serv. Award, 1944. Mem.: A.C.S., Am. Inst. of Food Technologists, Natl. Assn. of Corrosion Engrs., Am. Ordnance Assn. Club: Pitts. Chemists'.

SEAMAN, Bryant W., sales mgr., Seldner & Enequist, Inc., 86 Hausman St., Brooklyn, N.Y.; res. 123 Chestnut St., Garden City, N.Y.
Sales exec.; b. Brooklyn, N.Y.; s. of Lewis W. and Ella (White) Seaman; ed. Adelphia Acdy., South Side H.S.; Curtis Bus. Coll.; m. Harriet Davey, Sept. 12, 1925; ch.: Bryant W., Jr. Acorn Publ. Co., printer; Western Elec. Co., salesman; Gen. Carbonic Co., salesman; Breinig Bros. Inc., sales mgr.; Seldner & Enequist, Inc. sales mgr. secy., dir.; Acorn Publ. Co., dir. Planning Commis., chmn., Garden City, N.Y.

SEAMAN, William, chf., anal. res., Amer. Cyanamid Co., Calco Chem. Div., Bound Brook, N.J.; res. 251 W. 71 St., N.Y. 23, N.Y.
Chem.; b. Providence, R.I., Nov. 27, 1901; s. of Allen and Anna Seaman; ed. Brown U., Providence, R.I., A.B., M.S., 1922; Cornell U., Ithaca, N.Y., Ph.D., 1929; mem.: Phi Beta Kappa, Sigma Xi; m. Sylvia S. Bernstein, Dec. 27, 1925; ch.: Gideon, Jonathan. U.S. Depts. of Agr. & Navy, Wash., D.C. and N.Y., N.Y., jr. & asst. chem., 1922-27; Standard Oil Dev. Co., Elizabeth, N.J., res. chem., 1929-31; Internatl. Paper Co., Glens Falls, N.Y., res. chem., 1931-33; Amer. Cyanamid Co., Calco Chem. Div., res. chem., chf., anal. res., 1933 to date. Res. in fld. of new methods of anal., particularly of organic compounds, synthesis of derivatives of phenylboric acid. Pats. on catalytic processes applied to, and compositions of matter obtained from, petroleum prods.; temp. control for automatic refractometer. Mem.: A.C.S., Amer. Inst. of Chem. (fellow).

SEARS, George Wallace, emer. prof. of chem., U. of Nevada; res. & anal., Off. of Naval Res., Reno, Nevada; res. Reno.
Chem. res. & anal.; b. near Kidder, Mo., July 9, 1878; ed. Drury Coll., B.S., 1908; U. of Ill., M.S., 1911; Ph.D., 1914; m. Edith C. Fink, June 20, 1911; ch.: 2 sons, 1 dau. U. of Ill., asst. chem., 1911-14; instr. chem., 1914-17; U. of Nev., instr. chem., 1917-18; assoc. prof., 1918-24; prof., 1924-49; hd. dept., 1926-49; to date, emer. prof. of chem.; since 1949, res. in anal. chem., tantalum and columbium, Off. of Naval Res. Res. in chem. of rarer metals; pub. papers in chem. educat. Author: "Qualitative Chem. Anal.," 1922, 2nd. ed. 1926; "Essentials of Gen. Chem.," 1939; "Lab. Manual of Gen. Chem.," (with M.W. Deming), 1940. Mem.: A.C.S. (chmn. Sacramento sec., 1936), A.A.A.S., A.A.U.P., Sigma Xi, Phi Kappa Phi, Phi Lambda Upsilon.

SEATON, Max Y., exec. v.p., Westvaco Div., Food Machinery & Chem. Corp., 405 Lexington Ave., N.Y. 17, N.Y.; res. 52 Gramercy Park North, New York, N.Y.
Exec.; b. Ravenna, Ohio, July 22, 1890; ed. Case Schl. Applied Sc., B.S., 1912; m. Katherine Betts, Oct. 18, 1916; ch.: Edward B., Robert S., Katherine. Arco Chem. Co., chf. chem., tech. dir., 1912-17; Bur. Mines, War Gas Div., chem. engr., 1917-18; Dow Chem. Co., chem. engr., 1919-21; Calif. Chem. Co., tech. dir., exec. v.p., 1921-34; Westvaco Chem. Corp., which is now Westvaco Div., Food Machinery & Chem. Corp., 1935 to date; 1935-40, tech. dir.; 1940 to date, exec. v.p.; Food Machinery & Chem. Corp., v.p., dir.; Surra Magnesite Co., pres., dir. Mem.: A.C.S., A.I.Ch.E., A.S.T.M., A.I.M.E., Am. Ceramic Soc., Am. Electrochem. Soc., S.C.I., A.I.C. Club: Chemists'. Hobby: photography.

SEAVOY, Gordon Edward, v.p., Whiting Corp., Swenson Evaporator Co. (subs.), Harvey, Ill.; res. 10633 S. Hoyne Ave., Chicago 43, Ill.
Chem. engr., exec.; b. L'Anse, Mich., Apr. 11, 1905; s. of Edward and Sophia Seavoy; ed. U. of Mich., M.S. Ch. Engrg., 1928; mem.: Phi Delta Chi; m. Catherine Price, Apr. 6, 1929; ch.: Ronald E., Grace C., Brian G., Valerie J. Swenson Evaporator Co., Ann Arbor, Mich., res. & dev., 1927-29; N.Y., N.Y., sales-serv., 1929-32; P.F. Crahan, contractor, engr., 1932-33; Swenson Evaporator Co. N.Y., N.Y., engr. sales, 1933-37; asst. mgr., Harvey, Ill., 1937-38; v.p., mgr., 1938-48; Whiting Corp., v.p., sales, 1948 to date. 1949, dir., Whiting Corp., Canada Ltd. (Toronto) Res. in fld. of chem. recovery system & equip. for viscose rayon process; process for metallic sodium, using amalgam. Contrib. to recent (1950) bk. on equip. costs by Zimmerman & Lavine; co-author (with W.L. Badgor) of brochure "Heat Trans. & Crystallization," (1944-50). Mem.: Tau Beta Pi, Phi Lambda Upsilon, Phi Kappa Phi, Iota Alpha, A.I.Ch.E., T.A.P.P.I., A.S.T.M. Clubs: Univ. (Chicago), Beverly Country (Chicago). Hobbies: hunting, photography.

SEDENKA, Anthony, chem. engr., mgr. inorg. pigments div., B.F. Drakenfeld & Co., Inc.,

Box 519, Washington, Pa.; res. 1086 Magnolia Dr., Washington.
Chem. engr.; b. St. Louis, Mo., July 26, 1907; s. of Frank and Mili (Janus) Sedenka; ed. Okla. A.&M. Coll., 1924-29, B.S. chem. engrg.; mem.: Phi Lambda Upsilon, Sigma Tau, Alpha Sigma Delta; m. Carmelia Frances Ferraro, May 23, 1936; ch.: Edward Louis, Donald Oldry. B.F. Drakenfeld & Co., Inc., 1929-42, color technologist, dev. of special coloring oxides for enamels & plastics; asst. mgr., porcelain enamel color div.; W.P.B., Chem. Bur., 1942-44, chf. plant facilities, conversion to war prod.; chf. maintenance & repair unit, adm. order P-89, 1944-45; B.F. Drakenfeld & Co., Inc., 1945 to date, chem. engr., mgr. inorg. pigments div. Dev. inorg. pigments for coloring plastics, dev. jewelry enamels & specialties. Mem.: Phi Lambda Upsilon, Kappa Kappa Psi, Sigma Tau, Alpha Sigma Delta, Am. Ceramic Soc., A.C.S. Club: Wash. Engineers. Hobbies: music, parent-teacher work, 4-H clubs, scouting, photography, gardening.

SEEBACH, Edwin, exec., owner, 912-920 Broadway, N.Y., N.Y.; res. 1 Scott Lane, White Plains, N.Y.
Merchant, perfumer; b. Zurich, Switzerland, Jan. 4, 1883; s. of George and Augusta Seebach; ed. Zurich, Switzerland, commercial coll., lab. training; m. Theodora Robinson, June, 1929; ch.: Adolf, Helene. Swiss Chem. Wks. (aromatic chem.), mgr., perfumer, 1901-28; dir. of exports & perfumer, 1928-32; estab. own bus. (N.Y., N.Y.), 1932 to date. Mem.: Essential Oil Assn. U.S.A., Toilet Goods Assn. U.S.A. Commerce & Industry Asst., N.Y., U.S. C.ofC. Club: Chemists' (N.Y.). American Arbitration Assn. (Arbitrator, American and Foreign Panel of Arbitrators). Hobbies: prize fruits & vegetables, roses, dahlias.

SEEBACH, Louis George, mgr. exports & transfers, polychemicals dept., du Pont Co., Rm. 13096 du Pont Bldg., Wilmington, Del.; res. 802 Augusta Rd., Westover Hills, Wilmington.
Sales mgr.; b. Sandusky, Ohio, Mar. 13, 1901; s. of Louis and Caroline (Traber) Seebach; ed. Carnegie Inst. of Tech., B.S. in chem. engrg., 1922; mem.: Alpha Tau Omega; m. Mildred Steelman Godfrey, Sept. 7, 1928; ch.: Howard G., Louis G., Jr. With Natl. Ammonia Co., salesman, 1923-26; Phila. plant mgr., 1926-28; Pacific Ammonia & Chem. Co., sales mgr., 1928-30; du Pont Co., ammonia dept., N.Y. dist. sales mgr., 1930-36; natl. ammonia div. asst. gen. sales mgr., 1936-46; ammonia dept., section sales mgr., 1946-47; polychems. dept., mgr. exports & transfers, 1947 to date; v.p. and treas., Service Corp. of Westover Hills. Clubs: Chemists' (N.Y.), du Pont Country, U.S. Power Squadron (Wilmington), Masonic. Hobbies: horticulture, boating.

SEIBEL, Clifford Winslow, regional dir., Region VI, Bur. of Mines, 814 Barfield Bldg., Amarillo, Texas; res. 1520 Lamar Street, Amarillo.
Adm.; b. Kansas City, Mo., Nov. 10, 1890; s. of Dr. Richard M. and Lida (Kittle) Seibel; ed. B.S., U. of Kansas, 1913; M.S., 1915; Sc.D., Texas Tech., 1937; mem.: Alpha Chi Sigma, Sigma Xi; m. Ruth Bowdle, Dec. 22, 1915; ch.: Richard M., II, Margaret Dorothea (Seibel) Wilson. Instr. in chem., U. of Kansas, 1913-17; chem., Bur. of Mines, 1917-30; supvr. engr., Bur. of Mines Helium Plants, 1930-49; regional dir., Region VI, 1949 to present. Supervised design and constr. and oper. of 4 helium production plants for W.W.II; designed helium plants for Army and Navy; in chg. of all helium fld. wk. for Bur. of Mines. Wrote Chapter II. "Chem. in Industry," The Chemical Foundation, Inc., New York, N.Y. Amarillo Boy Scout Council (past. pres., awarded Silver Beaver), (Elder) Presbyterian Ch., Amarillo, Mason (Shriner, K.T.). Mem.: A.C.S. Clubs: Cosmos (Washington, D.C.), Rotary. Hobbies: handicraft, photography.

SEIBERT, Florence B., assoc. prof. biochem., Henry Phipps Inst., U. of Pa., 7th & Lombard Sts., Phila. 47, Pa.; res. 2601 Parkway, Apt. 202, Phila. 30.
Res. in tuberculosis; b. Easton, Pa., Oct. 6, 1897; d. of George P. and Barbara (Memmert) Seibert; ed. Goucher Coll., A.B., 1918; LL.D., 1938 (hon.); Yale U., Ph.D., 1923; U. of Chicago, Sc.D., 1941 (hon.); U. of Upsala, Sweden, 1937-38; U. of Pa., Sc.D., 1945 (hon.); Lafayette Coll., Sc.D., 1947 (hon.); mem.: Phi Beta Kappa, Sigma Xi, Iota Sigma Pi (hon.), Sigma Delta Epsilon (hon.). Chem., Hammersley Paper Mill, 1918-20; U. of Chicago, instr. pathol. & asst. Sprague Memorial Inst., 1924-28; asst. prof. biochem. & assoc. Sprague Memorial Inst., 1928-32; U. of Pa., asst. prof. biochem., 1932-37; assoc. prof., 1937 to date. Res. in the chem. & immunology of tuberculosis; prep. of natl. stand. of tuberculins. 80 sc. pubs., reviews, & chapters. Ricketts Prize, U. of Chicago; Garvan Gold M., A.C.S. Hon. mem. & Trudeau M., Trudeau Soc.; Natl. Achievement Award; First Achievement Award, A.A.U.W.; Gimbel Award; John Scott Award. Alumnae Trustee Goucher Coll., 1943-46; Bd. Corporators, Women's Med. Coll., 1946-49. Mem.: A.C.S. (dir., Phila. Sec., 1948-50), A.S.Biol.C., Am. Soc. Naturalists, A.A.A.S., Natl. Inst. Soc. Scs., S.E.B.M., Franklin Inst., N.Y. Acdy. Sc. (fellow). Club: Woman's U. Club of Phila. Hobby: music.

SEIBERT, Frank Meyers, asst. to v.p., Gulf Oil Corp., P.O. Drawer 2100, Houston, Tex.; res. Shamrock Hotel, Houston.
Res. engr., exec.; b. Berlin, Pa., Aug. 4, 1887; s. of William Albert and Mary Mathilda Seibert; ed. Pa. State Coll., B.S., 1910; Princeton U., Ph.D., 1917; mem.: Sigma Nu; m. Nan Rudisill Hocking, July 14, 1917. U.S. Bur. of Mines, res. chem., 1911-14; Gulf Pipe Line Co., Houston, Tex., mgr., res. dept., 1917-42; Gulf Oil Corp., Houston, asst. to v.p., 1942 to date. Res. on mine gases and natural gases from gas wells, oil wells. Summary of wk. in U.S. Bur. of Mines Bull. Nos. 40 & 88. Mem.: A.C.S., A.P.I.

SEIBERT, Frank(lin) Jacob, chf. chem., plant supt., Chipman Chemical Co., Inc., Bound Brook, N.J.; res. 747 Watchung Rd., Bound Brook.
Chem.; b. Easton, Pa., Jan. 20, 1894; s. of Sylvester John and Jennie Edith (Seipel) Seibert; ed. Lafayette Coll., Easton, Pa., B.S. in Chem., 1915; m. Gladys Bray, Mar. 29, 1919; ch.: Franklin John. General Chemical Co., New York, N.Y., anal. and res. chem., 1915-18; U.S.A., tank corps and ordnance corps, 1918-19; General Chemical Co., chem. and plant exec., 1919-34; Chipman Chemical Co., Inc., Bound Brook, N.J., chf. chem. & plant supt., 1934 to present. Holder of pats. on insecticides, fungicides and weed killers. Mem.: A.C.S. Hobby: philately.

SEIDEN, Rudolph, chf. chem., Haver-Glover Labs., Box 676, Kansas City 10, Mo.; res. (preferred address) 700 E. 63rd Terrace, Kansas City 5.
Conslt. veterinary phar., insecticides and disinfectants; b. Langenwang, Austria, Aug. 13, 1900; s. of Bernard and Jeanette Seiden; ed. Tech. Coll. of Vienna (Dipl. Ing. Chem., 1928); U. of Vienna; mem.: V.Z.H. Theodor Herzl; m. Juliette Niswizki-Abileah, Apr. 19, 1924; ch.: Uriel, Othniel. Investigator of chem. industries & resources in Central Europe, Near East, Russia, 1924-33; free-lance writer, radio lect. on chem. problems, correspondent for leading chem. jls. of Europe & U.S.A., 1924-38 & collaborator of American and English professional jls. since then.

Came to U.S. in 1935; with Haver-Glover Labs., 1938 to date. Abstractor, "Chemical Abstracts"; author: "The Chem. Industry and Its Possibilties on the Dead Sea," (1924); "Comparative Exams. Concerning the Influence of Various External Factors (particularly rain and sprinkler-irrigation) Especially on the Ash-Content of Plants." (1925); "Chem. Products—a Tech. of Inorganic and Organic Materials, (1928); "King Caoutchuc," (11th ed., 1930); "The Poultry Handbook," (rev. ed. 1949). Mem.: A.I.C. (fellow), A.C.S. (sr. mem.). Hobbies: reading, writing, book-reviewing, stamp collecting, traveling.

SEIFTER, Joseph, dir., Wyeth Inst. of Applied Biochem., 900 N. Broad St., Phila. 30, Pa.; res. 1829 Allen Lane, Willow Grove, Pa.
Pharmacologist; b. Czechoslovakia, Dec. 5, 1904; s. of Jacob and Rose Seifter; ed. Ohio State U., 1926-31; Emory U. Med. Schl., M.D., 1934. Emory U., asst. pharmacol., 1931-34; U. of Okla. Med. Schl., instr. pharmacol., 1935-37; West. Reserve U. Schl. of Medicine, instr., sr. instr., asst. prof. of pharmacol., 1937-44; Wyeth Inst. of Applied Biochem., chf. pharmacol., 1944-46; dir., 1946 to date. Res. in metal alkyls, solvent hazards, anticoagulants, hyaluronidase, steroids, alarm reaction & adaptation syndrome. Mem.: A.C.S., Am. Soc. for Pharmacology & Exptl. Therapeutics, A. A.A.S., Sigma Xi.

SELDEN, James McCobb, sales mgr. & asst. secy., Shell Chem. Corp., 500 Fifth Ave., New York 18, N.Y.; res. 9 West Dr., Larchmont, N.Y.
Chem. mfr.; b. Cleveland, O., Mar. 10, 1898; s. of James McCobb and Florence Gatch Selden; ed. Mercersburg Acdy., 1917; m. Mildred Woodmansee, Apr. 29, 1920; ch.: Marian Selden Gagliardi. The Selden Co., Bridgeville, Pa., v.p., 1918-31; R.W. Greeff & Co., Inc., N.Y.C., v.p., 1933-46; Shell Chem. Corp., N.Y.C., sales mgr. & asst. secy., 1946 to date. Clubs: Union League, Chemists', Netherland of New York, Larchmont Yacht, Masons. Hobbies: boating, fishing.

SELF, Madison Allen, pres., Bee Chem. Co., 13799 So. Ave. "O," Chicago, Ill:; res. 533-138th St., Hammond, Ind.
Chem. engr., exec.; b. Ozawkie, Kan., June 30, 1921; s. of Benjamin B. and Maggie Allen Self; ed. B.S., U. Kan., 1943; m. Lila May Reetz, Sept. 1, 1943. York Corp., York, Pa., stud. engr., 1943-44; Sharples Chem., Inc., Wyandotte, Mich., res. engr. 1944-45; Chicago, Ill., sales engr., 1945-47; Bee Chem. Co., Chicago, v.p., 1947-48; pres., 1948 to date. Res. and engr. wk. relating to pilot plant prod. of Triptane, market res. and dev. mtls. for use in mfgr. of improv. emulsion breakers, corrosion inhibitors and herbicides; guiding res. on and market dev. of decorat. finishes for use on plastics. Mem.: A.C.S., A.I.Ch.E., S.P.E. Hobby: reading.

SELHEIMER, Charles William, Jr., prof. chem. engrg., Ill. Inst. Tech., Chicago, Ill.; res. 10406 S. Leavitt St., Chicago.
Prof.; b. Reading, Pa., July 13, 1901; s. of Chas. W. and Catherine (Zabel) Selheimer; ed. B.S., Midland Coll., Fremont, Nebr., 1925 (1st hon.); M.S., U. Mich., 1926; Ph.D., chem. engrg., 1932; B.S., M.S., math. and physics; mem.: Gamma Alpha (Mich.); m. Elizabeth Moore, Nov. 21, 1930; ch.: Daniel C., John C. Instr. math. & physics, Dana Coll., Blair, Nebr., 1925; tech. asst. math., U. Mich., 1925-27; instr., 1927-28; instr. chem. engrg., U. Mich., 1928-30; chem. div., Procter and Gamble, Ivorydale, Ohio, 1931-33; chem. supvr., Gold Dust Corp., Baltimore, Md., 1933-34; chf. chem., 2 in 1-Shinola-Bixby Corp., Indianapolis, Ind., 1934-36; asst. prof. chem. engrg., Wayne U., Detroit, 1936-42; assoc. prof., 1942-46; chem. engr., U.S. Rubber Co., Detr., 1946-48; prof. chem. engrg., Ill. Inst. Tech., 1948 to date. Res. in physical prop. of hydrocarbons. Co-author: "Fuels and Utilizat.," 1940. Trustee, Wittenberg Coll., Springfield, Ohio, 1938-43; bd. Lutheran Char., Detr., Mich., 1937-43 (pres., 1941-42); bd. Lutheran Stud. Foundation, Ann Arbor, Mich., 1937 to date. Mem.: A.I.Ch.E. (active), Chicago Rubber Group. Hobbies: music, handicraft, gardening.

SELIGSBERGER, Ludwig, chf. chem., Allied Kid Co., New Castle-Specialty Div., Wilmington 99, Del.; res. 1603 Harrison Ave., Silverside Heights, Wilmington.
Leather chem.; b. Fuerth, Bav., Germany, July 4, 1904; s. of Leon and Centa Seligsberger; ed. Ph.D., Erlangen, Germany, 1928; m. Greta Weiss, 1932; ch.: Helen. Six yrs. asst. to Prof. M. Bergmann, dir. of Kaiser Wilhelm Inst. for Leather Res. in Germany; 3 yrs. with Valonex factory in Izmir, Turkey; since 1937 in present position. Mem.: A.C.S., A.A.A.S., Am. Leather Chemists Assoc.

SELL, Harold Melvin, prof. (research), dept. of agric. chem., Mich. State College, East Lansing, Mich.; res. 430 Charles St., East Lansing.
Biochem.; b. Waseca, Minn., June 7, 1905; s. of Rudolph W. and Wanda T. Sell; ed. 1929, North Central Coll., Naperville, Ill., A.B.; 1931, Mich. State Coll., East Lansing, M.S.; 1938, U. of Wis., Madison, Wis., Ph.D.; mem.: Alpha Chi Sigma; m. Mabelle Alice Sargent, Dec. 26, 1939; ch.: John Edward, Elizabeth Kay. 1927-29, asst. in chem., North Central Coll.; 1929-31, grad. asst. in org. chem., Mich. State Coll.; 1931-35, res. chem., Gen. Foods Corp., Battle Creek, Mich.; 1935-38, station asst. in biochem., U. of Wis.; 1938-39, post-doctorate asst. biochem.; 1939-45, assoc. chem., Bur. of Plant Industry, U.S. D.A., Gainesville, Fla.; 1945 to date, prof. (research) agric. chem., Mich. State Coll. Res. in synth. org. chem., stabilization of emulsions, org. acids, carbohydrates, fatty acids, sterols, biochemistry of plant mechanisms, antibiotics, trace elements and growth regulators. Extensive contrib. to sc. and tech. jls. in fld. of res. Mem.: Sigma Xi, Phi Lambda Upsilon, Gamma Alpha, Kappa Delta Pi, Phi Sigma, A.C.S., A.O.C.S., Soc. of Plant Physiology, Mich. Acdy. of Sc., A.A.A.S. Club: Lansing Kiwanis. Hobbies: hunting, fishing.

SELTZER, John Miller, chf. chem., process control & purchasing agent, Kistler Leather Co., Drawer 151, Elkins, W.Va.; res. 630 Robert E. Lee Ave., Elkins.
Chem.; b. Lebanon, Pa., Nov. 11, 1887; s. of Adam and Emma E. (Miller) Seltzer; ed. Lebanon, Penn. Public Schls.; m. Pauline F. (Fulmer), Aug. 31, 1907; ch.: Richard F. Chem., Am. Iron & Steel Wks., Lebanon, Pa., 1904-06; chem., Maryland Car Wheel Wks., Balt., Md., 1907; Kistler Leather Co., Lock Haven, Pa., chem., 1907-14; chf. chem. & process control, Lock Haven, 1914-40; chf. chem., process control & purchasing agent, Elkins, W.Va., 1940 to date. Mem.: Am. Leather Chemists Assn. (council, 1934-38; chmn., hide powder comm., 1938-50), A.C.S., Sewage & Industrial Waste Assn. (West Va.), Soc. Leather Trades Chemists. Clubs: Masonic, Rotary, Elks, Shrine, Country. Hobby: golf.

SEMON, Waldo Lonsbury, dir. pioneering res., B.F. Goodrich Res. Center, Brecksville, Ohio; res. 2990 Millboro Rd., Silver Lake, Cuyahoga Falls, Ohio.
Res. chem.; b. Demopolis, Ala., Sept. 10, 1898; s. of Frank E. and Blanche (Lonsbury) Semon; ed. U. of Wash., B.S. in Ch.E. 1920, Ph.D. 1923,

A.S.L.D. 1946 (honorary); mem.: Phi Lambda Upsilon, Tau Beta Pi, Sigma Xi; m. Marjorie Gunn, Sept. 10, 1920; ch.: Mary Blanche (Semon) Averill, Marjorie Elizabeth (Semon) Pake, Constance Ann. Instr. in chem., U. of Wash., 1920-26; res. chem. & chem. engr., B.F. Goodrich Co., 1926-40, dir., Synthetic Rubber Res., 1940-43, dir., Pioneering Res., 1943 to date; chem. engr., Everett Gas Wks., Wash., 1921, chem. conslt. 1922-26; v.p., dir. of res., Hycar Chem. Co., Akron, Ohio, 1940-43. Hydroxylamine, oximes, complexes of sulfur, antioxidants, accelerators, polyvinyl plastics, synthetic rubber; over 150 domestic & foreign pats. on prep. of chem. intermediates, antioxidants, accelerators, plastics, monomers, synthetic rubber. "Chem. & Tech. of Rubber," contrib., C.C. Davis, J.T. Blake, editors (Reinhold Pub. Corp., N.Y.), 1937; "Org. Syntheses" Vol. III, Vol. X, contrib., H.T. Clarke, edit. (John Wiley & Sons, Inc.), N.Y., 1923, 1930. Mem.: A.C.S., A.I.Ch.E. Awards: Modern Pioneer, Natl. Assn. Mfrs. 1940; Charles Goodyear M., Rub. Div. A.C.S. 1945. V. chmn., Rubber Div., A.C.S. 1950. Clubs: Torch, Franklin, Executives, Congregational. Hobbies: photography, travel.

SEMPLE, Robert Baylor, pres., Wyandotte Chemicals Corp., Box 111, Wyandotte, Mich.; res. 304 Univ. Place, Grosse Pointe, Mich.
Exec.; b. St. Louis, Mo., Aug. 18, 1910; s. of Nathaniel Meacon and Margery May (Farriss) Semple; ed. M.I.T., B.S. in Chem. Engrg., 1932; M.S. in Chem. Engrg., 1933; mem.: Delta Tau Delta; m. Isabelle Ashby Neer, 1933; ch.: Robert Baylor, Jr., Lloyd Ashby, Elizabeth Hall, William Tunstall, II, Nathaniel Meacon. Monsanto Chem. Co., 1933-49; res. chem.; pilot plant group leader & mgr. (interim mfg. dept.); asst. dir., gen. dev. dept.; mgr., petroleum chem. sales; dir., gen. dev. dept.; Wyandotte Chems. Corp., pres., 1949 to date. Mem.: A.I.Ch.E., A.C.S., S.C.I. Clubs: Grosse Pointe, Detroit, Country (Detroit), St. Louis Country.

SENDROY, Julius, Jr., hd. div. of chem., Naval Med. Res. Inst., Natl. Naval Med. Center, Bethesda, Md.; res. 8550 Locust Hill Rd., Bethesda.
Chem.; b. Zombor, Hungary, Sept. 26, 1900; s. of Julius and Irene Sendroy; ed. Coll. of the City of N.Y., B.S. (cum laude), 1923; Columbia U., M.A., 1925, Ph.D., 1927; mem.: Phi Beta Kappa, Phi Sigma Kappa, Phi Beta Pi (hon.); m. Jeanette Candee, June 21, 1932; ch.: B. Marilyn, Peter G. Hosp. of the Rockefeller Inst. for Med. Res., asst. in chem. 1926-30, assoc. 1930-37; guest res. wk., Cambridge U., England, and Kaiser Wilhelm Inst. for Biologie, 1928; Loyola U. Schl. of Med., dept. of exptl. med., prof. of chem. & chmn. 1937-48; Naval Med. Res. Inst., chf. chem. 1948 to date. Res. in fld. of physical and quantitative chem. and anal. of biol. tissues; acid base and gas and electrolyte equilibria; calcification; respiratory physiology and chem. Contrib. extens. to sc. jls. Mem.: A.C.S., A.S.Biol.C., S.E.B.M., Inst. Med. of Chicago, Central Soc. for Clinical Res., N.Y. Acdy. Sc., Aeromed. Assn., Natl. Bd. Med. Examiners (assoc. examiner 1942). Mem. Med. Consltg. Staff, La Rabida-Jackson Pk. Sanitarium (1944-48); Biochem. and Nutrition Study Sect., Div. of Grants and Fellowships, U.S. Pub. Health Serv. 1950 to date; continuing mem., Bd. of C.S. Examiners of the Potomac R. Nav. Com. 1948 to date; Panel of Appraisers, hdbk. of Biol. Data, Natl. Res. Council 1950 to date. Hobbies: drawing, piano, photography, carpentry, electrical work.

SENKUS, Murray, dir. of res. and dev., Nox-Rust Chemical Corp., 2429 S. Halsted St., Chicago, Ill.; res. 4635 Johnson Ave., Western Springs, Ill.
Chem. industry; b. Redberry, Saskatchewan, Canada, Aug. 31, 1914; s. of Nicholas and Anne Senkus; ed. B.Sc., 1934, M.Sc., 1936, U. of Saskatchewan; Ph.D., 1938, U. of Chicago; mem.: Gamma Alpha, Sigma Xi; m. Emily Kulcheski, Dec. 31, 1938; ch.: Neal John, William Michael, Kathryn Johanne. Instr., North Park Coll., Chicago, Ill., 1937-38; chem., Commercial Solvents Corp., Terre Haute, Ind., 1938-46; res. project ldr., Commercial Solvents Corp., 1946-50; dir. of res. and dev., Nox-Rust Chemical Corp., 1950 to present. Res. in recovery of mtls. produced by fermentation, like penicillin and bacitracin Raman spectra of deutero-hydrocarbons; chemistry of nitroparaffins, particularly their reactions with formaldehyde and amines; chem. of acetals; reactions of carbonyl cmpds. with amino polyhydric alcohols; chemistry of oxazolidines; rust preventives. Mem.: S.C.I., A.A.A.S., A.C.S. Club: Toastmasters International. Hobbies: public speaking, fishing.

SENUM, Tellef, mgr., Wm. T. Thompson Co., 2727 Hyperion Ave., Los Angeles 27, Calif.; res. 400 S. Oxford St., Los Angeles.
Chem.; b. Fosston, Minn., Dec. 12, 1903; s. of Osmund and Ingeborg Senum; ed. B.S., U. of North Dakota, 1927; M.S. and Ph.D., U. of Minn., 1932 and 1935; m. Julia Johnson, 1933, divorced, 1948; ch.: Rodney. Chem. tchr., Junior Coll., Sheldon, Ia., 1935-36; Master Laboratories, Inc., Omaha, Nebraska, 1936-38; Carnegie Inst. of Wash., Cold Spring Harbor, N.Y., 1938-39; Teachers Coll., Shippensburg, Pa., 1940-44; Wm. T. Thompson Co., and Thompson Horticultural Chemicals Corp., Los Angeles and St. Louis, Mo., 1944 to present.

SERFASS, Earl James, prof. of anal. chem., chem. dept., Lehigh U., Bethlehem, Pa.; res. 1140 W. Union Blvd., Bethlehem, Pa.
Dir. of curriculum in chem.; b. Allentown, Pa., Dec. 22, 1912; s. of James M. and Ida A. Serfass; ed. Lehigh U., B.A., M.A., Ph.D.; m. Mabel Elizabeth Dowling, Sept. 5, 1935; ch.: Nancy, Robert. Lehigh U., instr. in gen. chem., assoc. prof. in anal. chem., full prof. in anal. chem., dir of curriculum in chem. Conslt. for several firms. Dev. of instruments for rapid indus. anal. such as "Electron Ray Titration Unit," "Serfass Conductance Bridge" & "Fisher-Serfass Relay." 38 papers in various sc. jls. Mem.: Sigma Xi, A.C.S., Tau Beta Pi, Am. Electrochem. Soc., Am. Electroplaters' Soc., Am. Inst. of Physics. Club: Chemists' (N.Y.C.). Hobby: doing electronics at home incl. television.

SERLES, Earl Roy, dean and prof. of pharmacy, U. of Ill. College of Pharmacy, 808 South Wood St., Chicago 12, Ill.; res. 7214 Oak Ave., River Forest, Ill.
Educator; b. Salem, S.D., Nov. 18, 1890; s. of Francis Marion Serles; ed. Salem H.S. 1909; Ph.G., S.D. State Coll., 1911; B.S. in phar., S.D. State Coll., 1915; M.S. in chem. and phar, 1917; Ph.D., U. of Minn. (in pharmacology), 1934; mem.: Gamma Alpha, Rho Chi, (Tau Chapt.), Kappa Psi (Chi Chapt.); Phi Beta Pi; Sigma Xi; m. Daphne Chapman, June 16, 1917. 1911-13, retail pharmaceut. experience; student asst., S.D. State Coll., 1913-15; asst. prof. of phar., 1916-17; asst. station chem. (summer) 1916; acting hd. of Phar. Dept., 1917-23; prof. of pharmacy, 1917-23; dean of Div. of Pharmacy, 1923-40 (all at S.D. State Coll.); dean and prof. of phar., U. of Ill. Coll. of Pharmacy, 1940 to date. C.W.S., Med. Unit, Madison, Wis., 1918; in chg. of wk. in toxicolog. div. of Madison Unit. Contrib. num. arts. to sc. jls.; also thesis for doctorate degree partially pub., U. of Minn. Library, "Certain Phases of the Toxicology and Phamacology of Oil of Chenopodium." Mem.: A.Ph.A., I.Ph.A., S.D. Ph. A., S.D. Acdy. of Sc., Syllabus Comm., (A.Phar.A.), 1926-46; House of Delegates, (A. Phar.A.), 1937-38; assoc. mem. S.D. Med. Assoc.,

1937 to date; chmn. S.D. Interprof. Relationship Comm., Med., Dental, and Pharmaceut., 1929-34; mem. of Revision Comm. of S.D. Pharmacy Laws, S.D. Ph.A., 1921-31; mem. Advisory Council, S.D. Pub. Health Assoc., 1935-40; chmn., Comm. "Activities of Students and Alumni," A.A.C.P., 1926-28; mem. Comm. "Estab. of Student Chapts. of A.Phar.A." in A.A.C.P., 1927; v.p., 1929, pres., 1938-39, A.A.C.P.; mem. Exec. Comm., A.A.C.P., 1943 to date; mem. U.S. Pharmacopeia Revision Comm., 1930-40; assoc. mem. S.E.B., 1941 to date; Chicago Chapt. of Chaos Club, 1942 to date; Chicago Nutrition Comm., 1943 to date; bd. of dirs., West Side Prof. Schls. Y.M.C.A., 1941 to date; Subj. Matter Comm. of the George-Deen Program of Distributive Educ. for Retail Pharmacists, 1940 to date; Comm. on Pharmacy, Amer. Hosp. Assoc., 1944 to date; pres.-elect, 1944-46, pres., 1946-47, A.Ph.A. Member, Natl. Education Assn. 1947-49; Ill. Dept. Public Welfare Superintendents Council Comm. on Drugs & Pharmacy 1948 to date; A.A.C.P. Rep. of N.A.D.A. 1948; A.A.A.S. member Jan. 1, 1949 to date.

SERVIS, Richard John, chem. engr., Winthrop-Stearns, Inc., Rensselaer, N.Y.; res. Averill Park, N.Y.
Chem. engr.; b. Brooklyn, N.Y., Sept. 10, 1912; s. of Charles and Elizabeth Servis; ed. B.S., Brooklyn Polytechnic Inst.; m. Elizabeth Jessup, 1941; ch.: Nancy, Suzanne. Chf. chem., Salvo Chem. Corp., 1937-43; chem. engr., Winthrop Stearns, Inc., 1943 to present. Res. on chems. from lignin, design of mfg. units, and manuf. of various pharmaceuticals and antibiotics. Mem.: A.C.S., A.I.Ch.E., A.I.C. (fellow). Hobby: farming.

SESSIONS, William V., assoc. prof. of chemistry, Wayne U., Detroit, Mich.; res. 667 W. Hancock Ave., Detroit.
Chem. instr.; b. Hampden, Mass., Nov. 19, 1896; s. of William J. and Mary Anderson Sessions; ed. Worcester Poly. Inst. B.S., 1917, M.S. 1921; Clark U., Ph.D., 1924; mem.: Sphinx, Sigma Xi. du Pont Co., chem. 1917-20; Princeton U., instr., 1924-29; Wayne U., assoc. prof. of chemistry, 1929 to date. Mem.: A.C.S., A.A.U.P.

SEVRINGHAUS, Elmer Louis, dir. of clinical res., Hoffmann-LaRoche, Inc., Nutley 10, N.J.; res. Essex Fells, N.J.
Physician; b. New Albany, Ind., Feb. 9, 1894; s. of Edwin A. and Matilda (Schneck) Sevringhaus; ed. Wis., B.A. 1916, M.A. 1918; Harvard, M.D. 1921; mem.: Alpha Chi Sigma, Phi Chi; m. Grace Colby, 1918; ch.: John Wendell, Patricia, Edwin Colby. U. of Wis., asst. prof. of physiolog. chem. 1921-24, assoc. prof. of physiolog. chem. 1924-27, assoc. prof. of medicine 1927-38, prof. of medicine 1938-46; clinical prof. of medicine, N.Y. Medical Coll., 1948 to date; dir. of clinical res., Hoffmann-LaRoche, Inc., 1946 to date; dir. of endocrinology & metabolism, Jersey City Medical Center, 1948 to date, Physiolog. & clinical papers in flds. of nutrition & endocrinology. Author: "Guide for Diabetics," 11 edit. to 1942; "Endocrine Therapy in Gen. Practice" 6 edit., 1938-48; "Vitamin Therapy in Gen. Practice," 1940, 1942; "Yearbook of Endocrinology" 1936-45. Mem.: Phi Beta Kappa, Phi Lambda Upsilon, Sigma Xi, A.S.Biol.C., Am. Inst. of Nutrition, Assn. for Study of Internal Secretions, Am. Soc. for Clinical Investigation, Assn. of Am. Physicians, N.Y. Acdy. of Medicine. Clubs: Harvard (N.Y.C.), Cosmopolitan (Montclair, N.J.). Hobby: international affairs.

SEWARD, Ralph Pray, assoc. prof. of chem., dept. of chem., Penn. State Coll., State College, Pa.; res. 720 Thomas St., State College, Pa.
Teacher; b. Chicago, Ill., Oct. 23, 1901; s. of Ora P. and Mary Pray Seward; ed. Kalamazoo College, B.S., 1922, Clark U., M.A., 1923, Brown U., Ph.D., 1925; m. Lucy Burnham, Apr. 28, 1928; ch.: Mary Anne, Gordon Burnham, Marjorie Douglass. Prof., physics & math., Catawba Coll., 1925-27; chem., Aluminum Co., 1927-28; prof. of chem. Brenau Coll., 1928-29; instr. in chem., M.I.T., 1929-34; instr., 1934-35, asst. prof., 1935-43, assoc. prof., 1943 to present, Penn. State. Contributed extensively to sc. and tech. jls. Res. in activity of coefficients in non-aqueous solvents, electron scattering, fused salts. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S., A.A.U.P.

SEXTON, Edwin Leon, chf. chem., flour & cereal div., The Best Foods, Inc., 54 Fulton St., Buffalo, N.Y.; res. 44 Wellington St. Kenmore 23, N.Y.
Biochem.; b. Phoenix, Ariz., Jan. 22, 1918; s. of Edwin Leon and Jetta Olive Sexton; ed. U. of Calif., Los Angeles, A.B., 1939, M.A., 1942; U. of South. Calif., Ph.D., 1944; mem.: Delta Tau Chi, Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi, Theta Kappa Psi; m. Beatrice I. Graham, Oct. 25, 1947. U. of Calif., Los Angeles, asst. 1939-41; U. of South. Calif. Med. Schl., res. asst. in biochem. 1941-43, asst. in med. biochem. 1943-44; U. of Buffalo Med. Schl., asst. in biochem. 1945 to date; The Best Foods, Inc., res. chem. 1944-47, chf. chem. (flour & cereal div.), 1947 to date. Res. in fld. of isolation, synthesis, and physical chem. of amino acids, muscle proteins, Vitamin A, proteins and enzymes of cereal grains, food prod. dev. Mem.: A.C.S., A.I.C., A.A.A.S., Amer. Pub. Health Assoc., A.A.C.C., A.S.Q.C., N.Y. Acdy. of Sc.

SEYB, Leslie Philip, mgr. of res., Diamond Alkali Co., Painesville, Ohio; res. 86 Hartshorn Dr., Painesville.
Chem.; b. Franklin, Iowa, May 11, 1915; s. of Hugo P. and Clara (Wahrer) Seyb; ed. Culver-Stockton Coll., 1931-33; Coe Coll., Cedar Rapids, Iowa, B.A. (magna cum laude), 1933-35; State U. of Iowa, Iowa City, M.S., 1937, Ph.D., 1939 org. chem.; mem.: Mu Theta Nu, Alpha Chi Sigma; m. Helen Standiford, Nov. 18, 1939; ch.: Stefan Michael. Phillips Pet. Co., 1939-42, chem. asst., pat. dept.; Diamond Alkali Co., 1942 to date, group leader 1942-July 1950, mgr. of res. July, 1950 to date. Res. on wetting agents, textile bleaching, flame-proofing, ethylene derivatives, chlorohydrocarbons, inorg. silicates. Mem.: Phi Lambda Upsilon, Sigma Xi, A.C.S. Club: Cleveland Lapidary Soc. Hobbies: gem cutting, fishing, tennis, golf.

SEYDEL, Paul Vasser, v.p., dir. of res., Seydel-Woolley & Co., 748 Rice St., N.W., Atlanta, Ga.; res. Melody Wood, West Paces Ferry Rd., Route 11, Atlanta, Ga.
Mfg. chem. (textile chemicals, surface active agents); b. Jersey City, N.J., July 14, 1914; s. of Paul B. and Mildred Woolley Seydel; ed. B.Sc. (chem. engrg.), Ga. Tech., 1934; M.S., 1938, D.Sc., Swiss Federal Polytechnic Inst., Zurich, Switzerland; mem.: Phi Kappa Sigma; m. Helen Clark, Sept. 18, 1936. Chem., Tubize-Chatillon Corp., Rome, Ga., 1934 (half yr.); chem., plant mgr., then dir. of res. for Seydel-Woolley and Co. from end of 1934 to date, with time taken out to pursue graduate studies, and four yrs. with C.W.S., U.S.A., 1942-46 (C.W.S. Development Lab., C.W.S. Intelligence in Germany, Military Govt. Grade—Major). Res. and dev. of textile chemicals and auxiliaries. Author: "Cotton Slashing" W.R.C. Smith Publishing Co., Atlanta, 1949. Mem.: A.C.S., A.A.T.C.C., A.A.A.S. Clubs: Rotary, Chamber of Commerce, Capital City. Hobbies: mountaineering, fencing, photography.

SEYMOUR, Keith M(orton), prof., hd. dept. of chem., Butler U., Indianapolis 7, Ind.; res. 39 W. 46 St., Indianapolis.
Chem.; b. Nov. 5, 1903; s. of Llewellyn and Lovina Smith (Morton) Seymour; ed. U. of Wash., Seattle, Wash., B.S., 1926, M.S., 1929, Ph.D., 1933; m. Mary Ann Hinckley, June 28, 1934; ch.: James Hinckley, Bruce Hanchett, Katherine Morton. Gr. and H.S. teacher, pub. schls., Wash., 1924-25, 1926-28; instr., chem., Reed Coll., Portland, Ore. 1933-37; instr., chem. North. Mont. Coll., Havre, Mont. 1937-38; asst. prof., chem., Carleton Coll., Northfield, Minn. 1938-42; chem., res. engr., tech. group supv., Standard Oil and Gas Co., Tulsa, Okla. 1942-46; prof., chem., Butler U., 1946-47; prof., hd. dept. of chem., 1947 to date. Mem.: Phi Lambda Upsilon, Sigma Xi, Phi Kappa Phi, A.A.A.S., A.C.S. Held du Pont res. fellowship at U. of Wash. 1931-32. Hobbies: photography, genealogy.

SEYMOUR, Raymond B(enedict), exec. v.p., gen. mgr., Atlas Mineral Prods. Co., Mertztown, Pa.; res. 44 N. 15 St., Allentown, Pa.
Exec., chem.; b. Boston, Mass., July 26, 1912; s. of Walter A. and Marie E. (Doherty) Seymour; ed. B.S. with honors, U. of New Hampshire, 1933, M.S., 1935; Ph.D., State U. of Iowa, 1937; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Gamma Sigma Epsilon; m. Frances B. Horan, Sept. 26, 1937; ch.: David Ray, Peter J., Susan J., Philip A. U. of New Hampshire 1933-35 asst. in chem.; State U. of Iowa 1935-37, asst. in chem.; Goodyear Tire & Rubber Co., 1937-39, res. chem.; Atlas Mineral Prods. Co., 1939-41, chf. chem.; Monsanto Chem. Co., 1941-45, res. group leader; U. of Chattanooga, 1945-48, dir. of ind. res. inst.; Johnson & Johnson, 1948-49, dir. of res.; Atlas Mineral Prods. Co., 1949 to date, tech. dir., gen. mgr. Over 50 pats. & publs. in flds. of matls. of chem. construction, plastics, syn. rubber, textiles, oil additives. Author: "National Paint Dictionary" 3rd edit., 1948. Mem.: Sigma Xi, A.C.S., A.I. Ch.E., A.I.C., A.S.T.M., A.S.E.E., A.A.A.S.. Chem. Soc. of London, Engrs. Club of Lehigh Valley, Natl. Assn. of Corrosion Engrs. Club: Lehigh Country. Hobbies: public speaking, writing, radio broadcasting, sports.

SEYMOUR-JONES, Frank Leslie, dir., New Products Res. Lab., The Borden Co., 350 Madison Ave., N.Y. 17, N.Y.; res. 358 Knickerbocker Rd., Englewood, N.J.
Chem.; b. Wrexham, Wales, Nov. 9, 1896; s. of Alfred and Fannie (Taylor-Groom) Seymour-Jones; ed. U. of Leeds (Eng.), 1913-14 and 1919-21, B.Sc. (hon.), 1921, M.Sc., 1922; Le Blanc M., 1851 Exhibition Scholar; Columbia U. (N.Y. City) 1921-23, A.M., 1922, Ph.D., 1923; Goldschmidt Fellow; m. Olga M. Young, Aug. 27, 1925; ch.: Alfred Arnold. British Army, 1914-19, Royal Welch Fusiliers & Intell. Corps, in Gallipoli, Egypt & Palestine, capt.; Borden Co., 1923 to date: res. chem., asst. mfg. dept., asst. gen. supt., and since 1941 dir. New Products Res. Lab. Early res. in enzymes & leather chem.; later food & dairy technology. Mem.: Sigma Xi, Phi Lambda Upsilon, A.A.A.S., A.C.S., Am. Dairy Sc. Assoc., I.F.T., Metropolitan Dairy Tech. Soc. Military Cross (British 1918). Club: Chemists' (N.Y.). Hobby: gardening.

SFAT, Michael Rudolph, res. chem. engr., Res. and Dev., Merck & Co., Inc., Rahway, N.J.; res. Apt. 8A-3, Redfield Village, Metuchen, N.J.
Chem. engr.; b. Timisoara, Rumania, Oct. 28, 1921; s. of Peter and Emilia Sfat; ed. Cornell U., B.Ch.E., 1943; M.Ch.E., 1947; mem.: Sigma Pi, Tau Beta Pi, Sigma Xi, Sigma Delta Chi; m. Carolyn Jane, Nov. 24, 1948. 1943-44, res. assoc., Schl. of Nutrition, Cornell U.; 1944-46, military service; 1947 to date, res. chem. engr., Merck & Co., Inc. Co-author of three papers on bio-engineering aspects of fermentation. Mem.: A.I.Ch.E., licensed prof. engr., N.Y.S., Theobald Smith Soc. Hobbies: golf, violin.

SHABICA, Anthony Charles, Jr., dir., chem. dev., Ciba Pharmaceutical Products, Inc., Summit, N.J.; res. 37 Overlook Rd., Livingston, N.J.
Chem. (organic); b. Meadville, Pa., Nov. 20, 1915; s. of Anthony C., Sr., and Rose Triola Shabica; ed. Brown U., Sc.B. in Chemistry, 1938; Penn. State Coll., M.S., 1939; Ph.D., 1942; mem.: Sigma Nu; m. Eleanor V. Wright, Aug. 31, 1940; ch.: Charles W., Stephen V., Carl S. Penn. State Coll., Natl. Res. Council Fellowship, 1939-40, res. asst., 1940-42; Merck & Co., Inc., Rahway, N.J., sr. chem., 1942-46; Ciba Pharmaceutical Products, Inc., dir. chem. dev., 1946 to present. Contrib. extens. to sc. and tech. jls. Mem.: A.C.S., Sigma Xi, Phi Lambda Upsilon. Hobbies: music, woodworking, model ship building.

SHADDUCK, Albert Kingsley, chem. engrg. spec., E.I. du Pont de Nemours & Co., Wilmington, Del.; res. 10 Perkins Ave., Wilmington.
Chem. engr.; b. Cortland, N.Y., July 5, 1906; s. of Lee A. and Maude K. Shadduck; ed. Cornell U., B.Chem., 1928; M.Chem., 1932; mem.: Alpha Chi Sigma; m. Marion K. McHugh, Aug. 4, 1931; ch.: Richard Kingsley, Robert Kent. 1928-31 Atlas Powder Co., Tamaqua, Pa., asst. acid supvr., acids and heavy chems.; 1933-35 Natl. Aniline Div., Buffalo, N.Y., chem. engr., phthalic and maleic anhydride prod.; 1935-40 Weiss & Downs, Inc., N.Y.C., chem. engrg. conslt. wk.; installation of phthalic anhydride plants in Japan and France; 1940-45 Sylvania Div., Amer. Viscose Co., Fredericksburg, Va., supvr.; casing and plasticizer prod.; 1945-46 Lithaloys Corp., N.Y.C.; dev. engr., lithium spec.; 1946 to date du Pont Co., Wilmington, Del.; engrg. serv. div., conslt. on engrg. evaluations. Mem.: A.C.S., A.I.Ch.E. Hobby: gardening.

SHADLE, Charles Stricklen, Brig. Gen. (retired), v.p. Julius Hyman and Co., Box 2171, Denver, Colo.; res. 5220 E. 17th Ave. Pkwy., Denver.
Exec., army offcr.; b. Altoona, Pa., Nov. 1, 1888; s. of I.T. and I.A. Shadle; ed. pub. schls., Altoona, Pa.; Serv. Schls., Nat. War Coll., U.S. Army; m. Martha Grace, Sept. 20, 1920; ch.: Charles M., Robert F. From enlisted grade to Gen. Offcr., U.S. Army. Chf. chem. offcr. to Gen. Eisenhower's Allied Force H. Q., England, Africa, Italy. Awards: Purple Heart, Legion of Merit, D.S.M., Honorary Comdr. British Empire, Grand Order of Italy. Clubs: Denver Athletic, Denver Aviation, Willow Springs Country, Rocky Mt. Consistory No. 2, El Jebel Shrine (Denver, Colo.), Chem. Corps. Assn., Rocky Mt. Arsenal (Colo.). Hobbies: photography, golf.

SHAFER, H. A., pres., Chem. Mfg. Sales Co., 2967 S. La Salle St., Chicago, Ill.; res. Chicago, Ill.
Chem. engr.; b. Pa.; ed. M.S., Ph.D. Pres., Chem. Mfg. Sales Co., Cosmetic Mfg. Supply Co., Chem. Engrg. Sales Co., Engrg. Maintenance Corp. Holds over 67 patents. Awards: M. of Honor for outstanding chem. dev.; three hon. degrees, for outstanding chem. processing dev. in chem. patents and war wk.

SHAFFER, Sherman Simpson, expl. and testing div. hd., Humble Oil & Refining Co., Baytown, Tex.; res. P.O. Box 4018, Baytown.
Chem.; b. California, Mo., Aug. 12, 1901; s. of Thomas P. and Mabel Francis Shaffer; ed. Cornell Coll., Ia., B.A., 1922, M.A., 1923; U. of Calif., Ph.D. (physical chemistry), 1925; m. Vera Mae Phelps, Aug. 12, 1921. U. of Calif., res. assoc. 1925-26; Humble Oil and Refining Co.,

Baytown, Tex., res. chem. 1926-32, res. sect. hd. 1932-34, lab. hd., 1934-48, expl. and testing div. hd. 1948 to date. Mem.: A.C.S. (chmn. southeast. Tex.sect. 1948, councillor 1949-51, mem. standing comm. on local sect. activities, A.I.Ch.E. (active), A.P.I. (chmn. adv. comm. for res. proj. six). Hobbies: lapidary art, cacti, photography, music.

SHAFFER, Victor Payne, principal piping engr., Blaw-Knox Construction Co., 321 Penn Ave., Pittsburgh 22, Pa.; res. 124 Cypress Dr., R.D. No. 2, Bridgeville, Pa.
Chem. engr.; b. Durango, Colo., Aug. 4, 1910; s. of Isaac M. and Rosie Shaffer; ed. U. of Colo., 1933 B.S. (Ch.E.), special honors; mem.: Alpha Chi Sigma, Tau Beta Pi, Sigma Tau; m. Eleanor A. Weigold; ch.: Phillip L., Victor H. 1933-43, Calco Chem. Div., Bound Brook, N.J., student engr., Engrg. Res., design engr.; 1943-44, H.K. Porter Co., Pittsburgh, Pa., design engr.; 1944 to date, Blaw-Knox Construction Co., Pittsburgh, Pa., piping engr., mech. engr., principal mech. engr., principal piping engr. Mem.: A.I.Ch.E.

SHANAMAN, Fred C., pres., Penn. Salt Mfg. Co., Wash., 2901 Taylor Way, Tacoma, Wash.; res.; 12116 Nyanza Rd., S.W., Tacoma.
Exec.; b. Reading, Pa., May 28, 1901; ed. Dartmouth, B.S., 1925; 1 yr. Amos Tuck Schl. Bus. Admin. (Dartmouth); mem.: Sigma Chi; m. Marjorie Jeffries, Aug. 23, 1930; ch.: Fred C., Jr., Richard Lowell. Joined Pennsalt, Mar. 15, 1930; salesman, 1930; sales mgr. 1931; mgr. P.S.M. Co. of Wash., 1933; v.p., 1939; v.p., P.S.M. Co., 1941; pres. Cotton Poisons, Inc., Nov., 1944; pres. Penn. Salt Mfg. Co. of Wash. Dec., 1945 to date. Assoc. with Great West. Electrochem. Co., sales rep. 1926-29; on bd. dir., Pa. Salt Mfg. Co., Am. Mail Line; Puget Sd. Natl. Bk.; Pa. Salt Mfg. Co. of Wash.; Wypenn Oil Co., Inc.

SHAND, Edwin William, tech. rep., chem. sales dev., Koppers Co., Pittsburgh, Pa.; res. 560 Dewalt Drive, Pittsburgh 34.
Chem.; b. Riverside, Ill., July 4, 1899; s. of William and Eliza Shand; ed. U. of Ill., B.S. in Ch., 1923; U. of Ill., M.S. Organic Chem., 1928; N.Y.U., Ph.D. Organic Chem., 1930; mem.: Sigma Xi; m. Arlene Burkhart, Sept. 12, 1936; ch.: Dorothy. Sherwin-Williams 1936-38; Montgomery-Ward 1938-40; du Pont Co. 1940-43; War Prodn. Bd. 1943-44; Sinclair Ref. Co. 1944-48; Koppers Co. 1948 to date. Res. in fld. of dental drugs, chem. pigments and petrochem. Mem.: A.C.S. Club: Chemists' (Pittsburgh). Hobby: geography.

SHAPIRO, Leonard, res. dir., Synthron, Inc., Ashton, R.I.; res. 8 Arthur St., West Warwick, R.I.
Chem.; b. Brooklyn, N.Y., Nov. 29, 1910; s. of Joseph and Ella Shapiro; ed. M.I.T., S.B., 1934, S.M., 1936; m. Beatrice Riceman, 1936; ch.: Joel, Marjorie. 1934-35 Keuffel & Esser Co., res. chem.; 1935-36 M.I.T. Textile Lab., res. asst.; 1936-42 Interlaken Mills, dir. of labs. & res.; 1942-45 Warwick Chem. Co., dir. of textile res.; 1945-48 Alrose Chem. Co., textile res. dir.; 1948 to date Synthron, Inc., res. dir. Evaluation of surface-active agents; dimensional stabilization of rayon & wool fabrics; textile resin & durable finish application; textile calculations; textile microscopy. Mem.: A.C.S.; A.S.T.M.; A.A.T.C.C; Sigma Xi; Technion Soc. Club: B'nai B'rith. Hobbies: photography, stamp collecting, cryptography.

SHAPIRO, Louis Leon, chem. conslt., 72 Orange St., Brooklyn 2, N.Y.; res. same.
Chem. engr.; b. Hartford, Conn., Mar. 9, 1903; s. of Abraham and Anna Shapiro; ed. Franklin & Marshall Coll., B.S. chem., 1929; Drexel Inst. of Tech., chem. engrg. 1933; m. Jewell Wolf, June 25, 1933. 1929-40 M.L. Shoemaker & Co. div. Wilson & Co., chem. & tech. adv.; 1929-30 Wilson-Martin div. Wilson & Co., Inc., anal. chem., 1930-32 res. chem. engrg., 1932-37 dir. res., 1937-43 asst. & acting supt.; 1943-49 Glyco Prods. Co., Inc., plant mgr. & engr.; 1949 to date chem. conslt. owner. 1929-37 participated in dev. of first continuous fatty acid distillation system in U.S.; res. on fat splitting reagents; advisor to Eastern Regional Res. Lab. U.S.D.A. on fat splitting process; participated in res. on special fatty acids for use in syn. rubber program of the U.S. Rubber Reserve (1941-42). 3 articles in Chem.-Anal. Mem.: A.C.S., A.O.C.S., Armed Forces Chem. Assn., Am. Technion Soc., Brooklyn Inst. of Arts. & Scs. Clubs: Chemists Round Table, Men's Club Temple Beth Elohim. Hobbies: stamps, antiques.

SHAPIRO, Rebecca Lillian, dir. of Bacteriology Dept., Foster D. Snell, Inc., 29 W. 15th St., New York 11, N.Y.; res. 345 E. 17th St., New York, N.Y.
Bacteriolog.; b. N.Y.C., Feb. 15, 1910; d. of Israel and Anna Shapiro; ed. B.S., N.Y.U., 1931, M.S., 1933. Instr., Med. Schl., N.Y.U., 1933-35; lab. asst., Health Dept., N.Y., 1931-42; dir. of bacteriology, Foster D. Snell, Inc., 1942 to date. Civilian with U.S. Pub. Health Service. Toxin prod. of hemolytic streptococcus; enteric fever; testing and study of disinfectants. Mem.: Soc. of Am. Bacteriologists, Am. Pub. Health Assoc., A.A.A.S., Am. Soc. of Prof. Biologists. Hobby: bridge.

SHAPLEIGH, James Herbert, chem. engr., Hercules Powder Co., Wilmington, Del.; res. 2006 Van Buren St., Wilmington.
Chem. engr.; b. Watertown, Mass., Oct. 8, 1893; s. of George and Amy Florence Shapleigh; ed. Boston U., B.S.; M.I.T., M.S.; m. Eleanor Snowden, 1918; ch.: Donald, Virginia, Shirley. 1916-21, Gen. Chem. Co., res. & plant operations; 1922 to date, chem. engr., Hercules Powder Co. Numerous innovations & pats. in fld. of cracking hydrocarbons for prodn. of hydrogen & olefins; for ammonia mfr. & organic chems. Mem.: A.I.Ch.E.

SHARF, M(inert), chf. of closure res., Res. Labs., Armstrong Cork Co., Lancaster, Pa.; res. 234 Charlotte St., Lancaster.
Chem. engr., food technologist; b. Richfield, Utah, Oct. 12, 1910; s. of Otto M. and Maud M. Sharf; ed. Iowa State Coll., B.S., 1931, M.S., 1932, Ph. D. in chem. engrg. & ind. bacteriol., 1937; Internatl. Exch. at Tech. Inst., Karlsruhe, Germany, 1933-34; Ramsay Labs. of Chem. Engrg., U. of London, England, 1934-35; mem.: Kappa Sigma, Phi Kappa Phi, Sigma Xi; m. Margaret Campbell, Jan. 15, 1938; ch.: James C., Jean M. Tech. serv. dir., Am. Bottler's Assn. (Natl. Trade Assn.), Wash., D.C., 1935-42; chf. of clos. res., Res. Lab., Armstrong Cork Co., Lancaster, Pa., 1942 to date. Principal activities directed toward the ind., theoretical & some educational phases of process & control used in prep. of food prods., the related microbiolog. problems & the packaging & distribution requirements, particularly in glass containers. Author: "Bottling Plant Operation Manual" 1938; contr. to A.S.R.E. Refrigerating Data Book, 1940, 1950, DeVries' German English Sc. Dictionary 1946, Natl. Can. Assn. Bul. No. 30L, Processes for Low-Acid Canned Foods in Glass Containers 1948, A.P.H.A. pub. Stand. Meths. for the Microbiolog. Examination of Foods (in process). Mem.: A.I.Ch.E. (active), I.F.T. (charter), A.P.H.A. (fellow), Soc. Am. Bact.

SHARP, Donald E(llsworth), asst. dir. res., Libbey-Owens-Ford Glass Co., 1701 E. Broadway, Toledo, Ohio; res. 308 E. Dudley, Maumee, Ohio.
Res. exec.; b. Corning, N.Y., Oct. 30, 1896; s. of Frank E. and Caroline J. Sharp; ed. U.

Wis. (physics), Carnegie Inst. Tech. (Engrg), Alfred U. (Ce.E.) 1942; m. Harriet Minkel, Jan. 1, 1921. Asst. physics, Corning Glass Wks. 1914-16; asst. physics U. Wis., 1916-18; asst. ceramics, Bur. of Stds., 1918; physicist, Spencer Lens Co. 1919-20; mgr. Optical Glass Plant, 1920-25; Optical Glass Mfgr. 1926-29; pres. Bailey & Sharp Co., conslts. 1929-36; glass tech. Hartford Empire Co. 1937-41; asst. res. dir., 1941-43; asst. res. dir. Libby-Owens-Ford Glass Co. 1943 to date. Glass composition; with W.H. Rising made first successful large telescope disc mfgd. in U.S.A. Contrib. extents. to sc. and tech. jls. Mem.: A. Cer.S. (fellow), Soc. Glass Tech. (British, fellow), Royal Soc. Arts (fellow), A.Phys.S., A.C.S., A. O.S., Glastechnische Gesellschaft, A.S.T.M. Clubs: Toledo, Rockwell Trout. Hobbies: hunting, fishing, music.

SHARP, Paul Francis, dir. of Calif., Agric. Expt. Station, Coll. of Agric., U. of Calif., Berkeley, Calif.; res. 281 41st St., Oakland, Calif.
Biochem. in agric. res.; b. Allen, Nebr., Dec. 6, 1894; s. of Albert and Ida (Stewart) Sharp; ed. Nebr. Wesleyan U., B.A., 1917; U. of Minn., M. S., 1920, Ph.D., 1922; mem.: Gamma Alpha, Sigma Xi, Gamma Sigma Delta, Phi Kappa Phi; m. Bernice Faustine Pyle, Aug. 30, 1917; ch.: Marylin Bernice, Paul Francis, Jr., Joanne. C.W.S., W.W.I at Am. U., Wash., D.C., 1917; asst. & instr. in agric. biochem., U. of Minn., 1919-22; assist. & assoc. chem., Mont. Expt. Station, Bozeman, Mont., 1922-25; prof. of dairy chem., Cornell U., 1925-42; dir. of res., Golden State Co., San Francisco, 1942-49; dir., Calif. Agric. Expt. Station, Berkeley, Calif., 1949 to date. Numerous publs. & res. on milk & dairy prods., wheat flour, baking, eggs & potatoes. Co-author: "Physik der Milchwirtschaft" with Rahn, Berlin, 1928. Mem.: A.C. S., Am. Dairy Sc. Assn., I.F.T.; received Borden Award from Am. Dairy Sc. Assn. 1941 elected pres. of I.F.T. (natl.), 1950; chmn. of Dairy Advisory Comm. appointed by Secy. of Agric. Clubs: Commonwealth, Orinda Country.

SHARPE, Paul David, sr. chem., Socony-Vacuum Oil Co., 412 Greenpoint Ave., Brooklyn, N.Y.; res. 102-36 64th Ave., Forest Hills, N.Y.
Chem.; b. New York City, July 22, 1907; s. of Adolph and Sara Sharpe; ed. U. of Ala., A.B., 1928; Johns Hopkins, 1943, Cert.; U. of Ind., M.A., 1944; mem.: Kappa Nu; m. Miriam Frisch, Jan. 11, 1942; ch.: Michael Alan. Southern anal. lab., Birmingham, Ala., 1928-30; Quality Rubber Co., Phila., Pa., 1931-34; Carlyle Rubber Co., N.Y.C., 1934-42; Jos. E. Seagrams, Louisville, Ky., 1942-45; Socony-Vacuum Oil Co., N.Y.C., 1945 to date. Mem.: A.C.S. (rubber & pet. sections), A.I.C. (fellow), N.Y. Rubber Group, Soc. Plastic Ind. Hobby: golf.

SHARPLES, Philip Triest, chmn. of bd., Sharples Chems., Inc., Sharples Corp., 2300 Westmoreland St., Phila. 40, Pa.; res. Grays Lane & Mill Creek Rd., Haverford, Pa.
Mfr.; b. W. Chester, Pa., Aug. 12, 1889; s. of Philip M. and Helen Edwards (Brinton) Sharples; ed. Swarthmore Coll., 1910, A.B. in chem.; m. Edith W. Walz, June 16, 1917; ch.: Joann Brinton, Philip Price, Wynne. Sharples Corp., pres. 1915-48, chmn. of bd. 1948 to date; Sharples Chems., Inc., pres. 1926-50, chmn. of bd. 1950 to date; Sharples Oil Corp., pres. 1946 to date. U.S. Indus. Chems. dir.; Lehigh Valley R.R. Co., dir.; Sharples Centrifuges, Ltd., dir.; Sharples Process Engrs., dir.; Internatl. Centrifugal Sales, Ltd., dir.; Centrifugas, Ltd., dir. Dir., Lankenau Hosp., Jeanes Hosp., Phila. Div. Am. Cancer Soc., Pa. Div. Am. Cancer Soc., Swarthmore Coll., University Museum; pres. & dir., Inst. for Cancer Res. Clubs: Rittenhouse, Fourth Street, Merion Cricket, Merion Golf, Pine Valley, Seminole, Everglades.

SHAVER, Edna Helen, prof., Russell Sage Coll., Troy, N.Y.; res. 90 First St., Troy.
Tchr. org. & physiolog. chem.; d. of Forest W. and Eunice E. (Buckley) Shaver; ed. Oberlin Coll., Oberlin, Ohio, A.B., 1918; A.M., 1920; U. of Chicago, Ph.D., 1927. Assoc. prof. chem., Oklahoma Coll. for Women, Chickasha, 1920-22; asst. prof. chem., Oberlin Coll., 1922-25; prof. chem., Russell Sage Coll., 1927 to date. Surface tension lowering; catalytic reductions. Mem.: A.C.S.

SHAW, David Taylor, asst. mgr., Phila. Refinery, Atlantic Refining Co., 3144 Passyunk Ave., Phila., Pa.; res. 908 Mt. Holyoke Pl., Swarthmore.
Chem. engr.; b. Oberlin, Ohio, 1893; s. of John Taylor and Sophia M. Shaw; ed. A.B., Oberlin Coll., final hon. chem., 1914; A.M., Brown U., 1916; mem.: Beta Theta Pi; m. Dorothea Dandridge Winston, 1918; ch.: Shirley. Federal Dyestuff & Chem., 1916-17; E.I. du Pont, 1918-24; Natl. Aniline, 1924-28; Rubber Serv. Co., 1929; Atlantic Refining Co., 1929 to date. Mem.: Sigma Xi, A.I.Ch.E., Franklin Inst.

SHAW, Edwin Herbert, Jr., prof. biochem., chmn. dept., U. of South Dakota, Vermillion, S.D.; res. 23 Forest Ave., Vermillion.
Biochem.; b. Baltimore, Md., Oct. 12, 1900; s. of Edwin Herbert and Blanche Belle (Riggin) Shaw; ed. B.S. in chem., Johns Hopkins U., 1921; Ph.D., 1925; m. Gertrude Bell Walker, June 12, 1929; ch.: Gertrude Jean, Mary Jane, William Edwin. 1925-27, Internatl. Health Bd. Fellow, Johns Hopkins U.; U. of S.D., 1927-29, asst. prof. biochem.; 1929-35, assoc. prof., 1935 to date, prof. Org. selenium cmpds., chemotherapy of bird malaria, mechanism of toxic action. Mem.: A.C.S., S.E.B.M., A.A.A.S., (fellow), S. D. Acdy. of Sc. (edit. of proceedings).

SHAW, Fred B., Jr., chf., Engrg. Div., Chem. Corps Tech. Command, Army Chem. Center, Md.; res. 618 Stevenson Lane, Towson 4, Md.
Chem. engr.; b. Camp Keithley, Mindanao, P.I., Feb. 22, 1913; s. of Frederick B. and Mary B. (Davis) Shaw; ed. U. of Mich., B.Sc. (hons.); Detroit Inst. of Tech., M.S.; M.I.T.; Johns Hopkins U.; mem.: Alpha Chi Sigma, Phi Lambda Upsilon; m. Althea Doyle, Apr. 11, 1936; ch.: Valerie. Instr. chem. & math., exten. unit, U. of Mich., 1934-35; res. synth. enamels, lacquers, asphalt, Chrysler Corp., Detroit, Mich., 1935-37; res. dev. plastics, adhesives, glass, Libbey-Owens-Ford Co., Toledo, O., 1937-40; active duty as 1st Lt. in 1940; served tech. capacity & in oversea theaters to 1946; successively 1st Lt. to Lt. Col.; materials testing and eval. of mil. equipt., 1940-42; prep. of matls. specifications, directives and related docs., 1942; exec. off., Engr. Div., Chem. Corps Tech. Command, 1943-44; overseas in M.T.O. and E.T.O., 1944-45; awarded Bronze Star for meritorious serv.; chf., Engr. Div., Chem. Corps, Tech. Command, 1945-46, Commendation Ribbon; Am. Def. Ribbon; Am. Theater M.; E. T.O. ribbon with 2 battle stars, W.W. II Victory M.; chf., Engr. Div., Chem. Corps Command, Army Chem. Center, Md.; des. Material, prep. specifications, operation of mech. shops, res., 1946 to date; partner & tech. dir., Maryland Indust. and Plastic Supply Co. Holds pat. and pat. pending on plastics and similar devs. Contrib. numerous arts. to sc. jls. Mem.: A.C.S., Amer. Ord. Assoc. (advis. mem., container comm.), R.O.A., Soc. for Non-Destructive Testing, Armed Forces Chem. Assn. (pres., Army Chem. Center Chapter). Pres., Wiltondale Improvement (Community) Assn. Club: Univ. of Mich. (Baltimore).

SHAW, George Robert, chf. engr., tube dept., RCA Victor Div., 415 S. Fifth St., Harrison, N.J.; res. 9 Sylvan Rd., Verona, N.J.

Chem.; b. Frederick, Md., Dec. 13, 1895; s. of Breckenridge and Sarah Virginia (LaMotte) Shaw; ed. B.A., 1915, Wash. & Lee U.; M.A., 1916; Ph.D., 1920, U. of Wis.; Robinson M. (Wash. & Lee); mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma; m. Helen Churchill, Nov. 18, 1920; ch.: Virginia, John, Martha, Ruth. Chem., Gen. Elec. Co., Nela Park, Cleveland, O., 1920-29; chf. chem., RCA Victor Div., tube dept., Harrison, N.J., 1930-40; chf. engr., 1940 to date. Res. in chem. of vacuum tubes. Mem.: A.C.S., A.Phys.Soc., Inst. Radio Engrg.

SHAW, Joseph Allan, sr. fellow, Mellon Inst., 4400 5th Ave., Pittsburgh 13, Pa.; res. 6531 Aylesboro Ave., Pgh. 17.
Res. chem.; b. Phila., Pa., Nov. 20, 1887; s. of William Philip Shaw and Sarah Jayne (Cox) Shaw; ed. B.S., Penn. State, 1911; m. Nell Mahoney, Mar. 31, 1929; ch.: Joan Shaw. Asst. chf. chem. (Pgh.), Amer. St. & Wire Co., 1911-16; asst. chf. chem., chg. of lab., Pgh. Cruc. Steel Co., 1916-18; Koppers Co., principally at Mellon Inst., 1918 to date. Inventor of Koppers recirculating steam dephenolizer and sodium phenolate gas purification process; many pats.; numerous publs. of anal. methods in fld. of gas and aqueous waste analysis. Licensed Prof. Engr., Pennsylvania. Mem.: A.G.A., A.C.S. Club: University (Pgh.). Hobbies: gardening, care of house.

SHAW, Leon Irwin, materials engr., Ryan Aeronautical Co., Lindbergh Fld., San Diego 12, Calif.; res. University Club, 1333 7th Ave., San Diego 1.
Dev. engr.; b. Alfred, N.Y., May 30, 1885; s. of Amos Anthony and Joanna Elizabeth (Ryno) Shaw; ed. Alfred Grammar Schl., grad., 1900; Alfred Acdy., grad., 1903; Alfred Univ. (N.Y. State Coll. of Ceramics) 1907, B.S.; Syracuse U., 1908, M.S.; U. of Wis., 1911, Ph.D.; divorced; ch.: Robert Leon. Undergrad. asst. chem., Alfred U., 1905-07; asst. mgr. & asst. treas., Athletic Park Amusement Co. & Athletic Park Securities Co., Buffalo, N.Y., summers, 1906-09, inclusive; fellow chem., Syracuse U., 1907-08; instr. chem., Mass. State Coll., 1908-09; instr. chem., U. of Wis., 1909-11; instr. & asst. prof. in chem., both reg. and summer sessions, Northwestern U., 1911-17; asst. chf. chem. & asst. chf. div. of mineral tech., U.S. Bur. of Mines, Dept. of Int., Wash., D.C., 1919-24; dept. chf., Western Elec. Co., Hawthorne Wks., Chicago, Ill., 1924-25; Engrg. Div. chf., 1925-30; asst. supt. mfg. dev., 1930-32; mfg. dev. engr., 1932-45 (pensioned, own request); conslt. engr., var. employers, 1945-46; exec. secy., Amer. Indust. Hygiene Assoc., 1946-47; dir., Air Force Jet Propulsion Refractories Proj., N.Y.S. Coll. of Ceramics, Alfred U., Alfred, N.Y., 1946-48; rocket engr., Bell Aircraft Corp., Buffalo, N.Y., 1948-49; res. conslt., Solar Aircraft Co., San Diego, Calif., and others 1949-50; materials engr., Ryan Aeronautical Co., San Diego, Calif., 1950 to date; 1st Lieut., Ord. Dept., 1917-18; promoted to Capt., 1918; transf. to C.W.S., 1918 and hon. disch. July, 1919; in Reserves, Major, C.W.S., 1924-34 (resigned). W.W. I Victory M. with three bars; Italian Distinguished Service Award. Dev. of smoke and incendiary matl. (W.W. I); helium prod. and purification dev.; indust. hygiene; dev. of refractory, ceramic bodies and coatings for jet engines for rockets and planes. Author and co-author of num. arts. pub. in sc. jls.; holds U.S. and foreign pats. Mem.: Alpha Chi Sigma, Keramos, Sigma Xi, Delta Sigma Phi; A.S.T.M., Inst. of Cer. Engrs., Amer. Indust. Hygiene Assoc. (Southern Calif. Sect.), Amer. Stds. Assoc. (Amer. War Stds. Award, 1946), A.A.A.S. (fellow), Amer. Ceramic Soc. (Pacific Coast Sect.), A.C.S. (San Diego Sect.), Canadian Ceramic Soc., Chicago Chemists' Club, Admiral's Club, Amer. Legion, Heroes of '76, Masonic Fraternity, Natl. Sojourners, Telephone Pioneers of Amer., University Club (San Diego). Hobbies: boys' activities, bowling, photography.

SHAWCROSS, Orry Leroy, chf. chem., Bioproducts, Oreg. Ltd., Warrenton, Ore.; res. P.O. Box 142, Hammond, Ore.
Chem.; b. Ambia, Benton County, Ind., Feb. 4, 1896; s. of Joseph and Nora Alice Shawcross; ed. Ind. U.; Indiana State Teachers Coll.; A.B., Butler U.; grad. asst., Purdue U.; U. of Pittsburgh, certificate; mem.: Sigma Delta Kappa; m. Chloral M. Courtney, Dec. 24, 1922; ch.: Byron C., Barbara J., Lois C., Alice M. Chem. tchr., high schl., Ind.; Continental Optical Co.; Aluminum Co. of Am., res. chem.; W.P.B.; Alien Property custodian, alien pats.; Bonneville Power Adm., chem. engr.; Draper-Shawcross Industries; chf. chem., Bioproducts, Oreg. Ltd. Pats. in fld. of metal coatings, protein chemicals, emulsions.

SHEA, Arnold Francis, dir., owner, Shea Labs., 33 Island St., Keene, N.H.; res. 26 Kingsbury St., Keene.
Chem.; b. Keene, N.H., Mar. 3, 1914; s. of John Henry and Maude (Hall) Shea; ed. La Salle Extension U.; LL.B., 1936, Chicago Schl. Law 1937; spec. studies, U. N.H.; m. Roberta G. Tolman, Sept. 20, 1941. Chem. Kirk Mineral Prods. Co. 1935-38; chem., F.A. Putnam Mfg. Co., 1942; chf. chem., 1942-48; dir., Shea Res. Labs., 1942-48; Shea Labs., 1948 to date; dir., Traxion Co. Res. on spec. printing inks, comps. dev. to mark all types of surfaces and withstand varied chems., mech. actions. Contrib. extens. to sc. and trade jls. Mem.: A.C.S. (div. paint, varn., plastics), A.A.A.S., N.E. Paint and Varn. Prod. Club: F. & A.M. Hobbies: inventing.

SHEA, Edward Lane, pres., Ethyl Corp., 100 Park Ave., N.Y. 17, N.Y.; res. Locust Valley, L.I., N.Y.
Exec.; b. Nashua, N.H., Nov. 4, 1892; ed. Phillips Exeter Acdy.; Princeton U., C.E., 1916. Tide Water Oil Co., Bayonne, N.J., refinery, 1916-17; aviator, U.S.N.R., W.W.I, 1917-19; Tide Water Oil Co., refinery (Bayonne, N.J.), 1919; sales dept., 1920; asst. to pres. & dir., 1924-25; v.p., chg. of mfg., 1925-27; v.p., chg. of sales, 1927-31; exec. v.p., 1931-33; pres., 1933-36 (N.Y., N.Y.); Tide Water Associated Oil Co., exec. v.p. & dir., 1936-39; The N. Am. Co., pres., 1939-47; Ethyl Corp., pres., 1947 to date. Trustee, Phillips Exeter Acdy.; dir., Markle Foundation; dir., Am. Viscose Corp., Corn Products Refining Co., Equitable Life Assurance Soc. of U.S., The N. Amer. Co. Clubs: Links (N.Y.), Recess, Cedar Creek, Piping Rock, Cloud, River, Racquet & Tennis.

SHEAHAN, Robert F., v.p., gen. mgr., Harry C. Smith Co., Southern Shellac Mfg. Co., Memphis, Tenn.; res. Memphis.
Exec. mgmt., sales promotion; b. Brookfield, Mo.; s. of John T. and Margaret (McNamara) Sheahan; ed. 1927, Georgetown U., A.B., B.S.; m. Frances Riling, Sept. 10, 1930; ch.: Robert R., John P., Margaret J., Michael F., Mary F. Thompson Hayward Chem. Co., v.p., 1942; Minn. Mining & Mfg. Co., div. mgr., 1949; Harry C. Smith Co., Southern Shellac Mfg. Co., v.p., mgr. & a dir. Introd. of new chems.; new meth. red pigment dev. Mem.: Rotary Internatl., Fed. Paint & Varnish Prod. Clubs, Minn. Indust. Chemists' Forum, Georgetown U. Alumni (dir.). Clubs: Chemists' (N.Y.C.), Minikahda Club (Minneapolis), Tenn. (Memphis). Hobbies: golf, politics, pub. speaking.

SHEAR, M(urray) J(acob), chf., chemotherapy sect., Natl. Cancer Inst., Bethesda, Md.; res. 409 Battery Lane, Bethesda.
Med. res. (biochem.); b. Bklyn., N.Y., Nov. 7, 1899; s. of Victor J. and Henrietta (Robinson)

Shear; ed. B.S., C.C.N.Y., 1920; M.A., 1922, Columbia, Ph.D., 1925; mem.: Phi Beta Kappa, Sigma Xi; m. Rose Roseman, Aug. 14, 1935; ch.: David Ben, Jonathan, Victor Henry. Res. chem., Pease Labs., Inc., N.Y., 1922-23; asst., dept. chem., Columbia U., 1923-25; res. chem., admn. off., Pediatric Labs., Jewish Hosp., Bklyn., 1925-31; res. fellow, Harvard Med. Schl., Harvard U., 1931-39; sr. biochem., princ. biochem., hd. biochem., chf. biochem., cancer res., U.S. Pub. Health Serv., 1931 to date; conslt. biochem., Children's Med. Center, Boston, 1948 to date; chmn. bd., U.S. Civil Serv. Examiners, Natl. Inst. of Health (Bethesda); res. council, United Cerebral Palsy Assn. Res. in bone formation; genesis of cancer; treatment of cancer. Mem.: S.E.B.M., A.S.Biol.C., A.A.C.R., Hist. Soc., A.C.S., A.A.A.S. Clubs: Harvard (Boston), Cosmos (Wash., D.C.). Hobbies: policies, procedures for sc. personnel.

SHEARD, Harry Joseph, refinery mgr., Bayou State Oil Corp., 725 Ardis Bldg., P.O. Box 1514, Shreveport, La.; res. 3602 Beckham Dr., Shreveport.
Chem. engr.; b. New Iberia, La., Mar. 15, 1899; s. of George B. and May Boutte Sheard; ed. 1921, La. St. U.; B.S. Chem. Engrg., 1922; mem.: Alpha Chi Sigma, Sigma Delta Chi (hon. journalistic); m. Melita Cavett, Sept. 1, 1923; ch.: Joe Harry. 1923-25, Tuinucu Sugar Co., Cuba, chem.; 1925, U.S. Ind. Alcohol Co., New Orleans, chem.; 1925-26, El Salto Ltd. (plant. white sugar), Esquintla, Guatemala, C.A., supt.; 1926-29, Magnolia Pet. Co., Beaumont, Texas, hd. exp. lab.; 1929-36, Crown Central Pet. Corp., Houston, chf. chem.; 1936-42, Bayou State Oil Corp., Shreveport, ref. mgr.; 1943-46 Standard Oil Co., (La. div.), Baton Rouge, hd. proc. control lab.; 1946 to date Bayou State Oil Corp., ref. mgr. Mem.: A.C.S., S.A.E., A.S.T.M., La. Acdy. Scs., Joint Indus.-Faculty Comm., Centenary Coll. (Shreveport). Club: Internatl. House (New Orleans). Hobby: fishing.

SHEARD, Lawrence, chf. chem., mgr., Arlington Plant, Internatl. Prods. Corp., Arlington, Staten Island 3, N.Y.; res. 181 Coverly Ave., Emerson Hill, Staten Island 4.
Tech. chem.; b. Batley, Yorks, England, Oct. 21, 1883; s. of Sam and Hannah (Burn) Sheard; ed. Bradford Tech. Coll., Leeds U., Leather Industries Dept. (England); m. Doris Hope, Sept. 22, 1921; ch.: Heather Doreen Hope, Lorna Marion Hope. John Oldfield & Co., tanning and currying; Wm. Walker & Sons, chem., 1911-13; A.B. Munkholmen, chem. and tech. ldr., 1914-17; P. Vachrusheff & Sons, chem. and tech. ldr., 1917; Wm. Walker & Sons, chem., 1918-25; Internatl. Prods. Corp., chf. chem. and Arlington Plant Wks., mgr., 1927 to date. Tanning, extraction of raw matls., extracts and tannin anal. Mem.: A.C.S., Am. Leath. Chem. Assoc. (chmn., non-tannin comm., 1935-37; chmn., tannin anal. supvy. comm., 1942-47); Internatl. Soc. Leath. Trades Chems. Hobbies: chess, golf, photography, numismatics.

SHEARER, Howard Ellsworth, hd. of indus. div., textile res. dept., Am. Viscose Corp., Marcus Hook, Pa.; res. 321 Swarthmore Ave., Swarthmore, Pa.
Mfr. of rayon; b. Wash., D.C., June 19, 1903; s. of Lewis N. and Mary F. Shearer; ed. U. of Va.; U.S. Coast Guard Acdy.; Geo. Washington U., B.S. in engrg.; Natl. U. Law Schl., L.L.B., M.P.L., S.J.D.; m. M. Virginia Warren, Sept. 4, 1930; ch.: June, Howard, Joanne. 1927-28, sc. aide, Natl. Bur. of Stands.; 1928-42, res. assoc. at N.B.S. for Natl. Assn. of Hosiery Mfrs.; 1942 to date, hd. of indus. div., textile res. dept., Am. Viscose Corp. Res. & dev. wk. on chem. reactions of rayon, vinyon, chemstrand & other synthetic & natural fibers in indus. flds. of use. Mem.: A.C.S., T.A.P.P.I., Soc. of Plastics Engrs.

SHEARER, William Norman, co-chmn., chem. dept., Lewis and Clark Coll., Portland 1, Ore.; res. 3913 S.W. Dolph Court, Portland 19.
Chem. prof.; b. Roslyn, Wash., Aug. 25, 1907; s. of Edward and Narcissa (Ball) Shearer; ed. B.A., Albany Coll., 1931; M.S., U. of Ore., 1933; Ph.D., Ore. State Coll., 1948; mem.: Sigma Xi, Phi Lambda Upsilon; m. Lenora Beck, Nov. 29, 1934; ch.: Margaret Louise, Mary Norma, Judith May, William Wallace, Norman Frank. Instr. chem., Albany Coll., 1933-34; asst. prof., 1934-36; prof. & dean of men, Gooding Coll., Gooding, Idaho, 1936-37; res. chem., Crown Zellesbach Paper Corp., 1937-42; supt., Western Wax Paper Co., 1942-45; prof. chem. & co-chmn. chem. dept., Lewis & Clark Coll., 1945 to date. Mem.: A.C.S. (vice chmn. and past secy.-treas., Ore. Sec.; past member of Exec. comm.), Acdy. Sc. (Oregon). Hobbies: raising & showing poultry.

SHEDD, Oliver March, res. chem. (emeritus), agronomy dept., Ky. Agr. Expt. Station, U. of Ky., Lexington, Ky.; res. Lexington.
Retired res. chem.; b. Lexington, Ky., Mar. 8, 1880; ed. U. of Ky., B.S. Chem., 1901; M.S. Chem., 1904; m. Carlotta Sharp, Oct. 17, 1906. Henderson Tobacco Ext. Wks., chem., 1902; Ky. Agr. Expt. Sta., 1902 to retirement, 1950. Expert, Council Natl. Defense, 1917-18. Author or co-author of 70 res. papers in var. sc. jls., sta. bulletins. Mem.: A.C.S. (v.chmn., Lexington sect., 1917, 1935, 1936; secy.-treas., 1920, 1923, 1934; chmn., 1921; counc., 1922), Assoc. Off. Agr. Chem. (ref., 1909-11) Res. Club (U. of Ky.), Sigma Xi.

SHEEHAN, Daniel M., v.p., comptr., Monsanto Chem. Co., 1700 S. 2 St., St. Louis, Mo.; res. 5257 Lindell Blvd., St. Louis.
Exec.; b. St. Louis, Mo., Dec. 28, 1902; s. of John Patrick and Bridget Ann (Brown) Sheehan; ed. B.S., Wash. U., 1925; mem.: Beta Gamma Sigma, Omicron Delta Gamma, Sigma Phi Epsilon; m. Mary Belle McCoole, July 11, 1944; ch.: Mary Katherine, Daniel Michael, Jr. Staff, Haskins & Sells, C.P.A., 1925-36; comptr., Monsanto Chem. Co., 1936 to date; v.p., 1947 to date; Mfgrs. Bk. and Tr. Co., dir.; Maryville Coll., adv. bd.; St. Louis U., pres. council; Boy's Club St. Louis, dir.; St. Louis Publ. & Conv. Bur., dir. Contrib. extens. to sc. and tech. jls. Mem.: C.I.A. (form. natl. dir.), A.I.A., Mo. Soc. C.P.A. (past pres. St. Louis chpt.). Clubs: Racquet, Bellerive Country, Noonday, Mo. Athletic.

SHEEN, Robert T., pres., Milton Roy Co., 1300 E. Mermaid Lane, Phila. 18, Pa.; res. 5309 15th Ave. South, St. Petersburg, Florida.
Consltg. chem. engr.; b. Phila., Pa., Dec. 10, 1909; s. of Milton Roy and E. Elizabeth Sheen; ed. Lehigh U., B.S. in chem. engrg., 1931; Ch.E., 1936; mem.: Alpha Sigma Phi; m. Dorothy M. Dillenbeck, June 25, 1932; ch.: James D., Roberta A. Chem. engr., Monsanto Chem. Co., 1931-32; consltg. chem. engr., W.H. & L.D. Betz, 1932-43; founder of Milton Roy Co., with M. Roy Sheen, 1937; part time until 1944, principal interest since 1944; consltg. chem. engr. in chg. of design & selection of process, including water treat. & ind. waste disposal plants; founder in 1948, & pres. Chem. Pump & Equipt. Corp., N.Y.C. Author of over 30 tech. pubs. on water anal., water treat., ind. waste disposal, & chem. feed systems. Reg. Prof. Engr., Pa., N.J., Ohio, & Ill. Mem.: A.C.S., A.I.Ch.E., A.W.W.A., F.S.W.A., Pa. Sewage Wks. Operators Assn., Pa. Water Wks. Operators Assn., A.S.T.M. (secy., comm. D-19 on ind. water), T.A.P.P.I., N.S.P.E., I.S.A. Clubs: Mfrs. Golf & Country (Oreland, Pa.), Chemists' (N.Y.C.). Hobbies: private pilot, photography.

SHEERAR, Leonard Francis, prof. chem. engrg., Okla. A.&M. Coll.; res. 611 Sunset Drive, Stillwater, Okla.
Instr.; b. Wellsville, N.Y., Sept. 29, 1900; s. of E.V. and Lena Sheerar; ed. Alfred U., Alfred, N.Y., B.S. Ceramic Engrg., 1924; M.S., Ohio St. U., 1925; grad. study, U. Minn., 1940-41; mem.: Delta Sigma Phi; m. Grace Molison, Aug. 20, 1929. Res. fellow, Bur. Mines, Columbus, Ohio, 1924-25; engr., Robinson Clay Prod. Co., Dover, Ohio, 1925-28; Okla. A.&M. Coll., 1928 to date. Conslt. on indust. dev. to the Okla. Planning and Resources Board. Co-author: "Quantat. Meths. for Engrs."; "The Clays & Shales of Okla."; contr. extens. to sc. and tech. jls. Mem.: A.C.S., I.S.A. Club: Lions. Hobby: woodworking.

SHEFFIELD, William Henry Steele, Jr., president & gen. mgr., Innis Speiden & Co., 117 Liberty St., N.Y.C.; res. R.D. 1, Oxford, N.J.
Exec.; b. Hobart, N.Y., Jan. 6, 1909; s. of Wm. H.S. and Lizzie (Foote) Sheffield; ed. Public H. S., Ridgewood, N.J.; Johns Hopkins U., A.B., 1931; mem.: Delta Phi; m. Doreen Corke, June 15, 1946; ch.: Wm. H.S., III, Elizabeth B., by former marriage; John B., Ann Louise. 1931-34, Innis Speiden, acctg. & sales; 1934-41, dairy farmer; 1941-42, U.S. Engrs., Alaska; 1942-45, U.S. A.A.F., tech. sergeant, weather forecaster: Innis Speiden, 1945-46, asst. treas.; 1946-49, v. p.; 1949 to date, pres., gen. mgr. & a dir.; Flako Prods. Corp., dir.; E.S. Browning Co., v.p., dir.; Jensen Mach. Co., dir. 100 Yr. Assoc.; bd. of governors, Drug & Chem. Sec. N.Y. Bd. of Trade; exec. comm., Chlorine Inst. (dir.). Club: Chemists' (N.Y.C.). Hobbies: breeding reg. Guernsey cattle & dairy farming.

SHELDON, George C., sales mgr., Gen. Latex & Chem. Corp., 666 Main St., Cambridge, Mass.; res. 5 Cedarwood Ter., Lexington, Mass.
Sales exec.; b. Augusta, Me., May 17, 1902; s. of George C. and Alice M. (Sawtelle) Sheldon; ed. Bates Coll., 1925, A.B.; Harvard Grad. Schl. Bus. Admn., 1927, M.B.A.; mem.: Acacia; m. Vivian M. Wetherbee, June 25, 1929; ch.: Patricia Ann, George C., Jr., Gail. Gen. Tire Co., Boston, 1927-42 sales mgr.; Union Bay State Chem. Co. 1942-48 sales mgr.; Gen. Latex & Chem. Corp., 1948 to date, sales mgr. Mem.: Phi Beta Kappa, Delta Sigma Rho. Hobbies: reading, sailing.

SHELL, John S., v.p., McMahon-Shell Co., 11777 Mississippi Ave., Los Angeles, Calif.; res. 10965 Roebling Ave., Los Angeles.
Metallurgist; b. Denver, Colo., Sept. 2, 1898; s. of Alfred and Edith (Mabie) Shell; ed. U. of Calif., B.S., 1921; Stanford, M.A., 1934; mem.: Tau Kappa Epsilon, Alpha Chi Sigma, Phi Lambda Epsilon, Sigma Xi; m. Alyce Smith, 1922; ch.: Paulina, Jane. Asst. prof. dentistry, U. of Calif., 1921-37; dir. of res., Thos. J. Dee & Co., 1937-48; dir. of res., Chicago br., Handy & Harman, 1948-50; v.p., McMahon-Shell Co., 1950 to date. Author: "Hodgen-Shell Dental Matl.," 1937. Mem.: A.C.S., A.A.A.S., A.S.M., Internatl. Assn. for Dental Res.

SHELLENBERGER, John Alfred, hd., dept. milling indust., Kansas State Coll., Manhattan, Kans.; res. 1643 Fairview, Manhattan.
Chem.; b. Moline, Ill., Jan. 8, 1900; s. of W.F. and Jannie Jan (Johnston) Shellenberger; ed. B. S., U. Wash.; M.S., Kans. St. Coll.; Ph.D., U. Minn.; mem.: Pi Kappa Phi, Gamma Alpha; m. Annabel Ganganth, June 3, 1938; ch.: Karen, Joan. Chem., Fisher Flouring Mills Co.; asst. prof., agric. chem., U. Idaho; hd., prod. control., The Mennell Milling Co.; hd., biochem. lab., Rohm & Haas Co.; tech. adv., Armor Res. Foundation, Buenos Aires, Argentina. Gold M., Colombian Govt. Contrib. extens. to sc. and tech. jls. Mem.: A.C.S., A.A.A.S., A.A.C.C., A.O.A.C., Inst. Food Tech. Clubs: Rockhill Tennis, Manhattan Country. Hobbies: tennis, golf.

SHELLEY, Robert LaVere, assoc. prof. chem., Ball State Teachers Coll., Muncie, Ind.; res. 3030 Ethel Ave., Muncie.
Instr.; b. Bluffton, Wells Co., Ind.; s. of David A. and Laura (Oldfather) Shelley; ed. Ind. U., A.B., 1925; M.A., 1928; Ph.D., 1929; mem.: Sigma Phi Epsilon (social), Alpha Chi Sigma, Phi Lambda Upsilon; m. Miriam Miller, Aug. 11, 1934; ch.: Alice Ann, Jane Carol, David William. Instr., Oxley, W.Va., 1925-26; instr., Kokomo, Ind., 1926-27; chem., R.&H. Chem. Co., Niagara Falls, N.Y., 1929-31; instr., Lew Wallace H.S., Gary, Ind., 1933-43; asst. prof. chem., Ball State Teachers Coll., 1943-48; assoc. prof., 1948 to date. Expan. as control. factor in positive plate paste compositions for lead storage batteries. Mem.: Sigma Xi, A.C.S., N.E.A. Hobby: photography.

SHELTON, Elbert M(inor), res. dir., prod. mgr., Baker Labs., Inc., 4614 Prospect Ave., Cleveland, O.; res. 1468 W. Clifton Blvd., Lakewood, O.
Res. chem.; b. Wakeman, O., Oct. 13, 1895; s. of M.A. and Nellie C. Shelton; ed. A.B., 1917, Oberlin Coll.; Ph.D., 1924, Yale; mem.: Phi Beta Kappa, Sigma Xi, Alpha Chi Sigma; m. Carolyn E. Klinefelter, 1918; ch.: Lois C., Janet L. 1917-18, C.W.S.; 1919-21, instr., Wakeman High Schl.; 1924-31, res. chem. (aft. 1927, chf. chem.) Cheney Bros., So. Manchester, Ct.; 1932-39, res. chem., Tannin Corp., N.Y.C.; 1940-44, sr. indust. fellow, Mellon Inst., Pgh., Pa.; 1944 to date, res. dir., prod. mgr., dir., secy., Baker Labs., Inc. Proteins, veg. tannins, surg. sutures, infant feeding. Mem.: A.C.S., A.D.S.A., A.P.H.A., I.F.T.

SHELTON, Harold Garland, mgr., Antara Prods., Gen. Aniline Wks. Div., 435 Hudson St., New York, N.Y.; res. 11 Gene Pl., White Plains, N.Y.
Exec.; b. Holcomb Rock, Va., Feb. 22, 1909; s. of James Taylor and Sallie L. Shelton; ed. Va. Polytech. Inst., B.S.E.E., 1931; m. Marjorie Calvert, June 6, 1936; ch.: C. Calvert, Marjorie L. Branches Union Carbide & Carbon; 1943-45, purchas. agt. (Ashtabula, O.); Gen. Aniline & Film Corp., 1945, asst. to dir. sales promotion, sales mgr.; gen. mgr., mgr., Antara Prods.; asst. to v.p., Gen. Aniline & Film Corp.

SHELTON, J(ames) Reid, prof. org. chem., Case Inst. of Tech., Cleveland, Ohio; res. 943 Greyton Rd., Cleveland Hts. 12.
Coll. prof.; b. Allerton, Iowa, Jan. 16, 1911; s. of George W. and Hattie M. (Johnson) Shelton; ed. State of Iowa, B.S., 1933; M.S., 1934; Ph. D., 1936; mem.: Phi Lambda Upsilon; m. Leah E. Brown, Dec. 31, 1934; ch.: Margaret Marie, James William, Patricia Ann. 1929-30, rural schl. tchr., Wayne Co., Iowa; 1933-34, summers, control chem., Midwest Div., Calif. Packing Co.; 1934-36, grad. instr. and res. asst., U. of Iowa; 1936-41 instr. chem., 1941-46, asst. prof. org. chem.; 1946-49, assoc. prof. org. chem.; 1949 to date, prof. of org. chem., all, Case Inst. of Tech.; dir. of res. proj. on natural and synth. rubber sponsored by the Firestone Tire & Rubber Co. (1942-47) and by U.S. Army Ord. (1947 to date). Approx. 14 pubs. in chem. jls. Author: "Textbook of Org. Chem." (with M.J. Astle), to be pub. by Harpers (prob. 1951). Mem.: A.C.S., Alpha Chi Sigma, Sigma Xi, A.A.U.P., A.A.A.S. Active in ch. wk. (Methodist). Hobbies: gardening, photography.

SHELTON, Robert Schember, v.p., res. adviser to top management, The Wm. S. Merrell Co., Cincinnati, O.; res. 6600 Mariemont Ave., Mariemont, O.

Chem.; b. Chicago, Ill., Nov. 2, 1906; s. of Addison M. and Wanda (Schember) Shelton; ed. A.B., 1928, U. of Ill.; Ph.D., 1933, Cornell U.; mem.: Gamma Alpha, Alpha Chi Sigma, Omega Beta Pi, Sigma Xi; m. Mary Peyton Ballard, Aug. 19, 1939. Instr., Cornell U., 1928-33. Wm. S. Merrell Co., Cincinnati, O., res. chem., 1934-42; dir. of res., 1943; v.p. and dir. of res., 1945 to date; v.p. & res. adviser to top management, 1950 to date. Approx. 30 pats. in drug fld. & 25 sc. pubs. in chemotherapy. Mem.: A.C.S., A.A.A.S., Acdy. of Sc. (New York), Acdy. of Medicine (Cincinnati), Chemical Soc. (London). Club: Chemists' (New York). Hobbies: bowling, music, golf.

SHELTON, Stephen Matheson, regional dir., Region II, Bur. Mines, Albany, Ore.; res. 1140 W. 12 St., Albany.
Metall.; b. Bennettsville, S.C., Feb. 6, 1903; s. of Stephen and Caroline Shelton; ed. 1923, The Citadel, B.S.; 1923-26, Yale U.; 1929-31, Geo. Wash. U., M.A.; mem.: Theta Xi; m. Sarah Hamer, Oct. 23, 1938; ch.: Stephen M., Walter H., James O. 1929-31, jr. metall., Bur. Stands., Wash., D.C.; 1931-35, asst. metall.; 1935-38, assoc. metall., Bur. Mines, Reno, Nev.; 1938-40, act. supvr. engr., chg. Bur. Mines Exp. Sta., Rolla, Mo.; 1940-42, supvr. engr.; 1942-43, regional engr., Eastern Region, 1943-45, U.S.A. Air Corps, Capt., Major, Bronze Star; 1945-46, metals tech., Bur. Mines, Foreign U. Div.; 1946-49, chf., Albany br., metall. div., Bur. Mines, Albany, Ore.; 1949 to date, regional dir., Northwest Region. Res. in dev. electrolytic manganese. Mem.: A.I.M.E., E.S., Sigma Xi, Sigma Gamma Epsilon.

SHENEFIELD, Samuel Lantz, div. supt., Parke, Davis & Co., P.O. Box 118 R.P. Annex, Detroit 32, Mich.; res. 809 Grand Marais Blvd., Grosse Pointe Park 30, Mich.
Supt.; b. Shauck, Ohio, Mar. 29, 1893; s. of Henry Harvey and Fanny (Lantz) Shenefield; ed. B. Chem. Engrg., Ohio State U.; mem.: Phi Delta Chi; m. Ann Wilma Holmes, Sept. 22, 1923; ch.: Ann Elizabeth, Mary Catherine. 1918, sgt., Chem. Warfare Div., Am. University Exp. Station, Wash.; 1919, Parke, Davis & Co., Detroit, various mfg. duties in Detroit & Canada, 2 yrs. personnel wk.; 1938 to date, div. supt.

SHEPARD, Alvin Frost, chem., Durez Plastics & Chem., Inc.; res. 41 Southwood Dr., Kenmore 17, N.Y.
Chem.; b. Buffalo, N.Y., Feb. 3, 1904; s. of Alvin W. and Josephine (Frost) Shepard; ed. Cornell U., B.Chem., 1924; Ph.D., 1929; mem.: Alpha Chi Sigma; m. Ruth Bauer, June 26, 1929; ch.: Mary R., Judith A., Alvin W. Midgley Foundation, Ohio State U., Columbus, 1929-34; Durez Plastics & Chem., Inc., 1934 to date. Org. chem.; phenolic plastics. Mem.: A.C.S., A.I.C., Sigma Xi.

SHEPARD, David Allan, exec. asst. to pres., Stand. Oil Co. (N.J.), 30 Rockefeller Plaza, N.Y. 20, N.Y.; res. Beverly Rd., Purchase, N.Y.
Chem. engr.; b. Denver, Colo., Jan. 29, 1903; s. of Frank E. and Rebekah C. Shepard; ed. 1907-15, Dora Moore (formerly Corona) Schl., Denver; 1915-20, N. Denver H.S.; 1921-22, Colo. Agric. Coll., Ft. Collins, Colo.; 1922-27, M.I.T., Cambridge, Mass., B.S. in chem. engrg.; M.S. in chem. engrg.; mem.: Phi Gamma Delta, Tau Beta Pi; m. Katherine Fisher, Dec. 28, 1927; ch.: Berney, David Allan, Jr. 1920-21 & summers 1921, 1924, 1925, Denver Municipal Water Wks.; 1927, Stand. Oil Co. of La., Baton Rouge, La., res. engr.; 1929, Hydro Engrg. & Chem. Co., Elizabeth, N.J., chem. engr.; 1930, Stand. Oil Dev. Co., Bayway, N.J., chem. engr.; 1932, Stand. Oil Dev. Co. & Stand. Oil Co. of N.J., Bayway, N.J., & N.Y.C., chem. engr., res.; 1933, Stand. Oil Co. of N.J., N.Y.C., sales engr.; 1934, Stand. Oil Dev. Co., Paris, France, European rep.; 1935, Internatl. Co. (Vaduz), Paris, France, conslt. & European rep. of Stand. Oil Dev. Co.; 1936, Internatl. Assn. (Pet. Ind.), Ltd. London, England, chmn. of foreign prods. comm.; 1940, Stand. Oil Co. of N.J. (foreign marketing), N.Y., tech. advisor; 1942, U.S. State Dept., U.S. Embassy, London, England, pet. attache; 1943, Stand. Oil Co. (N.J.), London, England, shareholders rep.; 1945, chmn. of bd., Anglo-Am. Oil Co. Ltd., London, England; 1949 to date, Stand. Oil Co. (N.J.), N.Y.C., exec. asst. to pres. Mem.: A.C.S., A.I.Ch.E., S.A.E., Am. Inst. Pet., Inst. Pet. (London). Clubs: University (N.Y.), American (London).

SHEPARD, Norman Arthur, chem. dir., Amer. Cyanamid Co., 30 Rockefeller Plaza, New York 20, N.Y.; res. Hunting Ridge Rd., Stamford, Conn.
Chem. mfg., admin.; b. Apr. 8, 1890, New Haven, Conn.; s. of Arthur Lewis and Gizela (Berger) Shepard; ed. 1895-1907, New Haven pub. schls.; 1907-10, Sheffield Sc. Schl., Yale U., Ph.B.; 1910-13, Grad. Schl., Yale U., Ph.D.; mem.: Sigma Xi, Alpha Chi Sigma; m. Jessie Olive Male, June 19, 1913; ch.: Berger Male, Louise (Mrs. Robert A. Hull, Jr.), Mrs. Molly Elizabeth Wrightington. 1913-17, chem. instr., Yale; 1917-19, asst. prof. Yale; 1919-25, dir. org. chem. res., Firestone Tire & Rubber Co.; 1925-35, dir. chem. res.; 1936-41, dir. tech. service, Amer. Cyanamid Co., 1941 to date, chem. dir.; 1942 tech. conslt. to W.P.B., Baruch-Conant-Compton Rubber Survey Comm.; 1942-44 Rubber Reserve Co.; 1943-44 Off. of Rubber Director, Navy Rubber Survey Comm.; 1942-46 U.S. Navy on bullet-proof, self-sealing fuel cells; 1943 to date mem. adv. bd. Q.M.C. Res. and Devel. N.R.C.; 1948 (only) mem. 2 ad hoc comms., Res. & Devel. Bd., Q.M.C. Res. Lab., rubber; 1948 to date N.S.R.B.; 1949 to date mem. comm. on equip. & material, Res. & Devel. Bd.; advisory comm. on plastics, Schl. of Engrg., Princeton U., 1949-52; edit. advisory bd. "Chem. Industries," since 1945. Res. and extensive contrib. to sc. and tech. jls. on pyrimidines, amines, synthetics, and rubber, and gen. sc. subjects; 4 U.S. pats. Mem.: A.A.A.S., A.C.S. (chmn., Akron div., 1924; chmn., rubber div., 1935-36; comm. on pats. and related legis., 1946-50); A.I.C. (fellow, councillor 1935-41, 1945-48), A.I.Ch.E., Natl. Engrs. Conslt. Comm., Engrs. Joint Council; Direcs. of Indus. Res.; Indus. Res. Inst. (pres. 1947-48); Chem. Soc. of London; New Eng. Assoc. of Chem. Tchrs.; N.Y. Acdy. of Sc.; Soc. of Chem. Indust. (London, v. chmn. Amer. Sect. 1942-43, chmn. 1944-45). Clubs: Chemists' (N.Y.), Yale (N.Y.), Graduate (Yale), New Haven (Conn.), Superintendents (Stamford, Conn.). Hobbies: fishing, gardening, music.

SHEPHERD, Clark Bosler, mgr., chlorine prods. div., electrochems. dept., E.I. du Pont de Nemours & Co., Wilmington 98, Del.; res. 313 Congress Ave., Lansdowne, Pa.
Chem. engr.; b. Phila., Pa., Feb. 20, 1907; s. of Wilmer S. (dec.) and Helen Shepherd; ed. 1924-28, Drexel Inst. of Tech., B.S. in Ch.E., 1928; m. Marie Brooks, July, 1934; ch.: Joan Marie, Clark David, Elizabeth Brooks. Student engr., United Gas Improvement Co., Phila., 1925-28; chem. engr., du Pont Co., chem. dept., Wilmington, 1928-33; sulf. acid spec., du Pont Co., engrg. dept., Wilmington, 1934-35; chem. engr., 1935-38; chem. engr., electrochems. dept., Niagara Falls, 1939-42; asst. mgr., new proc. section, 1942-44; solvents sales dev. mgr., Wilmington, 1945-46; mgr., chlorine prods. div., 1946 to date. Specialized studies in drying and dust removal, sulfuric acid proc., and chlorinated solvents, in assoc. with others; pub. arts. on same in var. sc. jls. Mem.: A.I.Ch.E. (chmn. Western N.Y. sect., 1944), A.C.S., Compressed Gas Mfrs. Assn., Amer. Soc. of

Heating & Ventilating Engrs., Laundry & Cleaners Allied Trades Assn., Chem. Corps Assn. Hobbies: golf, bowling, fishing, gardening.

SHEPHERD, Donald S., plant mgr., Chas. H. Phillips Div., Sterling Drug Inc., 3600 25 Ave., Gulfport, Miss.; res. 920 East Beach.
Drug mfgr.; b. Cranford, N.J., Mar. 27, 1914; s. of John N. and Nellie (Brock) Shepherd; ed. 1928-32, Friends' Acdy., Locust Valley, N.Y., dipl.; 1932-36, Polytech. Inst. Bklyn., N.Y., B. Ch.E.; 1944-45, Columbia U., grad. schl. engrg.; mem.: Pi Kappa Phi; m. Grace T. Buckley, Oct. 6, 1939; ch.: Suzanne O., Bonnie E. 1936-37, contr. chem., Chas. H. Phillips Co. Div. of Sterling Drug Inc., Glenbrook, Conn.; 1937-47, asst. tech. dir.; 1947 to date, plant mgr., Gulfport, Miss.; dir., 1st. v.p., Gulfport C. of C.; dir., Gulfport Rotary; Boy Scout Comm.; mem. exec. bd., vestryman, Gufport Episc. Ch. Mem.: A.I.Ch.E. (active), A.C.S., Reg. Prof. Engr. (Miss.), Gulf Coast Phar. Soc., Miss. Soc. Prof. Engrs. Clubs: Great Southern Country, Rotary (Gulfport), Yacht (Gulfport), Chemists' (N.Y.). Hobbies: gardening, carpentry, bookbinding.

SHEPHERD, Herman Robert, v.p. chg. of res., Conn. Chem. Res. Corp., and Bostwick Laboratories, Inc., 706 Bostwick Ave., Bridgeport 5, Conn.; res. 505 Fairview Ave., Bridgeport 6.
Res. dir.; b. New York, N.Y., May 20, 1921; s. of Benjamin and Gertrude Shepherd; ed. 1939-43, Cornell U., B.S.; m. Carol Ruth Shapiro, Dec. 24, 1942; ch.: John David, Marjorie Ellen, Elizabeth Ann. 1940-41, 1942, U. of Me., res. asst.; 1946-47, Bridgeport Brass Co., asst. dir. of res.; 1947 to date, Conn. Chem. Res. Corp., v.p. in chg. of res. One of the leaders in fld. responsible for dev. of the broad fld. of aerosol & self-dispensing packages, particularly in the diversification of fld. from insecticides to other household chems. as well as dev. of cosmetics & phar. as well as foods using this principle. These prods. incl. the Hero Fire Extinguisher, Valium odor absorbant propelled by means of liquified gas, etc., burn lotion, shampoo. Mem.: A.C.S., Am. Phytopath. Soc., Am. Soc. Econ. Entomol., A.P.H.A., Chem. Spec. Mfrs. Assn., Chemists Club, N.Y. Bd. of Trade, Soc. of Cosmetic Chems., Packaging Inst., Inc., Proprietary Assn., Assn. Consulting Chems. & Cheml. Engrs., Inc.

SHERESHEFSKY, J(udah) Leon, prof. chem., hd. of dept., Howard U., Wash., D.C.; res. 3700 Massachusetts Ave., N.W., Wash., D.C
Prof. of chem.; b. Russia, Oct. 15, 1892; s. of Jacob and Menya (Fidelman) Shereshefsky; ed. Carnegie Inst. of Tech., 1919-21; U. of Pittsburgh, B. Chem., 1923; Johns Hopkins U., Ph.D., 1926; m. Pauline Miller, Nov. 15, 1928; ch.: Ruth M. 1923-26, grad. asst. Johns Hopkins U.; 1926-28, Grafflin Scholar and Res. Fellow; 1928-30, res. fellow, Mellon Inst. of Indus. Res.; 1930 to date, prof. chem. Howard U.; 1937-38, visiting res. fellow, Colloid Sc. Dept., Cambridge U., England; 1943-44, res. scientist and grp. hd., Manhattan Proj., Columbia U. Res. in capillarity; behavior of liquids in microscopic capillaries; adsorption of vapors on solids; monolayers of esters and macromolecules; Manhattan Project. "Certificate of Effective Service" of War Dept. Mem.: A.A.U.P., A.C.S., A.I.C., Sigma Xi, Wash. Acdy. of Scs., Natl. Inst. of Sc.; member of comm. of awards of Wash. Chem. Soc.; chmn. grants-in-aid, Wash. Acdy. of Scs. Hobby: music.

SHERIDAN, William R., res. engr., Bell Aircraft Corp., Buffalo, N.Y.; res. 56 Kinsey Ave., Kenmore, N.Y.
Chem. res. engr.; b. Buffalo, N.Y., Mar. 25, 1902; s. of C.J. and Rose (Sweeney) Sheridan; ed. Canisius Coll., B.A., 1922; Catholic U., M.S., 1923; Ph.D., 1925 (chem.); m. Alice Burns, Sept. 8, 1932; ch.: Maureen, William, Richard, Kathleen, Sally. 1925-27, prof. chem., Columbus Coll., Sioux Falls, S. Dak.; 1927-29, chem., Dunlop Tire & Rubber Co., Buffalo, N.Y.; 1929-43, chf. chem.; 1943-48, matls. engr., Colonial Radio Corp.; 1948 to date, res. engr., Bell Aircraft Corp. Mem.: A.C.S., A.I.C.

SHERK, Kenneth W(ayne), chem. prof., Smith College, Northampton, Mass.; res. Williamsburg, Mass.
Tchr.; b. Cottage Grove, Ore., Mar. 29, 1907; s. of Alvin L. and Florence Ethel (Bisbey) Sherk; ed. Reed Coll., B.A., 1928; Cornell U., Ph.D., 1934; mem.: Acacia; m. Dorothy L. Blacking, June 7, 1930; ch.: Larry W., Lida D., Betty B., Kenneth L., Marjorie J., Jerome R. Asst., Cornell U., 1928-30, 1931-33; fellow, Rice Inst., 1930-31; Pfister Res. Fellow, Cornell U., 1933-35; asst. prof., Smith Coll., 1935-43; assoc. prof., 1943-51; prof., 1951 to date; assoc. prof. visiting, U. of Hawaii, 1949-50. Hydroxylamine sulfonic acids, Schmidt reaction, syn. of high molecular weight hydrocarbons. Mem.: A.C.S., Sigma Xi. Hobbies: swimming, badminton, stamps.

SHERMAN, Herman Samuel, mgr. indus. div., Sherwin-Williams Co., Cleveland, Ohio; res. 20865 Beaconsfield Blvd., Rocky River 16, Ohio.
Chem. engr., sales mgr.; b. Cheyenne, Wyo., Aug. 15, 1900; s. of J. and Mary (Aman) Sherman; ed. U. of Mich., B.S.E., 1921; M.S.E., 1922; mem.: Alpha Chi Sigma, Tau Beta Pi, Phi Lambda Upsilon; m. Myrtle Louise Trout, 1927; ch.: Robert Jay, James Roger. Sherwin-Williams Co., continuously since grad.; successively lab. asst., chem. engr., formulator, res. div. hd., sales serv. engr., sales mgr. Reg. Engr. State of Ohio. Mem.: A.C.S., Cleveland Engrg. Soc. Clubs: Mid-day (Cleveland), Westwood Country. Hobbies: photography, golf.

SHERMAN, Leo Prentis, prof. chem., Grinnell College; res. 1515 Broad St., Grinnell, Iowa.
Tchr. organ. chem., gen. chem.; b. Salem, N.Y., June 11, 1888; s. of Chas. W. and Margaret (McKee) Sherman; ed. Dartmouth, B.S., 1910; U. Chicago, M.S., 1917; Ph.D., 1923; m. Bertha Spencer, Dec. 27, 1911; ch.: Margaret S. Blair, Elizabeth S. Weaver, Lucy Bridgham, Miriam McEwen. 1911-13, tchr. sc., high schl., Sheridan, Wyo.; 1913-16, Paducah, Ky.; instr. chem., Grinnell Coll., 1917-18; asst. prof., 1918-23; assoc. prof. 1923-26; prof., 1926 to date; hd. dept. chem, 1925-48 chmn. div. sc., 1944-47. Author: "Lab. Exercises in Gen. Chem.," 1948. Mem.: A.C.S., Ia. Acdy. Scs. (v.p., 1935-36; pres., 1936-37). Clubs: Fortnightly, Kiwanis, Country. Hobbies: golfing, gardening.

SHERMAN, Louis Miller asst. to pres., asst. to exec. v.p., Chem. Construction Corp., 488 Madison Ave., New York 22, N.Y.; res. 52 Markham Rd., Princeton, N.J.
Chem. engr.; b. Mt. Holly, N.J., Aug. 8, 1911; s. of William and Laura M. Sherman; ed. 1930, Mercersburg Acdy., Mercersburg, Pa.; 1931, Georgia Schl. of Tech., Atlanta; 1932-38, M.I.T., Cambridge, Mass., B.S. in Chem. Engrg. (hon. mention for thesis pertaining to heat transfer); mem.: Sigma Chi; m. Elizabeth Lee Mayhew, Nov. 21, 1940; ch.: Sandra Lee, Lee Mayhew. 1930-34, summer wk., Permutit Co., prod. control chem.; 1935-41, du Pont Chambers Wks., draftsman to asst. project engr.; 1941-42, Edgewood Arsenal, Md., chem. engr.; 1942-46, U.S.A., Edgewood Arsenal, Md., 2nd Lt. to Major, Project Officer to Chf., Design Branch, Plants Div.; 1946-49, Am. Cyanamid Co., tech. dept., chem. engr. to supvr., operations sec.; 1949 to date, Chem. Construction Corp., asst. to pres., asst. to exec. v.p., asst. secy. Co-author: article titled "Cyanamides" in "Encyclopedia of Chem. Tech." Mem.: A.I.Ch.

E. (active mem.), A.C.S. (active mem.). Hobbies: swimming, golf, carpentry, photography.

SHERMAN, Ralph Arthur, asst. dir., Battelle Mem. Inst., 505 King Ave., Columbus, Ohio; res. 48 W. Dunedin Rd., Columbus.
Engrg. res.; b. Oskaloosa, Ia., Dec. 16, 1896; s. of Samuel L. and Ella R. (Bobbitt) Sherman; ed. U. Ia., 1920, A.B.; m. Alice E. Farrant, Apr. 6, 1921; ch.: Lois E. 1916-17, anal., U.S. Bur. Mines; 1917-19, U.S.A., Sig. Corps.; 1920-30, fuel engr., U.S. Bur. Mines; 1930-47, supvr., fuel res., Battelle Mem. Inst.; 1947 to date, asst. dir. Res. in fuel utilizat., domest., indust., locomotive, steel indust. Author, sect. on refract., marks "Hdbk. of Mech. Engrg.," 3rd, 1930; sect. on fuels, "Ency. Chem. Tech.," 1950. Percy Nicholls Award, A.S.M.E., A.I.M.E., 1948; voted one of ten best chem. in "Chem. Bulletin," 1947. Mem.: A.S.M.E. (fellow, dir. at large, 1948-51), A.S.H.V.E. (mem. counc. 1947-49), A.G.A., A.I.M.E., Ry.F.T.E.A., S.N.E., Sigma Xi. Clubs: Engr's. (N.Y.). Hobbies: photography, fishing.

SHERMAN, Signe Lidfeldt, consulting chem., writer, 250 Broadway, New York; res. 160 Columbia Heights, Bklyn., N.Y.
Chem.; b. Rochester, N.Y., Nov. 11, 1913; d. of Carl Leonard and Hertha (Thern) Lidfeldt; ed. U. Rochester, A.B., 1935; M.S., 1937; m. Joseph Vincent Sherman, Nov. 18, 1944. 1937-43, res. chem., Eastman Kodak Co., Rochester, N.Y.; 1943-44, res. chem., Pond's Extract Co., Clinton, Conn. Res. in nutrition, indust. toxicol., cosmet., textiles. Author: "The New Fibers," 1946. Mem.: A.C.S., A.I.Ch. (fellow). Clubs: A.A.U.W. Hobbies: photography, painting.

SHERNDAL, Alfred Einar, v.p., Winthrop-Stearns Inc., 33 Riverside Ave., Rensselaer, N.Y.; res. Old Chatham, N.Y.
Chem.; b. Goteborg, Sweden, Sept. 24, 1885; s. of Alfred and Emma (Cederstrom) Sherndal; ed. Brooklyn public schls.; B.S., St. Lawrence U., 1907; Ph.D. U. of Munich, 1912; hon. D.Sc., St. Lawrence, 1943; mem.: Beta Theta Pi; m. Beatrice Jaques, 1923; ch.: Jaqueline, Beatrice (Jill). Chem. essential oils & synthetics, Dodge & Olcott Co., New Jersey, 1913-17; H.A. Metz Labs., chem. & plant mgr., 1925-34; chem. & plant mgr., Winthrop Chemical Co. (later Winthrop-Stearns Inc.), 1934 to date; v.p., 1943. Res. & production med. chems.; res. essential oils, terpenes, aromatic synthetics & synthetic medicinals; novocain, sulfa drugs, salvarsan, penicillin, atabrine. Mem.: A.C.S., A.A.A.S. (fellow), The Chemical Soc. of London. Clubs: Chemists' (N.Y.), Ft. Orange & University (Albany). Hobby: gardening.

SHERRERD, George, v.p., Bird Machine Co., Neponset St., S. Walpole, Mass.; res. 611 East St., Walpole.
Exec.; b. Haddonfield, N.J., July 30, 1892; s. of George and Cora P. Sherrerd; ed. Case Inst. of Tech., 1915, B.S.; mem.: Tau Beta Pi, Sigma Xi; m. Elizabeth K. Rusk, Nov. 23, 1920; ch.: Anne R. (Sherrerd) Williams, George Heulings. Westinghouse Elec. Corp., 1915-17, elec. engr.; Stand. Oil Co. (N.J.), 1920-21, personnel dept.; Reliance Elec. & Engrg. Co., 1921-23, mgr. N.Y. office; Louis Allis Co., 1923-27, mgr. N.Y. office; Tolhurst Machine Wks., 1927-32, gen. mgr.; Bird Machine Co., 1932 to date, v.p. & a dir. Club: Chemists' (N.Y.). Hobbies: music, golf, gardening.

SHERRILL, Mary Lura, prof. chem., chmn. dept., Mt. Holyoke Coll., S. Hadley, Mass.; res. 25 Woodbridge St., S. Hadley.
Tchr.; b. Salisbury, N.C., July 14, 1888; d. of Miles O. and Sarah R. (Bost) Sherrill; ed. Randolph-Macon Woman's Coll., A.B., 1909; A.M., 1911; U. of Chicago, Ph.D. (cum laude), 1923; Woman's Coll., U. of N.C., D.Sc. (hon.), 1948; mem.: Phi Mu. Randolph-Macon Woman's Coll., instr., 1909-16, adjunct prof., 1917-18; N.C. Coll. for Women, 1918-20; assoc. chem., C.W.S., Edgewood Arsenal, 1920-21, associate prof.; Mt. Holyoke Coll., asst. prof. 1921-24; assoc. prof. 1924-31; prof., 1931 to date; chmn., 1946 to date; Fellowship, Commis. for Relief in Belgium Foundation, U. of Brussels, 1928-29, 1936; Oxford U., 1936; Chemische Medizinsche Institut, U. Vienna, 1936; contractor with O.S.R.D. under Comm. for Medical Res., 1943-45. 20 papers in fld. of org. & physico-org. chem.; publ. in sc. jls. Mem.: A.C.S. (Garvan M., 1947), A.A.A.S. (fellow), New England Chem. Teachers Assn. Alumna Trustee, Randolph-Macon Woman's Coll., 1948 to date.

SHERRILL, Miles Standish, prof. emeritus, M.I.T., Cambridge, Mass.; res. 1060 Beacon St., Brookline 46, Mass.
Chem. (retired); b. Louisville, Ky., Aug. 2, 1877; s. of Benjamin M. and Sarah L. (Miles) Sherrill; ed. S.B., M.I.T., 1899; Ph.D. (magna cum laude) Breslau, Germany, 1903; m. Mary Goddard Kellogg, Jan. 9, 1919. Asst. anal. chem., M.I.T., 1899-1900; instr., 1903-05; instr. phys. chem., 1905-07; asst. prof., 1907-12; assoc. prof., 1912-24; prof., 1924-44; prof. emeritus, 1944 to date; special lecturer, U. of Calif., 1912; Harvard U., 1928-30; Wellesley Coll., 1944-45; Boston Coll., 1948-49; res. assoc., Calif. Inst. of Tech., 1925-26; res. chem., Explos. Sect., Engrg. Div., Ord. Dept., U.S.A., Wash., D.C., W.W. I. Author: various articles on equilibrium of inorg. reactions in aqueous solutions. Co-author (with A.A. Noyes), "A Course of Study in Chemical Principles," The Macmillan Co., 1922 (completely rewritten edit. in 1938); "Lab. Expmts. Physico-Chem. Prin.," The Macmillan Co., 1923. Fellow, A.A.A.S. & Amer. Acdy. Arts and Sciences. Mem.: A.C.S., A.A.U.P., Sigma Xi, Alpha Chi Sigma. Club: Municipal Golf (Brookline, Mass.). Hobbies: travel, drama, music, sports.

SHERWOOD, George Ray, assoc. prof. chem., Wayne U., Detroit, Mich.; res. 14585 Piedmont, Deroit 23.
Instr.; b. Salem, Ind., July 17, 1896; s. of Benjamin R. and Elizabeth J. (Newby) Sherwood; ed. Ind. U., A.B. (cum laude), 1922; U. Ill., M.A., 1925; Ph.D., 1929; m. Blanche M. Crooks, Aug. 16, 1923; ch.: Margaret Ann. Grade schl. tchr., Okla. 1915-18; tchr. high schl. sc., Bridgeton, Ind., 1920-22; high schl. tchr., principal, Marshall, Ind., 1922-23; tchr. high schl. Champaign, Ill. 1923-24; asst. chem. dept., U. Ill., 1924-28; asst. prof., James Millikin U., 1928-29; instr., Colleges of City Detroit, Wayne U., 1929-34; assoc. prof., Wayne U., 1941 to date. Res. on basicity of rare earth elements; basic nitrite lanthanum, chem. zirconium, hafnium. Author: "Gen., Inorgan. Chem.," 1939. Mem.: A.C.S., Mich. Coll. Chem. Tchrs. Assn., Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon.

SHERWOOD, Harold H., pres., Sherwood Refining Co., Englewood, N.J.; res. 51 Dana Pl., Englewwod, N.J.
Exec.; b. Spring Valley, N.Y., Feb. 5, 1891; s. of Isaac D. and Ada H. Sherwood; m. Sara E. Barnett, Mar. 28, 1918; ch.: Harold, Kenneth, Joan. V.p., Oil Prods. Co., Inc., N.Y.C.; pres., Sherwood Refining Co., Inc., Englewood, N.J.; Palisades Trust Co., Englewood, N.J., dir. Received Croix de Guerre, W.W. I. Community Chest (Englewood, N.J.), Salvation Army (Englewood, N.J.). Clubs: Knickerbocker Country (Tenafly, N.J.), Englewood Men's, (Englewood, N.J.), International House (New Orleans, La.). Hobby: farming.

SHERWOOD, Thomas Kilgore, dean of engrg., M.I.T., Cambridge, Mass.; res. 82 Whittier Rd. Wellesley Hills, Mass.
Educator, chem. engr.; b. Columbus, Ohio, July 25, 1903; s. of Milton Worthington and Sadie (Tackaberry) Sherwood; ed. B.Sc., McGill U., 1923; S.M., M.I.T., 1924; Sc.D., 1929; D.Engrg., Northeastern U. (hon.), 1947; mem.: Alpha Chi Sigma; m. Betty Macdonald, Sept. 7, 1927; ch.: Thomas Kilgore, III, Richard Macdonald, Lorna Marcia. Asst., dept. chem. engrg., 1924-26; asst. prof., 1930-33; assoc. prof., 1933-41; prof., 1941-46; dean of engrg., 1946 to date; all M.I.T.; asst. prof. chem. engrg., Worcester Polytech. Inst., 1928-30; Arthur D. Little, Inc., trustee. Tech. Aide, Sec. Chf., Div. Mem. N.D.R.C., 1940-46; conslt. to Baruch Comm., 1942; expert conslt., War Dept., 1944. Author: "Absorption & Extraction," 1937; co-author: "Applied Math. in Chem. Engrg.," 1939. Recipient William H. Walker Award of A.I.Ch.E. 1941; U.S.M. for Merit, 1948. Mem.: Am. Acdy. Arts. & Scs. (fellow), A.C.S., A.I.Ch.E., A.S.M.E., A.S.R.E., Mass. Soc. for Prof. Engrs., Sigma Xi, Tau Beta Pi, Chemists' Club. Trustee, Assoc. Universities, Inc.; mem. comm. on Basic Physical Scs., Natl. Res. & Dev. Bd. Hobbies: skiing, photography.

SHIELDS, James Rodger, mgr., marine dev. dept., Elliott Co., Jeannette, Pa.; res. 25 Crab Hollow Rd., Pittsburgh, Pa.
Chem. engr.; b. Pittsburgh, Pa., Oct. 26, 1916; s. of Archibald M. and Jean W. Shields; ed. Carnegie Inst. Tech., B.S.Ch.E., 1938; U. Pittsburgh, M.S.Ch.E., 1940; m. Gwendolyn M. Simcoke, June 24, 1939; ch.: Arlene L., Judith Ann, James R., Susan M. 1936-40, Mellon Inst., fellowship asst.; 1940-43, U. Pitts., asst. prof. chem. engrg.; 1943-46, Blaw-Knox Co., proj. chem. engr.; 1946 to date, Elliott Co., mgr., marine dev. dept. Publs. in fields of dimensional anal., electrochem., numerous patents in chem. proc., equip. fields. Mem.: A.I.Ch.E., A.S. Naval E., Sigma Xi.

SHIELDS, R. Merton, secy. & asst. to pres., The Duriron Co., Inc., Dayton, O.; res. 500 Hathaway Rd., Dayton 9.
Exec.; b. Arcadian, Mich., Dec. 29, 1901; s. of Robert H. and Carrie Merton Shields; ed. Kenyon Coll., 1919-21; B.S. & E.M., Mich. Coll. of Min. & Tech., 1921-24; mem. Alpha Delta Phi, Sigma Rho; m. Marion T. Harvey, Nov. 23, 1937. Inspection, U.S. Steel Corp., 1925; sales, Ingersoll-Rand Co., 1926-31; metallurgy, U.S. Metals Refining Co., 1934-36; sales, The Duriron Co., Inc., 1936-49; secy. & asst. to pres., 1950 to present. Many designs, basic and improvements, in corrosion resisting pumps, valves, heat exchangers. Mem.: A.I.Ch.E., A.S.M. Hobbies: railroads, boats; also operates and owns a farm outside Dayton.

SHIELDS, Thomas J., founder & owner, Thomas J. Shields Co., Shields Buying Service, 11 Water St. and 15 Moore St. respectively, N.Y. 4, N.Y.; res. Englewood, N.J.
Importer, mfr., dealer, agent; b. Bklyn., N.Y., Sept. 4, 1881; s. of James F. (dec.) and Mrs. B.A. (Reilly) Shields (dec.); ed. priv. and pub. schls.; N.Y.U.; U. of Ill.; m. Louise Marcum, Nov. 23, 1922; ch.: Thomas J., Jr., Rosemary V., Mrs. Wesley Del Prete. Established above firms, 1927; previously with Schreiber Prods. Co., Buffalo; Marx & Rawolle, Inc.; Chas. T. Wilson Co., Inc.; Nowland-Garretson, Inc.; Sidney Blumenthal & Co., all of New York; S.H. Kress & Co., North and South Carolina; Fairchild & Shelton Co., Bridgeport, Conn.; Wisconsin Condensed Milk Co.; Kirkman & Sons; Park & Tilford; The Mirror Candies; Pouch Terminals; Worthington Steam Pump Co.; N.Y. Harbor Tow Boat Co.; Jos. G. Tarr. & Co., all of New York.

SHIELDS, William Henry, asst. res. dir., Emery Industries, Inc., Cincinnati 2, O.; res. 1729 Greenview Pl., Cincinnati 37.
Res. chem.; b. Cincinnati, O., Oct. 8, 1901; s. of Edward H. and Bertha H. Shields; ed. U. of Cincinnati, Ch.E., 1925; mem.: Sigma Chi, Alpha Chi Sigma; m. Olta Easter, June 8, 1929. Various positions in chem. div., prod. & sales since joining Emery Industs. in 1925; assumed present position 1943. Mem.: A.C.S., A.O.C.S., A.A.T.C.C.

SHILDNECK, Paul Russell, dir. of res., A.E. Staley Mfg. Co., Decatur, Ill.; res. 1916 W. Wood St., Decatur.
Chem.; b. Salem, Nebr., Feb. 19, 1906; s. of Wm. P. and Nellie M. Shildneck; ed. B.Sc., 1928, U. of Nebr., M.Sc., 1929; Ph.D., 1932, U. of Ill.; m. Jennie B. Brodahl, Aug. 28, 1929; ch.: Roger P., Keith R., Ann M. Res. chem., 1932-47, dir. of res. 1947 to date, A.E. Staley Mfg. Co. Mem.: A.C.S., A.A.A.S., A.O.C.S. Club: Decatur (Ill.) Country. Hobbies: tennis, golf. hiking, bridge, poker, native plant collecting.

SHINGLER, George Pinckney, sr. chem., retired; res. 624 S. Hernando St., Lake City, Florida.
Chem.; b. Greenpond, S.C., Nov. 28, 1879; ed. B.S., Mercer U., 1900; S.B., M.I.T., 1906; grad. courses U. Ga. 1903-04; U. Chicago, 1908-15-16; mem.: Kappa Sigma; m. Annie Julia Shingler, June 7, 1916; ch.: Angus J., Adele (Shingler) Oberlin, Ruth Alice. Teacher publ. schls., S.C., Ga., 1900-03; prof. chem., Emory Coll., Oxford, Ga., 1906-18; druggist, Donalsonville, Ga., 1918-23; assoc. chem., C.W.S., Edgewood Arsenal, Md., 1922-23; assoc. chem., B.H.I.C., Savannah, Ga., 1923-31; chem., sr. chem., Olustee, Fla. 1931-49; joint inventor safe fumigant for ships, 1922; gum refinement proc. Naval Stores, 1941. Co-author, author, 37 arts., papers on gum processing, related processes; contrib. extens. to sc. tech. jls. Mem.: A.C.S., A.A.A.S., A.I.C. (Joint Award for Superior Serv., 1949), Fla. Acdy. Sc. Clubs: F. & A.M., Kappa Sigma, Rotary. Hobbies: walking, football.

SHIPLE, (Rev.) George J(oseph), S.J., prof., U. Detroit, Detroit, Mich.
Prof. chem.; b. Perrysburg, O., June 10, 1891; s. of Joseph and Louisa (Schwind) Shiple; ed. St. John's Coll., Toledo, 1909-12; ent. Jesuit Order, 1912; St. Stanislaus Sem., 1912-16; St. Louis U., 1916;19; A.B., 1918; M.S., 1919; Fordham U., D.Sc., 1922; Woodstock Coll., 1922-27; ordained Catholic Priest, 1926. Instr. chem., math., St. John's Coll., 1927-28; study, travel in Europe, 1928-29; instr. biochem., Jefferson Med. Coll., Phila., 1929-30; asst. prof. chem., U. Detroit, 1930-31; prof., dir. chem. dept., 1931 to date. U. Detroit, secy., bd. trustees; regent, Coll. Engrg.; dir., dept. chem.; mem. engrg. council; mem. grad. council; mem. arts and sc. council; chmn., comm. on rank, tenure & contracts; chmn. comm. on physical plant dev.; chmn. comm. on examinations. Detoxication reactions in humans. Contribs. to numerous sc. & tech. jls. Mem.: A.C.S., E.S., S.E.B.M., S.C.I. (England), Franklin Inst., Biochem. Soc. (England), Chem. Soc. (England).

SHIPMAN, Frank Major, v.p., tech. dir., Brown-Forman Distillers Corp., 1908 Howard St., Louisville, Ky.; res. 4050 Brownsboro Rd., Louisville.
Chem. engr.; b. Shelby Co., Ky., Dec. 16, 1899; s. of Charles Wesley and Lula (Estes) Shipman; ed. Georgetown Coll., B.S., 1921; U. of Louisvile, M.S., 1923; Iowa State Coll., Ph.D., 1938; m. Rose Burkley; ch.: Patricia Ann (Shipman) Wilburn, Frank M., Jr. U. of Louisville (Speed Scientific Schl.), instr., later prof., 1924-35; Brown-Forman Distillers Corp., v.p., tech. dir., 1936 to date; Distillers Feed Res. Council, dir. Mem.: A.

C.S., A.I.Ch.E., A.A.A.S., Ky. Acdy. of Sc. Clubs: Pendennis, Louisville Boat, Big Spring Golf.

SHIRES, Luke Berry, prof., hd. dept. chem. engrg., New Mexico Coll. of A.&M.A., State College, New Mexico; res. State Coll.
Chem. engrg. prof.; b. Muncy Valley, Pa., Nov. 21, 1896; s. of Harry and Maggie Shires; ed. B.S., Ohio Northern U., 1924; M.S. Pa. State Coll. 1926; Ch.E., Ohio Northern U., 1928; mem.: Lambda Chi Alpha. New Mexico A.&M.A. Coll., instr., 1926-28; asst. prof., 1928-37; assoc. prof., 1937-47; prof., 1947-49; hd. dept. chem. engrg., 1949 to date. Investigation fibers desert plants of New Mexico. Mem.: A.C.S., A.S.E.E., A.A.A.S., Sigma Tau.

SHIRLEY, Daniel Le Roy, chf. chem., Textileather Corp., 607 Madison Ave., Toledo, Ohio; res. 2923 Goddard Rd., Toledo 6.
Chem.; b. New Paltz, N.Y., Apr. 29, 1898; s. of George David and Cornelia D. (Terwilliger) Shirley; ed. Hamilton Coll., A.B., 1919; mem.: Theta Delta Chi; m. Susan Ann Rowe, Oct. 1, 1921; ch.: Elizabeth Ann. 1919-20, asst. in biol. & chem., Hamilton Coll., Clinton, N.Y.; 1920-28, chf. chem., plant supt., Alcohol Prods. Co., Newark, N.J.; 1928-31, supt. lacquer plant, Am. Powder Co., Div. of Am. Cyanamid Co., W. Concord, Mass.; 1931 to date, chf. chem., Textileather Corp., Toledo. Mem.: A.C.S. Hobbies: golf, stamp collecting.

SHIRLEY, Robert Kirby, exec. v.p., treas., Freeport Sulphur Co., 122 E. 42nd St., N.Y. 17, N.Y.; res. 43 Gateway Dr., Great Neck, L.I., N.Y.
Exec.; b. Gainsville, Texas, Aug. 15, 1899; s. of Robert N. and Sallie (Lauderdale) Shirley; ed. high schl.; m. Scyrine Carpenter, Nov. 30, 1919; ch.: Robert Kirby, Jr., Jane, Marianne. 1918-20, U.S. War Dept.; 1920-22, U.S. Treas. Dept.; 1922 to date, Freeport Sulphur Co., 1934 treas., 1940 v.p., treas., 1948 exec. v.p., treas., dir.

SHIVE, Roy A., dir. tech. serv., pigment dept., Calco Chem. Div., Amer. Cyanamid Co., Bound Brook, N.J.; res. Middlebrook Rd., Bound Brook.
Chem.; b. York, Pa., Feb. 6, 1901; s. of Jacob A. and Lizzie Shive; ed. Penn. State Coll., B.S., 1921; U. of Ill., M.S., 1922; Ph.D., 1924; mem.: Alpha Chi Sigma; m. Mary E. Thompson, Sept. 19, 1924; ch.: Roy A., Jr., Richard B. Liberty Yeast Corp., res. chem., 1924-25; U.S. Rubber Co., res. chem., 1925-26; du Pont Co., res. chem., 1926-32; Arco Mfg. Co., gen. supt. res. & prod., 1932-34; Amer. Cyanamid Co., dir. tech. serv., pigment dept., 1934 to date. 18 mos. with Govt. chg. of dev. & mfr. chems. for synth. rubber program; pioneer res. on rubber latex in U.S.A.; dev. of synth. resin coatings; in chg. of mfr. and dev. of chems. for the synth. rubber program, W.W.II; dev. and appl. of white and colored pigments; surface coating res. "Pioneer Award" recip., N.A.M., 1940. Mem.: A.C.S., A.I.C., A.S.T.M., Commercial Chem. Dev. Assoc., Sigma Xi, Phi Lambda Upsilon. Past trustee of numerous orgs. Club: Chemists' (N.Y.). Hobbies: hunting, fishing, woodworking.

SHIVER, Henry Edwin, prof. chem., Converse College, Spartanburg, S.C.; res. 199 Mills Ave., Spartanburg.
Chem.; b. Clemson, S.C., Nov. 30, 1895; s. of Frank Scott and Rebecca (Calhoun) Shiver; ed. B.S., 1916, Clemson Coll.; M.S., U. of Va., 1923, Ph.D., 1928; mem.: Kappa Alpha, Alpha Chi Sigma; m. Lynda Jones, 1920; ch.: Edwin Calhoun. Res. chem., S.C., Ga. & W. Va. Agr. Expt. Stations; consltg. chem., S.C. Food Res. Commis., Pacific Mills, Montgomery Textiles, Spartan Grain & Mill Co.; instr. chem., U. of Va.; prof. chem., hd. dept., Rollins Coll. & Converse Coll.; former Capt., C.W.S., U.S.A. Journal papers in fld. of bio-physical chem., fertilizer chem., food chem., utilization of farm wastes & residues; pats. Author: "Gen. Chem. Lab. Text," 1928, Prentice-Hall, Inc., N.Y. Mem.: A.C.S.

SHOEMAKER, Bernard H., divisional dir. res., Stand. Oil Co. (Ind.), Box 431, Whiting, Ind.; res. 1709 Stanton Ave., Whiting.
Res. chem.; b. Jamestown, Mich., Nov. 30, 1904; s. of Lambert and Johanna Shoemaker; ed. Hope Coll., A.B., 1926; Ohio State U., M.Sc., 1928; Ph.D., 1930; mem.: Gamma Alpha; m. Dorothy Dekker, June 13, 1930; ch.: Rollin Jay, Alan Kent, Robert Earl. Expt. Station, du Pont, summer 1929; Stand. Oil Co. of Ind., res. chem., 1930; group leader, 1934; sec. leader, 1941; asst. dir. res., 1946; divisional dir. res., 1950 to date. Oxidation of pet hydrocarbons, refining of pet., pet. conversion processes & chem. from pet. Mem.: Sigma Xi, Phi Lambda Upsilon, A.A.A.S., A.C.S. (chmn., pet. div., 1950). Club: Lions. Hobbies: bridge, gardening.

SHOEMAKER, Clayton S., eastern sales mgr., The Dow Chem. Co., 30 Rockefeller Pl., N.Y. 20, N.Y.; res. P.O. Box 61, Mountain Hill Rd., Middletown, N.J.
Exec.; b. Elmira, N.Y., Dec. 4, 1898; s. of Floyd M. and Flora H. Shoemaker; ed. U. of Mich., M.E., 1920; mem.: Theta Delta Chi; m. Margaret Langenbacher, Apr. 5, 1923; ch.: Carol R., Robert S. 1920-25, supt., Hygeia Refrig. Co.; 1925-37, v.p. Frostilla Co.; 1932-37, gen. mgr., Scott-Bowne; 1930-36, v.p. Pompein Co.; 1937 to date, mgr., plastic sales div. & now eastern sales mgr., The Dow Chem. Co.

SHOEMAKER, Edgar Welch, controller, Am. Potash & Chem. Corp., 3030 W. 6th St., Los Angeles, Calif.; res. 727 Glen Ave., Glendale 6, Calif.
Accountant & financial anal.; b. Nelsonville, Ohio, Nov. 22, 1904; s. of George O. and Minnie (Henderson) Shoemaker; ed. Ohio U., A.B. in com., 1926; mem.: Tau Kappa Epsilon; m. Helen Ruth Newland, Nov. 16, 1929; ch.: Patricia Ann, Jack Arthur. Indus. Rayon Corp., chf. accountant, 1927-30; Kroger Grocery & Baking Co., asst. br. controller, 1930-33; Ernst & Ernst, sr. accountant, 1933-39; U.S. Securities & Exchange Commis.—Reorganization, financial anal. 1939-43; War Dept., Army Ordnance, Cleveland District, chf. Financial Anal. Branch, War Contract Renegotiation, 1943-44; chf. Termination Accounting, 1945; controller, Am. Potash & Chem. Corp., 1946 to date. C.P.A., Calif. & Ohio. Mem.: Am. Inst. of Accountants, Calif. Soc. of Certified Public Accountants. Hobbies: sports, travel, reading.

SHORE, James Cooper, tech. dir., Atlantic Chem. Co., Inc., Centredale, R.I.; res. 294 Williston Way, Pawtucket, R.I.
Textile chem. & conslt.; b. Pawtucket, R.I.; s. of William Bramwell and Grace Mary Shore; ed. Pawtucket H.S., 1935; Lowell Textile Inst., 1941; mem.: Omicron Pi; m. Janet Smith Neil, Apr. 5, 1941; ch.: Bruce James, Robert Alen. Chf. chem., Southbridge Finishing Co., Southbridge, Mass.; chf. chem., Sterling Br. U.S. Finishing Co., Sterling, Conn.; asst. to res. dir., U.S. Finishing Co., Providence, R.I.; assoc., Milton Harris Res. Associates, Wash., D.C.; chf. chem., Glenlyon Print Wks., Philipsdale, R.I.; tech. dir., Atlantic Chem. Co., Inc., Centredale, R.I. Devoted many yrs. to application dev. res. in textile printing, dyeing & finishing of cotton rayon & synthetics. Mem.: A.A.T.C.C. (secy. of organization & mem. of many comms. on R.I. sec.). Clubs: Moosup Lodge No. 113, A.F.&A.M., (Moosup, Conn.). Hobbies: golf, sailing, fishing, skiing.

SHRADER, James Houston, chmn., div. sc. & prof. chem., Eastern Nazarene Coll., Wollaston, Mass.; res. 90 Winthrop Ave., Wollaston.
Tchr.; b. Wash., D.C., Sept. 30, 1885; s. of Houston D. and Mary S. Shrader; ed. A.B., Geo. Wash. U., 1909; Ph.D., Johns Hopkins U., 1913; m. Annie Hosley, June 21, 1911; ch.: Muriel H. Mann; Margaret M.; Jean H. Mullen. 1914-17, Gibbs Preserving Co., Balt., Md., lab. dir.; 1917-19, U.S.D.A., Wash., D.C., chem. tech.; 1919, Coconut Prod. Corp., Baltimore lab. dir.; 1921-28, dir., Bur. Chem. & Food, Health Dept., Balt.; 1928-35, pres., res. labs., Natl. Dairy Prods. Corp.; 1935-37, secy., Sealtest, Inc., N.Y.; 1939 to date, Eastern Nazarene Coll., chmn., div. sc. & prof. chem.; 1930-35, instr., Johns Hopkins Schl. Hygiene & Pub. Health; 1938 to date, ed. "Jl. of Milk & Food Tech." in its 13 vol. (one vol. per yr.). Dir., Mann-Shrader Labs., Waterville, Vt. Res. in utilizat. food pack-house wastes; castor bean oil tech.; solv. extract. of vegetable oils; publ. health environ. hygiene. Author: "Food Contr. Its Pub. Health Aspects," 1939. Mem.: A.C.S., A.Dairy S.A., A.P.H.A. (fellow), I.F.T. (charter mem.), Internatl. Assn. Milk & Food Sanit., Inc. (past secy.), A.A.A.S., Am. Sc. Affiliation.

SHREVE, R(andolph) Norris, prof. chem. engrg. & hd. Chem. & Metall. Engrg. Schl., Chem. & Metall. Bldg., Purdue U., Lafayette, Ind.; res. 715 Northridge Dr., W. Lafayette.
Chem. engrg.; b. St. Louis, Mo., Mar. 9, 1885; s. of Thomas Tallifero and Minnie Rhodes (McMillin) Shreve; ed. Harvard U., A.B. summa cum laude, 1907; mem.: Sigma Alpha Epsilon; m. Eleanor Burns Mitchell, Dec. 26, 1935. In chg. of mfg. chems., Mallinckrodt Chem. Wks., 1907-11; Lamar Chem. Wks., 1911-15; bldg. & operating chem. plants, Marden, Orth & Hastings Corp., Shreve Chem. Co. & Calco Chem. Co., 1915-19; consltg. chem. engr., 1919-30; assoc. prof. chem. engrg., chg. of org. tech., Purdue U., 1930-31; prof. chem. engrg., 1931 to date; hd., Chem. & Mettall. Engrg. Schl., 1947 to date; official investigator, O.S.R.D., Dollar a Yr. Man in Res., W.P.B., atomic bomb; consltg. chem. engr. to Com. Solvents Corp., Mallinckrodt Chem. Wks. Chemical (unit process) aspect of chem. engrg. Author: "Dyes Classified by Intermediates," 1922; "Intermediate Readings in Chem. German" with Fotos, 1938; "Advanced Readings in Chem. & Tech. German," with Fotos, 1940; Chap. IX of Groggins' "Unit Processes in Org. Syn.," 1947; chap. on dyes & intermediates in Rogers' "Manual of Indus. Chem.," 1942; Chem. Process Industries 1945, "Chem. & Metall. Flow Sheets" (in collaboration with Olive); tech. articles. Mem.: A.C.S., A.A.A.S., A.I.Ch.E., A.A.T.C.C., Reg. Chem. Engr. of Ind., Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma, Omega Chi Epsilon, Tau Beta Pi. Club: Chemists' (life mem.). Hobbies: interest in gems & minerals.

SHREWSBURY, Charles L., assoc. dir., Foundation of Applied Research; chmn., agr. chem. res., Southwest Res. Inst., P.O. Box 2296, San Antonio 6, Texas.
Res. exec.; ed. A.B., William Jewell Coll.; Ph.D., U. of Mo.; spec. wk. at Wash. U.; special flds., biochemistry, agr. chem., animal nutrition. Biochem. faculty, Wash. U.; asst. chem. dept., William Jewell Coll.; instr., agr. chem., U. of Mo.; assoc. prof., Purdue U.; chmn., agr. chem. res., Midwest Res. Inst.; Sanitary Corps, U.S.A. Med. Corps, vitamin content of beef prods.; U.S.A., Q.M.C. Food Lab., Chicago, dehydrated eggs; W.P.B., feeding value of garbage tankage prep. by a new solvent proc. Fundamental & applied res., pilot plant dev., flds. of food & animal nutrition, chemurgy, starch, pastes, adhesives, vitamin assay, feed and food analyses, cereal chem. and prod. dev., beverages, photochem. reactions, soil stabilization, fiber res., insecticides and fungicides; fifteen yrs. exper. in gen. agr. chem. and animal nutrition; one of the nation's recog. authorities in these flds. Author of num. pubs. on res. in biochem., agr. chem. and animal nutrition. Mem.: A.A.C.C., A.C.S., A. Soc. of Animal Prod., Indiana Chem. Soc.

SHRINER, Ralph Lloyd, prof. of org. chem., dept. chem., State U. of Iowa, Iowa City, Iowa; res. 131 Ferson Ave., Iowa City.
Org. chem.; b. St. Louis, Mo., Oct. 9, 1899; s. of Geo. B. and Edith M. (Barnett) Shriner; ed. B.S. in Ch.E., 1921, Washington U., St. Louis, Mo.; M.S. 1923, Ph.D. 1925, U. of Ill., Urbana, Ill.; mem.: Alpha Chi Sigma, Gamma Alpha; m. Rachel Haynes, Aug. 17, 1929; ch.: Joan. Instr., Washington U., 1921-22; res. assoc. & asst. prof., N.Y. Agric. Expt. Station, Geneva, N.Y., 1925-27; asst. prof., U. of Ill., 1927-30, assoc. prof. 1930-35, prof. org. chem. 1935-41; prof. & chmn. dept. chem., Ind. U., 1941-46; prof. org. chem., State U. of Iowa, Iowa City, 1947 to date; assoc. edit., "Chem. Rev." 1940-43, edit. in chf., "Chem. Reviews" 1950 to date. Org. chem., anthocyamins, flavylium salts, flavones, isoflavones, natural dyes, structure & pharmacolog. action, identification & isomerism of org. cmpds. Co-author: "Systematic Ident. of Org. Cmpds.," 3rd edit. 1948, chapter on "Stereoisomerism" in Gilman-Org. Chem. 1940; author: "Quant. Anal. Org. Cmpds." 3rd edit. 1949; Org. Syntheses, Vol. 27, edit. in chf. Mem.: A.C.S., A.A.A.S., Sigma Xi, Tau Beta Pi, Phi Kappa Phi, O.S.R.D. 1941-45. Mem. Div. of Chem. & Chem. Tech. of Natl. Res. Council, 1950-53; exec. comm., Chem. Biol. Coord. Center 1950-53. Club: Triangle. Hobbies: fishing, shop work.

SHROYER, John Henry, prof. & hd. chem. dept., Bradley U., Peoria, Ill.; res. 203 S. Maplewood Ave., Peoria.
Chem. prof.; b Cambridge City, Ind, Dec. 12, 1903; s. of John K. and Carrie A. (Wheeler) Shroyer; ed. Alma Coll., A.B. summa cum laude; U. of Chicago, M.S., 1928; Ph.D., 1932; m. Clarissa V. Vreeland, Oct. 26, 1928; ch.: John W., Janet C. Flint Central H.S., Flint, Mich., tchr. chem., 1925-27; Flint Jr. Coll., Flint, Mich., instr. chem., 1928-30 & 1932-40; Bradley U., Peoria, Ill., prof. chem., 1940 to date. Org. chem. & tchg. Mem.: A.C.S., A.A.A.S., Sigma Xi.

SHUEY, Philip McGregor, pres. & mgr., Shuey & Co. Inc., 115 East Bay St., Savannah, Ga.; res. R.F.D., Montgomery, Savannah.
Chem. & exec.; b. Staunton, Va., Jan. 8, 1885; s. of Theodore F. and Martha (Summerfield) Shuey; ed. Va. Polytech. Inst., Blacksburg, Va., BS. appl. chem, 1905; m. Anna Footman McAlpin, June 29, 1911; ch.: Agnes Louise. 1905-06, adjunct prof. chem., V.P.I.; 1906-09, chf. chem., Savannah Guano Co., Savannah, Ga.; 1909-10, chf. chem., Mutual Mining Co., Newberry, Fla. (hd. off. at Savannah); 1910-18, returned as chf. chem., Savannah Guano Co.; 1918 to date, proprietor, pres. & gen. mgr., Shuey & Co. Inc., Savannah, Ga. Certified by Amer. Bur. of Shipping. Contrib. numerous arts. to sc. jls. particularly in flds. of acid, fertilizers; holds U.S. pats. Mem.: A.C.S., Amer. Inst. Fertilizer Chems., Natl. Cottonseed Prods. Assn., Natl. Fertilizer Assn., Southeastern Peanut Assn., A.O.C.S., Amer. Wood-Preservers Assn., Natl. Fire Protection Assn., A.A.A.S. Clubs: Propeller, Chem. (local br., A.I.Ch.E.), Poetry Soc. of Georgia (sev. terms on bd.), Georgia Hist. Soc., Union Soc. Hobbies: hunting, swimming, boating, hiking.

SHUGER, Leroy Woodrow, gen. partner, Baltimore Paint & Color Wks., 150 S. Calverton Rd., Baltimore 23, Md.; res. 3609 Labyrinth Rd., Baltimore 15.
Chem.; b. Jan. 11, 1910; s. of Morres and

Sophie (Geiger) Shuger; ed. Balt. Poly. Inst.; B.S., Johns Hopkins U., 1930; Ph.D., 1934 (colloidal chem.); mem.: Phi Alpha; m. Joyce Tramer, Dec. 25, 1939; ch.: Jill F., Maura J. Chem., du Pont Cellophane Co., Tenn., 1930-31; Balt. Paint & Color Wks., 1934-38; 1938-42, gen. partner; chg. tech. activities to date. Authority on reflectorized & plain traffic paints; series of arts. on traffic paints, colloidal chem., paints. Club: Woodholme Country. Hobbies: golf, tennis.

SHULDENER, Henry Lincoln, pres., tech. dir., Water Service Labs., Inc., 423 W. 126 St., N.Y., N.Y.; res. 5 Butler Rd., Scarsdale, N.Y.
Chem. engr.; b. N.Y., Feb. 12, 1898; s. of Joseph L. and Lena (Yeblon) Shuldener; ed. N.Y.U., 1920, B.S. Chem. Engrg.; mem.: Zeta Beta Tau; m. Grace Soman, Sept. 11, 1924; ch.: Betty Joan, Henry L., Jr. Tech. Dept., Permutit Co., 1920-28; pres., tech. dir., Water Serv. Labs., Inc., 1928 to date. Invent. automatic proportioning liquid feeding devices. Co-author res. papers on dezincification of yellow brass pipe, use of silicate in treatment of water for corrosion prevent. Mem.: A.C.S., A.C.C.C., N.A.C.E., A.I.Ch.E., A.S.T.M., E.S., A.C.C.C.E., Am. Water Wks. Assn. Exec. comm., N.Y. Engrs. Comm. on Stud. Guidance (E.C.P.D.). Clubs: Metropolis Country, City Athletic, Lions, C. of C. State N.Y. Hobbies: golf, photography.

SHULMAN, George, chf. chem., Pfister Chem. Wks., Ridgefield, N.J.; res. 330 Griggs Ave., Teaneck, N.J.
Chem.; b. West New York, N.J., Sept. 3, 1914; s. of Louis and Anna (Herzig) Shulman; ed. C.C.N.Y., B.Sc. (cum laude), 1936; mem.: Phi Beta Kappa; m. Mildred Kamen, Oct. 24, 1943; ch.: Shelley Iris, Herbert Byron, Karen Sappho. The Insl-X Co., res. chem., 1937-39; Pfister Chem. Wks., chf. chem., 1939 to date. Res. in dev. prod. meths. for napalm thickener, base for gasol. incendiary bombs. Wk. for C.W.S., W.W.II. Mem.: A.C.S. Hobbies: music, philosophy, gardening.

SHUMAN, A(lbert) Cornwell, dir. physical chem. lab., Gen. Foods Corp., 1125 Hudson St., Hoboken, N.J.; res. 29 Pollard Rd., Mountain Lakes, N.J.
Res. exec.; b. Charlotte, N.C., Mar. 6, 1908; s. of Charles Franklin and Jessie (Hart) Shuman; ed. Cornell U., B.Ch., 1930; Ph.D., 1935; St. John's U., 1945; N.Y.U., 1947-48; m. Eleanor Bonney Crombie, Nov., 1932; ch.: Ann Elizabeth, Margaret Jean, John Charles. Chem. in chg. filtration plant, Cornell U., 1933-35; chem., Diamond Crystal Salt Co., St. Clair, Mich., 1935-39; physical chem., central labs., Gen. Foods Corp., Hoboken, N.J., 1939-46; dir. physical chem. lab., 1946 to date. Crystallization of sodium chloride, calcium sulfate, fats, particularly cocoa butter & caffein; tchg. & res. in polarized light microscopy; res. in rheology & proteins. Mem.: Am. Inst. of Physics, A.A.A.S., Soc. of Rheol., Sigma Xi, Sigma Gamma Epsilon. Hobbies: mineralogy, magic.

SIBLEY, Robert Luther, special asst. to v.p., Monsanto Chem. Co., Nitro, W.Va.; res. 46 21st St., Nitro, W.Va.
Chem.; b. Spencer, Mass., May 24, 1888; s. of Charles H. and Grace (Lackey) Sibley; ed. A.B., Clark Coll., 1910; A.M., Clark U., 1911; Dr. of Sc. (hon.), 1948; m. Jane Goodrich, June 24, 1915; ch.: Alda (Sibley) Passel, Herbert G., Eleanor J. Instr. chem., Hobart Coll., 1911-13; asst. chem., Princeton U., 1913-14; instr. & asst. prof. chem., Akron U., 1914-18; res. chem., Goodyear T. & R. Co., 1918-21; pat. dept., Standard Oil, N.J., 1921-26; pat. atty., rubber serv. lab., 1926-29; res. dir., Nitro plant, Monsanto Chem. Co., 1929-42; gen. mgr., 1942-50; special asst., 1950 to present. Covered in approx. 150 U.S. & foreign pats. relating to accelerators, antioxidants, specialty chems. in the rubber, soap, paint, related industries. Contrib. extens. to sc. & tech. jls. Dir., Salvation Army (Charleston, W.Va.); trustee. Thomas Memorial Hosp.; dir., Charleston Open Forum; dir., Civic Benefits (Nitro, W.Va.). Mem.: A.C.S., A.I.Ch.E. Club: Chemists' (N.Y.). Hobbies: gardening, fishing, stamp collecting.

SICKMAN, Darrell V., chf. chem. div., Naval Ordnance Lab., White Oak, Md.; res. 1420 Harvard St., N.W., Wash., D.C.
Chem.; b. Boulder, Colo., Sept. 15, 1905; s. of D. Vance and Mary (Fuller) Sickman; ed. U. Colo., B.A., 1927; Princeton U., Ph.D., 1932; mem.: Lambda Chi Alpha; m. Jessalee Bane, 1933. Res. fellow, Harvard U., 1931-35; res. fellow, Columbia U., 1935-36; res. fellow, Johns Hopkins U., 1936-38; asst. prof., Catholic U., 1938-43; W.P.B., 1943-45; Naval Ord. Lab., 1945 to date. Mem.: A.C.S., Alpha Chi Sigma, Sigma Xi, A.A.A.S., Phi Beta Kappa. Club: Cosmos.

SIEDENTOPF, Heinz A., dir., Fromm Labs., Grafton, Wis.; res. Lake Shore Rd., Grafton.
Virolog.; ed. Montana State Coll., Bozeman; elect. engr. one yr. U. Minn., 1933; B.A., 1938; M.Sc., 1941; Ph.D., bacteriol., immunol., 1947; mem.: Sigma Xi; m. Helen E. Assoc. bacteriol., U. Minn., 1941-42; conslt. virus dehydration, Fromm Labs., Inc., 1941-43; tchg. asst., U. Minn., 1942-44; asst. dir., Fromm Labs., Inc., 1944-47; dir., 1947 to date. Res. in preservation of distemper virus; publs. in field bacteriol., virology, immunology. Mem.: S.A.B., A.A.A.S., Sigma Xi. Hobbies: flying, woodworking, metalwork, hunting, fishing, photography.

SIEG, Kenneth M., wks. mgr., Am. Cyanamid Co., Box 4111, Chattanooga 5, Tenn.; res. 1910 Avalon Ave., Chattanooga 5.
Chem.; b. Newton, N.J., Sept. 4, 1898; s. of Charles A. and Lizzie R. Sieg; ed. Newfoundland H.S., 1915; Perkiomen Schl., 1917; Pa. State Coll., 1922, B.S. chem.; mem.: Alpha Chi Sigma; m. Esther Simpson, June 26, 1925; ch.: John S. 1922-27, Grasselli Chem. Co., anal. to dept. supt.; 1927-28, Luzerne Silk Throwing Co., plant mgr.; 1928 to date, Am. Cyanamid Co., dept. supt., plant supt., wks. mgr., plants in Chattanooga & Newark & Linden, N.J. Dev. an improved acid carboy, patented under name of "Aero Carboy" (assigned to Am. Cyanamid Co.). Mem.: A.C.S. Hobby: golf.

SIEGEL, Allan M., dir., Indust. Res. & Test. Labs., 1919 Chouteau Ave., St. Louis, Mo.; res. 5741 Cabanne, St. Louis.
Chem. engr.; b. St. Louis, Mo., Dec. 22, 1921; s. of Charles and Edna Siegel; ed. Wash. U., St. Louis, B.S. Ch.E., 1943; m. Frances Rudy, Dec. 25, 1949. Engrg. off., U.S.N., 1943-46; dir. Indus. Res. & Test. Labs., 1946 to date. Mem.: A.C.S., St. Louis Soc. Anal. Clubs: A.F. & A.M., St. Louis Coal, St. Louis "Invitation to Culture." Hobbies: carpentry, music (form. prof. musician).

SIEGEL, Maurice, partner, Strasburger & Siegel, 1403 Eutaw Pl., Balt., Md.; res. 5621 Greenspring Ave., Balt.
Chem., food tech.; b. Savannah, Ga., Aug. 24, 1897; s. of Isadore and Sophie K. Siegel; ed. Ga. Inst. Tech., B.S. Chem., 1918; mem.: Phi Epsilon Pi; m. Henrietta Loewner, Apr. 14, 1923; ch.: Joel Robert. Chem., Southern Oil Co., Savannah; chf. chem., U.S. Customs Labs.; chem., chg. corrosion res., C.W.S., Edgewood, Md.; chem., U.S. Customs Lab., Balt.; partnership, Strasburger & Siegel, anal., conslt. chems. Res. corrosion of metals & materials by acids, alkalies, war gases. Bibliog. test of acid resisting metals. Contrib. extens. to sc. & tech. jls. Mem.: A.I.C.

(council rep.), A.C.S., I.F.T. (chmn., Md. sec.). Club: Suburban. Hobby: gardening.

SIEVENPIPER, Frederic L., res. chem., Natl. Aniline Div., 1051 S. Park Ave., Buffalo 5, N.Y.; res. 289 Wende Rd., Alden, N.Y.
Ind. chem.; b. New Brunswick, N.J., July 6, 1910; s. of Melvin S. and Minnie (Sass) Sievenpiper; ed. B.A., U. of Buffalo, cum laude, 1934; student medal award, Niagara Chapter, American Inst. of Chemists; m. Pearl Stephan, Apr. 9, 1936; ch.: Timothy, Ladd. Res. and dev. chem. with Natl. Aniline Div., June 1, 1934 to date. Res. in vat dyes, antimalarials and intermediates with pats. related thereto. Mem.: A.C.S. (fellow, past chmn., Niagara Chapt.), A.I.C. Trustee, Millgrove Church (Alden, N.Y.), pres., Alden Central School Board. Club: Kiwanis. Hobbies: horticulture, plant hybridization.

SIEVERS, F. W. C., exporter-importer, Cuno Sievers, 101 Cedar St., N.Y. 6, N.Y.; res. 308 East 3rd St., Bklyn. 18, N.Y.
Merchant; b. Hamburg, Germany; s. of Wilhelm and Elise (Muller) Sievers; ed. 1883-93, high schl.-coll., Hamburg, Germany; m. Gisela Buchta, 1942; ch.: William B. Cuno Sievers est. 1908, export-import of metals, chems., minerals, oils, pig iron.

SILBERMAN, Israel, pres., Paragon Paint & Varn. Corp., 5-49 46th Ave., L.I.C. 1, N.Y.; res. 119-11 83rd Ave., Kew Gardens, L.I., N.Y.
Exec.; b. May 2, 1887; s. of Abraham and Anna Sarah Silberman; ed. Polytech. Inst.; m. Frieda, Jan. 28, 1917; ch.: Albert G., Selma A. Rattner, Edith. Founder & pres., Paragon Paint & Varn. Corp. since 1924. Dir., Jewish Settlement House, East Side; dir., Jewish Inst. of Religion. Club: Midtown Bus. Hobby: breeding of thoroughbred horses.

SILKER, Ralph E., hd., dept. of chem., Kansas State College, Manhattan, Kans.; res. 328 N. 15, Manhattan.
Chem., tchr., admin.; b. Epworth, Iowa, June 26, 1905; s. of Edward Newton and Mary Louise Silker; ed. U. of Dubuque, Dubuque, Iowa, 1923-27, A.B.; State U. of Iowa, Iowa City, 1930-31, M.S.; 1931-34, Ph.D.; mem.: "13 Club" (U. of Dubuque); m. Florence L. Marihart, June 10, 1927; ch.: Wyatt Burdette, Gwendolyn Grace. Grad. asst., dept. chem., S.U.I., Iowa City, 1931-34; hd. dept. chem., Doane Coll., Crete, Nebr., 1934-37; prof. chem., N.S.T.C., Chadron, Nebr., 1937-41; instr., org. chem., Kansas State Coll., Manhattan, 1941-43; asst. prof., asst. chem., Agr. Exp. Sta., K.S.C., 1943-45; dir. res., W.J. Small Co., Inc., Kansas City, Mo., 1945-48; hd. dept. chem., Kansas State Coll., 1948 to date. Chem. studies involved dehydration of alfalfa; dev. of simplified meth. for determination of carotene; nitration of polyhalogenated phenols. Mem.: A.C.S., A.A.A.S., Kansas Acdy. of Sc., Sigma Xi, Phi Lambda Upsilon, Gamma Sigma Delta, Phi Kappa Phi, Alpha Chi Sigma, Am. Dehydrators Assn. (res. council, res. comm.), Am. Feed Mfrs. Assn. (nutrition council). Club: Kiwanis. Hobbies: fishing, golf, hunting.

SILLER, Charles William, res. invest., N.J. Zinc Co. (of Pa.), Palmerton, Pa.; res. 234 Lafayette Ave., Palmerton.
Physical chem.; b. Mt. Joy, Pa., Aug. 29, 1907; s. of Lewis and Pauline (Keller) Siller; ed. Franklin-Marshall Coll., Lancaster, Pa., B.S., 1931; Penn State Coll., State Coll., Pa., M.S., 1934; Ph.D., 1939; mem.: Theta Xi; m. Mary Elizabeth Haslam, Apr. 12, 1939. Penn. State Coll., grad. asst., 1931-36; N.J. Zinc Co., 1936 to date. Zinc Oxide pigments; low temp. calorimetry; zinc alloys; catalysis; reactions at high temps.; prod. of carbon disulfide from sulfur dioxide & anthracite; fluid bed techniques. Mem.: A.C.S., Engrs. Club of Lehigh Valley, Phi Lambda Upsilon (chem.), Sigma Pi Sigma (physics). Club: Palmerton Bd. of Trade. Hobbies: hunting, fishing, gardening.

SILVER, Bruce Robinson, mgr. tech. service, The New Jersey Zinc Sales Co., 160 Front St., New York 7, N.Y.; res. 303 East 37th St., New York 16.
Exec.; b. Roxbury, N.Y., Feb. 28, 1891; s. of William Nelson and Alzora (Robinson) Silver; ed. Mount Hermon Schl., 1910; B.S. Ch.E., N.Y. U., 1914; M.S., 1915; William H. Inman Fellow in chem., N.Y.U., 1914-15; Harvard U., (Austin Teaching) Fellow in chem., 1915-17; mem.: Delta Upsilon, Alpha Chi Sigma. Spec. representative, Richmond Levering & Co., 1919-20; chf. chem., Dunlop Tire & Rubber Co., 1920-22; mgr., tech. service, The New Jersey Zinc Sales Co., 1922 to date; chem. asst., to Thomas A. Edison Naval Conslt. Bd., 1917-19. Improvement of zinc oxide for rubber, U.S. Pat. 2,303,329. Mem.: A.C.S., S. C.I., A.S.T.M., A.A.A.S.. Bd. dirs., Alumni Federation, N.Y.U. Clubs: Chemists' (N.Y.), University Cleveland), City (Akron), N.Y.U. Faculty (Washington Sq.). Hobbies: photography, hunting.

SILVERMAN, Alexander, hd. dept. chem., U. of Pittsburgh, Pittsburgh 13, Pa.
Hd., dept. chem.; b. Pittsburgh, Pa., May 2, 1881; ed. Pittsburgh, Ph.B., 1902; Cornell, A.B., 1905; Pittsburgh, M.S., 1907, Sc.D. (hon.), 1930; Alfred U., Sc.D. (hon.), 1936; m. Elrose Reizenstein, Dec. 16, 1908. Macbeth-Evans Glass Co., chem., 1902-04; U. of Pittsburgh, 1905 to date; internatl. authority glass. Mem. Div. Chemistry and Chem. Technology, Natl. Res. Counc. 1938-41 and 1947-50. Delegate from Natl. Acdy. Sc. and Natl. Res. Counc. to meetings of Internatl. Union of Chemistry: Liege (1930); Madrid (1934); Lucerne (1936); Rome (1938); London (1947). V.p. Commission on Inorganic Nomenclature, Internatl. Union Chemistry. Contrib. to microscope lighting; pub. over 200 arts. sc. jls. princ. on glass and lectured extensively in this fld. Holds 15 U.S. and foreign pats. on glass and microscope illumination. Mem.: A.C.S. (fellow), Am. Ceramic Soc. (v.p. 1931, trustee 1932), (fellow) A.A.A.S., (fellow and hon. mem.) A.I.C., Pa. Acdy. Sc., Washington Acdy. Sc., (fellow) Soc. Glass Tech. (Eng.), Soc. Protect. Sc. and Learning (Eng.), Soc. Glass Technol. (Ger.), Sigma Xi, natl. hon. mem. Phi Lambda Upsilon. Pittsburgh Award, A.C.S., 1940. Clubs: Chemists' and Authors' (Pittsburgh), Cosmos (Wash., D.C.). Hobby: collection of modern glass.

SILVERSTEIN, Saul Mark, pres. & gen. mgr., Rogers Corp., Manchester, Conn.; res. 28 Stephen St., Manchester.
Chem. engr.; b. Boston, Mass., Aug. 25, 1900; s. of Jacob and Rebecca (Rajunsky) Silverstein; S.B., M.I.T., 1921; S.M., 1922; mem.: Phi Sigma Delta; m. Rebecca Berger, Jan. 1, 1928; ch.: Lee M., Phyllis A., Barbara J. Instr., M.I.T., Chem. Engrg. Practise Schl., 1922-23; res. engr., Guggenheim Bros., N.Y.C., 1923-24; dir. ind. res. div., Bigelow, Kent, Willard Co., Conslt. Engrs., Boston, Mass., 1924-30; tech. dir., Rogers Corp., 1930-38; v.p. & gen. mgr., 1938-44; pres. & gen. mgr., 1944 to present. Chmn. schl. bldg., Comm. of Manchester; pres., Temple Beth Sholom; v.p., First Natl. Bank of Manchester. Mem.: A. C.S., T.A.P.P.I., S.P.I., Soc. Plastics Engineers, A.I.Ch.E. Club: M.I.T. (New York). Hobby: boating.

SIMMONS, Hezzleton E., pres., U. Akron, 302 E. Buchtel Ave., Akron, Ohio; res. 331 Beechwood Dr., Akron.
U. pres.; b. Lafayette, Ohio, Oct. 30, 1885; s.

of George E. and Anna (Farnum) Simmons; ed. B.S., Buchtel Coll. (Akron); M.S., U. Pa.; D. Sc., Coll. Wooster; LL.D., U. Toledo; mem.: Lone Star Frat., Omicron Delta Kappa; m. Agnes Whiton, July 29, 1909; ch.: George H., Catherine Russell, Mary Agnes Zintel, Priscilla. Asst. prof. chem., Buchtel Coll., 1910-12; prof. chem., Buchtel Coll., U. Akron, 1912-33; pres., U. Akron, 1933 to date. Assoc. chf., Rubber Br. W.P.B., 1942; conslt., Off. Rubber Dir., 1942-44. Res. in rubber chem. Arts. publish. tech. jls. Author: "Cultivation, Chem., Test., & Mfg. Rubber (with sect. on reclamation of rubber & mfr. of rubber substs.)," 1921; "Rubber Mfr.," London Lib. Press., 1922. Mem.: A.C.S., Deutsche Gesellshaft, Akron Art Inst. (trustee). Clubs: Rotary (Akron), Akron City. Hobby: fishing.

SIMMONS, Leon Dalmain, v.p. & plant mgr., Michigan Chem. Corp., St. Louis, Mich.; res. Orchard Hills, St. Louis, Mich.
Chem. engr.; b. Richmond, Va., Mar. 12, 1912; s. of L.F. and Sarah B. Simmons; ed. Virginia Polytech. Inst., grad. 1934 (deans list; O.D.K.; pres. Cadet Corp.; pres. Senior Class; cadet colonel); mem.: Tau Beta Pi, Phi Kappa Phi, Phi Lambda Upsilon; m. Jane Farinholt, Apr. 29, 1939. Student operator, du Pont Cellophane, 1934; shift supvr., 1936; chf. chem., 1938; training supvr., Remington Arms, Bridgeport, Conn., 1940; chf. supvr., 30 Cal., Remington, Lake City, Mo., 1941; chf. supvr., 50 Cal. Remington, Salt Lake City, Utah, 1942; service supt., Remington, Lake City, Mo., 1944; U.S. Army, 1945; prod. supt., v.p. & plant mgr., Michigan Chem. Corp., 1946 to present. Clubs: Lions, K. of C. Hobbies: golf, bowling, fishing.

SIMMONS, Raymond Samuel, chf. metallurgist, Keystone Steel & Wire Co., Peoria, Ill.; res. High Point Rd., Peoria.
Metallurg. engr.; b. Boston, Mass., Aug. 15, 1889; s. of William T. and Elizabeth M. Simmons; ed. Boston Latin Schl., 1909; Harvard Coll., A.B. 1913, Met.E. 1915; mem.: Alpha Phi Sigma; m. Ura Belle Young, June, 1916; ch.: Dr. Mary Elisabeth, Raymond S., Jr., Dr. John. Ill. Steel Co., 1915-19; Pitts. Steel Co., 1919-35; Keystone Steel & Wire Co., 1935 to date.

SIMMS, John Colbert, hd. dept. chem., North Georgia Coll., Dahlonega, Ga.; res. Box 224, Dahlonega.
Chem. instr.; b. Nov. 4, 1904; s. of Alvin and Carrie (Davis) Simms; ed. B.S., Millsaps Coll., 1927; M.S., Vanderbilt U., 1929; Ph.D., Western Res. U., 1932; mem.: Lambda Chi Alpha, Alpha Chi Sigma, Sigma Xi; m. Nellie Corn, Dec. 24, 1929; ch.: John Alvin, Paul Colbert. Prof. chem., Lambuth Coll., Jackson, Tenn., 1932-37; prof. chem. (hd. dept.), N. Georgia Coll., 1937 to date. Mem.: A.C.S. Club: Lions (pres.). Hobby: music.

SIMON, Allen C., tech. dir., H.O. Canfield Co., Bridgeport, Conn.; res. Bridgeport.
Rubber tech.; b. Chamberlain, S.D., May 9, 1904; s. of Frank and Agnes (Helma) Simon; ed. Iowa State Coll., B.S.Ch.E.; mem.: Theta Xi; m. Mildred Fossel, 1927; ch.: Dorothy May, Robert Allen. B.F. Goodrich Co., res.; Premier Rubber, rubber compounder; Firestone Indus. Prods. Co., chf. chem., Noblesville, Ind.; H.O. Canfield Co., tech. dir. Mem.: A.C.S., A.S.T.M., Conn. Rubber Group, N.Y. Rubber Group. Clubs: Elks, Kiwanis. Hobbies: hunting, fishing.

SIMON, Clarence K., pres., gen. mgr., Dominion Prods., Inc., 10-40 44 Drive, L.I.City, N.Y.; res. 6941 Ingram St., Forest Hills, N.Y.
Chem. engr.; b. N.Y.C., Dec. 26, 1889; s. of Morris and Eva Simon; ed. Columbia U., 1912, Chem.E.; m. Ruth Goldwater, Apr. 7, 1927; ch.: Elizabeth Ann, Robert Henry. 1913, E.I. du Pont Co., Wilmington, Del., chem.; 1914, Publ. Serv. Comm., Albany, N.Y., gas engrg. dept.; 1914-15, Bd. Estim., N.Y.C., engr. chem.; 1915-20, Dye Prods. & Chem. Co., Newark, N.J., pres., wks. mgr.; 1920-25, pres., gen. mgr.; 1925-30, pres., gen. mgr., tech. dir.; 1930-32, Calco Chem. Div., Am. Cyanamid Co., indust. res.; 1932-33, chem. conslt., N.Y.C.; 1934-36, pres., Dominion Distill., Inc., J.C., N.J.; 1936 to date, pres., gen. mgr., Dominion Prods., Inc., L.I. City, N.Y. Mem.: A.C.S., A.I.Ch.E. Hobby: photography.

SIMON, Simon A., chf. chem., res. div., Chicopee Mfg. Corp., Chicopee Falls, Mass.; res. 34 Bliss Rd., Longmeadow 6, Mass.
Res. chem. textiles; b. Little Falls, N.Y., Aug. 1, 1910; s. of Abraham and Nausra (Gibara) Simon; ed. B.S. in chem., 1935, Tufts Coll., Medford, Mass.; m. Rose Simon, Oct. 22, 1938; ch.: Rhanee, Roger, Russell. 1935-36, jr. chem., Dept. of Domestic Animals, U. of Conn.; 1937-39, Chicopee Mfg. Corp., Chicopee Falls, chem.; 1940-45, res. chem.; 1945 to date, chf. chem. Textile bleaching, anti-static agents, cotton finishing, dimensional stability of textiles. Mem.: A.C.S., A.A.T.C.C., A.A.A.S., A.S.T.M., Inter. Natl. Soc. for Gen. Semantics. Hobby: general semantics.

SIMOND, Maynard Ewing, chmn., exec. comm., Chas. Pfizer & Co., Inc., 11 Bartlett St., Brooklyn 6, N.Y.; res. New Rochelle, N.Y.
Exec.; b. Burlington, Iowa, July 20, 1888; s. of Leon John and Ella (Ewing) Simond; ed. Ph.B., U. of Chic., 1912; mem.: Alpha Delta Phi; m. 1st, Catherine Esther Tayor, June 3, 1915, 2nd, Dorothy Higbie, July 20, 1945; ch.: Barbara (Mrs. David S. Thompson), Suzanne (Mrs. William H.B. Millar). Guaranty Trust Co., New York, 1918-19; secy., treas., dir., Amer. Fruit Growers, Inc., Pittsburgh, Pa., 1920-26; v.p. & dir., G.L. Ohrstrom & Co., 1926-31; 1932-48, v.p. & dir., F. Eberstadt & Co., Inc.; 1949, pres. & dir.; since 1949, chmn., exec. comm., Chas. Pfizer & Co., Inc. Clubs: University (New York), India House, (N.Y.), University (Chicago). Officer: Chemcal Fund, Inc., dir.

SIMONS, Harold L., retired pres., Harold L. Simons, Inc.; res. 56 Arleigh Rd., Great Neck, Long Island, N.Y.
Exec.; b. N.Y.C., July 15, 1897; s. of Berry B. and Nettie Simons; ed. A.B., C.C.N.Y., 1917; A.M., 1918; Ph.D., 1921, Columbia U.; mem.: Phi Epsilon Pi, Sigma Xi, Phi Lambda Upsilon; m. Alma Goldstein, 1925; ch.: Harold Lee, Barry B. Pres., Harold L. Simons, Inc., 1922-48; treas., George G. Fries & Co., Inc., 1930-48; Governor, S.O.C.M.A. to 1948; chmn. of Internatl. Commercial Relations Comm. of S.O.C.M.A. to 1948. Res. on invertase; mem. of W.P.B. advis. comm. on chem. plant facilities. Mem.: A.C.S., Sigma Xi, Phi Lambda Upsilon. Clubs: Chemists', North Shore Country.

SIMONS, Howard Perry, prof. chem. engrg., West Va. U., Morgantown, W.Va.; res. 412 Beverly Ave., Morgantown.
Chem. engr.; b. Canton, Ohio, July 14, 1907; s. of Laird Perry and Elizabeth (Eierman) Simons; ed. Ohio St. U., B.A., 1928; M.Sc., 1930; Ph.D., 1940; Phila. Text. Schl., 1929-30; U. Pa., 1930-33, part time; mem.: Sigma Xi, Phi Lambda Upsilon, Tau Beta Pi, Sigma Gamma Epsilon, Phi Kappa Sigma (social); m. Dorothy Weber, June 1, 1935; ch.: Martin Perry, Donald Laird. Instr. chem., Drexel Inst., 1930-32; dir. res., Phoenix Hosiery Co., 1933-37; grad. asst., Ohio St. U., 1937-38; U. fellow, 1938-39; asst. prof. chem. engrg., W.Va. U., 1939-43; assoc. prof., 1943-47; prof., 1947 to date; various conslt. connections. Reg. Prof. Engr., W.Va. Res. in reaction kinetics, contin. esterification, dewatering, drying, text. proc., flow heterogeneous systems. Mem.: A.I.Ch.

E., A.C.S., A.S.E.E., W.Va. Acdy. Sc., S.P.E. (W.Va.). Clubs: Lions, Torch. Hobbies: music, photography.

SIMONS, Joseph H., prof. physical chem., dir. fluorine labs., The Penn. State Coll., prof. chem. engrg., co-ordinator fluorine res., The University of Florida, conslt. dir. fluorine res., dev., Minn. Mining & Mfg. Co., Penn. St. Coll., State College, Pa.; res. 320 Hartswick Ave., St. College. Prof., conslt., res. dir.; b. Chicago, Ill., May 10, 1897; s. of David and Esther Simons; ed. B.S. Chem. E., U. Ill., 1919; M.S., 1922; Ph.D., U. Calif., 1923; mem.: Anubis, Alpha Chi Sigma, Sigma Xi, Phi Lambda Upsilon, Sigma Pi Sigma; m. Eleanor Mae Whittaker; ch.: Dorothy E., Robert W. Atmospheric Nitrogen Corp., 1924, res. physicist; U. Porto Rico, 1925, prof.; Northwestern U., 1926-32, asst. prof.; Pa. St. Coll., 1933, visiting prof.; 1934, assoc. prof.; 1936, prof. physical chem.; 1945, dir. fluorine labs. Res. in hydrogen fluoride, fluorine, molecular physics, chem. kinetics, appar. design, fluorocarbons. Editor: "Fluorine Chem.," 1950. Mem.: A.C.S., A.A.A.S., A. A.U.P.

SIMS, Clarence Edgar, asst. dir., Battelle Memorial Inst., 505 King Ave., Columbus, Ohio; res. 1885 Suffolk Rd., Columbus. Metallurgist; b. Chicago, Ill., July 1, 1893; s. of Richard Clark and Adelaide (Siple) Sims; ed. U. Ill., B.S. Chem. engrg., 1915; M.S. Metallurgy, U. Utah, 1916; mem.: Sigma Xi; m. Corinne T. Landraf, July 28, 1920; ch.: Suzanne Catherine, Diana Frances. Anaconda Copper Mining Co., lab. & res.; Aluminum Co. of Am., lab. & res.; U.S. Bur. Mines, Seattle, Wash., electrometallurgist; U.S. Bureau of Mines, Pittsburgh, Pa., assoc. metallurgist; Am. Steel Foundries, asst. dir. res.; Battelle Memorial Inst., supvr. metallurgist, asst. dir. Mem.: A.I.M.E. (R.S. Hunt Award, 1932), A.S.M., A.F.S. (Penton Gold Medal, 1945). Award from Army and Navy, 1947. Hobbies: golfing, fishing.

SINGER, Elias, tech. dir., D.H. Litter Co., 114 E. 16 St., N.Y., N.Y.; res. 216-04 130 Ave., Springfield Gardens, L.I., N.Y. Chem., instr. surface coatings; b. Austria, May 2, 1910; s. of Charles and Fannie Singer; ed. C.C.N.Y., B.S. Chem., 1932; Columbia U., 1932-33, (completion of all courses for M.A. Chem.); m. Sylvia Leopold, Apr. 10, 1938; ch.: Marion Lenore, Carol Frances. 1932, pupil teacher, chem., C.C.N.Y.; 1933, res. chem. Joachim Res. Labs., test., formulat. paints & varn.; 1933-38, res. chem., D.H. Litter Co., formulat., dev. diff. types surface coatings, use spec. whitings various finishes; 1938-47, dir. res., chg. staff dev. spec. prods. paint, varn., lacq., printing ink, cloth coating, baking, indust. coatings; test., evaluat. newly dev. resins, oils, solv., driers, pigments.; tech. serv. various clients, difficult problems; 1947 to date, tech. dir., comp. chg. lab. & staff chems., techs.; dev., res., formulat., tech. serv.; 1946 to date, instr. N.Y.U., fundamentals paint, varn. lacq. tech. Dev. full line low cost architect. finishes, baking enamels, novelty lacq., flat, gloss emulsions, specificat. paints. Author: "Use of Fish Oil in Exter. Coatings," "The Place of the Raw Matl. Man in the Coatings Indust.," "Lowering Acid Numbers on Cooking Varns." Mem.: N.Y. Paint, Varn., & Lacq. Assn., A.C.S., Jewish Comm. House of Laurelton (Springfield Gardens, L.I.). Club: Haven, (N.Y.C.). Hobbies: handball, fishing, stamp collecting.

SINGLETERRY, Curtis R(andolph), chem., Naval Res. Lab., Wash., D.C.; res. 854 N. Edison St., Arlington, Va. Res. chem.; b. Wanette, Okla., Jan. 31, 1900; s. of James R. and Fannie (Miller) Singleterry; ed. B.A., Aurora Coll., 1921; S.M., U. Chicago, 1926; Ph.D., 1940; m. Mildred Campbell, 1927; ch.: Constance. Instr., Aurora Coll., 1921-23; prof. chem., 1924-46; chem., Naval Res. Lab., 1946 to date. Res. in non-aqueous colloidal systems, indust. proteins. Mem.: A.C.S., Sigma Xi.

SINGLETON, Philip A., v.p., Nealco-Monsanto Co., asst. dir., foreign dept., Monsanto Chem. Co., 1700 S. 2 St., St. Louis, Mo.; res. Geyer Rd., Box 451, Rt. 5, Kirkwood, Mo. Exec.; b. Detroit, Mich., May 2, 1914; s. of Arthur B. and Mildred O. Singleton; ed. U. Mich., B.S.M.E., 1935; Harvard Bus. Schl. (Cert.), 1940; Yale Law Schl., LL.B., 1941; mem.: Phi Kappa Psi, Tau Beta Pi Assn., Phi Eta Sigma; m. Eleanor A. DeVilbiss, Aug. 16, 1941. 1935-37, Reliance Elect. & Engrg. Co., Cleveland; 1936-38, Sharples Corp., export div., Phila.; 1940 to date, Monsanto Chem. Co.; 1940, dev. dept., Everett; 1941, asst. to gen. mgr., Merrimac div.; 1943, asst. to pres., N.E. Alcohol Co.; 1945, asst. to pres., Mons. Chem. Co., Wash., D.C.; 1949, v.p., Nealco-Monsanto Co., Everett, Mass.; 1950 asst. dir., foreign dept., St. Louis, Mo.; dir. Central Aguirre Sugar Co., Merrimac Chem. Transport. Co.. Res. in indust. alcohol; adv. comm., War Prod. Bd.; seminars on indust. alcohol, organ. chems., Indust. Coll. Armed Forces; adv. comm. chem. rept., U.S. Bur. Budget. Mem.: A.C.S., A.S.M.E., A.A.A.S., N.F.C.C., Am. Bar Assn., Conn. State Bar, U.S. Supreme Court Bar, Am. Red Cross Community Fund, (Boston, chmn., chem. sect.). Clubs: Chemists' (N.Y.), Metropolitan, (Wash., D.C.), Union (Boston), Corinthian Yacht (Marblehead, Mass.), Noonday Racquet (St. Louis). Hobbies: sailing, skiing.

SINGMASTER, James Arthur, sr. partner, Singmaster & Breyer, 420 Lexington Ave., N.Y. 17, N.Y.; res. 46 Durham Rd., Bronxville 8, N.Y. Consltg. engr.; b. Schuylkill Haven, Pa., Aug. 7, 1878; s. of John Alden and Caroline (Hoopes) Singmaster; ed. Gettysburg Coll., A.B., 1898; M.A., 1903; Lehigh U., grad., 1899; m. Helen Jacks; ch.: James Arthur, Jr. N.J. Zinc Co., chem. dept., chf. & supt., Palmerton Wks., gen. supt. all Pa. operations, gen. mgr. tech. dept., N.Y., 1900-27; sr. partner, Singmaster & Breyer, 1927 to date; dir. Dictaphone Corp. Numerous inventions in the mfr. of zinc & zinc prod., artificial silk. Mem.: A.C.S., A.I.Ch.E., A.I.M.E., S.C.I. (London), Mining & Metall. Soc. of Am., Am. Zinc Inst., Canadian Inst. of Mining & Metall. Gesellschaft Deutscher Metallhütten u. Bergleute. Clubs: Chemists', Uptown. Hobbies: stamp collecting, fishing.

SINK, Woodford Grady, dir. tech. training, Fisher Scientific Co., Pittsburgh 19, Pa.; res. R.R. No. 2, Merriman Rd., Sewickley. Chem.; b. Lexington, N.C., May 19, 1913; s. of H. Grady and Barbara (Wagner) Sink; ed. Welcome H.S., Welcome, N.C.; Catawba Coll., Salisbury, N.C., A.B. cum laude; U. of N.C., Ph. D., grad. asst. & res. fellowship; mem.: Alpha Chi Sigma; m. 1st., Mary Kathleen Koon (d.), Dec. 25, 1936, 2nd., Donna Jean Stoll, Aug. 7, 1943; ch.: Donald Woodfin, John Henry, Charles William, Samuel Duncan, Michael Scott, Paul Grady. Cannon Mills Co., asst. chem., 1939-42; The Citadel, asst. prof. chem., 1941-42; Med. Coll., instr. chem., summer, 1942; Wittenberg Coll., asst. prof. chem., 1942-44; Ga. St. Coll. for Women, prof. chem. & hd. dept. physics, 1944-46; U. of Ga., vis. instr. physics summer, 1946; Inst. of Textile Tech., res. assoc., 1946-48; Mooresville Mills, lab. dir., 1948-50; dir. tech. training, Fisher Scientific Co., Pittsburgh, 1950 to date. Mem.: Sigma Xi, Soc. Dyers & Colourists, A.C.S., Textile Res. Inst. (Princeton). Club: Kiwanis. Hobbies: music, Indian antics, sports.

SINKS, Frank L., chf. chem., Ohio Match Co., Wadsworth, Ohio; res. 138 Ohio Ave., Wadsworth.
Reg. chem. engr.; b. Dayton, Ohio, July 7, 1895; s. of Korah L. and Mantie O. Sinks; ed. Ohio State U., B.Ch.E., 1917; mem.: Phi Lambda Upsilon, Sigma Xi; m. Ethel J. Sinks, Sept. 1, 1917; ch.: Betty Y., William F. Ohio Salt Co., Rittman, Ohio, 1917-20, chem. engr.; Ohio Match Co., 1920 to date, chem. engr., chf. chem. Mem.: A.C.S., A.I.Ch.E. Clubs: Am. Legion, F.&A.M. Hobbies: hunting, fishing.

SINN, Francis Peirce, conslt. engr., Am. Metal Co., Ltd., 61 Broadway, N.Y., N.Y.; res. 129 Orange Rd., Montclair, N.J.
Conslt. zinc smelting; b. Germantown, Phila., Pa., Oct. 7, 1882; s. of Joseph Albert and Ella Thomas (Wise) Sinn; ed. A.B., Lehigh U.; E. M. (engr. mines); mem.: Chi Psi; m. Margaret Cortright Convers, Oct. 10, 1906; ch.: Margaret Elizabeth, (decd.). Phila. Rapid Trans. Co., engr., summer 1902; Pocahontas Coal Co., engr., summer 1903; mining, Mexico; cyanide mill operation, Nevada; Alan Wood Iron & Steel Co., 1904-05; N.J. Zinc Co., 1905-41; gen. supt., Palmerton Plants, 1917-18; asst. to v.p., 1919-41; part time conslt. wk., Am. Smelting & Refining Co., 1928-29; Trepca Mines, Ltd., Yugoslavia, 1938; The Am. Metal Co., Ltd., 1937-41; 1942 to date, conslt. engr., Am. Metal. Co., Ltd.; dir., Blackwell Zinc Co., Inc., Am. Zinc & Chem. Co. Mem.: A.I.M.E., M.M.S.A. (pres. 1946), C.M.M.S., (So. Africa) (hon. mem. July, 1946-June, 1947), Montclair Soc. Engrs., Am. Zinc Inst., A.I.S.I., Natl. Safety Council, (past dir.; mem. exec. comm. v.p., 1919). Clubs: Univ., Down Town Assn., Mining (all N.Y.C.), Montclair Golf. Hobbies: reading, bridge, golf.

SINNETT, Ralph Vernon, prof. chem., Ohio Wesleyan U., Delaware, Ohio; res. 95 Oak Hill Ave., Delaware.
Coll. tchr. chem.; b. Bucksport, Me., Mar. 12, 1897; s. of Vernon Howard and Ethel (Farmer) Sinnett; ed. B.S., U. of Me., 1920; Ph.D., Ohio State U., 1936; mem.: Sigma Alpha Epsilon; m. Mernie Copeland Dodge, June 1, 1920; ch.: Arlene Ethel (Sinnett) Harshman, Ruth Eleanor (Sinnett) Westbrook. Chem., Eastern Mfg. Co., South Brewer, Me., 1918-19; chem., Natl. Aniline & Chem. Co., Buffalo, N.Y., 1920-29; Ohio Wesleyan U., instr. chem., 1929-30; asst. prof., 1930-36; assoc. prof., 1936-47; prof., 1947 to date. Mem.: A.C.S., Ohio Acdy. of Sc., Sigma Xi, Alpha Chi Sigma, Sigma Pi Sigma. Dir. of local Community Chest, treas. of local Red Cross chapter. Club: Kiwanis. Hobbies: reading, fishing.

SIPPLE, Horace Lawson, dir. res. & education, Evaporated Milk Assn., 307 N. Mich. Ave., Chicago 1, Ill.; res. 604 Woodbine Ave., Oak Park, Ill.
Food & nutrition chem.; b. Indianapolis, Ind., Oct. 14, 1905; s. of Guy Charles and Harriet (Lawson) Sipple; ed. U. Pitts., B.S. Chem., 1926; Ph.D., 1930; post-doctorate fellow, Cambridge U., Cambridge, England, 1932; mem.: Alpha Chi Sigma; m. Jessiemay Burd, Oct. 3, 1936. Asst. food chem., U. Pitts., 1926-29; res. chem., Air Reduction Co., 1929-32; Parke, Davis, res. fellow, U. Pgh., Mellon Inst., 1932-33; res. chem., food tech., Am. Can Co., 1935-45; dir. res. & ed., Evaporated Milk Assn., 1945 to date. Res. contrib. to chem. of Vitamin C; continuous synth. of ethanol; various chem. problems related to canning of food, non-food prods. Mem.: A.C.S., I.F.T., A.P.H.A. (fellow), Sigma Xi. Hobby: photography.

SISSON, Edmond Francis, v.p. chg. engrg., Newport Industries, Inc., P.O. Box 911, Pensacola, Fla.; res. 700 W. Moreno St., Pensacola.
Chem. engr.; b. Chicago, Ill., Sept. 16, 1900; s. of Oscar U. and Nora (Mahony) Sisson; ed. Armour Inst. Tech., B.S., 1924; mem.: Theta Xi; m. Loraine Paddock, May 30, 1925; ch.: John P., Robert C. Wisc. Inspect. Bur., inspector, 1924-27; Chris Schroeder & Sons Co., fire protect. engr. 1927-28; Newport Co., wks. engr., 1928-31; Newport Industries, Inc., chf. engr., 1931-43; v.p. engrg., 1943 to date; dir., Mutual Bldg. & Savings Assn., (Pensacola). Mem.: A.I.Ch.E., A.S.M.E. Club: Pensacola Country. Hobby: golf.

SISSON, Wayne A., hd., cellulose sec., chem. res. dept., Am. Viscose Corp., Marcus Hook, Pa.; res. Quaint Rd., Bowling Green, Media, Pa.
Res. chem.; b. July 21, 1903; s. of James A. and Nora May (Jewell) Sisson; ed. Roanoke Coll., B.A., M.A.; U. Ill., Ph.D.; mem.: Alpha Chi Sigma, Gamma Alpha, Phi Lambda Upsilon; Sigma Xi, Epsilon Chi; m. Marian Benbow, June 18, 1931; ch.: James R., Ann Louise. Text. Foundation fellow, 1931-35; U.S. Dept. Agric., 1935-36; assoc. cotton tech., Boyce Thompson Inst., 1936-40; res. chem., Am. Viscose Corp., 1940 to date, res. chem. Res. in X-ray diffraction studies cellulose fibers, fine structure of cellulose; rayon fibers. Author: chpt. on X-ray examination in "Cellulose, Cellulose Derivatives," 1943. Mem.: A.Phys.S., A.C.S. (voted by Chicago sec. as one of "Ten Ablest" cellulose chem.; adv. comm., chmn., text. conf., 1947, at Gordon Res. Conf.; chmn., cellulose div.). Hobby: gardening.

SIU, Ralph G.H., res. dir., Quartermaster Res. & Dev. Labs., Phila., Pa.; res. 116 S. 19 St., Phila.
Res. microbiol., b. Honolulu, T.H., Feb. 24, 1917; s. of Siu Yan and Kau Siu; ed. B.S. Chem. (hon.) & M.S., U. Hawaii; Ph.D., Calif. Inst. Tech.; m. Irene Hsu, Feb. 12, 1950. 1937-39, sc. aide, Pineapple Res. Inst., Honolulu; 1939-41, res. fellow; 1941-43, tchg. fellow, Calif. Inst. Tech., Pasadena; 1943-44, asst. chem., U.S.D.A. Emerg. Rubber Proj., Los Angeles; 1944-45, U. S. Rubber fellow, Calif. Inst. Tech.; 1945, expert conslt., U.S.A., Off., Q.M.C., Wash, D.C.; 1945-46, biochem., U.S.A. Tropical Deterioration Res. Lab., Phila.; 1946, sr. biochem.; 1946-47 dir.; 1947 to date, res. dir., U.S.A. Quartermaster Gen. Labs., Phila.; 1949 to present, res. assoc., Harvard U.; assoc. mem., Comm. Basic Phys. Sc., U.S. Dept. Defense, Res. and Dev. Board. Contrib. extens. to sc. and tech. jls. Author: "Microbial Decomposition of Cellulose," 1951. Mem.: A.A.A.S., A.C.S., S.P.I., Mycolog. Soc.

SJOSTROM, Loren B., hd., flavor labs., Arthur D. Little, Inc., 30 Memorial Dr., Cambridge, Mass.; res. 12 Cordis St., Wakefield, Mass.
Res. chem. engr.; b. No. Andover, Mass., July 21, 1912; s. of Waldemar L. and Alice M. Sjostrom; ed. 1935, Northeastern U., B.S. Cn. Engrg.; mem.: Sigma Delta; m. Bernice Whitehead, Aug. 20, 1938; ch.: Jean, Lois, Betty. 1936 to date, hd. flavor labs., Arthur D. Little, Inc. Co-dev. of flavor prof. meth. of flavor meas.; author papers pertaining to odor and flavor. Reg. Prof. Engr. in Mass. Mem.: A.A.A.S., A.C.S., A.I.C., I.F.T. Club: A.F. & A.M. Hobbies: tennis, fishing.

SKARTVEDT, Peter Marcus, prof. chem., Gustavus Adolphus College; res. 617 Jefferson Ave., St. Peter, Minn.
Tchr. chem.; b. Canton, S. Dak., Mar. 2, 1886; s. of Gudmund and Liss (Brandon) Skartvedt; ed. A.B., St. Olaf Coll., Northfield, Minn., 1906; M.A., U. Minn., 1913; abt. 1 yr. and 6 mo. summer schl. addition; Sc.D., St. Olaf, 1947; m. Huldoh Chernstrom, Oct. 23, 1926; ch.: Muriel R., High Schl. tchr. sc., Blooming Prairie, Madelia, Minn.; supt. schls., Poulsbo, Wash.; prof. chem., Gustavus Adolphus Coll., St. Peter, Minn., 1915 to date. Determination of phosp. in vanadium

steel and ferro-vanad. alloy. Co-author: "Essentials of First Yrs. Gen. Chem." 1927 (rev. 1929). Mem.: A.C.S., N.G.S., Minn. Acdy. Sc. Hobbies: lawn-tennis, chess, gardening.

SKAU, Evald Laurids, sr. chem., chg. physical chem. sect., Southern Regional Lab., U.S. Dept. Agric., New Orleans 19, La.; res. 6473 Memphis St.
Res. chem.; b. Hartford, Conn., May 13, 1897; s. of Peter L. and Anna (Beck) Skau; ed. Trinity Coll., B.S., 1919; M.S., 1920; Yale U., Ph. D., 1925; mem.: Phi Beta Kappa, Sigma Xi, Alpha Chi Sigma; m. Dorothy Beckemeyer, Apr. 28, 1945. Chem., Emerson Labs., Springfield, Mass. 1920-21; instr. chem., Trinity Coll., (Conn.), 1921-22; res. assoc., Yale U., 1925-26; Natl. Res. Fellow, M.I.T., Cambridge, Mass. 1926-28; asst. prof. chem., Trinity Coll., 1927-36; conslt., New Haven, Conn., 1936-39; internatl. cancer res. fellow, Yale, 1937-39; sr. chem., chg. physical chem. sect., anal., physical div., Southern Regional Res. Lab., Bur. Agric. Chem. Engr., U.S. Dept. Agric., 1939-42, Bur. Agric., Indust. Chem. 1942 to date. Guggenheim Fellow, Munich, Frankfurt-am-Main, Internatl. Bur. of Physico-Chem. Stands., Brussels, 1930-31. Contrib. extens. to sc. and tech. jls.; co-author: "Lab. Exps. for an Advanced Course in Gen. Chem.," 1930; "Determ. of melt., freez. temperatures"; "Physical Meths. of Organ. Chem.," Vol. I., 1945; 2nd. ed. 1949. Mem.: A.C.S. (chmn. Conn. Valley Sec. 1935, Counc. 1934, 1943-45); A.O.C.S.

SKEEN, John R., dir., market res. dept. (acct. exec.), Foster D. Snell, Inc., 29 W. 15 St., N. Y. 11, N.Y.; res. 313 Manheim St., Phila. 44, Pa.
Conslt., chem. market res.; b. Phila., Pa., June 28, 1899; s. of John R. and Almyra G. (Gail) Skeen; ed. Pa. State Coll., B.S., 1921; U. of Pa., A.M., 1924, Ph.D., 1926; mem.: Theta Chi, Sigma Xi; m. Helen G. Goodspeed, Feb. 10, 1938; ch.: John R., Helen Gail. Teaching: U. of Pa., asst. 1921-24, asst. instr. 1924-25, instr. 1925-30; LaSalle Coll., prof. 1927-30. Ind. Res.: United Gas Improvement Co., physical chem. 1930-35, group leader 1935-44. Govt.: acting chf., Office Civilian Supply, W.P.B. 1942-43; principal chem. engr., Bur. Internal Revenue, Treas. Dept. 1945-47. Dir., market res. dept., Foster D. Snell, Inc., 1947 to date. Pyrolysis of hydrocarbon oils, gas equilibria in solution, control of corrosion, leak treat. for city gas mains, separation of hydrocarbons by adsorbtion, econ. & distr. of chem. Mem.: A.A.A.S. (fellow), A.I.C. (fellow), A.C.S., Botan. Soc. of Am., Am. Soc. of Plant Physiol., Chem. Market Res. Assn.

SKINNER, Glenn Seymour, prof. chem., U. Del., Newark, Del.; res. 74 Amstel Ave.
Org. chem.; b. Columbus, Kan., June 1, 1890; s. of Albert Eugene and Mary Frances Seymour; ed. Kan. St. Teachers Coll. (Pittsburgh), A.B., 1913; U. Ill., A.M., 1915; Ph.D., 1917; mem.: Alpha Phi Omega; m. Dora Jean Demuth, Aug. 11, 1920; (2nd) Pauline Kimball, June 10, 1930; ch.: Marcelle Marie, Glenn Seymour, Jr., Charles Kimball. 1918, 1st Lt., C.W.S., A.E.F. (France); 1919-20, asst. prof. Oberlin Coll.; 1920-24, asst. prof., U. Wis.; 1928 to date, asst. prof., prof., Del. Res. in rearrangements, babituric acid derivatives; effect of rings on reactivity (publ. in jls. of A.C.S.). Mem.: Phi Lambda Upsilon, Sigma Xi, Phi Kappa Phi. Hobby: local history of Rev. period.

SKINNER, Hervey Judson, pres. Skinner & Sherman, Inc., 246 Stuart St., Boston 16, Mass.; res. 42 Park Ave., Wakefield, Mass.
Consulting chem.; b. Wakefield, Mass., Oct. 7, 1877; s. of Thomas J. and Harriet E. Brown Skinner; ed. Phillips Acdy., Andover, Mass., 1895; S.B., M.I.T., 1899; m. Grace May Elliot, Oct. 26, 1904; ch.: Flora Elliot. Res. asst., M.I.T., 1899-1900; chem. & asst. supt., Philadelphia Wks., General Chemical Co., Camden, N.J., 1900-02; v.p., Arthur D. Little, Inc., 1902-19; priv. pract., 1919-21; pres., Skinner & Sherman, Inc., 1921 to date. American Conditioning House, Boston, Mass., v.p. and treas.; formerly dir. of Wood Flong Corp., N.Y., and as tech. dir. of this co. supervised dev. and manufacture of first dry stereotype mat made in the U.S., 1915-46. Chapter on "Water" in 1st and 2nd editions of "The Manufacture of Pulp & Paper." Mem.: A.C.S., A.I.Ch.E., A. S.T.M., New England Water Works Assn., Am. Water Wks. Assn., T.A.P.P.I. Chmn. trustees Lucius Beebe Memorial Library, Wakefield, Mass., Trustee Andover Newton Theological Schl., Newton, Mass., Trustee, New England Baptist Hospital, Boston. Club: Chemists' (N.Y.), Bear Hill Golf Club, Wakefield, Mass. Hobbies: golf, stamp collecting.

SKINNER, John Taylor, chf. chem., Grapette Co., Camden, Ark.; res. 106 N. Cleveland Ave.
Chem.; b. Whitesville, Ky., Jan. 18, 1903; s. of Walter R. and Dora B. Skinner; ed. B.S., Western Ky. Teachers Coll., 1926; M.S., U. Wis., 1928; Ph.D., 1932; m. Hatha Ford, Apr. 3, 1926; ch.: Margaret Lee, Martha Jane, Jean Higgs. Instr. chem., Western Ky. St. Teachers Coll., 1296-27; asst. prof. chem., 1928-29; asst. agric. chem., U. Wis., 1929-33; assoc. prof. chem., Western Ky. St. Teachers Coll., 1933-42; asst. chem., Ky. Agric. Exp. Sta., 1942-45; chf. chem., Grapette Co., 1945 to date. Res. in manganese, arsenic in animal metabol. Role manganese in animal nutrition, biolog. values of fats, proteins; determination benzedine. Author: "Elements of Food Biochem." 1943, "Lab. Manual of Food Biochem.," 1943. Mem.: A.C.S., A.A.Biol.C., A.A.A.S., Sigma Xi, Phi Lambda Upsilon. Hobbies: gardening, golf.

SKOVHOLT, Oscar, dir. labs., Quality Bakers of America, 120 W. 42 St., N.Y.C., N.Y.; res. 43-39 192 St., Flushing, N.Y.
Chem.; b. Mooreton, N. Dak., Jan. 24, 1897; s. of Julius and Anna Skovholt; ed. B.S., U. N. Dak., 1921; M.S., 1923; Ph.D., U. Minn., 1935; mem.: Lambda Chi Alpha; m. Annabelle Puth, Feb. 2, 1929; ch.: Donald John, Richard Lee. High Schl. sc. instr., Edgeley, N. Dak., Feb.-May 1921; Velva, N. Dak., 1921-22; asst. chem., State Mill & Elevator, Grand Forks, N. Dak., 1923-25; chem., Cascade Milling Co., Cascade, Mont., 1925-28; res. fellow, Am. Dry Milk Inst., U. Minn. 1929-36; dir. lab., Quality Bakers of Am., 1936 to date. Assisted in making chem. lab. useful to baker, dev. meths. for evaluation flour; mem.: Sigma Xi, Phi Lambda Upsilon, A.A.A.S., A.C.S., A.A.C.S., (treas., 1937-40, v.p. 1943-44, pres. 1944-46), F.&A.M., B.P.O.E.

SKOW, Norman Alexander, dir. res., Synthane Corp., Oaks, Pa.; res. 40 Crestline Rd., Wayne, Pa.
Chem. engr.; b. Soldier, Ia., Dec. 22, 1904; s. of Louis and Caroline Haugen Skow; ed. B.S. Chem. Engrg., Ia. St. U., 1926; M.S. Chem. Engrg., Ia. St. U., 1927; Ph.D., Chem., Cornell U., 1930; Ch.E., Ia. St. U., 1935; mem.: Sigma Xi, Alpha Chi Sigma; m. Helen Mary Kennedy, June 28, 1930; ch.: Norma Louise, Sandra. Bakelite Corp., chem., 1930-45; Synthane Corp., dir. res., 1945 to date. Res. in rare mtls. and plastics. Contrib. extens. to sc. and tech. jls. Mem.: A.C.S., A.I.C., A.I.Ch.E., A.S.T.M., S.P.I., S.P.E., N. E.M.A. Hobby: boating.

SLAGLE, Kenneth H(ood), res. chem. engr., Jones & Laughlin Steel Corp., Pittsburgh, Pa.; res. 459 Haverhill Rd., Mt. Lebanon, Pittsburgh.
Physical chem., chem. engr.; b. Lower Marlboro,

Calvert Co., Md., Dec. 27, 1903; s. of Arthur E. and Carrie B. Hood Slagle; ed. Johns Hopkins U., B.S. Chem., 1926; Ph.D., 1929; m. Mary C. Meeks, June 24, 1936; ch.: Betsy Anne. 1929-30 Am. Pet. Inst., res. Johns Hopkins U.; 1930-40, Lafayette Coll., Easton, Pa., asst. prof. chem.; 1940-42, Jones & Laughlin Steel Corp., res. chem.; 1942-43, Mellon Inst., Pittsburgh, Indust. fellow; 1944, Davison Chem. Corp., Balt., Md., res. chem.; 1944 to date, Jones & Laughlin Steel Corp., Pittsburgh, res. chem. engr. Mem.: Sigma Xi, A.C.S., A.I.Ch.E., A.A.A.S. Editor, the Octagon (A.C.S. publication), 1935-40. Club: Chem. (Pittsburgh). Hobbies: photography, golf, music, amateur radio.

SLATER, Charles H., sales mgr., fine chem. div., J.T. Baker Chem. Co., N. Broad St., Phillipsburg, N.J.; res. R.D. 2, Phillipsburg.
Sales exec.; b. Antwerp, N.Y., Mar. 21, 1908; s. of L.H. and Ethel M. (Farrell) Slater; ed. N.Y.U., B.S. 1930, Ch.E. 1932; mem.: Kappa Sigma; m. Alice M. Koogle, 1932; ch.: Charles H., Jr., Suzanne. Jos. Dixon Crucible Co., res. & dev., 1930-34; J.T. Baker Chem. Co., sales rep. 1934-37, mgr. N.Y. office 1937-40, sales mgr. fine chem. div. 1940 to date. Mem.: A.C.S., A. Phar.A., S.A.A.C.I. Club: Splitrock. Hobbies: golf, fishing.

SLAWTER, Paul Burnett, Jr., v.p., The House of J. Hayden Twiss, Adv., 225 Park Ave., New York 17, N.Y.; res. 23 Clinton Rd., Garden City, L.I., N.Y.
Advertising; b. Brooklyn, N.Y., Mar. 12, 1916; s. of Paul Burnett and Elizabeth Ruth (Eckert) Slawter; ed. Alfred U., 1935-37, N.Y.U., 1938, Columbia, 1939, chem. engrg., adv., journalism (latter two, special courses, no degrees); m. Audrey Marie Eckelkamp, Oct. 31, 1937; ch.: Paula, Suzy. Owner, Franklin Square Herald, wkly. newspaper, Long Island, 1938; assoc. ed., Bill Bros., Publishing Corp., 1939; asst. ed., Chem. Industries Mag., 1940-43; Lt., U.S.A.A.F., 8th Air Force, E.T.O., 35 missions. Distinguished Flying Cross, Air Medal (8 clusters), Presidential Unit Citation, 1943-45; v.p., The House of J. Hayden Twiss, Adv., 1945 to date. Lecturer on chem. advert. & publicity at Bklyn. Poly. C.C. D.A., Consulting Chems.: Assn., A.C.S., A.I.C. meetings. Mem.: A.I.C. (member advisory comm.), Associate Ed., "Your Consultant," A.C.C.C.E., Exec. Secy., The Salesmen's Assoc. of the Amer. Chem. Industry, Inc., Editor, Chemists' Club News. Mem.: The Chemists' Club (N.Y.). Dir. of Pub. Rel., Amer. Sect., Soc. of Chem. Industry 1949-50. Amer. Corres., "Chemistry & Industry" (London), 1949-50.

SLAYTER, (Russell) Games, v.p. in chg. of res. & dev., Owens-Corning Fiberglas Corp., Newark, Ohio; res. Route 6, Newark, Ohio.
Chem. engr.; b. Argos, Ind., Dec. 9, 1896; s. of Alonzo T. and Margaret (Shoemaker) Slayter; ed. Purdue U., 1921 B.S. chem. engrg.; 1949, honorary D. Engrg.; m. Marie Foor, Aug. 18, 1917; ch.: John Henry, Hannah Rebecca. 1921-26, pres., Majestic Engrg. Co., Lafayette, Ind.; 1926-28, Caulkite Co., Chicago, Ill.; 1928-31, pres., Slayter & Co., consltg. engrs., Detroit, Mich.; 1931-38, consltg. engr., Owens-Ill. Glass Co., Newark, Ohio; 1938 to date, v.p., Owens-Corning Fiberglas Corp., Newark, Ohio. Tectum Corp., Newark, Ohio, dir.; Park Natl. Bank, Newark, Ohio, dir. Author of sc. articles on economic & technolog. aspects of glass & especially fibrous glass prods. in tech. jls.; responsible for 56 Am. & 14 foreign pats. on meths. of mfg. glass & glass prods. & on end use applications of fibrous glass matls. Mem.: Ohio Soc. Professional Engrs., A.C.S., A.I.Ch.E., Am. Inst. of Physics, A.Phys.S., Franklin Inst. Awards: 1940, Edward Longstreth M. by Franklin Inst. for distinction in fld. of sc.; 1948, Indus. Res. Inst. M. for outstanding contrib. to fld. of indus. res. In 1948 appointed Indus. Counsellor, Ohio State U. Res. Foundation. Clubs: Rotary (Newark, Ohio), Masonic Lodge, F.&A.M., Newark Executives. Hobby: farming.

SLEDD, Arthur Purefoy, assoc. prof. chem., Furman U., Greenville, S.C.; res. 300 Univ. Ridge.
Teacher; b. Wake Forest, N.C., Feb. 22, 1895; s. of Benjamin and Neda Purefoy Sledd; ed. Wake Forest Coll., B.S., 1916; U. N.C., M.A., 1922; Ph.D., 1940; mem.: Alpha Chi Sigma; m. Elsie Brantley, June 14, 1923; ch.: Hassell Brantley. Tchr. chem., physics, New Hanover H. S., Wilmington, N.C., 1922-25; principal, Henderson, N.C., H.S., 1925-29; prof. chem., Judson Coll., Marion, Ala., 1929-42; assoc. prof. chem., Furman U., 1942 to date. Mem.: A.C.S., S.C. Acdy. Sc., assoc. mem. (inactive) Sigma Xi.

SLEICHTER, George Mowery, dir. of physico-chem. res., Cincinnati Coll. of Embalming, 3202 Reading Rd., Cincinnati 29, Ohio; res. 3842 Thornton Dr., Cincinnati 36.
Prof. of chem.; b. Altoona, Pa., July 27, 1906; s. of Joseph H. and Viola (Mowery) Sleichter; ed. Dickinson Coll., 1932, B.Sc.; Cincinnati Coll. of Embalming, 1933; U. of Cincinnati, 1939, M. Sc., candidate for Ph.D.; mem.: Pi Sigma Eta; m. Virginia Ruth Corl, June 23, 1934. Cincinnati Coll. of Embalming, prof. of chem., dir. of res., 1933-45; Gray Chem. Co., Newark, N.J., dir. of res., 1945-46; Eckel Coll. of Mortuary Sc., Phila., Pa., dean of coll. 1946-50; H.S. Eckels & Co., dir. of res., 1946-50. The 2 chem. companies mentioned above engaged in mfr. of embalming fluids & supplies; engaged in dev. of new prods.; application of micro-incineration in leather res.; combination of formaldehyde with var. body tissues. Contrib. to "Embalming Fluids" by Simon Mendelsohn; "Modern Mortuary Sc." by John H. Eckels. Mem.: A.I.C. (fellow), A.C.S., A.A.A.S., Franklin Inst. Hobbies: woodworking, cabinet-making.

SLIFKIN, Sam Charles, v.p., tech. dir., Tecnifax Corp., 276 High St., Holyoke, Mass.; res. 12 Park Slope, Holyoke.
Chem., tech. exec.; b. Milwaukee, Wis., July 28, 1918; s. of I.J. and T. (Benin) Slifkin; ed. U. of Wis. B.S. 1942, thesis hon., Alpha Chi Sigma Award (outstanding chem. sr.); mem.: Phi Beta Kappa, Phi Lambda Upsilon, Pi Mu Epsilon. Ozalid Div., Gen. Aniline & Film Corp., 1942-49, started as chem. then supvr. control & dev., etc., left as dir. of res. & dev. and mgr. of quality control; 1949 to date, v.p., tech. dir., Tecnifax Corp. Dev. of most current types of dry process diazotype mtls., abt. a doz. U.S. pats. granted, many pending, also foreign granted & pending. Author: 1947 "Status of Dev. in the German Diazotype Ind." O.T.S. report based on trip to German plants. Mem.: A.C.S., Photo. Soc. Am., A.A.T.C.C., T.A.P.P.I., A.S.Q.C. Hobbies: photgraphy, graphic arts.

SLIGER, Herbert Boyd, asst. gen. sales mgr., Commercial Solvents Corp., 17 E. 42nd St., New York City; res. 41 Maplewood St., Larchmont, N.Y.
Chem. engr.; b. Terre Haute, Ind., Apr. 15, 1898; s. of Daniel H. and Elnora May Sliger; ed. Rose Polytechnic Inst., B.S., chem. engrg., 1920; mem.: Sigma Nu; m. Frances Louise Kolloch, June 10, 1923; ch.: Herbert B., Jr., James Knox, Mary Frances. Prest-O-Lite Co., Indianapolis, Ind., 1920-27; Commercial Solvents Corp., N.Y., 1927 to date. Mem.: A.C.S., Salesmen's Assoc. Am. Chem. Industries, B.I.M.S. Clubs: Chemists', Orienta Beach. Hobbies: woodworking, fishing, golf.

SLOANE, Reginald Gordon, technologist, Stand. Oil Co. (N.J.), 30 Rockefeller Plaza, N.Y., N.Y.; res. 19 Pingry Pl., Elizabeth 3, N.J.
Chem. engr., chem.; b. Sands Point (L.I.), N.Y., June 7, 1898; s. of Charles W. and Nina (Byron) Sloane; ed. Harvard, A.B., 1919; Columbia, Ch. E., 1923; mem.: Delta Psi. 1923-43, Standard Oil Dev. Co., res.; 1943 to date, Stand. Oil Co. (N.J.), publ. relations. Patents, lubricating oils, gasoline. Author or co-author of arts. relating to pet. prods. Mem.: A.C.S., A.S.M.E., A.A.A.S., Sigma Xi. Award James Vincent Wendell Mem. M., Columbia. Clubs: Harvard (N.Y.), St. Anthony (N.Y.), Manhasset Bay Yacht, Suburban Golf. Hobbies: golf, sailing, chess.

SLOAT, Charles Allen, assoc. prof. chem., Gettysburg Coll., Gettysburg, Pa.; res. 128 W. Lincoln Ave.
Chem.; b. Cashtown, Pa., Dec. 12, 1898; s. of Walter and Clara Anna Funt Sloat; ed. B.S., Gettysburg Coll.; A.M., Haverford Coll., 1924; Ph.D., Princeton U., 1930; mem.: Kappa Delta Rho, Phi Beta Kappa, Kappa Phi Kappa; m. Marion Josephine Biggs, Apr. 26, 1946. Asst. prof. chem., Gettysburg Coll., Sept., 1927; assoc. prof. 1937 to date. Res. in field crystals, surf. forces at crystal faces, adsorp. crystal relat. to compatibility of space lattice. Four yrs. act. serv. C.W.S., Secy. of War Dept., Civil. Prot. Schl., Purdue U., A.M.G. in Germany, 1944-46. Mem.: A.C.S., A.S.M., A.A.A.S. Hobbies: salon photography.

SLOMAN, Herman K., v.p., Rm. 1010, 53 Park Pl., N.Y. 7, N.Y.; res. 33 Parkwold Dr., W., Valley Stream, L.I., N.Y.
Exec.; b. N.Y.C., Dec. 25, 1902; s. of Meyer and Sarah Sloman; ed. B.S.S., C.C.N.Y., 1934; LL.B., St. Lawrence U., 1928; LL.M., 1929; mem.: Delta Beta Phi, Torch and Scroll (C.C. N.Y.); m. Gertrude Daniels, Sept. 26, 1931; ch.: Paul, Susan. Acct. 1922-28, Madison Glue Mfg. Co., Inc., N.Y.C., secy., 1928-32; office mgr., fin. secy., 1924-26, Am. Blind Fdn. & Miss Helen Keller; secy., 1932-48, Madison Glue Corp.; v.p. 1948 to date. Hobbies: yachting, U.S.C.G. Auxily. (Commander). Clubs: Nassau Yacht Club, U.S. Power Squadron.

SLOWTER, Edward Eugene, controller, Battelle Mem. Inst., 505 King Ave., Columbus, Ohio; res. 1273 Thornwood Pl., Columbus.
Chem. engr.; b. Columbus, Ohio, Nov. 1, 1912; s. of William Wilson and Nellie Lenore Burt Slowter; ed. B.Ch.E., 1934, Ohio St. U.; Battelle Fellow M.Sc., 1935; Ch.E., 1939; m. Elizabeth Robbins Turner, Aug. 16, 1941; ch.: Elizabeth Lenore, William John. 1935-36, dev. engr., Columbia Chem. Div. Pitts. Plate Glass Co.; 1936-42, res. engr., asst. supvr., Battelle Mem. Inst.; 1942-45, Maj. Anti-Aircraft Arty., U.S.A.; 1945 to date, asst. supvr., supvr., contr., Battelle Mem. Inst., asst secy., asst. treas. Battelle Dev. Corp., asst. treas. Exten. res. on contr. atmosp., vapor phase plating, chem. engrg. of nonferrous metal., supvr. and admins. of res.; contrib. extens. to sc. and tech. jls. Mem.: Sigma Xi, Tau Beta Pi, Phi Lambda Upsilon, A.I.Ch.E. (active), A.O.A., Natl. Soc. Prof. Engrs. Hobby: model railroads.

SMALL, Jesse Ohrum, mgr., prod. appl. synthetics dept., Hercules Powder Co., Wilmington, Del.; res. 1901 Riverview Ave.
Chem.; b. Laurel, Del., Nov. 15, 1894; s. of Fessenden H. and Hattie Moore Small; ed. Dickinson Coll., Carlisle, Pa., Sc.B., 1915; M.A., 1916; mem.: Theta Chi; m. Reba Louise Prettyman, July 28, 1920; ch.: Margaret Louise, Mary Elizabeth, Jesse Ohrum, Jr., Joseph William. 1916-24, Hercules Powder Co., Kenvil, N.J., Parlin, N.J., nitrocellulose dev., supt., chf. chem., chem. dir.; 1924-36, Devoe & Raynolds Co., Inc., Louisville, Ky., prod. mgr., mgr. indust. res. labs.; 1936-42, Arco Co., Cleveland, Ohio, tech. dir., dir. indust. sales, v.p.; 1942 to date, mgr. prod. appl., synthetic dept., Hercules Powder Co. Res. in factors influencing viscosity of cotton cellulose, nitrocellulose surf. coatings, effect of such changes on performance values, flame-proofing mechanisms for heavy textiles. Contrib. extens. to sc. and tech. jls. Mem.: A.C.S., Armed Forces Chem. Assn., Fed. Paint & Varnish Prodn. Clubs, Del. State Bd. Education. Club: Pendennis (Louisville, Ky.). Hobby: music.

SMALL, Lyndon Frederic, scientist dir., Natl. Institutes of Health, Bethesda 4, Md.; res. 8950 Greentree Rd., Bethesda 14.
Org. chem.; b. Boston, Mass., Aug. 16, 1897; s. of Frederick Eugene and Amanda Edmunds (Corey) Small; ed. Dartmouth Coll., B.S., 1920; Harvard U., A.M., 1922, Ph.D., 1926; Sheldon Travelling Fellow, U. of Munich, 1926-28; mem.: Sigma Xi (U. of Va.), Alpha Chi Sigma, Phi Beta Kappa; m. Marianne Clayton Brown, Dec. 30, 1921; ch.: Donald Clayton, Ruth Farren. 1922-23, chem. instr., M.I.T., Cambridge, Mass.; 1923-25, teaching fellow, Harvard U., Cambridge, Mass.; 1926-28, fellowship, Munich, Germany; 1928-39, res. assoc., U. of Va., Charlottesville, Va.; 1929-39, res. dir., Natl. Res. Council, Wash., D.C.; 1939-48, hd. chem., Natl. Institutes of Health, Public Health Service, Federal Security Agency, Bethesda, Md.; 1948 to date, scientist dir., Public Health Service, Bethesda. Contrib. to chem. jls. on narcotics & analgesics. Author: "Chem. of the Opium Alkaloids" 1932; "Studies on Drug Addiction" 1938. Mem.: German Chem. Soc. (formerly, Berlin, Germany), A.C.S. (Wash., D.C.), Natl. Acdy. of Sc. (Wash., D.C.), Wash. Acdy. of Sc. (Wash., D.C.). Edit., "Journal of Org. Chem.," 1938 to date.

SMALL, Samuel W., plant mgr., Reichhold Chems., Inc., So. San Francisco, Calif.; res. 1036 Blandford Blvd., Redwood City, Calif.
Chem. plant mgr.; b. Wallacetown, Ontario, Canada, Oct. 5, 1898; s. of James and Mary Jane Small; ed. B.Sc. Chem., Queen's U., Kingston, Ont., Canada, 1925; m. Pearle V. Small, June 19, 1926. Paint, Varn. Contr., Ford Motor Co., 1925-28; Akron Varn. Co., 1928-29; Reichhold Chems, Inc. 1929 to date. Clubs: Golden Gate Paint, Varn., Lacq. Mfg. Assn. (San Francisco), Golden Gate Paint, Varn. Prod. Club. Hobbies: flower gardening.

SMALLEY, Dave E., exec. secy., gen. mgr., Continental Car NaVar Corp., East National Ave., Brazil, Ind.; res. 413 N. Meridian St., Brazil, Ind.
Exec.; b. Rich Hill, Mo., Jan. 25, 1885; s. of David E. and Mary E. Smalley; ed. Rich Hill, Mo., H.S., K.C. Schl. Phar., Int. Correspondence Schls.; m. Beryl B. Booth, Nov. 17, 1915. Drug clerk from 1905-07 in Kansas City, Mo.; same position from 1907-09 in Rich Hill, Mo.; mgr., Opera Drug Co. Inc., 1909-14, in Rich Hill; pres. Opera Drug Co. 1914-22; secy. and gen. mgr., Continental Car NaVar Corp., 1922 to date. Secy. & dir. Rex Cleanwall Corp. Dev. many formulae of prods. now marketed; most of this wk. done in 1920s and early 1930s; contrib. many arts. to trade and sc. jls. on floor treatment matls. 1949, pres., Clay County T.B. Assoc., 1950, v.p. Clubs: Elks, Kiwanis. Hobbies: writing; besides above arts, writes for Kiwanis Mag. and writes a monthly edit. for Floorcraft Mag., of which is ed.; contrib. edit. Buildings Magazine; pub. 3 edition novel, "Stumbling," 1935, made into moving picture by Columbia Picts.

SMART, Maxwell Danford, plant mgr., M.W. Parsons & Plymouth Organic Laboratories, Inc.,

59 Beekman St., New York, N.Y.; res. Winona Ave., Lincoln Park, N.J.
Chem.; b. England, Jan. 24, 1915; s. of Walter C.H. and Irene Smart; ed. Lafayette Coll., Easton, Pa., Chem. (major), 1936; m. Dorothea G. Fritts, Apr. 20, 1940; ch.: Eric, David. 1947 to date M.W. Parsons & Plymouth Organ. Labs., Inc., plant mgr., Brooklyn, N.Y.; 1956, Whitehall Phar. Co., New Haven, Conn. prod. mgr.; U.S. Rubber Co., Marion, Ohio, production supt.; Atlas Powder Co., Ravenna, Ohio, shift supvr.; Texas Co., Beacon, N.Y., chem. Mem.: A.C.S., Cos. Chems., Tech. Comm., N.L.G.I., Scientific Section—T.G.A.

SMATKO, Joseph Stephen, asst. prof., tech. conslt., dept. chem. engrg., U. Md., College Park, Md.; res. Old Colesville Rd., Hyattsville, Md., & 157 Ridge Ave., Yonkers 3, N.Y.
Teach., conslt. in corrosion, electrochem.; b. Fort Edward, N.Y., Sept. 15, 1915; s. of John G. and Anna Matochick Smatko; ed. Columbia Coll., B.S. 1936; Columbia U. Engrg. Schl., Ch.E., 1937; Columbia U. (grad. faculties, pure sc.) Ph.D. Chem. Engrg. 1948; mem.: (hon.) Tau Beta Pi, Sigma Xi, Phi Lambda Upsilon. 1937-40 Taylor Chem. Corp., Penn Yan, N.Y., plant engr.; 1940-41, C.C.N.Y., instr. chem. engrg.; 1941-42, Columbia U., instr. explosives tech. under E.S.M. D.T. progm.; 1942-43, asst. dept. chem. engr., unit operations lab.; 1942-44 off., sc., res., dev., comm. on med. res., conslt. on corrosion resistant, human bone, fixation plates; 1943, Internatl. Minerals & Chems. Corp., N.Y., conslt. on corrosion resis. matls. for Chlorate Cells; 1943-44, Acheson Colloids Corp., Port Huron, Mich., conslt. on corrosion resist., dry lubricating coatings for ordnance matls., very high temp. rapid grafitization procs.; 1945-46, field inf. agency tech. of Tech. Ind. Intell. Bd. under Joint Chfs. of Staff, Army & Navy, sc. conslt., rare & precious mtls. electrochem., chlorine, uranium; 1948-49, Army Engr. Bd., Ft. Belvoir, Va. conslt.; 1948 to date, v.p., Kip Electronics Corp., N.Y.C.; 1948 to date, U. Md., dept. chem. engrg., asst. prof.; 1950 to date conslt. activities. Res. in test meth., evaluated corrosion resis. properties of acceptable metls. for human bone fixation plates, dev. electrolytic meth. making uranium diboride, hardest synth. subs., devised new proc. for ultra-refin. uranium ores, new proc. for making very pure UO3. Contrib. extens. to sc. and tech. jls. Co-author: "Bone Fixation and the Corrosion Assistance of Stainless Steels to the fluids of the Human Body," 1948. Mem.: A.A.A.S. (fellow), A.C.S., Sc. Serv., E.S., A.A.U.P. (hon.), Tau Beta Pi, Sigma Xi, Phi Lambda Upsilon. Clubs: Chem. (N.Y.), Columbia Engrg. Schl. Alumni Assn., Newman Club Alumni Assn. (N.Y.). Hobbies: photography, golf, mt. climbing.

SMIDDY, Harold F., v.p., gen. mgr., chemical & air conditioning depts., Gen. Elec. Co., 1 Plastics Ave., Pittsfield, Mass. & 5 Lawrence St., Bloomfield, N.J.; res. 340 Riverside Drive, N.Y. 25, N.Y.
V.p., dept. gen. mgr.; b. Southborough, Mass., June 3, 1900; s. of William and Catherine (Eagan) Smiddy; ed. M.I.T., 1920, B.S. Elec. Engrg.; Alex. Hamilton Inst., 1923-25, Bus. Admin.; m. Lois E. Mixer. 1920-21 Pub. Serv. Elec. Co., Newark, cadet engr.; 1921-30 West Penn Power Co., Pitts., Pa., 6 mos. serv. engr.; 19 mos. asst. distrib. engr.; 40 mos. asst. comm. mgr.; 11 mos. asst. to v.p.; 3 mos. asst. comm. mgr.; 20 mos. operating mgr.; 1930-35, Elec. Bond and Share Co., N.Y., 1¼ yrs. asst. to v.p.; 2 yrs. asst. to exec. v.p.; 2½ yrs. hd. comm. dept.; 1935-42 Booz, Allen & Hamilton, N.Y., 1 yr. conslt. engr.; 4 yrs. gen. partner, natl. mgt. & indust. engr. firm; Mar., 1948 to date, Gen. Elec. Co.; pres. staff, dept. gen. mgr., v.p.; dir.: Internatl. Gen. Elec., Gen. Elec. Credit Corp. Mem.: A.I.E.E., S.A.M. (v.p.), Reg. Prof. Engr. (N.Y. State, Mass., Ill.). Clubs: Union League, M.I.T. (N.Y.), Advertising and Sales Exec. Clubs of N.Y., Chicago, Mohawk, Schenectady, N.Y.

SMIDTH, Leonard, tech. dir., Sylvan Plastics, Inc., 350 Fifth Ave., N.Y., 1, N.Y.; res. 536 W. 113th St., N.Y. 25.
Chem.; b. Schulenburg, Texas; s. of Frederick W. and Gertrude A. Smidth; ed. Houston, Texas high schls.; B.A., Rice Inst., 1921; M.A., 1923; Ph.D., 1925, Columbia U. 1925-27 E.G. Budd Mfg. Co., Phila., Pa. res. chem.; 1927, Pyridium Corp., Yonkers, N.Y., chem. engr.; Aldur Corp., pres., 1927-32 & 1936-38; 1933-34, Glycolite Corp., Phila., Pa., conslt.; 1934-36, Geo. A. Lippincott Co., Phila., Pa., res. chem.; 1938-39, Freeport Sulphur Co., conslt., res. chem.; 1940, Oval Wood Dish Co., N.Y., conslt.; 1940-42, dir., N.Y. Lab. Sylvania Ind. Corp. 1942 to date tech. dir., Sylvan Plastics, Inc., Am. Viscose Co., pres. Luco Prods. Corp. 1928-45. Res. in resin molding compositions, coatings adhes., impregn., synth. resins, plastics. 18 U.S. patents. Mem.: A.I.C. (fellow), A.A.A.S. (fellow), S.P.I., A.C.S., T.A.P.P.I., Sigma Xi. Hobbies: hiking, camping, oil painting.

SMITH, Allen Stratton, prof., U. of Notre Dame, Notre Dame, Ind.; res. 1215 Woodlawn Blvd., South Bend, Ind.
Chem. engr.; b. Oglesby, Ill., Feb. 10, 1906; s. of Birney M. and Maye B. (Stratton) Smith; ed. U. of Minn., B.S. 1926, Ch.E. 1935; U. of Louisville, M.S. 1931; U. of Mich., Ph.D. 1940; mem.: Sigma Xi, Phi Lambda Upsilon; m. Wilma J. Davis, Jan. 9, 1928; ch.: Phyllis Stratton, Althea Maye. Atmospheric Nitrogen Corp., chem. engr., 1927-31; U.S. Bur. of Mines, assoc. physical chem., 1931-36; U. of Mich., teaching fellow, 1936-38; Blaw-Knox Co., res. dir., 1938-46; U. of Notre Dame, prof., 1946 to date; consltg. chem. engr. 1946 to date. Res. & Dev. Corp., Chicago (staff conslt.). Res. on separation processes. Mem.: A.C.S., A.I.Ch.E., A.A.U.P.

SMITH, Arnold H, pres., Monsanto (Canada) Ltd., 425 St. Patrick St., Ville La Salle, Que., Canada; res. 482 Roslyn Ave., Westmount, Que.
Exec.; b. Akron, O., May 29, 1896; s. of John B. and Louisa M. Smith; ed. recd. B.S., chem. engrg., Armour Inst. of Tech. in Chicago, 1917; mem.: Tau Beta Pi, Sigma Kappa Delta; m. Elinor Smith, July 2, 1921; ch.: Esther Arnold, Sandra Sinclair, Nancy Orme, Prudence Marvin. Chem. Rubber Dept., of the Bd. of Standards, Washington, 1917-19; Res. Labs., Goodyear Tire & Rubber Co., Akron, O., 1919-21; chf. chem., Thermoid Rubber Co., Trenton, N.J., 1921-22; salesman and supvr., Rubber Service Dept., Monsanto Chem. Co., 1922-29; dir. of British subsidiary, Monsanto Chemicals Ltd., 1929-40; mgr. pet. chemicals dept., asst. dir. and then dir., of foreign dept. of Monsanto Chem. Co., 1940-46; acting mng. dir., Monsanto Chemicals (Australia) Ltd., 1946-48; exec. v.p., Monsanto (Canada) Ltd. and then pres. of Monsanto (Canada) Ltd., 1948 to present. During second World War served a yr. and a half with the W.P.B. in Washington. Mem.: A.C.S. (for 10 yrs., 1918-28 secy. of rubber div., chmn. of div. from 1928-29), S.C.I. (chmn. Canadian sect.). Clubs: Montreal, Beaconsfield Golf.

SMITH, Arthur Henry, prof. physiolog. chem., Wayne U. College of Med., 1512 St. Antoine, Detroit 26, Mich.; res. 2240 Iroquois, Detroit 14.
Instr.; b. Sandusky, Ohio, Jan. 27, 1893; s. of Norman T. and Mary Appell Smith; ed. B.Sc.

Ohio St. U. 1915; M.S. 1916; Ph.D. Yale U. 1920; mem.: Alpha Chi Sigma; m. Adeline C. Thomas, Apr. 8, 1922; ch.: Caroline T. Schaub. U.S. Bur. Mines, 1917; Chem. Warfare Serv., U.S.A., 1917-19; asst., Rockefeller Inst. Med. Res. 1919; instr., asst. prof., assoc. prof., Yale U. 1920-37; prof. Wayne U. Coll. Med. 1937 to date. Res. in nutrit. biochem., water bal., vitamins, minerals, metabol, organ. food acids. Contrib. extens. to sc. and tech. jls. Mem.: Phi Lambda Upsilon, Sigma Xi, A.S.Biol.C., A.I.N., A.C.S., S.E.B.M. Hobbies: gardening, music.

SMITH, Arthur Levern, tech. dir., Chatham Mfg. Co., Elkin, N.C.; res. Jonesville, N.C.
Chem.; b. Coatesville, Pa., Oct. 7, 1906; s. of Robert S. and Ada May McFarland Smith; ed. Lehigh U., B.S. Ch.E. (hon.), M.S.; m. Ruth E. Entrekin, Sept. 27, 1939. Eavenson & Levering Co., Camden, N.J., chem.; North Star Woolen Mills Co., Minneapolis, Minn., chf. chem.; Harris Res. Labs., Wash., D.C., res. assoc.; Chatham Mfg. Co., tech. dir. Res. in evaluation of shrink resistant meths., for Army, foundation wk. for new meth. now being used by them. Co-author, 11 sc. papers, 2 patents. Mem.: A.C.S., A.A.T.C.C., A.S.T.M., Sigma Xi, Tau Beta Pi. Hobbies: music, woodworking, photography.

SMITH, Carroll Dunham, pres., Carroll Dunham Smith Pharmacal Co., 401 Codwise Ave., New Brunswick, N.J.; res. Llewellyn Pk., West Orange, N.J.
Mfg. pharmacist; b. Irvington, N.Y., Feb. 15, 1873; s. of Henry M. Smith, M.D., and Mary E. Moorhouse Smith; ed. N.Y. Pubic School, Cooper Union Inst.; m. Agnes Rostelle, Jan., 1904; ch.: Elizabeth, Carroll, Jr., Talbot, de Veaux. Office boy, Sun Fire Insurance, 1888-89; general worker, Smith's Homeopathic Pharmacy, 1889-1900; pres., Carroll Dunham Smith Pharmacal Co., 1906 to date. Mem.: N.Y. Bd. of Trade, Drug, Chemical & Allied Trade Section, Am. Pharmaceutical Mfrs. Assoc., Am. Drug Mfrs. Assoc. (pres., 2 terms).

SMITH, Casper, pres., Smith Chemical & Color Co., Inc., 55 John St., Bklyn. 1, N.Y.; res. 300 E. 57th St., New York 22, N.Y.
Exec.; b. Jan. 4, 1890; s. of Bernard and Mary R. Smith; ed. high schl., Washington, D.C., Pratt Inst. of Tech., Bklyn., N.Y.; m. Ruth Janon, Sept. 7, 1924; ch.: Barbara E., Eugene Z. Dir. of sales, Katzenbach & Bullock Co., 1911-17; pres., Smith Chemical & Color Co., 1918 to date. Res. in pigments. Copyrighted brochure "Getting Results With Color in Concrete & Cement Products." Mem.: A.C.S., New York Paint, Varnish and Lacquer Assoc. Hobbies: antiques, rare books, travel.

SMITH, Charles D., chf. project engr., Monsanto Chem. Co., plastics div., Springfield 2, Mass.; res. 14 Mandalay Rd., Springfield 8.
Chem. engr., in process design; b. Evansville, Ind., Mar. 14, 1915; s. of Tug W. and Florence D. Smith; ed. B.S., Ch.E., Purdue U., 1937; M.S., Ch.E., same, 1939; m. Miriam V. Trueblood, July 7, 1939; ch.: Charles T., James R., Patricia Sue. Tech. staff, Michigan Alkali Co., 1937-38; plastics div., Monsanto Chem. Co., 1939 to present. Held following positions in Monsanto Chemical Co.: color res., 2 yrs.; prodn. supervis. sheet plastic finishing, 4 yrs.; maintenance supt., 1 yr.; process design engr., 2 yrs.; chf. project engr., 2 yrs. Pioneered coloring of polystyrene, dev. processes for U.S.A.A.F. material, operated plancor No. 2103, sr. design engr. for Polyvinyl chloride polymerization & cmpd. units, active dir. of large project engineering group. Mem.: Registered Prof. Engr., Mass. No. 2404, A.I.Ch.E. (active). Hobbies: chemical and mech. dev., mechanical maintenance.

SMITH, Charles J., Jr., prod. mgr., Lubrizol Corp., Box 3057, Euclid Sta., Cleveland 17, Ohio; res. 1346 Dorsh Rd., S. Euclid 21, O.
Chem. engr.; b. Bellevue, Pa., June 17, 1915; s. of Charles J., Sr. and Catherine H. Smith; ed. Case Inst. Tech., B.S. Chem. Engrg., 1937; mem.: Zeta Psi; m. Lois H. Smith, June 14, 1940; ch.: Clifford Charles, Barbara Ann. Calco Chem. Co., Bound Brook, N.J., July, 1937-Oct., 1937, stud. engr.; Lubrizol Corp., Cleveland, Ohio, 1937-40, dev. engr.; 1940-43 pilot plant supvr.; Jan., 1943 to date prod. mgr. Mem.: A.C.S., A.I.Ch.E. Hobby: model railroading.

SMITH, Charles Lee, mgr., Customer Res., Continental Can Co., 4645 W. Grand Ave, Chicago 39, Ill.; res. 634 N. Elmwood, Oak Park, Ill.
Food tech.; b. Chicago, Dec. 28, 1907; s. of Xen C. and Nellie A. Smith; ed. U. Ill., 1929, B.S. Chem.; m. Mary Frances Fawcett, Aug. 17, 1930; ch.: Virginia, Julia, David, Leonard. Continental Can Co., res. dept. 1929, jr. chem.; canning tech., sect. chf., mgr., field serv. to date. Mem.: I.F.T.

SMITH, Clarence Albert, tech. dir., agr. dept., spec. prods. div., Stand. Brands Inc., 595 Madison Ave., N.Y. 22, N.Y.; res. 82 N. Summit St., Bergenfield, N.J.
Biochem.; b. Northampton, Mass., Oct. 14, 1888; s. of Herbert C. and Rosine (Baker) Smith; ed. Mass. Agr. Coll. (now U. Mass.), B.S., 1911; Jefferson Med. Coll., M.S., 1914; Ph.D., 1916; mem.: Q.T.V.; m. Helen M. Dwight, Dec. 30, 1915; ch.: Marion Toffic, Richard Norman, Steven Dwight. Dept. agr. chem., Pa. St. Coll., 1911-13; teach., res., dept. physiol. chem., toxicol, Jefferson Med. Coll., 1913-23; Food Res. Lab., 1923-26; Fleischmann Co. (merged with Stand. Brands), 1926 to date. Num. pubs. on digestion, nutrition. Mem.: A.C.S., A.A.A.S., A.Phil.S., S.E.B.M., Am. Inst. City of N.Y., Biochem. Discussion Group (perman. secy.) N.Y. Acdy. Sc., An. Nut. Res. Council (secy. 1949 to date), Amateur Astron. Assn. Hobbies: fishing (trout, bass), amateur astronomy, bird study.

SMITH, David F(rederick), dir. of dev., Davis & Geck, Inc., 57 Willoughby St., Bklyn. 1, N.Y.; res. R.D. 1, Box 34, Bound Brook, N.J.
Chem.; b. Springdale, Conn., Sept. 10, 1897; s. of Fred and Lillian E. Smith; ed. Calif. Inst. of Tech., B.S.Ch.E., Ph.D. 1922; 1 yr. European Universities; mem.: Alpha Chi Rho, Sigma Xi; m. Mary Louise O'Hara, 1927; ch.: D. Frederick, Jr., James O., Peter John. Teaching & res. fellow, Calif. Inst. Tech., 1920-22; res. asst. to Prof. A.A. Noyes, C.I.T., 1919; instr. in chg., Phys. Chem. Lab., C.I.T., 1922-23; res. assoc. & fellow of N.R.C., U. of Calif., Berkeley, 1923-26; supervising chem., U.S. Bur. of Mines, 1926-30; dir. of res., A.O. Smith Corp., 1930-32; prof. of chem., U. of Buffalo, 1932-39; chem. adviser, Hooker Electrochem. Co., 1932-39; conslt., Hercules Powder Co., 1934-36; div. chf., U.S.D.A.; dir. of dev., Mich. Alkali Co.; dir. res. dev. & control, mem. bd. of dir., Johnson & Johnson; v.p. & dir., Res. Foundation, 1942-48; chmn., dept. chem. engrg., Mich. State Coll., 1950. Original discoverer Oxo Process Reaction; originated molecular collision theory of activation in chem. react.; dev. com. meths. for purification of caustic soda & soda ash; phar. prods., surgical supplies. Author: Internatl. Critical Tables, Vol. III; 33 publ. sc. papers & pats. Mem.: A.C.S., A.I.Ch.E., A.A.A.S. (fellow), A.Phar.A., T.A.P.P.I., Am. Soc. Bact., A.S.T.M., A.A.A.C., Chem. Comm. A.G.A. Hobbies: sports, farming.

SMITH, Earl Davis, asst. prof. of chem., Florida Southern College, Lakeland, Fla.; res. 2309 Coventry Ave., Lakeland.
Coll. prof., chem. engr., chem.; b. Longview,

Texas, Aug. 25, 1900; s. of John Tyson and Nannie (Skaggs) Smith; ed. B.S. in chem. engrg., U. of Texas, 1922, M.S. in chem. engrg. 1924; mem.: Phi Lambda Upsilon, Tau Beta Pi, Sigma Xi; m. Elliott Luella Welch, June 10, 1924. Tutor of physical chem., U. of Texas, 1921-24; res. chem., Al. Co. of Am., 1924-28; operating chem. engr., Hercules Powder Co., 1928-40; supt. of acids & nitroglycerin prods., U.S. Govt. Ordnance Plants, 1940-48; chem. prof., Fla. Southern Coll., 1948 to date. U.S. pat. 1,873,348, prod. of basic al. sulfate; 2,345,507, prep. of chlorinated rubber. Mem.: A.C.S., Fla. Acdy. of Sc., A.I.Ch.E., Kansas Prof. Engr. No. 1244. Hobbies: fishing, home movies.

SMITH, Earle Clement, chf. metallurgist, Republic Steel Corp., 1607 Republic Bldg., Cleveland 15, Ohio; res. 3052 Fairmount Blvd., Cleveland Heights 18, Ohio.
Steel; b. New Brighton, Pa., Jan. 20, 1891; s. of Perry A. and Sula (McLean) Smith; ed. Ohio State U., 1913, Engr. Mines; Case Inst. of Tech., 1947, hon. D Sc.; m. Agnes Mellon, 1919; ch.: Eleanor, William M., David (dec.), Margery H., E. Stephen. Steel since 1914; Republic Steel Corp., 1919 to date, chf. metallurgist, 1932 to date. Mem.: Iron & Steel Inst., Inst. of Metals (Brit.), Am. Iron & Steel Inst., A.S.M., Chem. Soc., A.I.M.M.E., Am. Welding Soc., Am. Foundrymen's Soc., Sigma Xi, Am. Soc. for Engrg. Ed., Acdy. of Political Sc. Awards: Gold M. of A.S.M., Lamme M. Ohio State U.; Inst. M. of Am. Iron & Steel Inst. Club: Union.

SMITH, F. Clayton, retired chem. engr.; res. 3267 Aberdeen Rd., Shaker Heights 20, Ohio.
Chem. engr.; b. Grafton, Ohio, June 6, 1889; s. of Frederic C. and Alfretta (Ackley) Smith; ed. Elyria H.S. (Ohio); Ohio State U., B.S. Chem. Engrg.; mem.: Alpha Chi Sigma; m. Ethel M. Robinson, June 30, 1915. All the following with Harshaw Chem. Co.: anal. chem, 1913-16 (Elyria); chf. chem., 1917-23 (Elyria); supt. ceramic color dept., 1923-29 (Elyria); res. and tech. service, 1929-35 (Cleveland); mgr. tech. service & sales, 1935-41; research, 1941-45; in chg. physical testing, 1945-Dec. 31, 1949. Secy., Citrox Labs. Inc. (Chesterland, Ohio). Author of ceramic section of all editions of "Handbook of Chemistry," Lange. Mem.: A.C.S., Prof. Engrs., Masons, Kiwanis. Hobbies: fishing, big game hunting, golfing.

SMITH, F(rancis) LaVerne, chf. chem., Hancock Oil Co., 2828 Junipero St., Long Beach, Calif.; res. 8508 E. Ramona Ave., Bellflower, Calif.
Chem., chem. engr.; b. Ennis, Texas, Nov. 12, 1901; s. of Charles B. and Fannie B. Smith; ed. M.I.T., B.S. chem. engrg. 1923, M.S. chem. engrg. 1924; m. Dorothy I. Smith, July 20, 1932. 1925-29, asst. chem. engr., Gulf Oil Corp., Pt. Arthur, Tex.; 1929 to date, chf. chem., Hancock Oil Co., Long Beach, Calif. Pet. processing; mfr. of sulfur from hydrogen sulfide. Contr. to tech. jls.; pamphlet "Walking Without Legs." Mem.: A.C.S., A.A.A.S., Calif. Natural Gasoline Assn., Calif. Acdy. of Sc. Dir., Bellflower Home Garden Water Co. Clubs: Elks, Toastmaster. Hobby: travel.

SMITH, Frank J., gen. mgr., Pan Am. Chems., Pan Am. Refining Corp., 122 E. 42, N.Y.C., N.Y.; res. 676 Gramatan Ave., Mt. Vernon, N.Y.
Chem. engr.; b. Kans. City, Mo., Oct. 22, 1908; s. of Edward J. and Mamie M. Smith; ed. B.S. Chem. Engrg., U. Ill. 1930; mem.: Sigma Xi, Phi Lambda Upsilon; m. Ruth Pauline White, June 4, 1936; ch.: Judith Ann, Frances Penelope, Duff Cooper. Chem. engr., Stand. Oil Co., Ind. 1930-37; plant mgr., Jos. E. Seagram & Sons (Calvert Distilling Co.) 1937-41; chf. engr. 1942; asst. chf. chem. engr., Barrett Co., 1942; dir. chem. engrg. Pan Am. Refining Corp. 1942-47; mgr. chems. div., 1947 to date. Priv. conslt. 1942-44; ethyl, alcohol plant des., operation. Mem.: A.C.S. (act.), A.I.Ch.E. (act.), A.W.P.A., C.C.D.A., Forest Prods. Res. Assn. Club: Chem. (N.Y., res. mem.). Hobby: electronics.

SMITH, Franklin Danford, asst. dir., org. dev. dept., Monsanto Chem. Co., 1700 S. 2nd St., St. Louis 4, Mo.; res. 842 Newport, Webster Groves 19, Mo.
Chem.; b. Burton, Ohio, Jan. 12, 1903; s. of William C. and Emma C. Smith; ed. Hiram Coll., A.B., 1925; U. Mich., M.A., 1927; Ph.D., 1929; post grad. fellowship; mem.: Pi Kappa Delta, Phi Lambda Upsilon, Gamma Alpha, Sigma Xi; m. Eugena Irene Mosher, June 18, 1927; ch.: Alice Irene Smith Horner, Frederick Danford, Edgar William, Ethel Gwen. High schl. tchr., Hudson, Ohio, 1925-26; Sept., 1930-May 1, 1932 res. chem., Monsanto, St. Louis; May 1, 1932-Sept. 3, 1943, tech. serv. dept., Monsanto, St. Louis; Sept. 3, 1943-Jan. 1, 1945, org. dev. dept.; Jan. 1, 1945 to date asst. dir., org. dev. dept. Coauthor of several papers on org. arsenic compds., phthaleins. Mem.: A.C.S. Hobbies: scouting, farming.

SMITH, Frederick Buren, hd., dept. soils, microbiol.; Agr. Exp. Sta., Gainesville, Fla.; res. 329 Coll. Court, Gainesville.
Prof.; b. Hartwell, Ga., July 11, 1896; s. of Henry Harris and Laura Buffington Smith; ed. 1922 U. Ga., B.S.; 1923 Ia. St. Coll., M.S.; 1926 Ph.D.; m. Marjorie Nichols Willsie, Oct. 18, 1923. Sc., chem. biol., high schl. Vivian, La., 1923-24; asst. agron., soils, Colo. Agr. Coll. 1926-27; asst. chf., soil chem. and bacteriol; res. assoc. prof. soils, Ia. State Coll. 1927; 1932-37; prof. soils and microbiol., U. Fla., 1937-44; hd., dept. soils and microbiol., 1944 to date. Res. in soil chem., fixation of phosphorus and potassium in soils; decomp. organ. matter in soils; base exch. in soils. Mem.: Sigma Xi (pres. Fla. Chpt. 1949); A.C.S., I.A. Chem. (fellow), Soil Sc. Soc. Am., S.A.B., Fla. Acdy. Sc., A.A.A.S. (fellow), Alpha Zeta, Gamma Sigma Delta, Phi Sigma, Phi Kappa Phi. Club: Am. Legion. Hobbies: amateur astronomer, gardening.

SMITH, Frederick G., assoc. prof. of botany, botany dept., Iowa State Coll., Ames, Iowa; res. 376 Pammel Ct., Ames.
Biochem.; b. Oak Park, Ill., Aug. 16, 1917; s. of Fred. G. and Ferne K. Smith; ed. B.S., U. of Chic., 1939; U. of Wis. 1941, Ph.D. 1943; mem.: Phi Beta Kappa, Phi Lambda Upsilon, Gamma Alpha, Sigma Xi; m. Ursula A. Alberg, Dec. 3, 1943; ch.: Christine. Res. asst. in biochem. & plant pathology, U. of Wis., 1939-44; asst. prof. of chem., Cornell U., Geneva, N.Y., 1944-47; res. assoc. in biochem., U. of Rochester, 1947-48; assoc. prof. of botany, Iowa State Coll., 1948 to date. Biochem. of plant diseases; plant hormone action; plant respiration & respiratory enzymes; fungus physiology. Mem.: A.C.S., Am. Soc. of Plant Physiologists, A.A.A.S., Iowa Acdy. of Sc.

SMITH, George E(dson) P(hilip), Jr., hd., org. chem. group, res. lab., Firestone Tire & Rubber Co., Akron, Ohio; res. 125 Morningside Dr., Akron 3, Ohio.
Org. res. chem; b. Oct. 31, 1905, Tucson, Ariz.; s. of George E.P. and Maude North Smith; ed. U. Ariz., B.S., 1926; Stanford U., Ph.D., 1930; mem.: Kappa Sigma, Alpha Chi Sigma, Phi Lambda Upsilon (hon.), Phi Kappa Phi (hon.),

Phi Beta Kappa (hon.), Sigma Xi (hon.); m. Floy Elliott McCurrie, June 25, 1931; ch.: Vivienne North, G.E. Philip, III, William E.S. Asst. chem., U. Ariz., 1923-24; teach. fellow, Stanford U., 1927-29; Shell Dev. Co., res. fellow, Stanford U., 1929-30; instr. chem., Yale U., 1930-35; res. chem., Firestone Tire & Rubber Co., 1935 to date, hd. org. chem. group, since 1943. Res. contribs. in fields of rubber vulcanization accelerators, antioxidants, tackifiers, reclaiming agents; organic nitrogen compounds. Co-author: "Some Aspects of Am. Chem. Ind." (booklet), 1944. Mem.: A.C.S., A.A.A.S. Clubs: Akron Torch, Akron Friends of Music. Hobbies: music (clarinet), tennis, birds, wild flower identification.

SMITH, George McClellan, Jr., assoc. prof. chem., Vanderbilt U., Nashville, Tenn.; res. Cumberland Circle, Donelson, Tenn.
Teacher, chem.; b. Fayetteville, Tenn., Dec. 28, 1903; s. of Geo. M., Sr. and Edna S. Smith; ed. Bryson Coll., B.S. 1924; Vanderbilt U., B.A. 1926, M.S. 1927; U. of Mich., Ph.D. 1937; mem.: Gamma Alpha (U. of Mich.); m. Geraldine Steele, June 16, 1939; ch.: Jerry Katherine. Prof. math. & athletic coach, Etowah, Tenn. H.S., 1924-25; instr., 1927-37, asst. prof., 1937-44, assoc. prof. 1944 to date, Vanderbilt U., asst. dean of men, 1937-46.

SMITH, Gilbert B(rown) L(orenzo), hd. chem. div., U.S. Naval Ordnance Test Station, Inyokern, China Lake, Calif.; res. 507-A Saratoga, China Lake, Calif.
Chem.; b. Mansfield, Catt. Co., N.Y., Mar. 17, 1894; s. of Ward B. (deceased) and Carrie Brown Smith (deceased); ed. A.B., Colgate U. Hamilton, N.Y., 1915, M.A., U. of Wis., Madison, Wis., 1916, Ph.D., Cornell U., Ithaca, N.Y., 1923; mem.: Alpha Sigma Phi; m. Mary Gruwell, Nov. 29, 1923; ch.: Robert. Asst. chem., Texas Agr. Exp. Sta., 1916-17; asst. chem., Wisconsin 1919-21; Heckscher Res. asst. inorg. chem., Cornell, 1922-24; asst. prof., chem., St. Johns College, Md., 1924-25; asst. prof., anal. chem., 1925-37; assoc. prof., anal. chem., 1937-42; prof. anal. chem., 1942-46, Polytechnic Inst. of Brooklyn; hd. (acting), inorg. chem. sec., July, 1946-July, 1947; hd., inorg. chem. sec., July, 1947-July, 1948; hd., chem. div., U.S. Naval Ordnance Test Station, China Lake, Calif., July, 1948 to present. Res. in asido-dithiocarbonic acid, selenium, monoaryl guanidines; properties of aryl biguanides; preparation and reduction of nitroguanidine; selenium oxychloride as a solvent; the selenyl chlorosystem; aminoguanidine; separation of gold and tellurium; determination of zinc; catalytic hydrogenation; electrochem. reduction; chemistry of liquid and solid rocket propellants; 68 publications in these fields. Mem.: Sigma Xi, Phi Kappa Phi, Phi Lambda Upsilon, R.E.S.A., A.C.S., A.A.A.S. (fellow), A.I.C. (fellow). Club: Cosmos (Washington, D.C.). Hobby: fishing.

SMITH, Grant Warren, prof. of chem. and dir. of gen. chem., Penn. State Coll., State College, Pa.; res. 154 West Ridge Ave., State College.
Chem. prof.; b. O'Neill, Nebr. Feb. 22, 1907; s. of Grant W. (dec.) and Grace E. (Noll) Smith; ed. B.A., Grinnell Coll., 1928 (Archibald Scholarship Prize); Ph.D., U. of Minn., 1932 (Shevlin Fellow); M.I.T., summer, 1938 (guest student); mem.: Alpha Chi Sigma, (Beta Chapter); m. Lucile E. Rathmann, 1931; ch.: Shirley Lou, Grant Warren. Asst. in chem., U. of Minn., 1928-30, 1931-32; chem., Minn. State Highway Dept., 1931 and 1932; instr., Itasca Jr. Coll., (Minn. 1932-34); instr., Grinnell Coll. (1934-35); instr. to asst. prof., U. of Kansas City, 1935-42; sr. chem. and res. supvr., B.F. Goodrich Co., Akron, Ohio (1942-47); conslt., 1947-48; prof. and hd. dept. of chem., U. of N. Dak., 1947-50; prof. and dir. of gen. chem., Penn. State Coll., 1950 to date; res. and pubs. on electrokinetic potentials; adsorption, surface tension by pendent drop method; semimicro analysis; polymerization; complex ammines; moisture content of lignite coal. Mem.: A.C.S., A.A.A.S., A.A.U.P., N. Dak. Acdy. of Sc., Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon. Club: Kiwanis Internatl. Hobbies: photography, music, painting, travel.

SMITH, Gregory, vice pres. and asst. gen. mgr., Eastman Gelatine Corp., 227 Washington St., Peabody, Mass.; res. 18 Orne St., Marblehead, Mass.
Chem. engr.; b. Marblehead, Aug. 29, 1907; s. of William E. and Eliza G. Smith; ed. Bowdoin Coll. 1925-26; M.I.T. B.S. 1930; M.S. 1931; mem.: Tau Beta Pi, Alpha Chi Sigma, Pi Delta Epsilon, Delta Upsilon; m. Doris King, Nov. 28, 1931; ch.: David King. Eastman Kodak 1931-38 staff; 1938-49 asst. supt. gelatine plant; Eastman Gelatine, asst. to g.m., 1949; asst. g.m., 1950; vice pres., 1950 (mem. bd. dirs.). Mem.: A.C.S., A.I. Ch.E., dir. Un. World Council (Boston). Hobbies: sailing, painting.

SMITH, Harold M., principal pet. chem., Pet. Exp. Station, Bur. of Mines, Bartlesville, Okla.; res. 1356 Jennings, Bartlesville.
Pet. chem.; b. Cranston, R.I., June 22, 1901; s. of Arthur William and Harriet Randall (Peckham) Smith; ed. Clark Coll., A.B., 1921, Worcester, Mass.; Clark U., A.M. 1922; m. Marjorie M. Spear, June 28, 1924; ch.: Sibyl Mary, Malcolm Earl, Carolyn. Jr. chem., Bur. of Mines, Bartlesville, Okla., July 23, 1923, asst., assoc., sr. & principal chem., asst. supt. Pet. Exp. Station. Res. on composition of crude oil, fuels, physical & chem. properties of hydrocarbons & pet. fractions; author or co-author of approx. 35 papers. Mem.: A.C.S., A.S.T.M., A.P.I., Okla. Acdy. Sc. Award: Distinguished Serv. M. of Dept. of Interior. Hobbies: reading, gardening.

SMITH, Herbert Johnson, consltg. dir. res., Ralston Purina Co., St. Louis, Mo.; res. 6630 Waterman.
Chem.; b. Kosciusko, Miss., Jan. 27, 1882; s. of William Henry and Ellen Douglas Fultz Smith; ed. B.Sc., Miss. St. Coll. 1906; Ph.D., U. Chicago, 1917; m. Laura Rose Carothers, 1912; ch.: Mrs. Roger W. Brown. Asst. St. Chem. of Miss., 1906-09; asst. prof. chem., Clemson Coll., S.C., 1910-11; assoc. prof. chem., Miss. St. Coll. 1912-15; prof. chem., 1917-25; dir. res., Ralston Purina Co., 1925-48; consltg. dir. res., 1948 to date.

SMITH, Hilton Albert, prof. of chem., U. of Tenn., Knoxville, Tenn.; res. Toole Dr., Bearden, Tenn.
Chem. teacher; b. Plymouth, N.Y., Sept. 4, 1908; s. of Roy Leon and Ethel Elizabeth (Lewis) Smith; ed. A.B., Oberlin Coll. 1930; A.M. Harvard U., 1932, Ph.D. 1934; mem.: Alpha Chi Sigma; m. Elizabeth Harvey Zorbaugh, June 28, 1933; ch.: Cynthia Jean, Lewis Harvey, Judith Ellen, Roy Hilton, Charles Leeman. Asst. in chem., Harvard U. 1930-33, post doctoral res. asst. 1934-35; instr. & asst. prof., Lehigh U., 1935-41; prof., U. of Tenn. 1941 to date; conslt., Carbide & Carbon Chem. Corp. 1949 to date. Res. in flds. of chem. kinetics, catalysis, thermodynamics, photochem., adsorption & physical org. chem. Author: "Gen. Chem. Exp." 1937, 2nd edit. 1941. Mem.: A.C.S., Tenn. Acdy. Sc., Sigma Xi, A A. U.P. Hobbies: music, travel.

SMITH, Horace Lilburn, Jr., consltg. engr., food processing bus., 1 N. 5th St., Richmond, Va.; res. 301 Loch Lane, Richmond.

Consltg. engr.; b. Richmond, Va., July 16, 1894; s. of Horace L. and Lillie M. Smith; ed. grad. V.M.I. 1915, B.S., 1921, C.E.; m. Mary Overbey, Oct. 28, 1920; ch.: Horace L., III, Elisabeth Rowland. 1915-17, secy., Horace L. Smith Co., Petersburg, Va. chg. of design; 1917-19, 1st Lt. Corps of Engrs., U.S.A. overseas, promoted to Capt. Feb., 1918; 1925-33, pres., Lee, Smith & Van Devoort, Inc., Richmond, Va. archts. & engrs.; 1933-41 pres., Thermal Engrg. Corp., Richmond, Va.; 1941-43 v.p., Girdler Corp., Louisville, Ky.; 1943-46 Chain Belt Co. chg. of dev. & design of food equipt.; 1946 to date, conslt. engr., food processing business, Richmond, Va. Food Processes, Inc. (pres.); British Thermo-Vactor, Ltd. (London, England) (managing, dir.). Res. dev. & mfr. of equipt. for vacuum deaeration of liquid foods; res. & dev. of high vacuum drying from frozen state of prods. such as orange juice, coffee extract, penicillin, etc.; thermal processing of food prods. Many arts. on deaeration of liquid & semi-liquid food prods., food processing, etc. Mem.: A.S.M.E., A.S.R.E., I.F.T., Va. Soc. of Prof. Engrs., Newcomen Soc. of England, Am. Branch, Sovereign Colonial Soc. Am. of Royal Descent. Award: Dist. Service Cross, W.W.I. Clubs: Country Club of Va., University Club of Milwaukee, Chemists' (N.Y.), Army & Navy (Wash., D.C.). Hobbies: color photography, yachting, foreign travel.

SMITH, Howard Dexter, chf. chem., Father John's Medicine Co., 73-91 Market St., Lowell, Mass.; res. 148 Dalton Rd., Chelmsford, Mass.
Chem.; b. North Scituate, R.I., July 27, 1881; s. of Martin S. and Marcelia (Dexter) Smith; ed. R.I. State Coll., B.S., 1901; B.Ph., Brown U., 1903, A.M., 1904; Ph.D., Tufts Coll., 1906; mem.: Tau Kappa Epsilon (hon. mem.), Phi Psi (text. frat. hon. mem.); m. Grace W. Nye, July 1, 1909; ch.: Dorothy Grace, Margret, Dexter Nye. Instr. in chem., Beloit Coll. Sept., 1906-July 1, 1909; instr. in chem., Lowell Text. Inst., July 1, 1909-July 1, 1918; instr., Lowell Text. Inst. Evening Schl., Oct. 1, 1909-Apr. 1, 1943; chf. chem., Father John's Med. Co., July 1, 1918 to date. Mem.: A.C.S., A.A.A.S. Trustee of Chelmsford, Mass. public libraries.

SMITH, Irwin E., sales mgr., Victor Chem. Wks., 141 W. Jackson Blvd., Chicago 4, Ill.; res. 912 Judson Ave., Evanston, Ill.
Sales mgr.; b. Denver, Colo., Nov. 4, 1894; s. of James and Minnie Utesch Smith; ed. grade, high schls. Denver; m. Della Walton, Nov. 28, 1923; ch.: Shirley May. Apr. 15, 1923 to date var. positions, Victor Chemical Wks. Mem.: Chicago Drug & Chem. Assn. Hobby: golf.

SMITH, Irwin Joseph, Jr., pres., gen. mgr., Surpass Chem. Co. Inc., 1254 Broadway, Albany, N.Y.; res. Osborne Rd., Loudonville, N.Y.
Textile chem.; b. Troy, N.Y., May 28, 1900; s. of Irwin J. and Emma M. (Schmelzer) Smith; ed. Albany Acdy., Albany, N.Y., 1914-18; Rensselaer Polytech. Inst., Troy, N.Y., 1918-19; M.I.T., Cambridge, Mass., 1919-22, S.B. in chem. engrg. 1922; m. Madeleine Louise Bates, Oct. 6, 1923; ch.: Marcia Bates, Irwin J., III. Surpass Chem. Co. Inc., lab. asst. 1923-25, chem. 1925-29, v.p. 1930-39, pres., gen. mgr. 1939 to date. Specialized in short cut bleaching & dyeing meths.; bleaching & dyeing in one operation; holder of several pats. on these developed meths. Mem.: A.A.T.C.C. Club: Schuyler Meadows Club, Inc. (Loudonville, N.Y.). Hobbies: golf, bridge.

SMITH, J. Harold, prof. chem., U. Mass., Amherst, Mass.; res. 23 Phillips St.
Prof. chem.; b. Fielding, Utah, Oct. 5, 1914; s. of Joseph H. and Bertha Jensen Smith; ed. B.S. (high honors), 1936, U. Utah.; M.A., 1938, U. Utah; Ph.D., 1941, U. Wisconsin; m. Lois Ensign, Sept. 10, 1940; ch.: Janet, Stephen Ensign, Sandra, James Harold. Grad. asst., U. Utah, 1936-38; lab. asst., Natl. Bur. Stds., summer, 1937; grad. asst. U. Wis., 1938-41; instr., U. Ill. 1941-43; assoc. prof., U. Mass. 1943-47; prof. 1947 to date. Res. in chem. kinetics, complex ions (5 papers). Mem.: A.C.S., Sigma Xi, Phi Kappa Phi, Phi Lambda Upsilon, Gamma Alpha. Hobbies: winter sports, gardening.

SMITH, John Wm., pres., gen. mgr., Aladdin Labs. Inc., 419-421 S. 6th St., Minneapolis, Minn.; res. Casco Point, Wayzata, Minn.
Exec.; b. Fond du Lac, Wis.; s. of Edward J. and Mary A. Smith; ed. U. of Minn., Law, 1904, LL.B.; m. Florence Saxton, June 23, 1915; ch.: Robert W. 1910-17, pres., Northern Welding Co., Minneapolis; 1917-21, pres. Colonial Chem. Co., Minneapolis; 1923-48, pres., Am. Drug & Chem. Co., Minneapolis; 1930 to date, pres., gen. mgr., Aladdin Labs. Inc., Minneapolis. Clubs: Minneapolis Athletic, Lafayette Country, Rotary (Minneapolis, past pres.). Hobbies: hunting, tennis, handball, swimming.

SMITH, Julian F(rancis), scientific documents officer, Off. Naval Res., Code 408, Washington, D.C.; res. 5410 14 Pl., Hyattsville, Md.
Literat. chem.; b. Liscomb, Ia., Nov. 1, 1893; s. of George T. and Candace Lhamon Smith; ed. U. Ill. B.S. Chem. 1916; U. Calif., M.S. 1920; U. Chicago Ph.D. 1922; m. Irene Fern Smith, Aug. 22, 1918; ch.: Carl George, Celia Ann. Res. librn., Natl. Aniline & Chem. Co., 1916-19; 1920-21; res. inf. dept., Comm. Solv. Corp., 1922-23; tech. librn., B.F. Goodrich Co. 1923-28; Smith & Smith, ref. serv. 1928-30; Intell. div., du Pont Exp. Sta. 1930-39; assoc. dir., Hooker Sc. Lib., 1939-42; tech. librn., ed., Inst. Gas Tech., 1942-43; sr. chem. spec., alien prop. custodian (Chicago off.) 1943-44; ed. Inst. Text. Tech. 1944-47; sc. doc. off., Off. Naval Res., 1947 to date. Sc. conslt., textiles subcomm., Tech. Indus. Intell. Comm. (tech. mission to Europe, Aug.-Dec., 1945). Mem.: A.C.S., A.A.A.S. (fellow), Fiber Soc., A.I.C. (fellow), Spec. Librs. Assn., Aslib. (Great Britain), A.A.T.C.C. Hobbies: writing chem. verse, trans. foreign language lyrics.

SMITH, Kent Hale, pres., Lubrizol Corp., Box 3057, Cleveland 17, Ohio; res. Woodstock Rd., Gates Mills, Ohio.
Mfr.; b. Cleveland, Ohio, Apr. 9, 1894; s. of Albert W. and Mary (Wilkinson) Smith; ed. A. B., Dartmouth Coll., 1915; B.S., Case Inst. of Tech., 1917; mem.: Phi Kappa Psi; m. Thelma G. Samson, Jan. 3, 1946. Lubrizol Corp., pres.; Lubrizol Dev. Corp., pres.; Davis Plywood Corp., dir. Mem.: Alpha Chi Sigma. Trustee, Case Inst. of Tech.; trustee, Euclid-Glenville Hosp. Assn. Clubs: University, Chagrin Valley Hunt.

SMITH, Lee Irvin, prof., chf. div. organ. chem., Schl. Chem., U. Minn., Minneapolis 14, Minn.; res. 2323 W. 52nd St., Minneapolis 10.
Prof.; b. Indianapolis, Ind., July 22, 1891; s. of Edgar P. and Susie L. Smith; ed. Ohio St. U., B.A., 1913; M.A., 1915; Harvard U., A.M., 1917; Ph.D., 1920; mem.: Alpha Chi Sigma; asst. chem., Ohio St. U., 1913-15; Austin teaching fellow, Harvard U. 1915-17; instr. chem., 1919-20; U. Minn., inst. organ. chem. 1920-21; asst. prof. 1921-28; assoc. prof. 1928-33; acting chf. div. organ chem. 1931-33; prof., chf., 1933 to date; also admn. asst. 1937-38; First Lt. Chem. Warfare Serv., U.S.A., 1918. Res. in polymethylb., reaction betw. quinones and metal. enolates; Vitamin E., related cmpds., cyclop.; (past) assoc. ed. Jl. A.C.S.; (past) Bd. Ed., J. Organ. Chem.; in-

active bd. organ. syntheses; ed.-in-chf., Organ. Syntheses, vols. 22, 23 (1942-43). Mem.: A.C.S., A.A. A.S. (fellow), N.A.S., London Chem. Soc., Swiss Chem. Soc., Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, Gamma Alpha. Club: Campus (U. Minn.). Hobbies: music, photography, mountain climbing.

SMITH, Lemuel Fish, prof., emeritus, Kalamazoo Coll., assoc. prof., Furman U.; res. 1614 Grove St., Kalamazoo, Mich.
Teach. chem.; b. Harrodsburg, Ky.; s. of Henry H. and Emily Jane Bunnell Smith; ed. A.B. William Jewell Coll., 1897, M.S., U. Chicago, 1911; D.Sc., Kalamazoo Coll., 1933; m. Bertha Onderdonk, Aug. 6, 1902, (second) Ethel McKee, Oct. 16, 1937; ch.: Mrs. Kenneth Crawford, Mrs. Edwin Meader. 1911-44 prof. chem., hd. dept., Kalamazoo Coll.; 1944-45 U. Mass.; 1945-47 hd. chem., Georgetown (Ky.) Coll.; 1947 U. Richmond, Va. (summer); 1947 to date prof. emeritus, Kalamazoo, Coll., assoc. prof. Furman U. Mem.: A.C.S., Mich. Chem. Tchrs. Clubs: Kiwanis (Lieut. Gov.), Y.M. C.A. Hobbies: fishing, gardening.

SMITH, Marion Wallace, business exec., Vick Chem. Co., 122 E. 42nd St., New York, N.Y., Baker Chem. Co., Phillipsburg, N.J.; address: J.T. Baker Chem. Co., Phillipsburg, N.J.; res. Sasco Hill, Southport, Conn.
Business exec.; b. Greensboro, N.C., Oct. 26, 1905; s. of Egbert Watson and Mary (Wallace) Smith; ed. A.B., LL.B., Wash. U., 1929; m. Mary Houston Driskell, Aug. 1, 1936; ch.: Tallulah Driskell, Marion Wallace. Admitted to Mo. bar, 1929; mem. firm, Leahy, Saunders & Walther, St. Louis, Mo., 1930-35; asst. counsel Vick Chem. Co., N.Y.C., 1935-39; gen. counsel, 1939-42, asst. to pres. 1942-45, v.p., and dir. since 1945; pres. J.T. Baker Chem. Co., Phillipsburg, N.J. since Oct., 1949. Mem.: Mo. and N.Y. State Bar Assocs., Sigma Chi, Phi Delta Phi.

SMITH, Otto Mitchell, dir., Res. Foundation, Okla. A.&M. Coll., Stillwater, Okla.; res. 301 N. Husband St., Stillwater.
Chem., chem. engr.; b. Yates Center, Kans., May 12, 1884; s. of Mitchell Clay and Elinor May (Bixler) Smith; ed. U. of Ill., Ph.D. 1919, M.S. 1918; U. of Pa., no deg., grad. wk., 1908-10; Drury Coll., B.S. with hon., 1907; mem.: Kappa Alpha; m. Mary Catherine Carr, June 1, 1913; ch.: Elinor Mary, Candace Catherine, Otto Joe Mitchell, Cedric Martin, Steven Emmet. Chem., Engrg. Expt. Station, Iowa State Coll., Ames, Iowa, 1910-13; chem., Am. Water Wks. & Elec. Co., Little Rock, Ark. & E. St. Louis, Ill., 1914-16; chem., Ill. Water Survey 1917-19; supvr. & res. chem., Procter & Gamble Co., Ivorydale, Ohio, 1919-21; chem. supt., Rossville Chem. Co., Lawrenceburg, Ind., 1921-22; prof. & hd. of depts., of chem. & chem. engrg. 1923-49, assoc. prof. 1922, Iowa State Coll.; dir., Res. Foundation, Okla. A.&M. Coll., 1946 to date. Water purification & anal., chem. ed., examinations & tests & semimicro lab. procedures. Author: "The Chem. Anal. of Waters of Okla.," 1942, Engrg. Expt. Station, Okla. A.&M. Coll., Stillwater, Okla.; coauthor: "Semimicro Qualitative Anal." 1938, 1942, with Paul Arthur, McGraw Hill Book Co., N.Y.; "Quantitative Chem. Anal. for Engrs." 1944, with L.F. Sherrar, McGraw Hill Book Co., N.Y.; "Semimicro Lab. Exercises in Gen. Chem.," 1942 with J.A. Burrows & Paul Arthur, Macmillan Co., N.Y. Mem.: A.C.S., A.I.Ch.E., A.W.W.A., A.A. A.S., Am. Soc. for Engrg. Ed., Okla. Soc. of Prof. Engrs., Mason, Reg. Engr. of Okla. Club: Stillwater Chamber of Com. Hobbies: gardening, birds, nature.

SMITH, Paul Kenneth, prof. pharmacol., Geo. Wash. U., Schl. Med., 1335 H. St., N.W., Wash. 5, D.C.; res. 4323 Murdock Mill Rd., N.W., Wash. 16, D.C.
Pharmacol., biochem.; b. Brashear, Mo., Sept. 10, 1908; s. of William R. and Virginia Johnston Smith; ed. B.A. Westminster Coll., Mo., 1930; Ph.D. Yale, 1934; m. Elizabeth R.B., Ph.D., Sept. 12, 1931; ch.: Robert K.R., Katharine V.R., James C.H. Stud. 1930-34; fellow, 1934-36; instr., 1936-38; asst. prof., 1938-41, Yale U.; Capt. to Lt. Col., U.S.A.F., 1941-46; prof. pharmacol., Geo. Wash. U., Schl. Med., 1946 to date. Contrib. extens. to sc. and tech. jls. Mem.: A.C.S., Sigma Xi, Phi Chi (med.), A.S.Biol.C., S.E.B.M., A.S.P.T., Aero-Med. Assn., Wash. Acdy. Med., A.A.C.R., A.A.A.S., delegate Internatl. Chem. Union (London, 1947). Clubs: Cosmos (Wash.), Yale (Wash.).

SMITH, Rollin Powers, chf. dev. engr., National Lead Co., P.O. Box 58, So. Amboy, N.J.; res. 150 Lincoln Rd., Westfield, N.J.
Chem. engr.; b. Schenectady, N.Y., May 1, 1913.; s. of Rollin Powers and Cora D. Moore Smith; ed. Rensselaer Polytech. Inst., Chem. Engr.; m. Ruth E. Holt, Aug. 22, 1936; ch.: Rollin Powers, Jr., Evelyn Marie. June 27, 1935, contr. chem. National Lead Co.; Sept., 1936, dev. chem.; Apr. 15, 1937, jr. indust. engr.; July 1, 1941, indust. engr.; Aug. 1, 1943, chf. indust. engr.; Jan. 1, 1945 to date, chf. dev. engr. Extens. res., dev. field of ultra-fine grind. equip., principally fluid energy type mills. Mem.: S.R.S.A., A I.Ch.E. (active), treas. N.J. sect., Sigma Xi. Hobbies: camping, photography, sports.

SMITH, Ronald Bromley, v.p., The M.W. Kellogg Co., 225 Broadway, New York 7, N.Y.; res. 21 Sylvan Lane, Old Greenwich, Conn.
Mech. engr., exec.; b. New London, Conn., Oct. 28, 1907; s. of Isaac Bromley and Emma Lois (Stone) Smith; ed. U. of Wash., B.S. (cum laude), 1930; M.E. 1933; U. of Pittsburgh, M.S. 1937; grad. studies U. of Penn., U. of Mich.; grad. of Westinghouse Mech. Design Schl., 1931; mem.: Theta Xi, Tau Beta Pi, Sigma Xi; m. Evelyn Frances Miller, 1936. Westinghouse E.&M. Co., 1930-37; Elliott Co., 1937-48, asst. chf. engr., dir. & v.p.; M.W. Kellogg Co., dir. of engrg., 1948-50; v.p. 1950 to date; conslt. engr. to Packard Motor Car Co. 1945-48; mem. U.S. Naval Tech. Mission, Europe, 1945; mem. Power Test Codes (A.S.M.E.); Linnard Prize, Soc. Nav. Arch. & Marine Engrs. Author: num. tech. pubs. Mem.: A S.M.E., S.A.E., A.S.M., S.N.A.M.E., Engrs. Club (N.Y.).

SMITH, Ronald Quay, pres., Pacific Chemical and Fertilizer Co., P.O. Box 48, Honolulu 10, T.H.; res. 3753 Sierra Dr., Honolulu, T.H.
Exec.; b. Sinnemahoning, Pa., June 22, 1896; s. of Alfred E and Martha L. (Quay) Smith; ed. St. Marys High School, St. Marys, Pa., Oberlin Coll., Oberlin, O., U. of Hawaii, Honolulu. No coll. degrees; m. Clara D. Ingalls, Aug. 30, 1918; ch.: Quentin Ingalls, Earl Stratton Pearson. Chem. & still man, Melville Corbett Co., 1917-18; Private C.W.S. Sept. 1-Dec. 13, 1918; chem., Pacific Guano & Fertilizer Co., Mar. 22, 1918; plant supt., Pacific Guano & Fert. Co., 1922-25; asst. Honolulu mgr., 1925-35; asst. treas. Pac. Guano & Fert. Co., 1928-35; treas. & asst. gen. mgr., 1935-42, Pac. Guano & Fert. Co.; active duty C.W.S. Jan., 1942-45, Capt. to Lt. Col.; treas. & asst. gen. mgr., Pacific Chem. & Fert. Co., 1945-48; treas. and gen. mgr., 1948-50; pres. & gen. mgr. Pac. Chem. & Fert. Co., 1950 to present. Mem.: A.C.S., 1917 to date (past chmn. local Hawaii Section), Engrg. Assoc. of Hawaii (past pres.). Clubs: Outrigger Canoe (past pres.), Oahu Country, Pacific Club, Rotary of Honolulu (past pres.).

SMITH, Sidney Dayton, supt. tech. section, E.I. du Pont de Nemours & Co., Belle, W.Va.; res. 602 Churchill Dr., Charleston, W.Va.
Chem. engr.; b. Hamilton, N.Y., July 24, 1904; s. of Dayton F. and Luella H. Smith; ed. B.A., Colgate U., 1930; Ph.D., Pa. State Coll., 1935; mem.: Alpha Chi Sigma; m. Olive A. Mackey, 1931. Grad. asst., Penn. State Coll., 1930-34; res. asst., Penn Grade Crude Oil Assn., 1934-35; chem. engr., E.I. du Pont de Nemours & Co., 1935 to date; supt. Sect., Belle Wks., du Pont, 1947 to date; notable wk: X-ray examination of Iron, Iron-Nickel Alloys; dev. of org. synth. processes. Mem.: A.C.S., A.I.Ch.E. Hobbies: photography, woodworking.

SMITH, Walter Joseph, chem. engr., Arthur D. Little, Inc., 30 Memorial Dr., Cambridge, Mass.; res. 209 Waverly St., Arlington, Mass.
Chem. engr., prods. and meths. dev.; b. Boston, Mass., Sept. 17, 1904; s. of Walter A. and Mary H. Smith; ed. M.I.T., B.S., 1928; M.S., 1935; m. Katherine M. Drechsler, Apr. 5, 1931; ch.: Janet Kay. 1924-28, res. asst., 1928-35, chem. and engr., 1935 to date chem. engr. in prods. and meths. devel., all, Arthur D. Little, Inc.; broad range of work for indust. clients including: phase conditions in soap and relation to performance; surface treating and binding agents for glass fiber; lubricants; textile finishes; problems in candle and wax industry; media for air cleaning. Mem.: A.C.S., A.I.Ch.E. Hobbies: gardening, photography, home workshop.

SMITH, Walton S., v.p., Metal & Thermit Corp., 100 E. 42nd St., New York, N.Y.; res. Stafford Road, Colonia, N.J.
Chem. engr.; b. Chicago, Ill., Mar. 17, 1891; s. of Edward J. and Edith (Walton) Smith; ed. U. of Mich., 1908-12; mem.: Delta Kappa Epsilon; m. Marie Wrightson, June 10, 1914; ch.: Anna Rebecca Moody, Winifred Wrightson Livengood. Var. positions, Penn. Salt Mfg. Co., Wyandotte, Mich., 1912-17; Capt. C.A.C., U.S. Army, 1917-19; various positions, Metal & Thermit Corp., Carteret, N.J., 1919-38; gen. supt., Metal & Thermit Corp., New York, 1938-41; v.p., Metal & Thermit Corp., New York, 1941-50.

SMITH, Warren Rufus, retired tchr.; res. Suttons Bay, Michigan, R.F.D. 1.
Tchr., retired; b. Litchfield, Maine, July 10, 1869; s. of Asa P. and Anna (Sylvester) Smith; ed. A.B., Bowdoin Coll., 1890; Ph.D., U. of Chicago, 1894; mem.: Alpha Delta Phi, Phi Beta Kappa; m. Caroline Ella Grover, 1901; ch.: Anne (Smith) Wolcott, Alden Grover. Prof. of chem., Lewis Inst. (Ill. Inst. Tech.), 1896-1939. Ill. Food Stds. Commis. from 1930. Mem.: A.C.S., A.A.A.S., SC.I., Cent. Assoc. Sc. and Math. Teach, Alpha Delta Phi, Phi Beta Kappa, Masons. Clubs: University, Chemists' (Chicago). Hobbies: fishing, auction, handicraft.

SMITH, W(averly) Quentin, mgr., Belle Tech. Sect., du Pont Co., Box 993, Charleston, W. Va.; res. 715 Churchill Dr.
Chem. engr.; b. Cumberland Co., Va., Mar. 16, 1912; s. of James Weldon and Myrtie Putney Smith; ed. Randolph-Macon Coll. 1933, B.S. Chem.; M.I.T., 1934, M.S. Chem. Engrg.; mem. (hon.) Phi Beta Kappa, Omicron Delta Kappa, Chi Beta Phi; m. Eleanora Roush, Dec. 28, 1938; ch.: Marshall Dodd, Virginia Dianne, Catherine Alice. du Pont Co., 1934-40, chem. engr., exp. sta.; 1940-42, asst. div. supt., prod. Belle Plant, U. Chicago; 1942-43, atomic energy proj., chem. engr. sect. chf. separations proc.; 1943-45, spec. asst. prod. supt., Clinton Labs., Oak Ridge; 1945-46, div. supt., prod. Belle Plant; 1946-47, tech. supt., Belle Tech. Sect.; 1947-50, asst. mgr; 1950 to date, mgr. Mem.: A.I.Ch.E., A.C.S. Hobbies: photography, fishing, home workshop.

SMITH, Willard Clayton, chem. engr., The Goodyear Tire & Rubber Co., Akron 16, Ohio; res. 2728 Overbrook Rd., Cuyahoga Falls, Ohio.
Chem. engr.; b. Chicago, Ill., Feb. 17, 1915; s. of Clayton S. and Eleanor R. Smith; ed. Oberlin Coll., A.B., 1936; Ohio State U., M.Sc. in Chem. Engrg., 1937; m. Lela Ann Wells, Feb. 17, 1940; ch.: Sally Ann, Susan Lee, Shirley Jo, Robert Clayton. 1937-38 res. dept., Goodyear Tire & Rubber Co., Akron, Ohio; 1938-41 chem. engr. div., same co.; 1941-43 in chg. synth. rubber pilot plant, same co.; 1943-45 Goodyear Synthetic Rubber Corp., Houston, Tex., tech. supt.; 1945-47, Off. of Rubber Reserve, copolymer dev. branch, in chg. Akron office; 1947 to date Goodyear Tire & Rubber Co., Akron, O., chem. prods. dev., coordination vinyl resin work. Mem.: A.C.S., A.I.Ch.E. Hobby: bowling.

SMITHERS, LeRoy DeHart, v.p., Dow Chem. of Canada, Ltd., P.O. Box F, Sarnia, Ontario; res. R.R. No. 1, Corunna, Ontario.
Engr.; b. July 23, 1908; s. of Roy R. and Mary (Cuma) Smithers; ed. Missouri U., B.S. in Mech. Engrg.; mem.: Beta Theta Pi, Pi Tau Sigma; m. Mary Rosalie Cousins, June 22, 1935; ch.: Robert Hundley, Mary Claudia. V.p. and wks. mgr., Dow Chem. of Canada, Ltd.

SMYTH, Henry F(ield), Jr., adm. fellow, Mellon Inst., 4400 Fifth Ave., Pittsburgh; res. 1131 Winterton St., Pittsburgh.
Appl. toxicol.; b. Philadelphia, Pa., June 5, 1903; s. of Henry Field and Alice Emiline Brackett Smyth; ed. U. Pa., B.S. Chem. Engrg., 1925; Ph.D., 1934; mem.: Alpha Chi Sigma, Sigma Xi, Tau Beta Pi; m. Julia Thomas, Mar. 28, 1929; ch.: Thomas, Alice. 1925-26, spec. invest., Pa. St. Dept. Lab. & Inds.; 1926-37, priv. conslt. indust. hygiene; 1929-37, instr. sanit. chem., U. Pa.; 1937 to date, hd. chem. Hygiene Fellowship, Mellon Inst. Res. in toxicol. of new indust. chems. Mem.: A.C.S., A.I.C. (fellow), A.P.H.A. (fellow), A.A.A.S., Am. Ind. Hygiene Assn., Reg. Prof. Engr. (Chem.) Penn. Club: Chem. (N.Y.C.). Hobbies: handicraft, silk screen printing.

SNELL, Chester A(rthur), account exec. and dir. of anal. dept., Foster D. Snell, Inc., 29 W. 15th St., New York 11, N.Y.; res. 344 W. 72nd St., New York 23, N.Y.
Conslt. chem.; b. Corning, N.Y., Jan. 14, 1910; s. of Dayton Adelbert and Bertha Viola (Hickling) Snell; ed. B.S., in chem., 1935, M.S., in chem., 1938, Ph.D., 1942, Polytechnic Inst. of Bklyn.; mem.: Alpha Chi Sigma; m. Ernestine Monsees Upchurch, Sept. 21, 1946; ch.: William Monsees. Instr. in chem., Polytechnic Inst. of Bklyn., 1935-42; res. chem. engr., Aluminum Res. Labs., East St. Louis, Ill., 1942-45; conslt. chem., Foster D. Snell, Inc., 1945 to present. Res. in air pollution studies, gas and vapor toxicity, pyrolysis prods. of plastics, catalysis, analysis. Mem.: Phi Lambda Upsilon, Sigma Xi, A.C.S., A.I.C. (fellow), A.I.Ch.E. (associate), Acdy. of Sc. (New York), A.A.A.S. Hobbies: collecting military rifles, hunting.

SNELL, Cornelia Tyler, res. chem., Foster D. Snell, Inc., 29 W. 15th St., New York 11, N.Y.; res. 66 Park Ave., New York 16, N.Y.
Chem.; b. Binghamton, N.Y., Nov. 22, 1896; d. of Henry W. and Jennie E. (Bryant) Tyler; ed. B.S., Syracuse U., 1919, cum laude, M.A., Columbia U., 1925, Ph.D., Columbia U., 1930; m. Foster Dee Snell, June 18, 1921. Pediatric Dept., Fifth Ave. Hos., 1931-33; Coll. of Physicians and Surgeons, 1933; writer, 1933-43; Foster D. Snell,

Inc., 1943 to present. Co-author with Foster Dee Snell; "Colorimetric Methods of Analysis," 2nd ed. vol. 1, 1936; Vol. II, 1937; 3rd ed. vol. I., 1948, vol. II, 1949, vol. III in preparation; "Chemicals of Commerce," 1st ed., 1939, 2nd ed. 1950; and "Chemistry Made Easy" in four volumes, 1943. Mem.: A.C.S. (chmn. N.Y. Section, 1944-45), A.A.A.S. (fellow), Am. Asso. U. Women, Sigma Xi, Iota Sigma Pi, Sigma Delta Epsilon, Kappa Mu Sigma. Assoc. trustee, Russell Sage College. Club: Women's University (New York City). Hobbies: bridge, boating.

SNELL, Foster Dee, pres., Foster D. Snell, Inc., 29 W. 15th St., N.Y. 11, N.Y.; res. 66 Park Ave., N.Y. 16.
Conslt. chem., chem. engr.; b. Binghamton, N.Y., June 29, 1898; s. of Dayton A. and Bertha V. (Hickling) Snell; ed. Colgate U. B.S. 1919; Columbia U., A.M. 1922; Ph.D. 1923; lic. chem. engr. St. N.Y., No. 9302, 1927; mem.: Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma; m. Cornelia A. Tyler, June 18, 1921; ch.: Barbara Anne. Asst. chem. instr., Columbia U., gen. chem., 1919-20; instr. gen. chem., C.C.N.Y., 1920-23; chg. tech. chem. Pratt Inst., 1923-28; pres. Foster D. Snell, Inc., 1930 to date. Pres., Foster D. Snell Res., Inc., Foster D. Snell Foundation, Inc., dir., Cargille Sc., Inc. U.S. Off. Prod. Res. & Dev., mem. referee bd., 1942-45. Author: "Colorim. Meths. of Anal." 1st ed. 1921; co-author: 2nd ed., vol. I, 1936, Vol. II, 1937, 3rd ed. Vol. 1, 1948, Vol. II 1949; "Chemicals of Commerce" 1939; "Chemistry Made Easy," 4 vols. 1943; "Commercial Method of Analysis" 1944. Mem.: A.C.S., A.O.C.S., A.I.Ch.E., Chem. Soc. (London), A.A.A.S., A.S.T.M., A.I.C., S.C.I., N.R.C., Intl. Un. Chem., Gold M. Soc. Chem. Ind., Manchester, Eng. 1949. Clubs: Chem., Columbia, Tarrytown Boat. Hobbies: bridge, boating.

SNIDER, Robert F., res. dir., Franklin Glue Co., 119 W. Chestnut St., Columbus 15, Ohio; res. Cemetery Rd., Hilliard, Ohio.
Chem. engr.; b. Basil, Ohio, Mar. 31, 1916; s. of Samuel F. and Vera S. Snider; ed. Ohio State U., B.Ch.E., M.Sc., Ph.D.; m. Grace Althaus, Aug. 28, 1940; ch.: David F., Jeanne Ellen. Franklin Glue Co., plant supt. 1936-41, res. dir. 1941 to date. Dev. of control meths. & improvements in liquid hide glues. Mem.: Tau Beta Pi, Sigma Xi, A.C.S., Forest Prods. Res. Soc.

SNODDY, Arnon Owsley, res. chem., Procter & Gamble, Ivorydale, Ohio.
Res. chem.; b. Glasgow, Ky., Dec. 10, 1891; ed. U. of Ky., B.S. (ind. chem.) 1913; m. Helen Passmore, Sept. 13, 1917; ch.: 3 daus. Procter & Gamble Co., asst. chem., 1913-15; res. chem., 1915-20; chem. supv. Dallas Plant, 1920-22, res. chem., 1922 to date, chg. gen. chem., qualit. and quantit. anal. Night schl. Ohio Mechan. Inst. (Cincinnati) 1918-28. Author papers in chem. jls. on spec. gravity of glycerine; catalytic hydrogen. fats; anal. chem. Mem.: A.C.S. (past secy., chmn. counc., trustee, Cincinnati Sect.), A.A.A.S., Ohio Acdy. Sc., Sigma Xi. Hobbies: horticulture, plant-breeding.

SNODGRASS, Cornelius Stribling, v.p., dir., Bechtel Corp., 220 Bush St., San Francisco, Calif.; res. "Windfall," Martinsburg, W.Va.
Engr.; b. Martinsburg, W.Va.; s. of Magnus A. and Sue Stribling Snodgrass; ed. U.S. Naval Acdy., B.Sc.; m. Pauline M. Slowey, Jan. 26, 1946; ch.: C. Stribling, Jr., Francis M. 1918-27, U.S.N. comm. 1922; 1927-34, C.F. Braun & Co., mech., chem. engr.; 1934-40, conslt. engr.; 1940-41, U.S.N.; 1941-46, dir. foreign refining, pet. adm. for war; 1946 to date, engr., constr., refineries, pipelines, chem. plants. V.p., dir., Bechtel Corp., Bechtel Intl. Corp., Canadian Bechtel Ltd., Arabian Bechtel Co. Mem.: fellow, Inst. of Pet. (London), reg. chem. engr. (Calif.), reg. mech. engr. (Calif.). Clubs: Am. (London), Stock Exchange (San Francisco), Chem. (N.Y.), Army & Navy (Washington). Hobbies: riding, gardening, tennis.

SNOOK, Joseph A., secy., treas., The Atlas Mineral Prods. Co., Mertztown, Pa.; res. 50 S. Whiteoak St., Kutztown, Pa.
Secy., treas.; b. Middleburg, Pa., Jan. 14, 1917; s. of Aura E. and Minerva Stetler Snook; ed. Pa. St. Coll., B.S. E.E., 1938; m. Mary R. Wirtz, Sept. 7, 1940; ch.: Joseph A., Jr., James E. Internatl. Bus. Mach. Corp., Endicott, N.Y., engr. cust. serv. Duquesne Light Co., Pittsburgh, sales engr., comm. sales dept.; The Atlas Mineral Prods. Co., Mertztown, Pa., sec., treas., mem. bd. dirs.; The Atlas Mineral Prods. Co. of Texas, sec., treas., mem. bd. dirs. Mem.: A.I.E.E., Natl. Assn. Purchasing Agts. Clubs: Lions (Kutztown), Lehigh Valley Shrine (Allentown), South End Gun (Reading), Amateur Trapshooting Assn. (Vandalia, Ohio). Hobbies: trapshooting, hunting, sports.

SNOW, Robert D., chf. tech. div., patent dept., Phillips Pet. Co., Bartlesville, Okla.; res. 718 Delaware, Bartlesville, Okla.
Chem., chem. engr.; b. LaClaire, Ia., Feb. 13, 1899; s. of Albert H. and Elizabeth M. Snow; ed. State U. Ia., B.S. Chem. Engrg., 1923; M.Sc. Chem. Engrg., 1924; Ph.D., Physical Chem. (Math. Phys.) 1926; mem.: Sigma Xi, Tau Beta Pi, Omega Chi Epsilon, Alpha Chi Sigma, Gamma Alpha; m. Millie A. Patterson, Dec. 26, 1923; ch.: Doris Mae, Betty Jean, Rosetta, Robert Frank. Res. chem., Mid-Continent Pet. Corp., Tulsa, 1926-28; res. chem., Gen. Motors Res. Labs., Detroit, 1928-29; spec. res. asst. prof. engrg. Exp. Sta., U. Ill., Urbana, 1929-32; res. chem., sect. chf. Phillips Petrol. Co., Bartlesville, 1932-36; res. prof., dir. coal res., Armour Res. Found., Chicago, 1936-37; res. chem., sect. chf., Phillips Petrol Co., Bartlesville, Okla. 1937-41; Lt. Col., C.W.S., U.S.A., chf. protective dev. div., Edgewood Arsenal, 1941-44; U.S. Strategic Bombing Survey, Oil Chem. & Rubber Div., Germany, 1945; chf., tech. div. of Pat. Dept., Phillips Petrol. Co. 1945 to date. Res. in synthetic resins, coal, partial oxidation, gum inhibitors. Mem.: A.C.S., A.I.Ch.E., A.A.A.S., United Comm. Fund, Bartlesville Welfare Assn. Club: Kiwanis. Hobbies: gardening, fruit growing, hunting.

SNOWDON, Ralph Cuthbert, retired chem.; res. 137 57th Street, Niagara Falls, N.Y.
Chemist; b. Pittston, Penn., Feb. 3, 1882; s. of Thomas J. and Ella (Learn) Snowdon; ed. Cornell U., A.B. 1904; A.M. 1906; Ph.D. 1909; m. Charlotte Elizabeth Cook, June 20, 1906; ch.: Cuthbert Cook, Robert Wallace, Thomas Learn, William Wallace Cook. Instr., Cornell U., 1904-09; The Nitrogen Co., Ossining, N.Y., res. chem. 1909-11; Hooker Electrochem. Co., res. chem., and hd. chem., 1911-49. Secy.-treas., Griffon River Front, Inc. Justice of the Peace, 1922-30. Mem.: A.C.S., Sigma Xi. U.S. Coast Guard Auxiliary, Commander Flotilla 3-06. Clubs: LaSalle Yacht (Niagara Falls, N.Y.). Hobbies: water sports, mechanical work.

SNYDER, Harold Ray; prof. chem., 159 Noyes Lab., U. Ill., Urbana, Ill.; res. 1114 W. Calif. Ave.
Prof. chem.; b. Mt. Carmel, Ill., May 20, 1910; s. of I.M. and Sabra (Hobbs) Snyder; ed. B.S. (Chem.) (high hons.), U. Ill. 1931; Ph.D., (organ. chem.) Cornell U., 1935; mem.: Alpha Chi Sigma; m. Mary Jane McIntosh, May 23, 1935; ch.: Jane McIntosh, John Jerome, Mary Ann.

1931-35, asst. chem., Cornell U.; summer 1934, June, 1935-Aug., 1936, res. chem., Solvay Proc. Co., Syracuse, N.Y.; 1936-37, res. asst. U. Ill. 1937-39, instr. organ. chem.; 1939-41, assoc.; 1941-43, asst. prof.; 1943-45 assoc. prof.; 1945 to date, prof. Res. in synthesis of amino acids, reactions quaternary ammonium salts, chem. of indole, mechanism of polymerization. Mem.: N.D.R.C., C.M.R., W.P.B. Rubber Res. groups during war; mem. ed. bds., Organ. Synth., Organ. Reactions. Secy. Organ. Reactions, Inc. Co-author, "A Brief Course Organ. Chem." 1941; rev. ed. 1947; "Organ. Chem. 1942; "Organ. Synth., Vol. 28, 1948 (ed.-in-chf.), vols. 22-27, 29-30 (mem. ed. bd.); 'Org. Reactions," Vols. 1 thru 5, mem. ed. bd. (1942 to date). Mem.: A.C.S., A.A.A.S., Alpha Chi Sigma, Sigma Xi, Phi Lambda Upsilon. Club: Chaos (Chicago).

SNYDER, John W., tech. dir., Binney & Smith Co., 41 E. 42nd St., N.Y. 17, N.Y.; res. Scotch Plains, N.J.
Chem.; b. N.J., Oct. 2, 1905; s. of Daniel F. and Susie Snyder; ed. Cornell U., B. Chem., class of 1927; m. Laura Griswold, Jan. 25, 1930; ch.: Phyllis, Joan, David. Binney & Smith, 1927 to date. Mem.: Tau Beta Pi, Sigma Xi, A.C.S. Clubs: Chemists' (N.Y.), Cornell (N.Y.), Echo Lake Country (Westfield, N.J.). Hobby: golf.

SNYDER, Joseph L.K., v.p. in chg. of sales, Merck & Co. Inc., Rahway, N.J.; res. 621 Belvidere Ave., Plainfield, N.J.
Chem., sales mgr.; b. Pa., June 14, 1885; s. of Jacob F. and Anna Mary (Kline) Snyder; ed. Franklin Marshall Coll., A.B. 1906; U. of Pa., Ph.D. 1909; mem.: Chi Phi; m. Eleanor L. Timoney, Nov. 24, 1937. 1909-12, Natl. Carbon Co., asst. dir. res. lab.; 1913-15, Doremus Process Syndicate, engr. in chg.; 1915-19, Aetna Explosives Co., wks. mgr., asst. to gen. mgr.; 1919-26; Niagara Alkali Co., Electro Bleach & Gas Co., gen. mgr., dir.; 1927-32, J.T. Baker Chem. Co., wks. mgr., dir.; 1932 to date, Merck & Co. Inc., dir. gen. sales, v.p. in chg. of sales. Mem.: A.C.S., S.C.I., Electrochem. Soc., A.A.C.C. Clubs: Chemists', U. of Pa., Bakers.

SNYDER, Omar Eldredge, v.p., Transparent Package Co., 3520 S. Morgan St., Chicago 9, Ill.; res. 2147 W. 110 St., Chicago 43.
Chem. engr., exec.; b. Arapahoe, Nebr., Oct. 18, 1907; s. of Jasper N. and Etta (Reddick) Snyder; ed. U. Nebr. 1925-29; mem.: Phi Lambda Upsilon (hon.), Theta Xi (social); m. Gretchen E. Woods, July 26, 1929; ch.: Gretchen, Margaret. E.I. du Pont de Nemours & Co., Inc. 1929-34, rayon dept., supvr. operat. div., 1934-41, rayon dept., res. engr.; 1941-43, military explosives dept., supvr. smokeless powder operations; 1943-45, Manhattan Proj., supvr. engr., Hanford Wks.; 1945-46, Grasselli Chem. Dept., res. engr.; Transparent Package Co., 1947 to date, v.p., operations. Res., dev. regenerated cellulose indust., cellulose sponges, cellulose tubing extrusion, ion exch. proc. for production of colloidal silica, contrib. to Atomic Energy proj. (patents, all above flds.). Mem.: A.C.S. Hobbies: amateur radio, electronics.

SNYDER, Raymond E., controller, Merck & Co., Inc., Rahway, N.J.; res. 64 Blackburn Rd., Summit, N.J.
Exec.; b. Findlay, O., Feb. 22, 1912; s. of Paul J. and Mabel Snyder; ed. Miami U., Ohio, B.S. 1934; Harvard U., Grad. Schl. of Business Admin., M.B.A., 1936; mem.: Beta Theta Pi; m. Helen R., May 26, 1939; ch.: Stephen Culley, Leslie Jo. Budget sponsor, Amer. & Foreign Power Co., 1936-41; asst. treas., Merck & Co., Inc., 1941-47; controller, same co., 1947 to date. Merck (North America) Inc. (controller). Mem.: Controllers Inst. of Amer., Natl. Assoc. of Cost Accountants. Clubs: Harvard (N.Y.C.), Canoe Brook Country (Summit, N.J.).

SOBIN, Irving M(axwell), pres., treas., Irving M. Sobin Co., Inc., 72-79 Granite St., Boston 10, Mass.; res. 285 Pond St., Jamaica Plain 30, Mass.
Chem. merchant, importer; b. Dec. 22, 1894, Odessa, Russia; s. of Julius and Anna Sobin; ed. abroad; m. Selma H. Brodie, June 17, 1919; ch.: Julian M., Lester G. Foreign dept., Azov-Don Bank, Odessa; v.p., Consumers Prods. Co., Phila., Boston; pres., treas., Irving M. Sobin Co., Inc., 1922 to date; mem. Chamber of Commerce (Boston). Clubs: Belmont Country, N.E. Export. Hobbies: golf, travel, chess, music.

SOBOTKA, Harry Hermann; chem., The Mt. Sinai Hosp., Fifth Ave., 100 St., New York, N.Y.
Res. conslt. chem.; b. Vienna, Austria, 1899; s. of Dr. Ignace and Hedwig (Hauser) Sobotka; ed. Us. Vienna and Munich, Ph.D. 1922. Res. asst. U. Munich, 1921-24; res. asst., Rockefeller Inst. Med. 1924-26; res. assoc., N.Y.U. Coll. of Med. 1926-28; chf. chem., Mt. Sinai Hosp., 1928 to date. Res. in organ., biol., colloid chem. Author: "Physiolog. Chem. of the Bile," 1937; "Chem. of the Steroids," 1938. Mem.: A.A.A.S. (fellow), N.Y. Acdy. Med. (fellow), N.Y. Acdy. Sc. (fellow), A.C.S., A.I.N., A.S.Biol.C., A.A.Cl.C. (pres.), A.C.C.C.E., Soc. Exp. Biol. Med., Mt. Sinai Res. Foundation, Inc.

SOCKMAN, Bruce E., chf. chem., Am. Brake Shoe Co., metall. lab., Mahwah, N.J.
Chem.; b. West Finley, Pa., Nov. 1, 1895; s. of Elmer and Emma Sockman; ed. Wash & Jefferson Coll., A.B. (cum laude), 1917; Carnegie Tech., B.S., 1934; m. Gertrude Stewart, 1925; ch.: Constance J. W.W. I. 1917-19; U.S. Bur. Stands. (Pitts. sect.) 1919-20; asst. ceramist; Jones & Laughlin Steel Co. 1920-21, anal.; Latrobe Pub. Schls., 1921-29, sc. tchr.; metall. adv. bd., Carnegie Tech. 1929-34; Am. Brake Shoe Co. 1936 to date. Mem.: A.C.S., A.S.M., S.A.S. Club: Otis Cutler of Am. Brake Shoe Co. Hobbies: gardening, reading, bowling.

SODAY, Frank John, dir., res. div., Lion Oil Co., El Dorado, Ark.; res. 1124 W. Elm St., El Dorado, Ark.
Chem.; b. Coaltown, Pa., Mar. 10, 1908; s. of Charles Joseph and Mary M. (Graham) Soday; ed. B.S. in Ch.E., Grove City Coll., 1929, M.S., Ohio State U., 1931, Ph.D., 1932; mem.: Sigma Xi, Phi Lambda Upsilon, Pi Kappa Delta, Pi Gamma Mu, Gamma Alpha, Xemikos; m. Myrtle Rose Fry, Dec. 25, 1932. Swimming instr., Grove City Coll., 1926-29; asst. chem. dept., Grove City Coll., 1927-29; grad. asst., O. State U., 1929-32; group leader, res. labs., Penn. Grade Crude Oil Assn., State Coll., Pa. 1933-34; group leader, Thomas and Hochwalt Labs., Central Research Div., Monsanto Chem. Co., Dayton, O., 1934-37; asst. lab. mgr., Central Res. Lab., United Gas Improvement Co., Phila., Pa., 1937-42; tech. dir., Copolymer Corp. (Operating Govt., synthetic rubber plant, Baton Rouge & Tire Testing Fleet, San Antonio, Texas) Baton Rouge, La., 1943-46; dir. res. & dev., Devoe & Raynolds Co., Louisville, Ky., 1946-47; dir., res. div., Lion Oil Co., El Dorado, Ark., 1947 to present. Served on res., dev., prod., and anal. committees, Office of Rubber Reserve in Butadiene, Styrene and synthetic rubber flds., W.W. II; direct charge of group which dev. first successful civilian gas mask for W.P.B., office emergency management, 1942. Mem.: A.C.S. (treas. Baton Rouge Section, 1945), A.I.Ch E. (chmn., Baton Rouge Section, 1946), Assn. Re-

search Directors, Natl. Farm Chemurgic Council, A.S.T.M., S. Ark. Sec. Res. Group, Assoc. Ind. of Arkansas, Independent Pet. Assn. of Am., Southern Weed Conference, Assn. South Agr. Workers, Am. Pet. Inst., v.p., Southern Assn. Sc. & Industry, v.p., El Dorado Chamber of Commerce, Eastern States Archaeol. Fed., Miss. Valley Archaeol Fed., Am. Arch. Soc., Ark. Arch. Soc., Colo. Arch. Soc., Del. Arch. Soc., Mo. Arch. Soc., Arch. Soc. N.J., N.Y., Arch. Assn., Ohio State Arch. & Hist. Soc., Pa. Arch. Soc. (first v.p., 1942-43), Soc. Pa. Arch. (pres. S.E. chapter 1941), Tex. Arch. & Paleontol. Soc., Ky. Arch. Soc., Tenn. Arch. Soc., Mass. Arch. Soc., Conn. Arch. Soc., Ind. Hist. Soc., Arch. Soc. Va., Nebr. Hist. Soc., Natl. Hist. Soc. (Md.), Ill. State Arch. Soc., Arch. Soc. N.C., Dallas Arch. Soc. Greater St. Louis Arch. Soc., Natl. Geog. Soc., Ark. Economic Council, State Chamber of Commerce, Rotary, Kiwanis (charter member, N. Baton Rouge Chapt.), holder of over 125 U.S. pats. in hydrocarbon preparation, refining, concentration and utilization. Pa. Natl. Guard 1925-29, Eagle Scout, Life Saving Examiner for American Red Cross. Hobby: archaeology of the American Indian.

SODERBERG, Frederic A., mgr., non-text. div., Gen. Dyestuff Corp., 435 Hudson St., N.Y. 14, N.Y.; res. 111-14 76th Ave., Forest Hills, N.Y.
Chem. engr.; b. Lowell, Mass; s. of Charles and Elvah Soderberg; ed. U. of Me. B.S. in Chem. 1925, prof. degree of chem. engrg. 1933; mem.: Kappa Sigma; m. Elizabeth Fogle, Nov. 21, 1936. 1925-28 chem. engr., Internatl. Paper Co., 1928-42 chem. engr., Gen. Dyestuff Corp., 1942-49 dir. of paper service & dev., 1950 to date mgr. non-text. div. Mem.: Com. Chem. Dev. Assn. (pres.), A.C.S. (v. chmn. chem. marketing subdiv.), Am. Pulp & Paper Mill Supts. Assn. (chmn. ind. affiliates com.), A.I.Ch.E., T.A.P.P.I. Club: N.Y. Athletic.

SODERBERG, (Karl) Gustaf, edit., Am. Electroplaters' Soc., 473 York Rd., Jenkintown, Pa.; res. 331 Harrison Ave., Elkins Park, Pa.
Chem. engr.; b. Halsingborg, Sweden, Sept. 15, 1904; s. of K. Axel H. and Asta Soderberg; ed. Schoola Carolina, Orebro, Sweden, maturity exam. in sc. 1922; Royal Inst. of Tech., Stockholm, Sweden, chem. engr. 1926; m. Margit Elvira Nilsson, May 4, 1931. Dirigold Corp., Kokomo, Ind., res. engr. 1926-28; Udylite Corp., Detroit, Mich., chem. to tech. dir. 1929-43; War Prod. Bd., Wash., D.C., conslt. 1943-45; Graham, Crowley & Assoc., Jenkintown, Pa., conslt. 1945 to date (v.p.); Am. Electroplaters' Soc. Jenkintown, Pa., edit. (Plating & Proceedings) 1945 to date. Constitution & properties cadmium plating & zinc plating baths, bright dips for zinc & cadmium coatings, electrodeposition bright antimony coatings, stress in electrodeposited coatings. Author: chapters in "Modern Electroplating" 1942, "Corrosion Handbook" 1948. Mem.: Am. Electroplaters' Soc. (Gold M. 1947), Electrochem. Soc. (mgr. 1939-42, v.p. 1943-45), A.S.T.M. (secy. com. B-8, 1941-43, v. chmn. com. B-8, 1946 to date), Electrodepositors Tech. Soc. (England), Faraday Soc. (England), Svenska Teknologforeningen (Sweden), Franklin Inst., A.C.S. Hobbies: music, philately.

SODERBERG, Paul W., tech. dir., Bruce Prods. Corp., Howell, Mich.; res. 1017 Ann St., East Lansing, Mich.
Chem. engr.; b. Lincoln, Nebr., Oct. 31, 1902; s. of Edward and Jennie Soderberg; ed. U. Nebr., B.S. Chem. Engrg., 1926; m. Irma E. Wiedeman, June 12, 1926; ch.: Shirley Anne. Proc. supvr., Procter & Gamble, K.C., St. Louis plants; dir. tech. serv., Wyandotte Chems. Corp., J.B. Ford Div., Wyandotte, Mich.; tech. dir., Iowa Soap Co., Burlington, Ia.; tech. dir., Bruce Prods. Corp.; several patents. Mem.: A.C.S., A.O.C.S., A.A.A.S. Hobby: photography.

SODERGREEN, Axel L., dir. chem. mfg. dept., West Disinfectant Co., 42-16 West St., Long Island City, N.Y.; res. Bayville Rd., Locust Valley, N.Y.
Chem. engr.; b. Laramie, Wyo., Oct. 27, 1894; s. of Charles F. and Matilda Sodergreen; ed. U. Wyo., M.E.; U. Dijon, France; 7 yrs. selective night courses, Columbia U., M.I.T.; m. Juliet E. Engler, Sept. 12, 1919; ch.: Mrs. Mildred Buydos, William. Dir. physical dept., Pease Lab., Inc. 1922-28; dir. food res. dept., 1929-33; conslt. lab., Malverne, L.I., N.Y., 1933-35; res. engr., Manton Gaulin Mfg. Co. 1935-38; dir. res., West Disinfecting Co. 1938-46; dir. chem. mfg., 1946 to date. Patents, corn meal soap proc. 1933, oyster puree proc. 1932. Mem.: C.S.M.A., A.S.T.M. Clubs: Am. Legion, Queens Village Post 301 (sr. past comm.) 40&8 Voiture 56 (Queens Co., N.Y.). Hobbies: gardening, woodworking, hunting, fishing, horseback riding.

SOFIN, Louis Henry, mgr. quality maintenance dept., chem. control div., Merck & Co. Inc., Rahway, N.J.; res. 617 Academy Terr., Linden, N.J.
Chem.; b. June 8, 1913; s. of Samuel and Sadie Sofin; ed. Rutgers U., B.S. 1933, M.S. 1934; m. Alice Talbot, June 15, 1941; ch.: Ben Talbot, Louise Alice. With Merck & Co. Inc., 1935 to date. Mem.: A.C.S., Phi Beta Kappa, Phi Lambda Upsilon. Hobbies: golf, photography.

SOHL, William Edward, mgr., vacuum coating dept., Minnesota Mining & Mfg. Co., St. Paul, Minn.; res. 201 Wildwood Ave., Birchwood, White Bear Lake, Minn.
Chem.; b. Cleveland, Ohio, Nov. 10, 1906; s. of George W. and Mary A. Sohl; ed. B.S. Chem. Engrg., Case Schl. Appl. Sc., 1928; U. Ill., M.S., 1931; Ph.D. Organ. Chem., 1933; mem.: Phi Lambda Upsilon, Sigma Xi, Alpha Chi Sigma; m. (Margaret) Helen Nold, June 12, 1930; ch.: David, Gordon, Edward (Ned). B.F. Goodrich Co., chem. 1928-30; U. Ill., fellow, 1930-33; du Pont, chem. 1933-37; Arco Co., chem. 1937; Minn. Mining & Mfgr., res. dept. 1937-48, asst. dir. res.; new prod. dept., mgr. market dev., 1948; mgr. vac. coating, 1948 to date. Res. in synthesis of homohygric acid, stabil. oxychlor. cements; low adhesion tape backsize. Mem.: A.C.S. (secy., Kanawha Valley, Minn. Sects., Council, Minn. Sect.), adviser, Jr. Achievement. Hobbies: boat building, fishing, photography, printing.

SOLLNER, Karl, chf. physical biochem., prof. of physiolog. chem., Lab. of Physical Biology, Natl. Inst. of Health, Bethesda 14, Md.; res. 3714 Manor Rd., Chevy Chase 15, Md.
Res. chem., prof.; b. Vienna, Austria, Jan. 9, 1903; s. of Anton M. and Julie (Karplus) Sollner; ed. U. of Vienna, Ph.D., 1926; m. Herta Rosenberg, July 23, 1934; ch.: Barbara N. Demonstrator chem., Vienna 1922-26; fellow, Kaiser-Wilhelm Inst. 1927-28, Haber fellow 1928-30, Weston fellow, electrochem. 1930-31, res. assoc. 1928-33; Privat-Docent, Berlin, 1933; res. guest, dept. chem. Univ. Coll., London 1933-37; res. chem., dept. agron. Cornell 1937-38; assoc. chem., physiol. Minnesota 1938-39, chem. 1939-41, asst. prof. physiol. chem. 1941-43, assoc. prof. 1943-47, prof. 1947 to date; prin. res. anal., Lab. Physical Biol., Natl. Inst. Health, U.S. Public Health Service 1947-48, chf. physical biochem. 1948 to date; indus. conslt. 1930-33; conslt., Imp. Chem. Industs., Ltd., London 1933-37; consltg. chem. 1937 to date. Elucidation of mechanism of action of ultrasonic waves in colloidal systems; theory of

mechanism of anomalous osmosis; prep. of membranes of extreme ionic selectivity; permselective membranes; membrane electrodes for numerous cations & ions. Mem.: A.C.S., A.A.A.S., A.I.C. (fellow), A.A.U.P., Sigma Xi. Clubs: Campus, U. of Minn. Hobby: reading.

SOLMSSEN, Max Arthur, pres., Perolin Co., Inc., 10 E. 40th St., N.Y. 16, N.Y.
Pres.; b. Jan. 10, 1908, Berlin, Germany; s. of Arthur and Alma Bertha Barschall Solmssen; ed. U. Berlin, Technische Hochschule, Berlin; m. Marie von Haimberger, Mar. 2, 1932; ch.: Anne, Franz, Hans, Theodora, Mary. 1939, mgt. conslt.; 1940-43, v.p., Wilmington Chem. Corp., Wilmington, Del.; 1939 to date, pres., Perolin Co., Inc., N.Y.C.; 1943 to date, pres. Taccalin Chem. Corp.; Haveg Corp., Newark, Del., dir. Dir. Y.M.C.A. (Summit, N.J.). Club: Chem. (N.Y.C.). Hobby: sailing.

SOMMER, Chas. H., Jr., asst. gen. mgr., org. chem. div., 1700 S. Second St., St. Louis, Mo.; res. 8 Fox Run Lane, R-5, Kirkwood 22, Mo.
Exec.; b. St. Louis, Mo., Sept. 24, 1910; s. of Chas. H., Sr. and Mary D. Sommer; ed. U. of Mich.; U. of Ariz., B.S. 1934; m. Jane S. Scudder, Apr. 17, 1940; ch.: Chas. S. Mgr. plasticizer & intermediate sales, 1938-47; asst. gen. mgr. sales, 1947-48; asst. coordinator sales, 1948-49; asst. gen. mgr. org. chem. div., 1949 to date.

SONNEBORN, Ferdinand, pres., L. Sonneborn Sons, Inc., 300 4th Ave., N.Y. 10, N.Y.; res. Savoy-Plaza Hotel, 5th Ave., 58th St., N.Y. 22.
Chem.; b. Germany, Jan. 10, 1874; s. of Levi and Amalie Sonneborn; ed. U. Marburg, U. Munich, U. Basel, Ph.D.; m. Helen Goldschmid, June 23, 1910; after grad. and before coming to Am., occup. position as chem., Oelwerke-Stern-Sonneborn, now Rhenania Ossag of Hamburg; after arriv. in Am., est. firm L. Sonneborn Sons, Inc. and is pres. & dir. of var. subsid. orgs. Devoted to mfg. pet., white oil, est. first plant white oils for phar., cosmetic purposes in Am. Mem.: A.C.S., Swiss Chem. Soc., Am. Technion Soc. Clubs: Chem., Ridgeview Country (Petrolia).

SONNEBORN, Henry, III, asst. tech. dir., L. Sonneborn Sons, Inc., 300 Fourth Ave., N.Y.C., N.Y.; res. 110 N. Chatsworth Ave., Larchmont, N.Y., Petrolia, Pa.
Chem.; b. Mar. 11, 1918; s. of Henry and Lillian Hamburger Sonneborn, Jr.; ed. A.B. (hon.) 1938, Johns Hopkins; Ph.D. Chem., 1941; mem.: Phi Beta Kappa, Sigma Xi; m. Clara Louise Lauer, Nov. 12, 1942; ch.: Henry, IV. L. Sonneborn, Sons, Inc. 1941-42; U.S. Naval Res. 1942-46; L. Sonneborn Sons, Inc., 1946 to date, asst. v.p., asst. secy.-treas. Mem.: A.C.S., A.I.C. (fellow).

SOTTERY, C(onstantine) Theodore, prof. of chem., Bard Coll., Annandale-on-Hudson, N.Y.; res. Stone's Throw, Annandale-on-Hudson.
Teacher of chem.; b. Smyrna, Asia Minor, July 30, 1896; s. of Theodore and Sophia (Merika) Sottery; ed. A.B., Clark U., 1916; A.M., 1923, Ph.D., 1925, Columbia U.; mem.: Alpha Chi Lambda; m. Emma Laura Walter, Aug. 27, 1925; ch.: Theodore Walter, Ann Elizabeth. 1916-17, anal. chem., Merrimac Chem. Co. & Am. Optical Co.; 1917-18, sc. master, Troy Conference Acdy., Poultney, Vt.; 1919-22, chem. instr., Bradford Durfee Text. Inst., Fall River, Mass.; 1922-25, lab. instr. in qualitative anal. & org., Columbia U.; 1925-28, prof. of chem. Albright Coll., Myerstown, Pa.; 1928-35, asst. & assoc. prof., St. Stephen's Coll. of Columbia U., 1935-37, assoc. prof., Bard Coll. of Columbia U.; 1937 to date, prof. of chem., Bard Coll. of Columbia U. (on leave of absence 1946-48); 1943, visiting prof. of org. chem., summer session, Columbia U.; 1946-48, sr. prof. of chem., U. of Mass., Ft. Devens. Mem.: A.C.S., A.A.A.S., A.A.U.P. Red Hook Nursing Assn., Red Hook, N.Y. (pres.). Hobbies: old houses, refinishing antique furniture, fishing.

SOUDERS, Mott, Jr., assoc. dir., Shell Dev. Co., 4560 Horton St., Emeryville, Calif.; res. 125 Requa Rd., Piedmont 11, Calif.
Chem. engr.; b. Red Lodge, Mont., Dec. 10, 1904; s. of Samuel Mott and Margaret (Jones) Souders; ed. B.S. chem. engrg., Mont. State Coll., 1926; M.S. chem. engrg., U. of Mich., 1927, Ph.D., 1931; mem.: Sigma Xi, Tau Beta Pi, Phi Kappa Phi, Alpha Chi Sigma; m. Betty E. Snyder, July 13, 1940. Cost estimator & process engr. for pet. refinery installations, Smith Engrg. Co., Kansas City, Mo., 1929-30, cons. engr. on thermodynamics, heat transfer, absorption & distillation in processing & utilization of pet. prods., 1930-35; Sterling Fellow in chem. engrg., Yale, 1935-37; chem. engr., Shell Dev. Co., 1937 to date. Original wk. in thermodynamics, heat transfer, absorption, extraction & distillation. Holder of 24 U.S. pats.; author of more than 50 tech. articles dealing with flame propogation, heat transfer, vapor-liquid equilibrium, viscosity, pyrolysis, absorption, extraction & distillation; contr. handbooks, encyclopedias & treatises. Mem.: A.I.Ch.E., A.C.S. Award: Prof. Progress, A.I.Ch.E., 1949.

SOULE, Byron A(very), assoc. prof. chem., Chem. Bldg., U. Mich., Ann Arbor, Mich.; res. R. No. 2, Dexter, Mich.
Assoc. prof. chem.; b. Allegany, N.Y., May 28, 1891; s. of Charles M. and Ida Ervin Soule; ed. U. Mich., B.S. Chem., 1918; M.S. Chem., 1920; Sc.D. 1924; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi; m. Dorothy Houghton, Sept. 7, 1921; ch.: David, Gardner, Sylvia, Jonathan. Teacher N.Y. State, 1909-14; priv. Chem. Warfare Serv., 1918-19; asst. dir. chem. dept., U. Mich. 1919-20; teaching staff, chem. dept., U. Mich., 1920 to date. Fellow, Libr. Congr., 1941-42. Co-author "Qualitative Chem. Anal." 1933; "Fundamentals of Qualitative Chem. Anal.," 3rd ed. 1949; Library Guide for the Chemist, 1938. Mem.: A.C.S., A.A.A.S., A.A.U.P.

SOULE, Edward C., mgr. of tech. serv. & application res., Mathieson Chem. Corp.; res. 914 Vanderbilt Ave., Niagara Falls, N.Y.
Heavy chem. mfg., engrg. & chem. res.; b. N.Y.C., Nov. 19, 1910; s. of Edward C. and Margaret B. (Van Iderstine) Soule; ed. B.S. in chem., 1931, Polytech. Inst. of Bklyn., Ch.E., 1932; m. Eleanore C. Benner 1939; ch.: Margaret, Nancy. Mathieson Chem. Corp., 1932-34, control chem., 1934-36, prod. chem. engr., 1936-41, asst. res. chem., 1941-45, sr. res. chem., 1945 to date, in chg. application res. labs., 1948 to date mgr. tech. serv. dept. Original res. in many flds. of org. & inorg. chem. leading to some 35 U.S. & foreign pats.; several tech. articles in trade publ. Mem.: A.C.S., Com. Chem. Dev. Assn., N.Y.S. Sanitarians. Clubs: Youngstown Yacht, Electrons. Hobbies: woodworking, photography, gardening, sailing.

SOUTHER, Roy Hobart, res. dir., Cone Mills Corp., Cone Mills Lab., Greensboro, N.C.; res. Country Club Apts., Greensboro.
Chem.; b. Wilkes Co., N.C., July 25, 1897; s. of William A. and Fannie (Norman) Souther; ed. B.S. (chem.), U. of N.C., Chapel Hill, 1920; prod. planning & control, U.N.C., 1941; motion & time study 1942; statist. quality control, N.C. State Coll., 1944; fabric anal., N.C.S.C., 1945; mem.: Phi Beta Kappa. Alpha Chi Sigma. Chem., Proximity Mfg. Co., 1920; colorist & chem., Cone Finishing Co., print wks. plant, 1921-43; pres.,

S. & S. Chem. Co., 1928-35; res. dir., Cone Mills Lab., 1944 to date. Condens. vanillin with p-bromo aniline; dev. & marketing oil in water resin emulsion pigment print colors; accelerated ageing of sulfur colors. Author of articles on textile mills, starch fluidity & quality control charts in tech. jls. Mem.: A.A.A.S., A.A.T.C.C. (co-chmn., comm. on ageing sulfur colors, 1942; res. comm., to date), A.A.T.T., A.C.S., A.S.Q.C., A.S.T.M., Textile Res. Inst., N.C. Sewage Wks. Assn. Bd. trustees, Greensboro Evening Coll. Clubs: Buffalo Presbyterian Church Men's, Civitan, Y's Men, Masons. Hobbies: sports, politics, profes. activities, internatl. law, civic activities.

SOUTHERN, Walter Arthur, librarian, Abbott Res. Labs., N. Chicago, Ill.; res. 438 N. Sheridan Rd., Waukegan, Ill.
Res. librarian; b. Milwaukee, Wis., Apr. 30, 1919; s. of Louis Walter and Ella (Mockrud) Southern; ed. U. of Wis., B.A., 1942; U. of Mich., B.A.L.S., 1943; U. of Chicago, 1946-47. Res. librarian, Engrg. Societies Library, N.Y., 1945-46; librarian, U.S. Steel Corp. of Del., Pitts., 1946-48; res. librarian, Dearborn Chem. Corp., Chicago, 1948; librarian, Abbott Labs., N. Chicago, 1949 to date. Mem.: Special Libraries Assn.

SOWA, Frank J., prop. Sowa Chem. Co., pres. Agrichem Foundation, Inc., pres. Sowa Prods., Inc., 305 E. 46th St., N.Y. 17, N.Y.; res. 9 Besler Ave., Cranford, N.J.
Res., dev. chem.; b. Woodburn, Oregon, Aug. 3, 1906; s. of Paul and Katherine Sowa; ed. U. Notre Dame, B.S. (chem.); M.S. (chem.); Ph D. (chem., cum laude); m. Frances J. Hertl, Sept. 10, 1930; ch.: Frank J., Paul H., John R., Thomas E., James H. 1931-36, instr. chem., U. Notre Dame; 1933-36, conslt. E.I. du Pont de Nemours and Co, Inc.; 1936-38. dir. organ. res. Bendix Aviation Corp., South Bend, Ind.; 1938-39, v.p. res. dir., Sowa Labs., Inc.; 1939-40, v.p., res. dir., Hygeia Res. Corp.; 1939 to date, prop. Sowa Chem. Co., res. dir.; 1944 to date, pres. Sowa Prods. Inc.; 1946 to date, pres. Agrichem Foundation, Inc. Contrib. extens. to sc. and tech. jls.; 148 pats., pat. appls. Mem.: A.C.S., A.A.A S., A.I.C. (fellow), N.F.C.C. (fellow), A.A.T.C.C. (fellow), A.C.C. C.E., N.Y. Acdy. Sc.; Comm. Boy Scouts Am. Hobbies: hunting, fishing, gardening.

SOWERS, Wesley H., div. v.p., Bay Chem. Co., 1048 Constance St., New Orleans, La.; res. 525 Hector Ave.
Exec.; b. Whiting, Ind., Aug. 26, 1905; s. of S. Walter and Bertha E. Sowers; ed. Purdue U., B.S., M.S. (Chem.), 1922-27; De Paul U., J.D., 1938-42; mem.: Phi Delta Theta; m. Gladys M. Krueger, Jan. 21, 1929; ch.: Penelope A., Wesley H., Jr. Shell Oil Co., 1927-30; Natl. Lead Co., 1930-32; Pure Oil Co., 1933-42; Bay Chem. Co., 1942 to date; num. pats. in pet. field. Mem.: A.C S., A.A.A.S., La. Engr. Soc., S.C.I., past chmn. La. sect. A.C.S. Clubs: Rotary, New Orleans Country, International House. Hobbies: sports, patent prosecution.

SPADETTI, Armando, gen. mgr., asst. treas., R.I. Chem. Co. Inc, Cranston, R.I.; res. 210 Tidewater Dr., Warwick, R.I.
Chem. engr.; b. Italy, Feb. 15, 1913; s. of Peter and Antonetta Spadetti; ed. R.I. State Coll., B.Sc., 1934, M.Sc. 1940, Phi Kappa Phi; mem.: Beta Psi Alpha; m. Joanna Guglielmi, May 22, 1939; ch.: Joanna, Armanda, Annette. Grad. asst., R.I. State Coll., 1934-36; chem., Apponaug Co., 1936-38; res. chem., Smithfield Chem. Co., 1938-40; chem. engr., C.W.S., 1940-43; chem. engr., Manhattan District, 1944-45; chem. engr., Sylvania Elec. Co., 1945; gen. mgr., asst. treas., R.I. Chem. Co. Inc., 1945 to date; gen. mgr., asst. treas., Prescott Textile Mfg. Co. Inc., 1945 to date. Metallic fluorides in fluorocarbon syn. Mem.: A.C.S., A.A.A.S., Am. Assn. of Textile Chemists, New England Paint Varnish Club, Providence Engrg. Soc., Phi Kappa Phi. Hobbies: music, gardening.

SPAETH, Raymond J., exec. secy., treas., 3300 S. Federal St., Chicago, Ill.; res. 10825 S. Fairfield Ave., Chicago.
Educat. admn.; b. Salina, Kansas, Nov. 13, 1907; s. of Julius H. and Laura L. Spaeth; ed. Am. U., A.B. (cum laude), 1930; Harvard U., M.B. Admn., 1932; mem.: Phi Sigma Kappa, Alpha Lambda, Pi Gamma Mu; m. Ruth Rinkel, Sept. 3, 1931; ch.: Raymond J., II, Ruth Lee, Jr. Asst. bus. mgr., Am. U., Wash., D.C. 1932-40; bus. mgr., treas., exec. secy., Ill. Inst. Tech., 1942 to date. Mem.: Treas. Armour Res. Found. (Chicago), treas. Inst. Gas Tech. (Chicago), chmn., Beverly Y.M.C.A. (Chicago). Clubs: Union League (Chicago), Economic (Chicago).

SPALDING, John Eaton, supvr. proc. engr., Marathon Corp., Menasha, Wis.; res. 549 N. Summit St., Appleton, Wis.
Chem. engr.; b. Salisbury, Mass., May 1, 1910; s. of Charles Warren and Ellen E. Spalding; ed. B.S., M.I.T., 1931; mem.: Theta Delta Chi; m. Dorothy Ross, June 24, 1933; ch : Charles Warren, II. 1932-34, res. dept., Oxford Paper Co.; 1934-37, teaching, res. asst., Inst. Paper Chem.; 1937-40, group leader, res. dept., Oxford Paper Chem.; 1940-43, asst. supt., pilot plant, Am. Viscose Corp.; 1943-46, mfg. supt ; 1946-47, tech. asst. plant mgr.; 1947 to date supvr. process engr., Marathon Corp. Mem.: A.C.S., A.I.Ch.E., T.A. P.P.I., A.P.P.M.S.A. Clubs: Butte Des Morts Golf, B.P.O.E., Appleton Curling. Hobbies: golf, fishing, hunting.

SPANGLER, Samuel Frey, v.p., Chemical Construction Corp., 488 Madison Ave., New York, N.Y.; res. 71 Brewster Rd., Scarsdale, N.Y.
Chem. engr.; b. Aug. 30, 1894; s. of Henry S. and Estella G. Frey Spangler; ed. B.A. Central H. Schl., Phila., Pa.; B.S. Ch E., U. Pa., 1915; Ch.E., 1925; m. Edith C. Youngstrom, Feb. 9, 1921; ch.: Ruth L. Smith, Henry A. Chem., E.I. du Pont & Co. 1915-16; engr., Chem. Constr. Corp., 1916-30; exec. 1930 to date (mem. bd. dirs.). Inventor several U.S. pats. chem. engrg. field. Mem.: A.C.S., A.S M.E. Clubs: Chem. (N.Y.), Town (Scarsdale). Hobbies: photography, gardening.

SPARHAWK, Charles Vanuxem, owner, pres., Sparhawk Company, P.O. Box 1, Sparkill, N.Y.; res. Foot of Rockland Rd. & Ferdon Ave., Sparkill, N.Y.
Chem. and res.-scientist; b. Phila., Pa., Nov. 21, 1880; s. of Charles Wurts and Olive Elrica (Sproat) Sparhawk; ed. William Penn Charter Schl., Phila.; Drexel Inst., Phila.; m. Anna Elizabeth Sealy; ch.: Charles V., Jr. With H.K. Mulford Co., Phila., Pa.; then with Arthur A. Stilwell Co., N.Y.C.; Charles V. Sparhawk, Inc., Newark, N.J.; now owner and pres. of Sparhawk Co., Sparkill, N.Y.; notable wk.: dev. new meths. of distilling essential oils; pioneered in the dev. of American animal musks (Newark, N.J.); revised and introduced glandular baits and lures to the trapping profession; applied special matls. for perfecting rectal anasthesia; assisted in dev. of glandular matl. for the insane. Pub. many arts. in trade and sc. jls. Mem.: A.C.S., Drug Club, etc. Club: Chemists' (N.Y.C.).

SPAULDING, William Harrison, chf. proj. engr., Standard Oil Co. of Calif., 225 Bush St., San

Francisco 20, Calif.; res. 216 Columbia Ave., Berkeley.
Engr.; b. Hemet, Calif., Jan. 17, 1915; s. of Henry Harrison and Blanche E. (Stump) Spaulding; ed. Stanford U., A.B., Chem. Engrg., 1936; M.I.T., M.S., Chem. Engrg. Practice, 1938; mem.: Theta Xi, elected to Alpha Chi Sigma (Chem. Frat.) Stanford; m. Jean Himes, Sept. 15, 1937; ch.: William H., Martha C. Std. Oil Co. of Calif., engrg. dept., 3½ yrs., design of proc. equip. for ref. construction, proj. engr., 1½ yrs., proj. hd. 1 yr., div. hd., 1 yr., job engr. for mfg. dept. 2 yrs., asst. chf. engr. of mfg. dept., 2 yrs., chf. proj. engr., engrg. dept. One of three joint holders of a U.S. pat. on pipe expansion joints. Active mem. A.I.Ch.E.; Prof. Engr., State of Calif. in Mech. and Chem. Engrg. Clubs: Commonwealth of California, Engineers (San Francisco), Alpha Chi Sigma, M.I.T. of Northern Calif. Hobbies: golf, fishing, gardening.

SPECHT, Randolph C., prof., Engrg. & Indus. Exp. Sta., Coll. Engrg., U. Fla., Gainesville, Fla.; res. 609 N.W. 8 Pl.
Res. engr., prof. chem. engrg.; b. St. Albans, W. Va., Nov. 21, 1902; s. of Christoph A. and Margery Croman Specht; ed. 1924 B.S. Chem. Engrg.; 1945, chem. engr.; mem.: Tau Beta Pi, Phi Lambda Upsilon, Phi Delta Theta. Chem. engr., Barium Reduction Corp., 1924-30; chf. chem., 1930-38; res. chem., chem. engr., Va. Smelting Co. 1939-43; chf. chem., asst. v.p., Inorganics, Inc. 1944; res. engr., engr. & ind. exp. sta., U. Fla., 1945 to date; prof. chem. engrg., Coll. of Engrg., U. Fla., 1948 to date. Res. in relation particle size to certain physical characteristics of pigments, mfg. barium chlor., invest. mfr. sodium sulfite, phosph. waste studies, light wt. aggregate, preserv. flowers, natural color, shape. Mem.: A.C.S., A.I.Ch.E., A.S.E.E., A.A.U.P., Tau Beta Pi, Phi Lambda Upsilon, reg. engr. St. Fla.; trustee, Philharmonic Soc. Hobbies: flowers, cooking.

SPEDDING, Frank Harold, dir., Inst. for Atomic Res., Ia. St. Coll., dir. Ames Lab., Atomic Energy Comm., Ia. State Coll., Ames, Ia.; res. 1253 Orchard Dr.
Chem.; b. Hamilton, Ont., Canada, Oct. 22, 1902; s. of Howard Leslie and Mary Ann Elizabeth (Marshall) Spedding; ed. U. Mich., B.S., 1925; M.S., 1926; Ph.D., U. Calif., 1929; Langmuir Award (Am. Chem. Soc., award in pure chem. for chem. under 31) 1933; Guggenheim Professorship to Europe, 1935; LL.D., Drake U., 1946; Ia. Medal of A.C.S., 1948; D.Sc., U. Mich. 1949; mem.: Sigma Xi, Phi Lambda Upsilon, Phi Kappa Phi; m. Ethel Annie MacFarlane, June 21, 1931; ch.: Mary Ann Elizabeth. Teach. asst., U. Mich. 1923-25; teach. fellow, 1925-26; teach. fellow chem., U. Calif. 1926-29; instr. chem., 1929-30; Natl. Res. fellow chem., 1930-32; instr. chem., 1932-34; Guggenheim Professorship abroad (Eng., Germ., Russia) 1934-35; George Fisher Baker asst. professorship, Cornell U., 1935-37; assoc. prof. physical chem., hd. physical chem. sect., Ia. St. Coll., 1937-41; prof. chem., hd. physical chem. dept. 1941 to date; dir., Inst. for Atomic Res., Ia. St. Coll., 1945 to date; Lt. (sr. g.) U.S. Naval Research since 1937; dir., Ames Lab. of Atomic Energy Comm., 1948 to date. Organized, dir., chem. div. of Plutonium Proj. Chicago for Atomic Bomb Res., 1942-43; mem. Plutonium Proj. Council, 1942-46; Bd. Governs., Argonne Natl. Lab., 1946-48; dir. Atomic Bomb Proj., Ia. St. Coll., 1942-48; Rep. Ia. St. Coll. on Council of Participating Insts. of Argonne Natl. Lab. Mem. Tolman Comm. Declassification Atomic Energy Inf. Contrib. extens. to sc. and tech. jls. Mem.: A.C.S., A.A.U.P. Clubs: Ames Golf, Country. Hobbies: mt. hiking, golf.

SPEER, John H(oward), chf. chem., G.D. Searle & Co., Box 5110, Chicago 80, Ill.; res. 8040 Long Ave., Morton Grove, Ill.
Phar. chem.; b. New Haven, Conn., June 2, 1906; s. of Howard and Julia Rollwagen Speer; ed. B.A., Yale, 1927 (summa cum laude); Ph.D., 1934; mem.: Book and Bond; m. Charlotte E. Yost, Oct. 6, 1928; ch.: J. Howard, Jr., Donald A. Upjohn Co., 1927-31, res. chem.; Yale U., 1932-33, lab. asst.; Natl. Aniline & Chem. Co., 1934-36, res. chem.; G.D. Searle & Co., 1936-41, res. chem.; 1942 to date, chf. chem. Misc. papers, patents on phar. chem. Mem.: A.C.S., Sigma Xi, Phi Beta Kappa. Club: Chem. (Chicago).

SPEER, Robert James, hd. radiochem. div., Texas Res. Foundation, Box 43, Renner, Texas; res. 2033 Willingham, Richardson, Texas.
Res. chem.; b. Denton, Texas, May 30, 1919; s. of Lon A. and Pearla (Wheeler) Speer; ed. B.A., N.T.S.T.C., Denton, Tex., 1937; M.A. 1939, Ph.D. 1941, U. of Texas, Austin, Texas; m. Verna Mae Petty, May 31, 1940; ch.: Suzanne Lois, Charles Wheeler, Royce Stephen. 1941-43, Gen. Aniline & Film Corp., Grasselli, N.J., res. chem.; 1943-45, Southland Paper Mills, Lufkin, Texas, dir. of res., 1944-45, Ohio State Res. Foundation, Columbus, Ohio, res. fellow; 1945-46, U.S.A. Corps of Engrs., Manhattan Dist., Oak Ridge, Tenn.; 1946-47, Atomic Energy Commis., Oak Ridge, Tenn., chf. res. & dev. branch, prod. div.; 1947 to date, hd. radiochem. div., Texas Res. Foundation. Hypnotics & anti-spasmodics; photographic sensitizers & color formers; pulp & paper tech. & waste disposal; chem. of nuclear energy dev.; org. cmpds. of titanium. Mem.: A.C.S., Sigma Xi. Clubs: Rotary Internatl., Dads. Hobbies: fishing, gardening.

SPELLER, Frank N., corrosion conslt., 6411 Darlington Rd., Pittsburgh 17, Pa.
Conslt. engr.; b. Toronto, Canada; s. of Newman William and Elizabeth Carfrae Speller; ed. Toronto U., B.A.Sc., D.Sc.; m. Roberta T. Hughes, Feb. 20, 1906; ch.: Thomas H., Frank N., Jr., Jean Carfrae, Roberta T. Mainly with U.S. Steel Corp., subs. 1901-40; retired. Res. in new proc. for finishing welded pipe, many corrosion preventive means. Author: "Corrosion Causes & Prevention"; 1st ed., 1926; 2nd ed. 1935; 3rd ed. 1950. Mem.: A.S.T.M., A.S.M., E.C., A.P.I., A.S.H.V.E., Franklin Inst. M. Club: Univ. (Pitts.). Hobbies: outdoor activities, music.

SPENCE, LeRoy U(mberger), asst. dir. of res., Rohm & Haas Co. Inc., 5000 Richmond St., Phila. 37, Pa.; res. 205 Jericho Rd., Abington, Pa.
Chem.; b. Council Grove, Kans., Mar. 25, 1903; s. of Walter and Chloe (Umberger) Spence; ed. Knox Coll. 1920-22; U. of Ill., B.S., 1924; Northwestern U., M.S., 1925, Ph.D., 1928; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi; m. Mary Maginnis, July 5, 1934; ch.: Mary Margaret, Janet, Dorothy, Roberta, John Walter, Virginia Elaine. Westinghouse E.&M. Co., res. chem. 1925-26; Am. Pet. Inst. fellow Northwestern U. 1927-28; Am. Pet. Inst. fellow Harvard U. 1928-29; Rohm & Haas Co. Inc., res. chem. 1929-37, lab. hd. 1937-44, asst. dir. res. 1944 to date. Process dev. on methyl amines, acrylates, acrylonitrile, plasticizers, etc. Mem.: A.C.S., A.I.Ch.E. (active).

SPENCER, Clayton Cree, prof. chem., Syracuse U.; res. 2030 E. Colvin St., Syracuse 10, N.Y.
Prof. org. chem.; b. Plainfield, Vt., June 1, 1894; s. of Maynard French and Laura Cree Spencer; ed. Tufts, 1916, B.S. Chem. (magna cum laude); Syracuse, 1921, M.S.; 1928, Ph.D.; mem.: Alpha Chi Sigma; m. Esther Call, Sept., 1917, died 1919; m. (2nd) Hazel Wood, June 10, 1924; ch.:

Esther Elizabeth Van Horne, Maynard Frederick. Holderness Schl., instr., 1916-18; Tufts Coll., instr., 1918-20; Syracuse U., instr., prof. 1920 to date. Mem.: A.C.S., A.A.U.P., Sigma Xi, Alpha Epsilon Delta. Hobbies: music, gardening, travel.

SPENCER, Henry Christian, mgr., plant engr. dept., Plax Corp., West Hartford, Conn.; res. Judd Hill Rd., Middlebury, Conn.
Chem. engr., mgr.; b. Cedar Rapids, Ia., June 24, 1915; s. of Dr. William H. and Bertha Wenig Spencer; ed. Ia. St. Coll., Ames, Ia., B.S. Chem. Engrg., 1936; mem.: Sigma Alpha Epsilon; m. Evelyn M. Burchard, Dec. 28, 1938; ch.: Samuel, Thomas, Stella. 1936-46, Calco Chem. div., Am. Cyan. Co., Bound Brook, N.J., stud. engr.; supt. Calco Effluent Treat. Plant; supt. acid div.; supt. rubber chem. div.; 1947-49 Naugatuck Chem. Div., U.S. Rubber Co., Naugatuck, Conn., area pro. supt.; 1949 to date, mgr. plant engr. dept., Plax Corp. Mem.: A.I.Ch.E. (active) 1945).

SPENCER, Herbert S., adv. mgr., Durez Plastics & Chemicals, Inc., North Tonawanda, N.Y.; res. 162 Brantwood Rd., Snyder 21, N.Y.
Public relations, adv.; b. Bklyn., N.Y., Oct. 12, 1888; s. of Julius D. and Eleanor Shearman Spencer; ed. pub. schls., Alexander Hamilton Inst. (staff), pres., Plastic Pioneers Assn.; m. Eleanor Marsh, Nov. 7, 1918; ch.: Eleanor Gillette Weischal, Ida Colleen Bain, Alice Marsha Wood. 1926 to date, Durez Plastics & Chems., Inc., Dun & Bradstreet, U.S.A.; financial advertising, Roy D. Lillibridge (adv.), N.Y. Edison Co. Author: "Entirely Business," 1944, book on selling.

SPENCER, Hugh Miller, assoc. prof. chem., U. Va., Cobb Chem. Lab., U. Va., Charlottesville, Va.; res. 1619 Oxford Rd.
Chem. prof.; b. Winfield, Mo., Nov. 24, 1897; s. of Jas. W. and Martha Miller Spencer; ed. Central Coll. (Mo.), U. Mo., B.A., 1919; M.A., 1921; U. Chicago, U. Calif., Ph.D., 1924; mem.: Alpha Chi Sigma, Gamma Alpha; m. Thomasia H. Hancock, June 27, 1936; ch.: Belle Clay, Hugh M., Jr., Martha Overton. Teach. asst., U. Mo., 1918-19; grad. asst., 1919-20; instr., 1920-21; teach. fefllow, U. Calif., 1922-24; instr. Yale U., 1924-27; asst. prof. U. Va., 1927-45; assoc. prof. 1945 to date. Co-operating expert for Internatl. Critical Table, sect. on constant humidity & ready ref. tables, papers on thermodyr. of solut. & gases, heterogen. equilibria, in Jl. A.C.S., Jl. Chem. Phys. Ind. Engr. Chem., Jl. Chem. Ed. Mem.: A.C.S., A.A. A.S. (fellow), A.I.C. (fellow). Clubs: Colonnade, Farmington Country. Hobbies: philately, nature study, gardening, book collecting.

SPENCER, Kenneth Aldred, pres., Spencer Chem. Co. & The Pittsburg & Midway Coal Mining Co., 610 Dwight Bldg., Kansas City 6, Mo.; res. 5800 Mission Dr., Kansas City 2.
Exec.; b. Columbus, Cherokee Co., Kans., Jan. 25, 1902; s. of Charles Favor and Clara May (Hughes) Spencer; ed. U. Kans., B.A., 1926; mem.: Beta Theta Pi, Sigma Gamma Epsilon, Sigma Tau; m. Helen Elizabeth Foresman, Jan. 6, 1927. Jr. engr., The Pittsburg & Midway Coal Mng. Co., 1925; chf. engr., 1926-38; gen. mgr. & chf. engr., 1938-40; gen. mgr. & treas., 1940-42; pres., since Dec., 1942; operat. strip coal mines Kans., Mo., Colo., Ky.; organizer & pres., The Mineral Prods. Co., K.C., Mo., 1930 to date; pres., Osage Coal Co., since 1938; pres., Spencer Chem. Co. (formerly, 1941-46, The Military Chem. Works, Inc.), since 1941. Indus. & agric. chems.; plants at Pittsburg (Kans.), Parsons (Kans.), Chicago (Ill.), Henderson (Ky.) & Charlestown (Ind.); sales office, K.C.; carbon diox. retail, K.C., Wichita, Dallas. Dir., Armco Steel Co., K.C. Power & Light Co., Southwest. Bell Tel. Co., The First Natl. Bk. of K.C., Midwest-Radiant Corp., Bitum. Coal Res. Inst., K.C. Fire & Marine Ins. Co., Business Men's Assurance Co. of Am., Natl. Coal Assn. Awarded "Citation for Outstanding Achievement," U. Kans., 1943. A. founder & chmn. bd., Midwest Res. Inst., K. C., Mo.; Baker U., Baldwin, Kans.; Kans. U. Endowmt. Assn., Lawrence, Kans.; Natl. Bitum. Coal Advis. Council, Wash., D.C.; C. of C., K. C. Clubs: K.C. Country, University, K.C., Union League (Chicago), Chemists' (N.Y.), Racquet (St. Louis), River (K.C., Mo.). Hobbies: photography, hunting, fishing.

SPENGEMAN, Willard F., div. hd., E.I. du Pont de Nemours Co., 256 Vanderpool St., Newark, N.J.; res. 248 Summit Ave., Summit, N.J.
Div. hd., pigments dept.; b. Jersey City, N.J., June 28, 1907; s. of Henry L. and Louise A. Spengeman; ed. U. Wis., B.S., 1930; Purdue U., M.S., 1931; U. Wis., Ph.D., 1935; mem.: Alpha Chi Sigma; m. Jean E. Ryan, June 12, 1943; ch.: Jean L., Nancy J., Frederic R. 1935-37, res. chem., Kimberly Clark Corp.; 1937 to date, res. & sales serv., E.I. du Pont de Nemours Co. Res. in synthesis, application of pigment colors. Mem.: A.C.S., Sigma Xi. Clubs: Chem., Summit Tennis. Hobby: stamp collecting.

SPERBERG, Lawrence Rudolph, chf. chem., Borger Div., J.M. Huber Corp., P.O. Box 831, Borger, Texas; res. Borger.
Chem., rubber technologist; b. Galloway, Wis., Feb. 22, 1914; s. of Rudolph F. and Flora (Marks) Sperberg; ed. Hillsdale Coll., Hillsdale, Mich., B.S. 1934; U. of Mich., Ann Arbor, Mich., M.S., 1935; U. of Akron, Akron, Ohio, 1935-36, Goodyear Fellow; m. Miriam Elizabeth Culler, Aug. 8, 1936; ch.: Ronald Leigh, Barbara Gwen, Nancy Jane, Roger Dwight. Goodyear Tire & Rubber Co., Akron, Ohio, res. chem., 1936-38; Cia. Cubana De Caucho, Havana, Cuba, chf. chem., 1938-39; Minn. Mining & Mfg., Detroit, Mich., adhesive chem., 1940; Phillips Pet. Co., Bartlesville, Okla. & Phillips, Texas, mgr. res. compounding & rubber evaluation sections, 1940-50; J.M. Huber Corp., Borger, Texas, chf. chem., 1950 to date. Carbon black res. & tech., rubber res. compounding, GR-S (Cold) rubber dev. Mem.: A.C.S. Hobbies: philatelist, outdoor sports, photography, woodworking.

SPERRY, David Rockwell, Jr., pres., D.R. Sperry & Co., Batavia, Ill.; res. 418 Main St., Batavia.
Exec.; b. Madison, Wis., May 17, 1909; s. of David R. and Martha C. Sperry; ed. St. Albans Prep.; U. of Wis., Knox Coll., B.S.; mem.: Phi Gamma Delta; m. Jane Merrill, Aug. 25, 1937; ch.: David, Meribah, Martha.

SPERRY, Warren M., princ. res. sc. (biochem.), N.Y. State Psychiatric Inst., assoc. prof. of biochem., Columbia U., 722 W. 168th St., New York 32; res. 5612 Post Rd., New York 71, N.Y.
Biochem.; b. Chili, N.Y., June 30, 1900; s. of D.C. and Ethel (Henderson) Sperry; ed. Cornell U., B.Chem. 1921; U. of Ill., M.S. 1922; U. of Rochester, Ph.D. 1925; mem.: Alpha Chi Sigma, Phi Kappa Phi; m. Olwen Leach, June 23, 1925; ch.: Carl B. 1925-30 instr. and asst. prof. of biochem. U. of Rochester; 1930 to date asst. and assoc. prof. of biochem. Columbia U.; 1930-38 chem., Babies' Hosp.; 1938 to date princ. res. sc. (biochem.), N.Y.S. Psychiatric Inst.; res. in fld. of lipide metab., with particular emphasis on cholesterol and relation of lipides to mental disease (approx. 80 pubs.); mem. of Council, A.C.S.; Comm. on Prof. Relations and Status, A.C.S.; Comm. on Clinical Chem. (chmn.), A.C.S. and

Am. Soc. Biol. Chems.; bd. of dirs. N.Y. Sect., A.C.S.; edit. bd. Jl. of Biolog. Chem.; and Cardiovascular Study Sect, U.S. Pub. Health Serv. Mem.: A.C.S., A.S.Biol.C., A.A.A.S., A.O. C.S., A.A.Clin.C., A.I.Nutri., A.I.C. (fellow), N.Y. Acdy. Sc., Soc. Exptl. Biol. Med., Soc. Pediatric Res., The Biochem. Soc. (London), Societé Philomatique de Paris, The Harvey Soc. Club: N.Y. Illin. Hobby: cabinet making.

SPEYER, Frederick Burow, specialist, 2010 E. Hennepin (Gen. Mills, Inc., res. dept.), Minneapolis, Minn.; res. 4944 Thomas Ave., So., Minneapolis, 10.
Resin spec., res. & dev. chem., conslt.; b. Kalamazoo, Mich., Feb. 28, 1916; s. of Alfred and Cora B. Speyer; ed. Kalamazoo Coll., B.A., 1939; M.S. 1940; Purdue U. 1941-43; mem.: Sigma Xi, Sigma Delta Psi, Phi Lambda; m. Evelyn L. Seeley, Jan., 1946; ch.: Alfred William, Kip. The Dow Chem. Co. 1934-35, contr. chem.; Kalamazoo Coll. 1935-39, asst. ship.; Upjohn Co. 1939-40, Upjohn fellow; The Dow Chem. Co. 1940-41 res. chem.; Purdue U. 1941-43 res. fellow; Shellmar Prods. Co. 1943-44 resin tech.; Am. Resinous Chems. Corp. 1944-47, hd. spec. coatings and laminants dept., 1947-49, dir., Conslt. Res. Assocs.; General Mills Inc. 1949 to date, specialist. Spykor Co., pres.; Rezo Prods. Co., owner; Resinous Coatings Corp., v.p.; Plasticote, Inc., v.p. Contrib. extens. to sc. and tech. jls. Mem.: A.C.S., Indust. Chems. Forum (Minn.). Hobbies: music, chess, athletics.

SPICER, William Monroe, prof. chem., Ga. Inst. Tech., Atlanta, Ga.; res. 2385 Westminster Way, N.E.
Prof.; b. Hanover, Va., Dec. 22, 1908; s. of William J. and Mana L. Spicer; ed. B.S., Randolph-Macon Coll., 1932; Ph.D., U. Va., 1936; du Pont Fellow; mem.: Phi Beta Kappa, Lambda Chi Alpha; m. Kathleen L. Daniel, Nov. 20, 1938; ch.: William M., Jr., Marilyn K. Grad. asst. U. Va., 1932-35; du Pont res. fellow, 1935-36; Ga. Inst. Tech., instr., 1936; asst. prof., 1938; assoc. prof., 1942; prof., 1947 to date. Co-author: "Gen. Chem. Problems," 1943. Mem.: A.C.S., Sigma Xi, O.D.K.

SPICKARD, Paul William, dir. med. res., prod. dev., Rexall Drug Co., 8480 Beverly Blvd., Los Angeles 48, Calif.; res. 2432 34th St., Santa Monica, Calif.
Physician; b. Spickard, Mo., Oct. 4, 1896; s. of William Warren, and Florence Ewing Spickard; ed. Drake U.; U. Wash.; U. Oregon Med. Schl., M.D., 1925; mem.: Kappa Lambda (Drake U.), Alpha Kappa Kappa (Med.); m. Hilma Marie Erickson, July 26, 1925; ch.: William, John, James, Susan, Robert. Interne Seattle Gen. Hosp., 1925-26; private pract., Seattle, 1926-28; U.S. P.H.S., Port Townsend, Wash., Marine Hosp., act. asst. surgeon, 1928-31; med. off., U.S. Food & Drug Adm., 1931-35; at times act. chf. drug. contr.; med. dir., Rexall Drug Co. 1935-45; dir. med. res. 1945-49; dir. med. res., prod. dev., Rexall Drug Co. 1949 to date. Exec. wk. in res. field, few papers read before med., trade assns., 3 yrs. chmn. med. comm., Western Sect., A. Phar. Mfrs. Assn. Mem.: Los Angeles Co. Med. Assn., Calif. St. Med. Assn., A.M.A. (fellow). Club: Chem. (N.Y.). Hobbies: motoring, fishing, bowling.

SPIEGEL-ADOLF, Dr. (Anna Si)mona, prof. of colloid chem., Temple U. Schl. of Medicine; res. 6807 Lawnton Ave., Phila. 26, Penn.
Res. and teaching; b. Vienna, Austria, Feb. 23, 1893; d. of Dr. Jacques and Hedwig (Spitzer) Adolf; ed. M.D., Med. Schl. U. of Vienna, 1918; docent of med. chem., U. of Vienna, 1930; m. Dr. Ernest Spiegel, Aug. 1, 1925. Asst. U. Dept. Med. Colloid Chem., Vienna, Austria, 1918-30; prof. and hd. dept. of colloid chem., Temple U. Schl. of Medicine. Res. in physicochemistry of proteins, lipids, radiation effects, x-ray diffraction, basic cancer res. Author: "The Globulins," 1930; co-author (with Dr. Henny) "X-Ray Diffraction in Biology and Medicine," 1947. Mem.: A.C.S., Am. Soc. Biol. Chem., Biochem. Soc. (London), A.A.A.S. (fellow), Am. Optical Soc., Am. Crystall. Assoc., Soc. of Exp. Biol. and Med., Phila. Physiol. Soc., Sigma Xi (Temple U. chapter). Club: Women's U. Hobbies: music, gardening.

SPIELMAN, Harry Russell, dev. chem., tech. serv. rep., 6200 W. 51 St., Chicago 38, Ill.; res. 2636 Asbury Ave., Evanston, Ill.
Indust. chem.; b. St. Louis, Mo., Sept. 20, 1919; s. of Harry Louis and Hedwig Pieper Spielman; ed. B.A. (chem. major, math., physics minor) U. Mo., 1941; grad. wk., chem., U. Mo. 1942; mem.: Phi Eta Sigma, Scholastic Hon. Soc., 1938, Acacia; m. Helene Metella Cassidy, June 23, 1945; ch.: Lee Russell. Lab. sect. hd., Inorgan. Lab., Atlas Powder Co., Weldon Spring, Mo., 1942-43; plant chem., supt. rubber proc. dept., Mines Equip. Co., St. Louis, Mo., 1943-44; rubber lab. hd., Witco Chem. Co., res. labs., Chicago, Ill., 1944-47; dev. chem., tech. serv. rep., 1947 to date. Explosives tech., dev. rubber and plastics compd. chems., evaluation tech. rubber, allied elastomers. Mem.: A.C.S. (div. rubber chem.), Chicago Rubber Group, Detr. Rubber Plastics Group. Hobbies: audio electronics, photography.

SPIERS, Robert D., pres. Dianol, Inc., Pinellas Intl. Airport, St. Petersburg, Fla.; res. 8525 Blind Pass Drive, Sunset Beach, St. Petersburg, Fla.
Exec.; b. Phila., Pa., Aug. 21, 1914; s. of Philip and Beatrice Spiers; B.S., chem. Phila., Coll. of Pharmacy & Science; mem.: Gamma Phi Sigma; m. Evelyn G. Horstman, Jan. 17, 1940. Res. chem. U.S. Indus. Chemicals, Inc., Baltimore, Md.; assoc. chem., dev. & res., U.S. Navy Dept. (Bur. of Ships) 1939 to 1945; pres., Robert D. Spiers Labs., St. Petersburg, Fla., 1945 to 1947; pres., 1947 to present, Dianol, Inc., St. Petersburg, Fla. Research arts. in "Indus. and Engrg. Chemistry," analyt. chem. edition. Mem.: Alpha Sigma. Hobbies: electronics, amateur radio.

SPITALERI, Frank, perfumer, chem., Polak Frutal Works, 33 Sprague Ave., Middletown, N.Y.; res. 9031 Whitney Ave., Elmhurst, L.I., N.Y.
Perfumer, chem.; b. Italy, Aug. 14, 1901; s. of Eusebio and Josephine Spitaleri; ed. Cooper Union, B.S. Chem.; mem.: Omega Delta Phi; m. Florence DeLeon, Apr. 14, 1933; ch.: Joan Florence. Anal. chem., Antoine Chiris, N.J., 1917-22; anal. & res. chem., Morana, Inc., N.J., 1922-25; cosmetic chem., Leibenthal Bros., Cleveland, 1925-27; cosmetic chem., Ilium Mfg. Co., Troy, N.Y., 1927-28; P.R. Dreyer, perfumer chem., N.Y., 1928-30; perfumer & tech. rep., Felton Chem., Bklyn., 1930-42; perfumer, Aromatic Prods., N.Y., 1942-47; perfumer, chem., Polak Frutal Wks., Middletown, N.Y., 1947 to date. Res. in perfumer compds., applica. in cosmetics, tech. prods. Mem.: Soc. Am. Perfumers, A.I.C., F.A.I.C. Hobby: piano.

SPITZ, Seymour J., exec., v.p., Newport Industries, Inc., 230 Park Ave., N.Y.C.
Exec.; b. Boston, Mass., May 16, 1891; ed. M.I.T., S.B., 1914; m. Marie J. Spinette, Oct. 5, 1920; ch.: 1 son. With Avery Chem. Co., asst. supt., 1914-16; Newport Co., operat. chem. engr. to v.p. 1917-31; Acetol Prod. Co., pres. 1930-31; Gen. Naval Stores Co., Inc., pres. 1928 to 1936; Newport Industries, Inc., v.p. 1931 to date. Hobbies: dogs, hunting, fishing.

SPITZE, LeRoy Alvin, prof. chem., chem. dept., Southwestern Coll.; res. 1512 E. 11 St., Winfield, Kan.
Educator; b. Ford Co., Kan., Sept. 7, 1917; s. of Louis Alvin and Christina W.; ed. Southwestern Coll., A.B. (hon. physics) 1939; Rensselaer Polytech. Inst., M.S., 1941; Ph.D., 1942; mem.: Order of the Mound, Phi Lambda Upsilon, Sigma Xi; m. Glennys L. Smith, Dec. 31, 1942; ch.: Randall L., Kevin L., Kimett A., and Terril C. Asst. inst., Rensselaer (Troy), 1939-42; physical chem., Owens-Corning Fiberglas Corp. (Newark), Ohio, 1943-47; prof. chem., Southwestern Coll., 1947 to date. Res. in sorption of vapors on solids surf. stud of glass fibers. Mem.: A.C.S., Kans. Acdy. Sc. Hobbies: photography, sports.

SPITZLI, Donald Hawkes, chf. chem. res., Congoleum-Nairn, Inc., Kearny, N.J.; res. 24 Oak Ridge Ave., Summit, N.J.
Chf. chem. res.; b. Fitchburg, Mass., Mar. 9, 1906; s. of Albert and Sarah Armstrong Spitzli; ed. S.B., M.I.T., chem. engrg. 1927; S.M., chem. engrg. practice 1928; m. Beatrice Banister, May 28, 1930; ch.: Donald H., Jr., Edward P., Stephen P. 1928-42, res. dept. Congoleum-Nairn Inc., 1942 to date, chf. chem. res. Mem.: A.I.Ch.E., A.C.S., A.O.C.S., Assn. Res. Dirs. Club: Chem. (N.Y.).

SPOERRI, Paul Emmanuel, prof. of org. chem., Polytechnic Inst. of Bklyn., 99 Livingston St., Bklyn., N.Y.; res. Madison St., Blue Point, Long Island.
Prof., res. and consulting chem.; b. Neuchatel, Switzerland, Apr. 30, 1900; s. of Gottlieb and Eugenie Thiele Spoerri; ed. Ch.E., Polytech. Burgdorf, Switzerland, 1920, U. of Zurich, Switzerland, 1923-27, Ph.D., U. of Berne, Switzerland, 1929; m Viviane Simone Puttermans in 1931; ch.: Sven, Lisbeth, Peter. Instr. of chem., Polytechnic Inst. of Bklyn., 1929-35; asst. prof., 1935-42; assoc., prof., 1942-48; prof. of org. chem., 1948 to present. Pubs. mainly in Jl. Amer. Chem. Soc. dealing with res. on Pyrazine and Quinoxaline compounds and their application to medicinal prods. Civilian res. on milkweed seed oil with Office of Sc. Res. and Dev. Author: "Principles and Practice of Qualitative Analysis" (McGraw-Hill Book Company, Inc.) 1942. Mem.: A.C.S., Swiss Chemical Soc., Sigma Xi, Phi Lambda Upsilon. Hobbies: music, Siamese cats, tropical fish.

SPOOR, Herbert John, res. assoc. (asst. prof.), N.Y. Med. Coll., dept. dermatology, syphilology, 105 St. & 5th Ave., N.Y.C.; res. 6705 A 186 Lane, Flushing, N.Y.
Physician, res. dir.; b. St. Paul, Minn., May 9, 1911; s. of William and Amy Spoor; ed. U. Wash., 1934, B.S., Chem.; Ohio St. U., 1940, Ph.D., (physiol., biochem.); N.Y.U., Coll. Med., M.D., 1945; mem.: Sigma Xi, Phi Lambda Upsilon (hon.); m. Edna Aladovich, 1939; ch.: Frederick William, Thomas Charles. Rockefeller fellow, Ohio St. U., 1936-41; indust. fellow, Mellon Inst. 1941-42; instr., N.Y.U., Coll. Med. (biochem.), 1942-45; interne, Mary Immaculate Hosp., Jamaica, N.Y. 1945-46; res. physician (Capt. M.C.), A.U.S., 1946-48; asst. dir. med. div., Bristol-Myers Co. 1948-49; res. assoc., dermatology, N.Y. Med Coll., 1949 to date. Assoc. vis. dermatol. syphilologist, Metropolitan Hosp., N.Y.D.H., 1949 to date. Med. Dir., Natl. Diagnostic Labs., N.Y., v.p., Spec., Inc., Clinton, N.J. Pubs. in endocrine chem., physiol., clinical applic. Mem.: A.A., A.C.S., Soc. Study Int. Secretions. Physiol. Soc. A.M.A., N.Y. Acdy. N.Y. Coll. Med, War Dept. Commendation (research). Club: Med. Dir. (N.Y.). Hobbies: gardening, tinkering mechanically.

SPRAGUE, James Maurice, dir. of org. chem. res., Sharp & Dohme, Inc., Glenolden, Pa.; res. 347 Lakeview Ave., Drexel Hilll, Pa.
Org. chem.; b. Trafalgar, Ind., July 10, 1908; ed. Franklin Coll., 1930, A.B.; U. of Wis., Ph.D. 1934; Yale U., post-doctorate fellowship 1934-37; mem.: Kappa Delta Rho. U. of Wis., teaching assistantship, 1930-34; Yale U., res. fellowship, 1934-37; Sharp & Dohme, Inc., org. res. chem., 1937 to date. Mem.: A.C.S., N.Y. Acdy. of Sc., A.A.A.S., Sigma Xi, Chem. Soc. of London.

SPRAGUE, Paul E., v.p., Glidden Co., 1396 Union Commerce Bldg., Cleveland 14, Ohio; res. 22401 McCauley Rd., Shaker Heights, Ohio.
Exec.; b. Cleveland, Ohio, Feb. 7, 1892; s. of Frank M. and Josie Griesmer Sprague; ed. B.S. Chem. Engrg. 1914; M.Sc., Ohio St. U., 1915; m. Ruth E. Horrocks, June 20, 1918; ch.: Jean S. Benson, Dorothea S. Horn, Shirley Ann S. Thompson. July, 1915 to date, The Glidden Co., chem., sales dept. 1916-17; asst. purchasing agt. 1917; W.W. I, priv. Chem. Warfare Serv., U.S.A., 1917; 2nd Lt. 1918; asst. mgr. ind. sales; Eastern Ind. sales mgr. 1920-25; v.p., gen. mgr., Euston Lead Co., 1925-29; v.p. gen. mgr., Metals Ref. Co., 1929-35; v.p. Glidden Co. 1936 to date; dir. 1937 to date; mem. exec. comm., asst. to pres., 1947 to date. Growth Prods. Co., Pasacgoula, Miss., v.p., dir.; Jacksonville Processing Corp., Jacksonville, Fla., v.p., dir. Clubs: Union (Cleveland, Ohio), Union League (Chicago, Ill.), Shaker Heights Country. Hobbies: travel, photography.

SPRINGER, William Moore, v.p. chg. res., Bristol-Myers Co., 225 Long Ave., Hillside, N.J.; res. 345 Wychwood Rd., Westfield, N.J.
Chem. engr.; b. Bklyn., N.Y., Feb. 13, 1893; s. of Jacob and Elmira Fischer Springer; ed. Columbia U., Chem. Engr. 1915; mem.: Phi Lambda Upsilon; m. Elinor Jacobsen, Feb. 11, 1938; ch.: William Christian. Dyestuff Census, U.S. Dept. Comm. 1915; Chas. Pfizer Co., 1915-16; Bristol-Myers Co. 1916 to date, res. chem., res. dir. from 1919-41; v.p. chg. res. Mem.: A.C.S., Faraday Soc., A.Stat.A., A.R.D., E.S., Biom. Soc. Hobbies: mineralogy, photography, recordings of music, geological sciences in general.

SPROULL, Reavis Claton, asst. dir., Southern Res. Inst.; res. 1603 Primrose Pl., Homewood, Ala.
Chem.; b. Taylorsville, Ga., Aug. 4, 1913; s. of John C. and Mattie L. Sproull; ed. Berry Jr. Coll.; Mercer U., A.B. 1932; M.A. 1936; D.Sc. (hon.) 1950; N.Y.U., Ph.D. 1941; Aegean Scholarship, Barbour Prize for Publ. Speaking; mem.: Kappa Alpha, Phi Lambda Upsilon, Kappa Phi Kappa; m. Mildred O'Daniel, Aug., 1940; ch.: Reavis Claton, Jr., Alta Jane. 1932-35, principal Wadley High Schl., Wadley, Ga.; 1935-36, asst. dept. chem., Mercer U.; 1936-41, teach. fellow, res. assoc., N.Y.U.; 1941-46, dev. chem. chg. paper lab., Gen. Elec. Co., Pittsfield, Mass.; 1946-49, hd. wood, paper div., Southern Res. Inst., Birmingham, Ala.; 1949 to date asst. dir. Res. in dev. elect. insulation, spec. papers from wood, agr. residues, studies on phar., packaging, preserv. silicones. Mem.: A.C.S., A.A.A.S., T.A.P.P.I., A.W.P.A. Club: Civitan. Hobby: gardening.

SPRUANCE, F. Palin, v.p., American Chem. Paint Co., Ambler, Pa.; res. Ivyland, Pa.
V.p.; b. Philadelphia; s. of Frank and Laura (Baily) Spruance; ed. U. of Pa. B.S. in M.E.; mem.: Alpha Chi Rho; m. Helen Sensenderfer, Apr. 21, 1910; ch.: F. Palin, Jr., Mary S. Alden. Am. Chem. Paint Co., v.p. & dir.

SPURGEON, William M., res. dir., Am. Fluresit Co., Inc., 4011 Red Bank Rd., Cincinnati 27,

Ohio; res. 2034 Dallas Ave., No. College Hill, Ohio.
Chem.; b. Quincy, Ill., Dec. 5, 1917; s. of S.M. and W.A. Spurgeon; ed. U. Ill., 1934-Feb., 1938, B.S. Chem.; U. Mich., M.S., 1939; Ph.D., 1941; mem.: Gamma Alpha; m. Richarda Neuberg, Dec. 9, 1941; ch.: William A., Richard M. 1939-41, teach. fellow, U. Mich.; 1941-42, res. chem., Texas Co., Beacon, N.Y.; 1942-46, U.S.A., Chem. Corps., asst. chem. off. H.Q. Eighth Army; 1946, res. chem., Texas Co., Beacon, N.Y.; 1946-48, asst. prof. of applied sc., U. Cincinnati, Cincinnati, Ohio; 1948 to date res. dir., Am. Fluresit Co.

SPURLIN, Harold Morton, tech. asst. to dir., Hercules Experiment Station, Wilmington, Del.; res. R.F.D. 1, Marshallton, Del.
Physical chem.; b. Atlanta, Ga., 1905; s. of O.L. and Sarah (Huiet) Spurlin; ed. 1925, B.S., Georgia Schl. of Tech.; 1928, Ph.D., Yale U.; m. Mary A. Kinter, Apr. 7, 1944; ch.: Barbara, William, Margaret, Alice. Hercules Powder Co.; 1928 res. chem., 1938 group leader gen. res. group, 1943 tech. group leader gen. res. group, 1945 to date, tech. asst. to dir. Mem.: A.C.S., A.A.A.S., Soc. of Rheology, A.I.Ch.E.

SPURR, Allan L., comptroller, Arthur D. Little, Inc., 30 Memorial Dr., Cambridge, Mass.; res. 61 Jenness St., E. Lynn, Mass.
Exec.; b. Lynn, Mass., June 12, 1907; s. of Ernest W. and Ethel H. Spurr; ed. Bentley Schl. of Acctg. & Finance, 1929; m. Doris M. Allard, Mar. 29, 1930; ch.: Alfred E., Philip A. 1925-43, J.B. Blood Co., Lynn, Mass., accountant; Arthur D. Little, Inc., Cambridge, 1943-46, asst. comptroller, 1946-50, chf. accountant, 1950 to date, comptroller. Mem.: Natl. Assn. of Cost Accountants, Natl. Office Management Assn.

SQUIBB, Francis Plummer, Western mgr. pigment color & chem. div., Sherwin-Williams Co., 300 West Lake St., Chicago, Ill.; res. 703 Bruce Ave., Flossmoor, Ill.
Sales mgr.; b. Lawrenceburg, Ind., Feb. 26, 1901; s. of George L.P. and Mina L. Squibb; ed. M.I.T., B.S. 1923, M.S. 1924; mem.: Theta Chi, Theta Tau; m. Margaret Ellison Newcombe, Nov. 8, 1924; ch.: Francis Plummer, Jr. Procter & Gamble Co., chem. engr., 1924-26; Sherwin-Williams Co., asst. supt. linseed oil mill 1926-27, pigment, color & chem. div., salesman 1927-36, western mgr. 1936 to date. Clubs: Chicago Athletic Assn., Flossmoor Country. Hobbies: golf, bridge.

STACK, James Henry, managing editor, Am. Chem. Soc. News Service, 60 E. 42nd St., N.Y. 17, N.Y.; res. 19 Phillips Rd., Glen Cove, N.Y.
Editor; b. N.Y.C., Feb. 13, 1908; s. of William and Annie (Davey) Stack; ed. Cornell U., A.B. 1928; N.Y.U., M.A. 1933, Phi Beta Kappa, Phi Kappa Phi; mem.: Theta Kappa Phi; m. Helen T. Collins, Dec. 29, 1934; ch.: William Thomas, Robert John. Bronx Home News, reporter & rewrite, 1928-33; E. Greenwich (R.I.) News, ed. & co-pub., 1933-34; Suffolk Bulletin (L.I.), ed., 1934-35; North Shore Daily Journal (L.I.), spec. ed., 1935-38; L.I. Star-Journal, Nassau Edition ed., 1938-39; N.Y. Herald Tribune, copy ed., 1939-45; asst. mng. ed., A.C.S. News Serv., 1945-47, mng. ed., 1948 to date. Publicizing chem. profession & its achievements in both fundamental & applied res. Club: Chemists' (N.Y.).

STAFF, Charles Eugene, asst. supt. res., dev., Bakelite div., Union Carbide & Carbon Corp., 230 Grove St., Bloomfield, N.J.; res. 78 Dryden Rd., Upper Montclair, N.J.
Chem.; b. Detroit, Mich., Dec. 28, 1908; s. of Charles and Amalie H. Staff; ed. Culver Military Acdy.; U. Mich. B.S. 1930; Technische Hochschule, Munich, Dr. Ing. 1935; mem.: Sigma Chi; m. Kathryn McCullough, Oct. 3, 1931; ch.: Gretchen M., Kirstin E., Kathryn M., Mary E. Carbide & Carbon Chems. Corp., res. chem., 1935-44; Bakelite Corp., U.C.C.C., res. div. hd., 1944-47; Bakelite Div. U.C.C.C., asst. supt. res. & dev. Mem.: A.C.S., S.P.I. Club: Chem. (N.Y.).

STAGER, Stanley R., Jr., asst. div. purchas. agt., E.I. du Pont de Nemours, Wilmington 98, Del.; res. 196 Brecks Lane, Wilmington 79.
Chem. purchas.; b. Phila., Pa., June 8, 1913; s. of Stanley R. and Elsie Ring Stager; ed. B.Chem., Cornell, 1935; Chem.E. 1936; mem.: Phi Kappa Psi, Tau Beta Pi; m. Barbara Anne Bump, June 17, 1938; ch.: Stanley R., 3rd, Sally M. 1935-36 asst. instr. Cornell U.; 1936-41, supvr.; 1941-43, sr. supvr. Chlorine Plant; 1943-46 chf. supvr. Camphor-Chlorine Area, du Pont Chambers Wks.; 1946 to date asst. div. purchas. agt., du Pont, Wilmington. Mem.: A.I.Ch.E., Wilmington Purch. Agts. Assn.; Bd. Trustees, Tatnall Schl. Clubs: Concord Country; du Pont Country; Country Swimming, Cornell (Del.). Hobbies: golf, woodwork, stamp collecting.

STAHLY, Eldon Everett, dir. chem. res., 1331 S. First St., Comm. Solvents Corp., Terre Haute, Ind.; res. 1826 N. 7 St.
Chem. res.; b. Danvers, Ill., Feb. 13, 1908; s. of U.S. and Bertha (Blough) Stahly, ed. Bluffton Coll., B.A. 1929; Ohio St. U., M.A. 1931; Penn. St. Coll., Ph.D., 1934; mem.: Pi Delta, Pi Lambda Upsilon, Sigma Xi, Gamma Alpha; m. Doris J. Musser, Dec., 1946. Gen. Elec., res. chem., 4 mos., 1934; Mallinckrodt Res. Fellowship, Penn. St. Coll., 4 mos. 1934-35; Stand. Oil of La., res. chem., engr., 1935-41; Mellon Inst. fellow, 1941-44; sr. fellow, 1944-47; adm. fellow, 1947-48; Comm. Solvents Corp., dir. chem. res. 1948 to date. Theory of Polymerization (publ. with F.C. Whitmore); Butadiene from Ethanol (Mellon Inst. A.C.S. pub.); 23 patents on pet., chem. proc., (Standard Oil, Koppers Co.); Instrument. of Synth. Rubber Proc. (Mellon Inst.). Mem.: A.C.S., A.I.Ch.E., A.A.A.S., Biometric Soc., Prof. Engr. in Pa., Ind. Clubs: Chem. (N.Y.); Country (Terre Haute). Hobbies: chess, horseshoes.

STALEY, Augustus Eugene, Jr., pres., chmn. bd., A.E. Staley Mfg. Co., Box 151, Decatur 60, Ill.; res. 5 Montgomery Pl., Decatur 32.
Pres., chmn. bd.; b. Balt., Md., July 24, 1903; s. of Augustus Eugene and Emma Louise Tressler Staley; ed. Staunton Military Acdy., 1921; B.S. U. Pa., 1925; LL.D. (hon.) James Millikin University, 1950; mem.: Kappa Sigma; m. Lenore Mueller, Sept. 15, 1926; ch.: A.E., III, Henry M., William. Entire bus. career, A.E. Staley Mfg. Co., pres., 1932 to date; pres. and chmn. of bd., 1941 to date. Chief E.C.A. Special Mission to Norway 1948-49; received Norwegian Govt. decoration of Commander with Star of the Order of St. Olav. Dir. Decatur and Macon Co. Hosp.; Citizens Natl. Bk. (Decatur); Wabash R.R. Co.; Safe Deposit and Trust Co. (Balt.). Clubs: Country (Decatur), Univ. (Chicago), Chicago Golf, Tavern (Chicago). Hobbies: hunting, deep sea fishing, golf.

STALLINGS, Eugene M., plant mgr., Joseph E. Seagram & Sons, Inc., Lawrenceburg, Ind.; res. R.R. 1, Lawrenceburg.
Chem. engr.; b. Danville, Ill., June 7, 1897; s. of John and Cora Stallings; ed. Swarthmore Coll.; U. of Ill., B.S., 1920; mem.: Phi Kappa Psi; m. Margaret Williams, May 29, 1948; ch.: John Paul by first wife, Katherine Davis Stallings, deceased. 2nd Lt. Tank Corps, A.E.F., 1918; chem., Armour Soap, Glue & Glycerine, 1920; chem., Empire Gas & Fuel Co., 1921-22; metall., Terre Haute

Malleable & Mfg. Co., 1922-25; supvr., Com. Solvents Corp., 1925-29; Com. Pigments Corp., 1929-31; plant mgr., Soyex Co., Inc., 1933-36; supt., Publicker Com. Alcohol Co., 1933-36; supt., Joseph E. Seagrams & Sons, Inc., 1936-42; engr., Tech. Mission to Cuba, 1943; W.P.B. 1943-44; alcohol advisor to China 1945-46; mgr., Joseph E. Seagrams & Sons, 1945 to date; during the war acted as advisor to Chinese & Cuban Govts. on mfr. of alcohol for use as a motor fuel. Mem.: A.I.Ch.E. Clubs: Dearborn Country, Cincinnati Club. Hobby: farming.

STAMBERG, Dr. Olof E(rnest), dir. res., P.O. Box 2081, Indust. Res. Labs., Milwaukee, Wis.; res. Rt. 5, Box 86, Waukesha, Wis.
Chem.; b. Sweden, Mar. 25, 1909 (U.S. citizen); ed. B.S. U. Ill.; M.S., Ph.D. U. Minn.; mem.: Alpha Chi Sigma; m. Kari Bakke, 1937; ch.: Eric, John, Margit. Assoc. chem., agr. biochem., Minnesota, 1934-40; assoc. res. prof., Stanford U. 1940-43; prof. agr. chem., hd. dept. U. Idaho, 1943-46; dir., Tech. Serv. Red Star Yeast & Prods. Co., 1946-47; dir. res., indust. res. labs. 1947 to date; coordinator, Q.M.C. proj., collaborator, west. regional res. lab., U.S. Dept. Agr. 1945. Res. in cereal chem., tech., chem. of baking, starch, amylase activity, dried milk, proteins of cereals, milk, vitamins, feeds, nutrition, food res. Author: 'Milk in Cakes, Am. Dry Milk Inst.," 1940. Mem.: Sigma Xi, A.C.S., A.A.A.S., A.A.C.C., Am. Brew. Chem., Wis. Dairy Techs. Hobbies: fishing, photography.

STAMM, Alfred J., subj. matter spec., act. chf., div. derived prods., U.S. Forest Prods. Lab., Madison, Wis.; res. 3509 Blackhawk Dr., Madison 5. Wis.
Chem. direct. res.; b. Los Angeles, Calif., Dec. 29, 1897; s. of August Julius and Alice Elizabeth Kottmeier Stamm; ed. B.S., Calif. Inst. Tech., 1921; M.S., U. Wis. 1923; Ph.D., 1925; Nat. Res. Council (fellow), U. Upsala, Upsala, Sweden, 1928; mem.: Tau Beta Pi, Sigma Xi, Alpha Chi Sigma, Phi Lambda Upsilon; m. Erdine R. Timberlake, Aug. 8, 1928; ch.: Virginia E., Elizabeth E., Alfred John. Chem., Gen. Pet. Corp., Los Angeles, Calif. 1921-22; asst. chem. dept., U. Wis., Madison, Wis., 1922-25; assoc. chem., chf. chem., Forest Prods. Lab., Madison, Wis., 1935 to date. Contrib. extens. to sc. and tech. jls. Contrib. "Surface Properties," sect. of "Wood Chem." ed. by Wise, Reinhold Pub. Corp., N.Y. 1944; co-author: "Chem. Processing of Wood" with E.E. Harris, Chem. Pub. Co., 1950. Mem.: A.C.S. (chmn., Colloid Div., chmn. Wis. sect.), Forest Prods. Res. Soc. Hobbies: gardening, photography.

STAMMELMAN, Mortimer J., Dr., pres., The Atmos Products Co., 119 W. 23rd St., New York 11, N.Y.; res. 515 West End Ave., New York 24.
Chem.; b. New York, N.Y., Dec. 27, 1897; s. of Joseph and Rose (Rattner) Stammelman; ed. A. B. 1920, A.M., 1921, Ph.D., 1923, Columbia U.; m. Florence Siff, Nov. 5, 1935; ch.: Joseph Nathan. Chem., International Arms & Fuse Co., 1918; chf. chem., Duesenberg Motors Co., 1919; chem. asst., Columbia U., 1919-23; conslt. Hyrogen-ion wk. at Mt. Sinai Hospital, N.Y.; secy. treas., C.F. Kirk Co., mfg. ampoules & vaccines; pres., Stammelman Realty Co., 1928-42; pres., The Atmos Products Co., 1923 to present. Res. in physical chem. work-hydrogen-ion, Ph. determinations; humidification in tobacco ind.; food preservation. Contributor of arts. for Tobacco Trade publications. Mem.: A.I.C. (fellow), A.A.A.S. (fellow). Former v.p., Parent Assoc., P.S. No. 9, New York. Clubs: Tobacco Salesmen's Assoc. of Am., Inc. (pres.), Tobacco Table of N.Y. (asst. treas.), B'Nai B'rith. Hobbies: fishing, swimming, bridge.

STANDLEY, George Prince, asst. mgr. rayon res., Indust. Rayon Corp., Cleveland, Ohio; res. 19880 Laurel Ave., Rocky River 16, Ohio.
Res. chem.; b. Beverly, Mass., July 1, 1904; s. of Willard A. and Louise L. (Prince) Standley; ed. M.I.T., S.B., 1927; Ph.D., 1932; Case Inst. Tech. 1941-42; Alex. Hamilton Inst. 1947-49; mem.: Alpha Chi Sigma; m. Louise Frances Clark, Aug. 18, 1934; ch.: Barbara L. United Shoe Mach. Co. 1927, chem.; M.I.T., 1927-30, asst. inst. chem.; E.I. du Pont de Nemours Co., rayon dept. 1931-40, chem., group leader; Indust. Rayon Corp. 1940 to date, res. chem., asst. mgr., rayon res. Res. in aliphatic hydrocarbons; proc., prod. res. rayon tire cord, text. rayon. Mem.: A.C.S., A.I.C., A.A.A.S. Club: M.I.T. (Cleveland). Hobbies: photography, gardening, literature.

STANESLOW, Bernard John, chf. chem., Moore Bus. Forms, Inc., res. & serv. div., Niagara Falls, N.Y.; res. 946 James Ave.
Chem.; b. Amsterdam, N.Y., Aug. 20, 1909; s. of Raymond E. and Elizabeth S. Staneslow; ed. Cornell U., B.Ch., 1931; M.Ch., 1933; mem.: Alpha Chi Sigma; m. Catherine A. Parry, Aug. 31, 1935; ch.: William Parry, Bernard John, Jr. Aug., 1931-Mar., 1932, J.T. Baker Chem. Co., Phillipsburg, N.J., anal. chem.; Jan., 1934-May, 1934, Linde Air Prods. Co., Buffalo, N.Y., chem.; May, 1934 to date, Moore Bus. Forms, Inc., res. & serv. div., chem. Advances in tech. of carbon paper inks, raw matls. Improvement in paper for bus. forms use. Contrib. to H. Bennett's book, "Commercial Waxes." Mem.: A.C.S., A. Electro. S., A.I.P., A.O.C.S., T.A.L.I., T.A.P.P.I. Club: Niagara (Niagara Falls). Hobbies: tennis, bowling, cosmetics, wax collection, color photography.

STANFIELD, Kenneth Edison, chem., U.S. Bur. Mines, P.O. Box 621, Laramie, Wyo.; res. 905 Steele, Laramie.
Res. chem.; b. Cheyenne, Wyo., July 19, 1906; s. of Oscar C. and Anna W. Stanfield; ed. U. Wyo., B.A., 1929; M.A., Aug., 1931; mem.: Sigma Chi; m. Lois Marie Lovercheck, July 18, 1933; ch.: John E., Lois M. Inst. chem., U. Wyo., 1931-32; anal. chem., Monolith Cement Co., Laramie, Wyo. (seasonal), 1930, 1933-34; contr. chem., Great Western Sugar Co., Bayard, Nebr. (seasonal) 1932-33; contr. chem., Holly Sugar Corp., Torrington, Wyo., (seasonal), 1934; chem. (soil anal. res.), U.S. Bur. of Reclamation, Laramie, Wyo., 1934-35; chem., (res. pet., oil shale), U.S. Bur. of Mines, 1935 to date. Res. concerning composition, properties of petroleum asphalt, of oil shale; Contrib. to sc. and tech. jls. Mem.: A.C.S., Assn. Asphalt Paving Tech., Sigma Xi (Natl. Res. Soc.), Gamma Sigma Epsilon (hon. chem. frat.); trustee, Gamma Xi cht. of Sigma Chi frat. (Laramie, Wyo.). Club: Lions (Internatl. serv.); Laramie Lodge No. 3, A.F. & A.M. Hobbies: fishing, photography.

STANIFORTH, Robert Arthur, dir., res. and dev., Monsanto Chem. Co., Mound Lab., Miamisburg, O.; res. 106 Avon Way, Dayton, O.
Dir. of res. and dev.; b. Cleveland, O., Oct. 5, 1917; s. of Arthur and Elsie Staniforth; ed. B. A., Western Reserve U., chem. 1939; grad. asst. chem., Ohio State U., 1939-41, M.S., chem., Ohio State U., 1942, asst., Ohio State U., 1942-43, Ph. D., inorganic chem., O. State U. 1943; mem.: Gamma Alpha; m. Rosemary Pemberton, June 12, 1943; ch.: Judith Ann, James. Res. chem., General Aniline & Film Corp., 1943-44. Held following positions to date with Monsanto Chemical Co.: Res.

chem., 1944-46; group leader, 1946-47; section chf., 1947-48; dir. of res. and dev. div., Sept., 1948 to present. Author: "Transuranium Elements and Nuclear Fission," 1943. Mem.: A.C.S., Phi Beta Kappa, Sigma Xi, Phi Lambda Epsilon.

STANLEY, John Pearson, chf., res. & dev. lab., R.P. Scherer Corp., Gelatin Prods. Div., Detroit 13, Mich.; res. 3620 Three Mile Dr., Detroit 24.
Biochem.; b. Wash., D.C., Dec. 17, 1915; s. of Joseph B. and Mary (Connell) Stanley; ed. Catholic U. of A., Wash., D.C. B.S. summa cum laude, 1937, M.S. biochem. 1939, Ph.D. biochem. 1942; m. Edna F. Evans, Dec. 27, 1941; ch.: John P., Jr., Kathleen Marie, Mary Elizabeth. Tech. lab., Federal Bur. of Investig., special agent & chem., 1941-44; R.P. Scherer Corp., gelatin prod. div., 1944 to date, present position, 1946 to date, also held positions as anal. res. chem., hd. of microbiolog. lab., asst. chf. control div., asst. chf. res. & dev. at F.B.I., war time secret ink res.; at R.P. Scherer, dev. of anal. meths. for vitamins, antibiotics; dev. new dosage forms of vitamins, drugs, foods, ind. prods. for use with gelatin capsules. Mem.: A.C.S., A.A.A.S., Soc. Am. Bacteriologists. Hobbies: bowling, golf.

STANLEY, Wendell M., chmn. dept. of biochem., dir. of Virus Lab., U. of Calif., Berkeley 4, Calif.; res. 220 The Uplands, Berkeley.
Biochem.; b. Ridgeville, Ind., Aug. 16, 1904; s. of James G. and Claire (Plessinger) Stanley; ed. B.S., Earlham Coll., 1926, Sc.D. hon. 1938; M.S., U. of Ill., 1927, Ph.D. 1929; Sc.D. hon., Harvard U., 1938; Sc.D. hon., Yale U., 1938; LL.D. hon., U. of Calif., 1946; Sc.D. hon., Princeton U., 1947; Dr. honoris causa, U. of Paris, 1947; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi, Phi Kappa Phi; m. Marian Staples Jay, June 15, 1929; ch.: Wendell M., Jr., Marjorie Jean, Dorothy Claire, Janet Elizabeth. Res. assoc., U. of Ill., 1929-30, instr. 1930; N.R.C. fellow, Munich, 1930-31; asst., Rockefeller Inst., N.Y., 1931-32; Rockefeller Inst., Princeton, 1932-35, assoc. 1935-37, assoc. mem. 1937-40, mem. 1940-48; chmn. dept. of biochem., dir. of Virus Lab., U. of Calif., Berkeley, 1948 to date. A.A.A.S. prize of $1,000, 1937; Isaac Adler Prize of $2,000 for 1938 by the Medical Schl. of Harvard U.; Rosenberger M. for 1938 by the U. of Chicago; John Scott M., cert. & premium of $1,000 for 1938 by City of Phila.; Gold M. of the Am. Inst. of N.Y.C. for 1941; a Copernican Citation by the Copernican Quadricentennial Natl. Comm., 1943; Nichols M. of the N.Y. Sec. of A.C.S., 1946; Shared Nobel Prize in Chem., 1946; Gibbs M. of Chicago Sec. of A.C.S., 1947; Franklin M. of Franklin Inst., 1948; for chem. studies on viruses. Presidental Cert. of Merit for dev. of centrifuge-type influenza vaccine, 1948. Author of around 135 publ. on viruses in sc. jls. Mem.: Exec. Comm. & Council of Natl. Acdy. of Sc., 1945-48; mem. of Council of Am. Philosophical Soc., 1946-49; chmn. Panel on Virus of Comm. on Growth, 1947-48; conslt., Secretary of War, 1945-46; Am. Philosophical Soc., Natl. Acdy. of Sc., Gamma Alpha, Alpha Omega Alpha (hon. mem.), Harvey Soc. (hon. mem.), A.S. Biol.C., A.A.A.S., Am. Phytopathological Soc., Am. Soc. of Naturalists, A.C.S., S.E.B.M.

STANTON, Stephen W., v.p. in charge of sales, Natural Products Refining Co., 902 Garfield Ave., Jersey City 5, N.J.; res. 296 Graphie Blvd., New Milford, N.J.
Exec.; b. New York City, Aug. 7, 1893; s. of Stephen F. and Lena Stanton; ed. N.Y.C. grade schls., Harlem & Bryant high schls., City College, N.Y.; m. Sadie Chard, Feb. 3, 1915; ch.: Edna M. Clerk, Merck & Co., N.Y.C., 1910-12; chf. clerk, Fiske & Co., 1912-14; chf. clerk, Reynoldsville Brick & Tile Co., Reynoldsville, Pa., 1914-15; sales mgr., Natural Products Refining Co., Jersey City, N.J., 1915 to date. Clubs: Executives (Jersey City), Chamber of Commerce (Jersey City), A.A.A.C.I. (New York City), Nat. Freight Traffic Assn., Newark & Jersey City Traffic Clubs, Chemists' (New York City). Hobby: golf.

STANTON, William A(lexander), chf. supvr., plant tech. sec., photo prods. dept., E.I. du Pont de Nemours & Co., Inc., Parlin, N.J.; res. 408 Wells St., Westfield, N.J.
Chem.; b. Wash., D.C., Sept. 9, 1915; s. of Thomas Ray and Pearl (Gude) Stanton; ed. B.S., U. of Md. 1936, Ph.D. 1941; mem.: Alpha Chi Sigma, Phi Kappa Phi, Sigma Xi; m. Mildred Virginia Hall, Dec. 29, 1942; ch.: Donald Ray, Robert Hall. Photo prods. dept., du Pont Co., Parlin, N.J.: res. chem., tech. div., 1941-46; group leader, tech. div., 1946-49; chf. supvr., prod. div., 1949 to date. Mem.: A.I.C., A.C.S., A.A.A.S., Photographic Soc. of Am., Soc. of Motion Picture & Television Engrs. Hobby: gardening.

STARECK, Jesse Edwin, dir. of res., United Chromium, Inc., 1700 E. Nine Mile Rd., Detroit 20, Mich.; res. 462 N. Woodward Ave., Birmingham, Mich.
Chem.; b. Petersburg, Mich., Mar. 17, 1905; s. of Joseph Stareck; ed. Benton H.S., Benton, Kan., grad. 1923; U. of Kan., Lawrence, B.S. in chem. engrg. & metallurgy, 1928, M.A. 1930, Ph.D. 1934 in chem.; mem.: Sigma Xi, Tau Beta Pi, Sigma Tau; m. Ada Stareck; ch.: John, Kathy. 1934, Bar Rusto Plating Corp., res.; 1934, Kansas City Testing Labs.; 1935, United Chromium, Inc., res. staff, Waterbury, Conn.; 1941 to date, United Chromium, Inc., res. dir., Detroit, Mich. Received Roy Cross Res. Fellowship for furthering study of color plating, this dev. became known as Electrocolor. Mem.: A.E.S. (Detroit branch), A.S.T.M. (active, chmn. of subcomm. I), A.C.S., E.S., E.S. of D., E.T.S. Awarded Edward Longstreth M. by Franklin Inst. in 1939 for dev. of electrolytic color plating process. Hobbies: golf, gardening.

STARR, Donald Dee, asst. prof. chem., Carnegie Inst. Tech., Pittsburgh 13, Pa.; res. 6551 Deary St., Pittsburgh 6, Pa.
Coll. prof.; b. Marlette, Mich., Oct. 4, 1922; s. of Roland Hill and Edith McDonald Starr; ed. Olivet Nazarene Coll., A.B. Chem. 1944; U. Ill., A.M. 1946; Ph.D. 1947; m. Vada J. McNutt, May 23, 1946; ch.: Marion Dee. Chem. teach. asst., U. Ill., 1944-46; chem. res. asst., (office of Naval Res. sponsorship) 1946-47; chem. instr., U. Wis., 1947-48; asst. prof. (act. hd. dept. chem.) Taylor U., 1948-49; asst. prof. chem., chmn. gen. chem. course, Carnegie Tech. 1949 to date. Res. in rare earth chem., ion exch. Author: "Exp. Gen. Chem.," 1950. Mem.: A.C.S., Sigma Xi, Phi Lambda Upsilon, A.A.A.S., A.A.U.P., trustee, Ch. of Nazarene, Wilkinsburg, Pa. Hobbies: photography, philately.

STARR, Donald Fay, chf. chem., insecticide div., S.B. Penick & Co., 50 Church St., N.Y. 7, N.Y.; res. 256 N. Mountain Ave., Montclair, N.J.
Chem.; b. Grand Island, Nebr., Mar. 11, 1908; s. of Elias F. and Rosa (Lesher) Starr; ed. A.B., Grand Island Coll., 1929; M.S., Iowa State Coll., 1931, Ph.D. 1933; mem.: Phi Kappa Phi, Sigma Xi, Phi Lambda Upsilon; m. Mildred Hawley, May 11, 1930; ch.: Marion, Allan Hawley, Gordon Lesher. Instr., Nebr. State Schl. of Agr., 1929-30; Ind. Res. Fellowship, Iowa State Coll., 1932; Rockefeller Fellowship, Iowa State Coll., 1933; res. assoc., Inst. Paper Chem., 1934; instr.

biophysical chem., Iowa State Coll., 1935; chem., Bur. of Entomology & Plant Quarantine, 1935-45 stationed in Honolulu, Mexico City & Beltsville, Md.; chf. chem., insecticide div., S.B. Penick & Co., 1945 to date. Syn., physical chem. & toxicology nitrogen heterocyclic cmpds.; biochem. butylacetonic fermentations; attractants for Mediterranean, melon, & Mexican fruit flies; statistics of trap-data; rubber latices of Mexico, com. formulations for insects; & fish control; toxicology of insecticides. Mem.: A.C.S., Assn. of Economic Entomologists, Biometrics Soc., Am. Fisheries Soc. Clubs: S.P.E.B.S.Q.S.A., Torch. Hobby: music.

STARR, John V., tech. asst. to gen. mgr. mfg., Esso Stand. Oil Co., 15 W. 51st St., N.Y.C.; res. 23 Hampton Rd., Cranford, N.J.
Tech. exec.; b. Winamae, Ind., July 19, 1902; s. of John R. and Myrtle V. Starr; ed. Wabash, A.B. 1924; Ph.D., Cornell U., 1928, Phi Beta Kappa; mem.: Tau Kappa Epsilon; m. Rebecca Martin, Jan. 31, 1929; ch.: Judith, Mary Elizabeth, Sara, John V., Jr. Res. chem., Stand. Oil Co. of N.J., 1928, local mgr. tech. serv. div., 1938, mgr. tech. serv. div., 1940; tech. asst. gen. mgr. mfg., Esso Stand. Oil Co., 1946 to date. Attapulgus Clay Co. (dir. 1938 to date); Porocel Corp. (dir. 1940 to date). Mem.: A.C.S.

STAUD, Cyril Jerome, dir. of res., Eastman Kodak Co., Kodak Park Wks., Rochester 4, N.Y.; res. 260 Kilbourn Rd., Rochester 18.
Dir. of res. lab.; b. Rochester, N.Y., Oct. 29, 1898; s. of Charles J. and Anna (Haeker) Staud; ed. B.S., U. of Rochester, 1920, M.S. 1922; Ph.D. org. chem., M.I.T., 1924; m. Annetta M. Little Nietz, Aug. 22, 1946. Res. chem., ordnance dept., M.I.T., 1922; asst. to Dr. S.P. Mulliken 1923; res. chem., Eastman Kodak Co., 1924-31, res. supvr. of org. res. lab. 1927-31, supt. in chg. of emulsion res. lab. 1931-47, dir. of res. 1947 to date. Cellulose & cellulose derivatives; plasticizers; antifoggants; photographic emulsions; prep. of photographic emulsions; sensitizing of photographic emulsions; color photography. Mem.: A.A., Chem. Soc., Soc. of Motion Picture & Television Engrs. (fellow), Opt. Soc., Photographic Soc. (fellow), N.Y. Acdy. of Sc. (fellow), Royal Photographic Soc., Oval Table Soc. (assoc.). Clubs: University, Country Club of Rochester. Hobbies: photography, radio, television.

STAUDT, John Guild, exec. v.p., gen. mgr., Dowell, Inc., 524 Kennedy Bldg., Tulsa 3, Okla.; res. 1635 E. 35th St., Tulsa 5.
Mgt.; b. Aug. 31, 1909, Aurora, Ill.; s. of Louis C. and Ruth W. Staudt; ed. B.S. 1931, M.S.E., 1932 (Chem. Engrg.), U. Mich.; mem.: Phi Gamma Delta; m. Ruth Allison, Sept. 23, 1933; ch.: David Allison, Janet Wells, Daniel Guild. Dowell, Inc., 1932 serv. engr.; 1934, res. engr.; 1935, asst. gen. mgr.; 1942, gen. mgr.; 1945, v.p., gen. mgr.; 1948 to date, exec. v.p., gen. mgr. Internatl. Cementers, Inc., Long Beach, Calif., dir., treas.; United Oilwell Service, S.A., Caracas, Venezuela, dir., v.p. Mem.: Tau Beta Pi, Phi Lambda Upsilon, Sigma Xi (assoc. mem.).

STAUFFER, John, v.p., secy., dir., Stauffer Chem. Co., 824 Wilshire Blvd., Los Angeles 17, Calif.; res. 2475 Glendower Pl., Los Angeles 27.
Chem. mfr.; b. San Francisco, Calif., Jan. 25, 1898; s. of John and Katharina Stauffer; ed. San Francisco schls.; m. Beverly Sheridan, Dec. 9, 1932; ch.: Jack Rockwell Sheridan, step-son. V.p., dir., Stauffer Chem. Co. Stauffer Chem. Co. of Nevada (pres.); Pacific Hard Rubber Co. (dir., pres.); Western Molded Prods. Inc. (dir., pres.); Wesco Waterpaints, Inc. (dir., pres.); Consolidated Chem. Industries, Inc. (dir.); Wheeler, Reynolds & Stauffer (dir., pres.); San Francisco Sulphur Co. (dir., v.p.); Montrose Chem. Corp. of Calif. (1st v.p.). Dir. of Los Angeles Chamber of Com. Clubs: Bohemian (San Francisco), California (Los Angeles), Jonathan (Los Angeles), Montecito Country (Santa Barbara).

STAUFFER, William Otterbein, supvr., new prod. evaluation, tech. div., elchem. dept., E.I. du Pont de Nemours & Co., Niagara Falls, N.Y.; res. 217 Delaware Rd., Kenmore 17, N.Y.
Res. chem.; b. Easton, Wayne Co., Ohio, Dec. 25, 1897; s. of Arvine and Susan (Baker) Stauffer; ed. Otterbein Coll., B.S., 1922; Ohio State U., M.S., 1925; mem.: Zeta Phi; m. Pauline Stubbs, Nov. 28, 1925; ch.: Patricia Ann, Dorothy Eileen. Otterbein Coll., instr., 1923-24; du Pont, expt. station, res. chem., 1926-36, Remington Arms, successively supvr., asst. mgr., mgr. res. sec. tech. dept., 1936-44, supvr., new prod. evaluation, tech. div., elchem. dept., 1944 to date. Superv. import. res. in fld. of small arms ammunition under Ordnance Dept. & O.S.R.D. contracts. Mem.: Sigma Xi, A.C.S. Clubs: Niagara (Niagara Falls, N.Y.), Chemists' (N.Y.C.). Hobby: woodworking.

STAVELY, Frederick Walter, dir., chem. & physical res. labs., Firestone Tire & Rubber Co., Akron, Ohio; res. 208 Overwood Dr., Akron.
Chem.; b. Lyndon, Kan., July 17, 1894; s. of Joseph H. and Martha (Duff) Stavely; ed. 1912-16, Sterling Coll., Sterling, Kan., B.S.; 1916-17, U. of Chicago, Ill., M.S.; 1921-22, Ph.D.; mem.: Sigma Xi; m. Marie Sholes, June 27, 1917; ch.: Virginia (Stavely) Sugden, Frances (Stavely) Petitte, Robert. 1917-21, Holland Am. Plantations Co., Sumatra; 1922-28, res. chem., Firestone Tire & Rubber Co., Akron, Ohio; 1928-33, mgr. lab. & dev. depts., Firestone Tire & Rubber Co., Calif.; 1933-35, tech. sales rep., Firestone Tire & Rubber Co., Akron; 1935-38, mgr. truck & tractor tire sales, Calif.; 1938-41, personnel dir., Firestone Tire & Rubber Co., Akron, Ohio, 1941-45 mgr. fuel cell & oil cell dev., 1945 to date dir. chem. & physical res. labs., Firestone Tire & Rubber Co., Akron, O. Contrib. articles to sc. jls. Mem.: Div. of Rubber Chem. of A.C.S., A.C.S., S.P.I., Indus. Res. Inst., Div. of High Polymer Physics of A.P.S., A.A.A.S., A.I.C. (fellow).

STEAHLY, George W., res. chem., Monsanto Chem. Co., St. Louis, Mo.; res. 7265 Richmond Pl., Maplewood 17, Mo.
Res. chem.; b. Portsmouth, Ohio, Oct. 26, 1917; s. of Charles F. and Rena Mault Steahly; ed. A.B., Ohio St. U., 1937; M.A., U. Nebr. 1939; Ph.D., 1941; m. Beatrice Jenks, Dec. 28, 1940; ch.: Carolyn, Judith, Joyce, Linda. Grad. asst., U. Nebr., 1937-40; Avery Fellowship, 1940-41; res. chem., Monsanto Chem. Co. 1941 to date. Res. in synthesis, proc. dev. in org. chem. Mem.: A.C.S., Sigma Xi, Phi Lambda Upsilon.

STEARN, Allen Edwin, prof. of chem., U. of Mo., Columbia, Mo.; res. 901 Crestland Ave., Columbia.
Prof. of chem.; b. Lafayette, Ind., Sept. 14, 1894; s. of John H. and Louise (Hagerty) Stearn; ed. A.B., Stanford 1916, A.M., 1916; M.S., U. of Ill., 1917, Ph.D., 1919; m. Esther A. Wagner, Jan. 29, 1920; ch.: Enid W. Asst. prof., U. of West Va.; res. fellow, Calif. Inst. Tech.; asst. prof., U. of Mo.; res. chem., Mallinckrodt Chem. Wks.; prof. chem., chmn. of dept., U. of Mo. Some 60 or more papers in tech. jls. in fld. of physical chem. & bacteriology. Author: "The Effect of Smallpox on the Amerindian," 1945. Mem. A.C.S., Sigma Xi, Mo. Acdy. Sc., A.A.U.P., A.A.A.S. (fellow), Phi Beta Kappa, Phi Mu Alpha, Alpha Chi Sigma, Phi Lambda Upsilon.

STEARNS, Stuart Gillard, asst. mgr., Packaging & Shipping Div., Merck & Co. Inc., Rahway, N.J.; res. 25 Elmwood Place, Short Hills, N.J. Chem.; b. Hyannis, Mass., July 19, 1916; s. of Frederic B. and Eva G. Stearns; ed. M.I.T., B.S. 1939; mem.: Theta Delta Chi, Alpha Chi Sigma; m. Phyllis Robb, Apr. 26, 1940; ch.: John Robb, James Marshall. 1939 to date with Merck & Co. Inc. in following positions: 1939-41, res. & develop. div., res. chem.; 1941-42, same div., hd. res. & devel. container lab.; 1942-45, packaging & shipping div., asst. dept. hd., package dev. dept.; 1945-46, same div., dept. hd., package dev. dept.; 1946-48, same div., dept. hd., sterile techniques dept.; 1948-50, asst. manager, packaging & shipping div. Mem.: A.C.S., Am. Soc. for Quality Control. Hobbies: amateur radio, sailing, woodworking.

STECHER, Paul G(eorge), chem., res. & devel., Tech. Information Dept., Merck & Co., Rahway, N.J.; res. 90 Morningside Dr., New York 27, N.Y.
Org. chem.; b. Lahr-Baden, Germany, Sept. 19, 1909; s. of Paul and Hermine (Wingert) Stecher; ed. Classical Gymnasium, Karlsruhe, B.A. eg. 1926; Sorbonne, Paris, 1926-28; Ruprecht-Karls Universitaet, Heidelberg, 1928-30, M.A. eg. 1930; State Univ. of Iowa, 1930-31; m. Emma Margaret Dietz, Feb. 13, 1944. Chem., Procter & Gamble, 1931-35; chem. (anal. res.), Westvaco Chlorine Prods., 1935-38; chem. (res. and devel.), Merck & Co., 1939 to date; tech. editor, The Merck Index, Merck & Co., 1946 to date; res. in Glycerides, phosphatides, vitamins, food enrichment (pats.). Author: "The Merck Index," 6th ed. (in press). Contrib., "Advances in Chemistry Series"; The Encyc. Britannica. Mem.: A.C.S., N.Y. Acdy. of Scs. Hobbies: sailing, collecting old books, watches.

STECK, Leo Varner, v.p., Shell Chem. Corp., 50 W. 50th St., New York 20, N.Y.; res. 22 E. 36th St., N.Y. 16.
Exec.; b. Colton, Calif., Aug. 9, 1898; s. of George W. and Eliza (Powell) Steck; ed. U. of Calif., B.S., 1921; m. Frances Johnson 1933; ch.: George Powell, Allen Parker. 1924-30, Pike & West (consltg. engrs.), Emeryville, Calif.; 1930-41, Shell Dev. Co., Emeryville, Calif.; 1941 to date, Shell Chem. Corp., San Francisco & N.Y.

STECKLER, Robert, mgr., R. Steckler Labs., 8200 Harvard Ave., Cleveland, O.; res. 1756 Maywood, South Euclid, O.
Consltg. chem.; b. Vienna, Austria, Nov. 27, 1914; s. of Richard and Anna (Bondy) Steckler; ed. U. of Vienna, Ph.D., 1938; m. Grace Harrup, Oct. 7, 1949. 1937, res. asst. to Prof. Dr. Otto Loewi, Nobel prize winner 1936, at U. of Graz, Austria; 1938-45, The Arco Co., Cleveland, res. mgr., resins & plastics div.; 1945 to date, mgr., R. Steckler Labs. Res. and dev. wk. in flds. of synthetic resins, high polymers, polymerization, alkylation, protective coatings, industrial specialties. Contrib. extens. to sc. and tech. jls., both German and Amer. Mem.: A.C.C.C.E., A.C.S., Soc. of Plastics Engrs. (charter), A.A.A.S., Cleveland Paint and Varnish Prod. Club.

STEELE, Ben P., owner, Ben P. Steele Co., 62 William St., N.Y. 5, N.Y.; res. 125 E. 74th St., N.Y. 21.
Chem. merchant; b. Catlettsburg, Ky., Feb. 10, 1895; s. of Benj. U. and Leone (Porter) Steele; ed. George Washington U., LL.B. 1916; mem.: Theta Delta Chi; m. Millicent N. Steele, Sept. 19, 1924. W.F. George Chem. Inc., 1919-23; Mich. Alkali Co. (Wyandotte Chem.) 1923-30; Pa. Salt Mfg. Co. 1930-48, mgr. of sales, dir. of sales; Ben P. Steele Co., 1948 to date. Dir. Chlorine Inst. 1943-47; dir. U.S. Alkali Export Assn. 1943-47; mem. Chlorine-Alkali Comm. & Al. Sulphate Comm. Ind. Advisory Comm. to War Prod. Bd. 1942-45. Mem.: Salesmen's Assn. of Am. Chem. Ind.-N.Y. since organization. Club: Chemists' (N.Y.). Hobby: business.

STEELE, Clellie Truman, asst. hd. chem. prods. labs., Esso Stand. Oil Co., Baton Rouge, La.; res. 2128 Hollydale Ave., Baton Rouge.
Chem.; b. Hurley, Mo., July 10, 1913; s. of C.T. and Lou R. Steele; ed. B.S., summa cum laude, Drury Coll. 1934; M.S., U. of Ark. 1935; Ph.D., U. of Mo. 1938; mem.: Gamma Alpha; m. Dorothy A. Guilliams, Nov. 5, 1938; ch.: Thomas J. 1936-37, instr., U. of Ark.; 1938-42, res. chem., Stand. Oil Co. of La. (now Esso Standard Oil Co.), Baton Rouge, La.; 1942-46, asst. hd. chem. prod. lab., Stand. Oil Co. of N.J., Baton Rouge, La.; 1946-Jan., 1950, hd. of pet. tech. ser. lab., Esso Stand. Oil Co., Baton Rouge, La., Jan., 1950 to date, asst. hd. chem. prod. lab. Res. & publ. on kinetics of benzoylation of aromatic amines & emulsion polymerization of butadiene; U.S. pats. on catalyst mfr. Mem.: Alpha Chi Sigma, Sigma Xi, A.C.S., A.I.Ch.E., Louisiana Acdy. of Sc. Hobbies: collecting railroad time tables, photography, baseball, football, gardening.

STEELE, Newman Dudley, asst. dir. res. & dev. dept., Cabot Carbon Co., Box 1101, Pampa, Texas; res. 117 N. Starkweather.
Chem. engr.; b. Menominee, Mich., June 24, 1909; s. of Newman B. and Bertha Steele; ed. U. of Denver, B.S. Ch.E., 1931, M.S. 1932; Sigma Phi Epsilon, Phi Lambda Upsilon; m. Kathryn Vincent, 1934; ch.: Marilyn K., Lewis Dudley. Chf. control chem., Cabot Carbon Co. 1932-34; process engr., dev. carbon black pigments for paint & ink indus., 1935-37; channel black mfr. & processing engr., Cabot Carbon Co. 1938-41, pilot plant engr. 1942-44, asst. dir. res. & dev. dept., 1945 to date. Mem.: A.C.S., A.I.Ch.E.

STEELE, Sydney, mgr., market res. & dev. dept., Atlas Powder Co., Wilmington 99, Del.; res. 320 Taft Ave., Wilmington 182.
Engr.; b. Stockport, England, Nov. 2, 1905; s. of Arthur and Muriel (Birchenall) Steele; ed. Cambridge U.: 1st class hon., Math. Tripos Part I, 1926; 1st class hon., Mech. Sc. Tripos, 1928; B.A. 1928; John Steddy Winbolt Prize, 1930, M.A., Ph.D. 1932; Commonwealth Fund Fellow, Johns Hopkins U. & U.S. Natl. Bur. of Stand. 1930-33; Gordon McKay Fellow, Harvard U., 1935; m. Mercedes Hernández-Borch, July 7, 1933; ch.: Carmen Muriel, Ana Mercedes, Anthony Arthur. 1933-35, Imperial Chem. Ind. (Gen. Chem.) Ltd., res. engr.; 1935-49, E.I. du Pont de Nemours & Co. Inc., design engr., ind. engr., process supvr., staff mem. dev. div., mgr. engrg. sales serv., electrochem. dept., design engr. engrg. dept.; 1949-50, sales promotion mgr., Fischer & Porter Co.; 1950 to date, mgr., market res., res. & dev. dept., Atlas Powder Co. Author of sec. on "Basic Ind. Costs" in William Staniar's (McGraw-Hill) Plant Engrg. Handbook, to be publ. shortly. Mem.: Sigma Xi, A.I.Ch.E., A.A.A.S. Clubs: Chemists' (N.Y.C.), Harvard (Del.). Hobbies: fishing, music, gardening, soil management, bowling, travel, business cycles.

STEELE, Westbrook, pres., The Institute of Paper Chemistry, Appleton, Wis.; res. 132 North Green Bay St., Appleton, Wis.
Educator; b. Tuxedo Park, N.Y., Feb. 1, 1889; s. of Henry T. and Louise (Bennett) Steele; ed. priv. schls.; LL.D., Centenary Coll., Shreveport, La., 1938; mem.: Phi Delta Theta; m. Luverne Weismiller, June 15, 1931. Supvr., Natl. System Co., 1910-17 and 1919-21; gen. mgr., 1922-24; v.p., Western Theol. Sem., Ill., 1921-22; v.p.,

Centenary Coll., 1924-25; Westmoreland Coll., San Antonio, Tex., 1925-26; conslt., Coll. of Puget Sound, 1925; asst. to pres., Bradley Poly. Inst., Peoria, Ill., 1926-27; conslt., educ. institutions, on orgn. and finance, 1927-28; exec. sec., Lawrence Coll., Appleton, Wis., since 1929; exec. sec., The Inst. of Paper Chem., Lawrence Coll., 1929-35, exec. dir. 1935-50, pres. 1950 to date; served with U.S.A., A.S., 38th Air Squadron, 1918-19. Executive officer, combined Prod. and Resources Bd., W.P.B., 1943-44; mem. Adv. Bd., Res. and Dev. Branch, Mil. Planning Div., Off. of Q.M. Gen., Army Service Forces. Author of var. pamphs. Mem.: A.A.A.S., Amer. Acdy. Political and Social Sc., Optical Soc., Newcomen Soc. Trustee and pres., The Inst. of Paper Chem. Clubs: Chemists' (N.Y.), Chicago Club, Chicago Athletic, North Shore Golf (Neenah), Riverview Country (Appleton), Milwaukee Club (Milwaukee), Merchants Club (N.Y.).

STEFFENS, John Alfred, conslt., 136 Liberty St., N.Y.C.; res. Suffern, N.Y.
Chem. engr.; b. Bklyn., N.Y., Nov. 14, 1890; ed. Columbia U., chem. engrg. 1916, Dr. Pharmacy 1910; mem.: Phi Delta Chi, Phi Lambda Upsilon, Tau Beta Pi, Sigma Xi; ch.: Alfred B. 1910, Ponce P.R. Milk Co., Puerto Rico; 1912, lab. chf., Bendiner & Schlesinger, N.Y.; 1916, Newport Chem. Wks. (du Pont), Wis., chem. engr.; 1918, U.S. Ind. Chem., chem. engr. res.; 1922 to date, conslt. Pure anhydrous ethyl acetate; absolute alcohol; three U.S. pats. Mem.: A.I.C.

STEHMAN, Carlyle John, group leader, Monsanto Chem. Co., central res. dept., Dayton, Ohio; res. 2432 Oakland Ave., Dayton 9.
Res. chem.; b. Collinsville, Ill., Feb. 17, 1909; s. of John and Harriet (Henshaw) Stehman; ed. Collinsville Township H.S.; U. of Ill., A.B. 1931; Pa. State Coll., M.S. 1932, Ph.D. 1947; mem.: Alpha Chi Sigma; m. Ursula Hampel, June 8, 1932; ch.: Carlyle John, Jr., Robert Merrell, Charles Frederick. 1932-36, res. asst., Pa. State Coll.; 1936 to date, res. chem., group leader, Monsanto Chem. Co., central res. dept., Dayton, Ohio. Mem.: A.C.S., A.I.Ch.E., A.A.A.S., Sigma Xi, Phi Lambda Upsilon. Trustee, First Unitarian Ch. of Dayton, Ohio. Club: Lions Internatl. Hobbies: photography, music, gardening.

STEIN, Norman Oscar, tech. dir., Rumford Chemical Works, Rumford 16, R.I.; res. 187 Morris Ave., Providence 6, R.I.
Chem. engr.; b. Hull, Yorkshire, England, Mar. 9, 1906; s. of John and Kate Stein; ed. U. of Manitoba, B.Sc., 1927, Gold Medallist; M.S., U. of Mich., 1928; McGill U. 1929; London U. (University Coll.), Ph.D. 1932, sr. award Dept. Scientific & Ind. Res. 1931-33; m. Frances Stein, Aug. 10, 1930. Res., McGill U., 1928-29; leader geolog. survey party, Northern Rhodesia for Anglo-Am. Corp., 1929-30; res. in Prof. F.G. Donnan's Lab., U. Coll., London, 1930-33; joined Albright & Wilson Ltd., chem. mfrs., Oldbury, Eng., 1933 as res. worker & became wks. mgr., 1936-42; served in Canadian Active Army, 1942-45 as Capt. in Royal Canadian Ordnance Corps as asst. mgr. Dominion Arsenal, inspecting officer Inspection Bd. of United Kingdom & Canada, mgr. chem. sec. Canadian War Assets Corp.; gen. supt., Air Reduction Co., 1945-48; asst. to pres., Rumford Chem. Wks. 1948; tech. dir., Rumford Div. Heyden Chem. Corp., 1949 to date. Photochem. res. hydrides of oxygen group; dev. of processes in phosphorus, phosphoric acid, phosphates, phosphorus chem. warfare agents; carbon dioxide & dry-ice; sulfuric acid; carbon tetrachloride; sulfur; phosphorus sulfides; ammunition prod.; chem. plant & equipt. design & management of prod. operations & dev. projects. Num. pubs. in sc. jls. Mem.: Royal Inst. of Chem. (fellow), A.I.Ch.E. (active), A.C.S.

STEINBACH, Warren H., chmn. chem. dept., prof. of chem., U. of Miami, Coral Gables 46, Fla.; res. 5843 S. W. 32nd St., Miami 44.
Chem., teacher; b. Genoa, Nebr., May 1, 1904; s. of W.H. and Ada E. (Haner) Steinbach; ed. B.S., Hastings Coll., Hastings, Nebr., 1926; M. S. 1929, Ph.D. 1931, U. of Nebr., Lincoln, Nebr.; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Theta Chi; m. Berdena Ruth Doty, May 27, 1927; ch.: Sue Carolyn. 1926-27, physics & chem. teacher, Nelson (Nebr.) Public H.S.; 1927-31, assistantships & fellowship, grad. wk., U. of Nebr.; 1931-37, prof. of chem., Nebr. State Teachers Coll., Kearney, Nebr.; 1937-43, asst. prof. inorg. chem., U. of Ark., Fayetteville, Ark.; 1943-45, asst. res. dir., Varcum Chem. Corp., Niagara Falls, N.Y.; 1945 to date, chmn. of dept., prof. of chem., U. of Miami, Coral Gables, Fla. Studies of reaction rates of carbohydrates in alkaline sols.; phenol-formaldehyde resins; & corrosion studies. Author: "Lab. Manual for Gen. Coll. Chem." 1942; "Gen. Coll. Chem. Workbook" 1948, rev. 1950; "Workbook-Essentials of Chem.-Inorg." 1950. Mem.: A.C.S., Sigma Xi, A.A.U.P., A.A.A.S., Nebr. Acdy. of Sc., Ark. Acdy. of Sc., Fla. Acdy. of Sc., Alpha Chi Sigma, Phi Lambda Upsilon, Alpha Epsilon Delta (natl. pres. & treas.). Hobbies: sports (football, basketball, baseball), reading (all types, enjoy mystery stories), taking care of lawn & shrubs.

STEINBERG, Ralph H., spectroscopist, Carnegie-Ill. Steel Corp., 3426 E. 89th St., Chicago 17, Ill.; res. 9531 S. Avalon Ave., Chicago 28, Ill.
Physical chem.; b. Chicago, Ill., Sept. 23, 1910; s. of Samuel L. and Bertha (Josephs) Steinberg; ed. U. of Chicago, S.B., 1928-32; m. Paula Pearl Pool, Feb. 29, 1936. 1932-33, conslt.; 1934-44, Carnegie-Ill. Steel Corp., chem., 1944 to date, spectroscopist in chg. of spectrographic lab. "Briquetting of Mill Scale" U.S. pat. Num. contribs. sc. jls. Mem.: A.I.C. (fellow), Am. Assn. of Spectrographers (past chmn.), Optical Soc. of Chicago (treas.), A.C.S. Hobbies: chemical patent law, golf.

STEINBRIGHT, Harold Dixon, secy., Amer. Chemical Paint Co., Ambler, Pa.; res. Stump Hall Rd., Cedars, Pa.
Corp. secy., dir. purch.; b. Norristown, Pa., July 31, 1898; s. of Frank W. and Anna Dixon Steinbright; ed. B.S. Elec. Engrg., Drexel Inst. Tech., Phila., Pa.; m. C. Edith Clemmer, June 1, 1933; ch.: Marilyn. 1920-26, Phila. Rapid Transit Co., elec. engr.; 1926-30, Am. Chem. Paint Co., plant engr.; 1930-31, mgr., Chester-Bridgeport Ferry; 1931-39, plant mgr.; 1939 to date, secy. Del. River Ferry Co., v.p., dir.; Ambler Natl. Bk., dir. Trustee, Cedar Crest Coll., Allentown, Pa., dir., Ursinus Coll., Collegeville, Pa., Elm Terrace Hosp., Lansdale, Pa., bd. mgrs. Reformed Ch. Home for Aged, Wyncote, Pa. Clubs: Quaker City Farmers, Acacia, Scottish Rite. Hobbies: farming, stamp collector.

STEINER, Robert Henry, res. coordinator, Atlas Mineral Prods. Co., Mertztown, Pa.; res. 2238 Greenleaf St., Allentown, Pa.
Chem.; b. Erie, Pa., May 24, 1918; s. of Charles F. and Ida H. Steiner; ed. U. of Pittsburgh, B.S. Chem. (with highest hons.), 1939; Ph.D. 1943; m. Louise Rahnefeld, June 3, 1945; ch.: Anne Louise. Firestone Tire & Rubber Co., Pottstown, Pa., Feb., 1943-50, res. chem.; Atlas Mineral Prods. Co., July, 1950, to date; res. coordinator; res. on polymerization of vinyl resins, resinous cements and protective coatings and linings, org. synth.

Mem.: A.C.S., Sigma Xi, Phi Lambda Upsilon. Hobbies: bridge, gardening, golf.

STEININGER, Herbert Marvin, chf. chem., Stand. Oil Co. (Ind.), Sugar Creek, Mo.; res. 6156 Kenwood Ave., Kansas City 4, Mo.
Chem.; b. Sterling, Nebr., June 24, 1899; s. of John J. and Mary R. Steininger; ed. U. of Kans., A.B., 1921; mem.: Sigma Phi Epsilon, Alpha Chi Sigma; m. Margie L. Swaim, Jan. 24, 1924; ch.: Robert J. 1921-23, tchr. chem. & phys., Abilene (Kans.) H.S.; 1923-29, pet. res., Kansas City Testing Lab.; 1929 to date, Stand. Oil Co., Sugar Creek, Mo. Mem.: A.C.S., A.I.Ch.E. Clubs: Cosmopolitan, International, K.C. Hobbies: photography, woodworking.

STEINLE, J(ohn) Vernon, res. & dev. vice pres., S.C. Johnson & Son, Inc., Racine, Wis.; res. 3050 Mich. Blvd., Racine.
Res. and dev. vice pres.; b. Marinette, Wis., Apr. 28, 1898; s. of William F. and Adele J. Steinle; ed. U. of Wis., B.S., 1920, M.S., 1921, Ph.D., 1924; mem.: Sigma Psi, Alpha Chi Sigma; m. Mabel Danielson, Jan. 2, 1924. U. of Wis., instr. in chem., 1921-24; Marquette U., assoc. prof., 1924-25; S.C. Johnson & Son, Inc., res. chem. 1925-33, dir. res., 1933-44, res. and dev. dir., 1944-50; res. and dev. Vice Pres., 1950.- Natural & syn. waxes; wax prod. dev.; anal. meth. for cholesterol. Mem.: A.C.S., Chemist Circle, A.I.C., A.A.A.S., A.O.C.S., A.S.T.M., S.C.I., Chem. Specialties Mfrs. Assn. Inc., Ind. Res. Inst. dir., Racine Community Chest, Salvation Army Advisory Bd. Clubs: Racine Country, Chemists' (N.Y.), Chemist (Chicago), Milwaukee University, Elks.

STEINOUR, Harold Heiges, principal res. chem., Portland Cement Assoc., 33 W. Grand Ave., Chicago 10, Ill.; res. 1829 Elm Ave., Northbrook, Ill.
Res. chem. and supvr. of literature res.; b. Topeka, Kansas, May 6, 1902; s. of Burtus W. and Rose B. Steinour; ed. B.S., U. of Southern Calif., 1923, with distinction, M.S., with honor, Calif. Inst. of Tech., 1926, Ph.D. Calif. Inst. of Tech., 1928; mem.: Phi Lambda Upsilon, Sigma Xi; m. Helen E. Shine, Jan. 29, 1931. Chem., Celite Prods. Co., Calif., 1923-24; res. chem., Riverside Cement Co., 1928-40; res. chem., later sr., then principal res. chem., Portland Cement Assoc., 1940 to date. On loan to Armour Res. Foundation on 6 mo. project for Office of Prod. Res. and Dev., in 1944. Pub. arts. on electrochemistry, chemistry of portland cement, heat theory, sedimentation of fine particles in concentrated suspensions, particle size anal., also review of literature. Mem.: A.C.S., A.A.A.S., Am. Concrete Inst.

STEITZ, Alfred, Jr., tech. group leader, Stanolind Oil & Gas Co., 1136 N. Lewis Ave., Tulsa, Okla.; res. 2537 E. 21st St., Tulsa.
Res. chem.; b. Quincy, Ill., Dec. 13, 1917; s. of Alfred and Carmen H. Steitz; ed. Rice Inst., B.S. in chem. engrg., 1940; State U. of Iowa, M.S. 1942, Ph.D. 1944; mem.: Alpha Chi Sigma; m. Margaret S. Steitz, Aug. 12, 1944; ch.: Jean Adel, William Alfred. 1944-47, chem., Tide Water Associated Oil Co., Bayonne, N.J.; 1947 to date, chem., Stanolind Oil & Gas Co., Tulsa, Okla. Syn. of pyrrolidines; lubricating oil additives; Fischer Tropsch chem., chem. from pet. Mem.: A.C.S., Alpha Chi Sigma, Sigma Xi, Phi Lambda Upsilon, Tau Beta Pi. Hobbies: photography, stamp collecting, gardening.

STEPAN, Alfred Charles, Jr., pres., Stepan Chem. Co., 1353 N. North Branch St., Chicago 22, Ill.; res. 548 Maple St., Winnetka, Ill.
Exec.; b. Apr. 17, 1909; s. of Alfred and Charlotte Stepan; ed. Notre Dame, A.B.; Northwestern Law Schl., Northwestern Schl. of Com.; Armour Inst. of Tech.; mem.: Phi Alpha Delta Legal Fraternity; m. Mary Louise Quinn, Feb. 10, 1934; ch.: Marilee, Alfred, Quinn, Stratford, Charlotte, Paul, John. Chem. Distributors, Inc., 1932-40, pres., founder; Gen. Oil Prods. Inc., 1935-40, pres., founder; Stepan Chem. Co., consolidation of foregoing 2 firms, pres., founder, 1940 to date. Mem.: A.A.A.S. North Larrabee Y.M.C.A. Clubs: Lake Shore, Bob-O-Link Golf, Chicago Drug & Chem. Assn., Chicago Perfumery Soap & Extract Assn. Hobbies: music, golf.

STEPHAN, John Thomas, dir. of res., Monsanto Chem. Co., Western Div., 911 Western Ave., Seattle 4, Wash.; res. 2425 W. View Dr., Seattle 99.
Chem. engr.; b. St. Louis, Mo., Oct. 27, 1913; s. of John T. and Rosalla Stephan; ed. Wash. U., B.S. in Ch.E. 1934, M.S. in Ch. 1939; mem.: Tau Beta Pi, Sigma Xi, Pi Mu Epsilon, Phi Eta Sigma; m. Jean Cornell Buob, June 21, 1946; ch.: Kurt Frederick, Sarah Jane. I.F. Laucks, Inc., chem. 1934, chf. chem. 1944; Monsanto Chem. Co., Western Div., chf. chem., 1944, dir. of res. 1947 to date. Adhesives. Mem.: A.C.S., A.I.Ch.E., S.P.I., Forest Prods. Res. Soc., Plastics Matls. Mfrs. Assn. Club: Washington Athletic. Hobby: gardening.

STEPHENS, Henry Newburn, dir. of res., Minn. Mining & Mfg. Co.; res. 821 Lake Ave., St. Paul, Minn.
Dir. of res.; b. Glencairn, Ontario, July 14, 1897; s. of Henry Newburn and Jean R. Stephens; ed. McMaster U., B.A., 1920; U. of Toronto, M.A., 1921; McGill U., Ph.D., 1923; m. Marjorie E.F. Mallagh, Mar. 22, 1924; ch.: Elizabeth Jean, Barbara Winnifred. Instr., asst. prof., U. of Minn., 1923-37; conslt., Minn. Mining, 1927-37, dir. of res. 1937 to date. Officer & councillor of local A.C.S.; water dispersed adhesives (pats.); mechanism of auto-oxidations. Mem.: A.C.S., A.A.A.S., Sigma Xi, Phi Lambda Upsilon, Studentship N.R.C. of Canada. Hobbies: sailing, piano.

STEPHENS, Robert Aaron, dir. of res., C.K. Williams & Co., 640 N. 13th St., Easton, Pa.; res. 11 Oak Lane, Easton.
Dir. of res.; b. Mt. Arlington, N.J.; s. of Aaron D. and Marie (Van Dyke) Stephens; ed. Lafayette Coll., B.S. in chem. 1930, M.S. 1931; mem.: Kappa Delta Rho; m. Helen S. Stephens, Sept. 6, 1934; ch.: Gretchen Louise. C.K. Williams & Co., 1931 to date; 1931-36, res. investigator; 1936-38, chf., chem. engrg. sec., res. dept.; 1938-40, special investigator, res. dept.; 1940-44, chf., chem. engrg. sec., res. dept.; 1944-47, chf. res. chem.; 1947 to date, dir. of res. Two arts. pub., with E.C. Bingham. Mem.: A.C.S., A.I.Ch.E., A.S.T.M., Natl. Assn. of Corrosion Engrs., N.Y. Paint, Varn. & Lacq. Assn. Club: Country Club of Northampton Co. Hobby: golf.

STEPHENS, William Richmond, hd. dept. of chem., Baylor U., Waco, Texas; res. 908 Speight Ave., Waco.
Teaching; b. Stroud, Ala., Mar. 27, 1892; s. of Marion R. and Janie (Muldrow) Stephens; ed. Milltown, Ala. High Schl., 1911; B.S., Ala. Polytech. Inst., 1919 hon. grad., M.S., 1921; U. of Chicago 1922-23; State U. of Iowa, Ph.D. 1929; m. Abbie Williams, Dec. 26, 1912. Taught in public schls. of Ala., 1911-15; dean, Meridian Coll., 1920-22; Baylor U., asst. prof. 1922-26, assoc. prof. 1926-29, prof. 1929 to date, hd. 1949 to date. Res. in solutions, solubilities, oxidation. Mem.: City Planning & Zoning Bd., Waco. Mem.: A.C.S., A.A.A.S., Texas Acdy., Natl. Geographic, Sigma Xi, Phi Lambda Upsilon, Alpha Epsilon Delta.

Clubs: Texas Wild Life, Bluebonnet Field Trial. Hobbies: hunting, hunting dogs.

STEPHENSON, Robert Marlowe, chf. chem., Basic Vegetable Prods. Inc., Vacaville, Calif.; res. 449 Ulatis Park, Vacaville.
Chem.; b. Matoon, Ill., July 1, 1912; s. of Jesse Joel and Eltha Stephenson; ed. DePauw U., A.B. 1934; mem.: Beta Theta Pi, Phi Eta Sigma; m. Helen Kimberlin, Mar. 12, 1936; ch.: Barbara, Kim, Donald. Griffith Labs., 1934-45, res.; Basic Vegetable Prods. Inc., 1945 to date. Epoxide res., amino acids, dehydrated vegetables. Mem.: A.C.S., I.F.T. Hobbies: photography, home construction.

STERICKER, William, dev. chem., Phila. Quartz Co., Public Ledger Bldg., Phila. 6, Pa.; res. Parkwood Manor B., Upper Darby, Pa.
Chem.; b. Ft. Collins, Colo., Dec. 1, 1895; s. of Arthur and Jennie (Burkhardt) Stericker; ed. U. of Wis., B.S. 1913-17; U. of Pitts., Ph.D. 1919-22; mem.: Alpha Chi Sigma, Phi Lambda Upsilon; m. Doris Taylor, June 7, 1920; ch.: Mary Christine. Westinghouse Lamp Co., res. chem., 1917-19; Mellon Inst. Fellow 1919-22; Phila. Quartz Co., 1922 to date. Res. on detergents, corrosion, cathode ray screens, cements. Mem.: A.C.S. (chmn. Phila. Sec. 1928), Franklin Inst., Natl. Assn. of Corrosion. Engrs., Am. Electroplaters Soc. Club: Collectors'. Hobby: stamp collecting.

STERLING, Wilbur Frederick, dir. market res. & dev., Corn Prods. Refining Co., 17 Battery Pl., N.Y. 4, N.Y.; res. 2206 Kearney St., N.E., Wash. 18, D.C.
Chem. economics; b. Crisfield, Md., Mar. 21, 1899; s. of Frederick W. and Mary C. Sterling; ed. U. of Md., B.S. in chem., 1920; mem.: Sigma Phi Sigma; m. Mary K. Allaban, Sept. 21, 1922; ch.: Mary Ann. 1920-29, chem., Bur. of Chem. & Food & Drug Adm., U.S. Dept. of Agr.; 1929-41, chem. economics, U.S. Tariff Commis.; 1941 called to active army duty as Major, C.W.S., separated from act. serv. June, 1946, with rank of Col.; 1946 to date, market res. in chem., Corn Prods. Refining Co. During W.W. II had direct chg. of chem. supply & of Army Liaison with Chem. Bur., W.P. B. Mem.: A.C.S., A.A.A.A., Chem. Market Res. Assn. Club: Chemists' (N.Y.). Hobbies: swimming, photography, bridge.

STERN, A. George, Pacific Coast mgr., Heyden Chem. Corp., 420 Market St., San Francisco, Calif.; res. 764 Forest Ave., Palo Alto, Calif.
Chem. engr.; b. Oct. 12, 1904; s. of Alfred and Emma Stern, ed. A.B., Columbia Coll., 1923, M.A., 1924, Ch.E., 1926; m. Daphne Darling, Jan. 15, 1936; ch.: Diane, Kenneth. Conslt. A.R. Maas Labs., 1930-36; Federal sc. res., U.S. Bur. of Mines, 1936-43; chf. of western res. and tech. sales, Westvaco Chem. Co., 1943-48; pacific coast mgr., Heyden Chem. Corp., 1948 to present. Mem.: A.C.S., A.I.Ch.E. (chmn. of N. Calif. sec. 1946), Am. Inst. Min. & Met. Engrs. (secy. Ind. Minerals div. 1941-42); secy. Wash., D.C. sec., 1942-44). Club: Engineers (San Francisco).

STERN, Adolph John, prof. chem., Wagner Coll., Staten Island 1, N.Y.; res. 16 Lloyd Ct., Staten Island 10.
Prof. chem., hd. chem. dept.; b. Nuremberg, Germany, Feb. 12, 1900; s. of Hans and Katherine Ziegler Stern; ed. Tech. U., Munich; Diplom-Ingenieur 1923; Dr. Ing. 1925, Habil. 1933; mem.: Alpha Sigma Pi; m. Margaret Scherbel, London, Eng., Mar. 3, 1938; ch.: Kathleen. Instr. organ. chem., Tech. U., Munich, 1925-26; supvr. res. lab. Montanwerke Walter, Nuremberg-Duesseldorf, 1928-30; privat-dozent of organ., physical chem., Tech. U., Munich 1933-34; dozent of organ. chem., physical chem., 1933-37; res. assoc., Children's Fund of Mich., Detr., Mich., 1938-42; prof. chem., Wagner Coll., S.I., N.Y., 1942 to date; hd. dept. chem., dir. summer session. Res. in porphyrines, chlorophyll, absorption-spectra. Co-author: "Die Chemie des Pyrrols," Vol. II/II, 1940; mem.: A.C.S., A.A.A.S., Mich. Acdy. Sc., Adult Ed. Co. (N.Y.), Soc. Adv. Ed.

STERN, Arthur Leo, partner, Arthur L. Stern Co., 511 Melrose Pl., South Orange, N.J.; res. same.
Chem. engr.; b. Baltimore, Md., Apr. 11, 1896; s. of Leopold and Julia (Mehlinger) Stern; ed. B.Chem., Cornell U., 1917; mem.: Phi Lambda Phi; m. Ruby Hillman, June 21, 1925; ch.: Mildred F. (Perlow), Erna Lee, Janet Leona. Asst. instr., Cornell U., 1916-17; cadet engr., Raritan Copper Wks., May-July, 1917; control chem. Barber Asphalt Co., July-Sept., 1917; jr. chem. engr., Bur. of Mines, Sept., 1917-Sept., 1918; 2nd Lt. Chem. Warfare Service, Sept., 1918 to Jan., 1919 (continuation of Bur. of Mines work); res. explosives engr., Trojan Powder Co., Jan. to Oct., 1919; chem. supt., v.p. in charge prod., Max Marx Color & Chem. Co., 1919-29; chem. engr. & manuf. agent, Arthur L. Stern Co. (partner) 1929 to date. Special. on particle size studies. Mem.: A.I.Ch.E., A.C.S., Franklin Inst., Ceramic Assoc. of N.J., Licensed Prof. Engr. (N.J.), Armed Forces Chemical Assoc., Natl. Professional Engr. Soc., N.J. Manufacturers Assoc. Clubs: Chemists' (N.Y.C.), Green Brook Country. Hobbies: photography, golf.

STEUDEL, Arthur William, pres., Sherwin-Williams Co., 101 Prospect Ave. N.W., Cleveland 1, Ohio; res. 15302 Edgewater Dr., Lakewood 7, Ohio.
Exec.; b. Cleveland, Ohio, Aug. 28, 1892; s. of Richard and Julia (Conrad) Steudel; ed. grad. of public schl., high schl., & bus. coll., Cleveland; m. Frieda M. Bohnert, June 30, 1916; ch.: Richard A., Gloria M. Entered Sherwin-Williams as office-boy 1908, v.p. 1929, dir. & promoted to v.p. & gen. mgr. 1936, pres. 1940 to date. Wilson & Co., Chicago, Ill., dir.; Republic Steel Corp., Cleveland, Ohio, dir.; Baltimore & Ohio R.R. Co., Baltimore, Md., dir.; Cleveland Trust Co., Cleveland, Ohio, dir. Trustee or dir. of Fairview Park Hosp., Cleveland Clinic, Cleveland Art Schl., Gr. Cleve. Boy Scouts, Y.M.C.A., Medical Mutual of Cleveland, Musical Arts Assn. Clubs: Union, Westwood Country, Tavern, Pepper Pike Country, Metropolitan (N.Y.). Hobby: golf.

STEVENIN, Thomas George, plant technologist, Deep Rock Oil Corp., Box 1031, Cushing, Okla.; res. 217½ S. Noble St., Cushing.
Chem. engr.; b. Johnson Co., Kans., Mar. 16, 1915; s. of Geo. T. and Daisy D. (Keeling) Stevenin; mem.: Triangle, Tau Beta Pi, Sigma Tau, Alpha Zeta; m. Audrey K. Stevenin, July 11, 1948. Feb., 1939, B.S. Ch.E., U. of Kans. 1939-46, Phillips Pet. Co., process engr.; 1946-47, B.S. Gen. Agr., U. of Ill.; 1947-48, asst. county agent, Montgomery Co., Ill.; 1948-50, Northern Regional Lab., Peoria, Ill.; Feb., 1950 to date, plant technologist, Deep Rock Oil Corp., Cushing. Mem.: A.C.S. Hobbies: gardening, hunting, fishing.

STEVENS, Donald Raymond, sr. fellow, Mellon Inst., Pitts. 13, Pa.; res. 2360 Collins Rd., Wilkinsburg 21, Pa.
Sr. fellow; b. Dover, Ohio, May 7, 1898; s. of Charles C. (dec.) and Della E. Stevens (dec.); ed. Cornell U., B.chem., 1920; U. of Pitts., M.S., 1922; U. of Chicago, Ph.D., 1924; mem.: Sigma Pi, Alpha Chi Sigma; m. Mabel E. Ireland, Dec. 27, 1924; ch.: Donald C. 1924 to date, Mellon Inst., sr. fellow, Pet. Fellowship; in 1943 also assumed dir. of res. of org. chem. sec. of Gulf Res. & Dev. Co. Polymerization of olefins, alkylation of

phenols, antioxidants, lubricating oil additives, oxidation of hydrocarbons, sulfurization of hydrocarbons. Co-author with W.A. Gruse, "Chem. Technology of Pet., McGraw-Hill. Mem.: Sigma Xi, A.C.S., A.I.C. (fellow). Clubs: Pitts. Chemists', Faculty, U. of Pittsburgh, Edgewood Country.

STEVENS, Raymond Sawtell, v.p., Arthur D. Little, Inc., 30 Memorial Dr., Cambridge 42, Mass.; res. 100 Memorial Dr., Cambridge.
Engrg. exec.; b. Nashua, N.H., Apr. 15, 1894; s. of David and Nettie (Knowles) Stevens; ed. M.I.T., 1917, B.S.; mem.: Kappa Sigma; m. Katherine Andrews, Sept. 4, 1920; ch.: David, Frank Raymond. Asst. supt., Isko Co., elec. refrigerating machines, Chicago, 1919-20; Arthur D. Little, Inc., Cambridge, Mass. 1920 to date, v.p. 1934 to date, dir. 1945 to date. Editor, Vol. II Res. —A Natl. Resource: Ind. Res., for Natl. Resources Planning Bd., 1940. Mem.: Soc. Chem. Ind. (Am. Sec., mem. exec. comm.), A.C.S., Q.M. Comm. on Pioneering Res., A.C.C.C.E. (council mem.), Newcomen Soc. of England, A.I. Ch.E., Natl. Security Ind. Assn. (mem. res. & dev. comm.), I.F.T., A.I.C. (fellow). Trustee, Home Savings Bank, Boston; mem. of corp., Mass. Gen. Hosp., term mem., M.I.T.; mem. of bd. of overseers, Browne & Nichols Schl.; trustee, Wood's Hole Oceanographic Institution. Clubs: Chemists' (N.Y.C.), St. Botolph (Boston), Bellevue Golf (Melrose, Mass.).

STEVENSON, Earl Place, pres., Arthur D. Little, Inc., 30 Memorial Dr., Cambridge 42, Mass.; res. 106 Shornecliffe Rd., Newton 58, Mass.
Chem.; b. Logansport, Ind., Oct. 2, 1893; s. of Charles B. and Lizzie (Place) Stevenson; ed. B.S., Wesleyan U., 1916; M.S., M.I.T., 1918; hon. M.A., Wesleyan U., 1941; mem.: Psi Upsilon, Phi Beta Kappa, Wesleyan Chapter of Sigma Xi; m. Helen G. Derby, July 3, 1919; ch.: Barbara, Jean Place, Deborah. Instr. chem., M.I.T., 1916-18; dir. res., Arthur D. Little, Inc., Cambridge, 1919 to date, v.p. 1922-35, pres. 1935 to date; sect., div. chf., Office Sc. Res. & Dev., 1941-45; C.W.S., A.U.S., 1918; conslt., Chem. Corps, Atomic Energy Commis. Mem.: A.A.A.S., A.C.S., A.I.Ch.E., Soc. of Chem. Ind. (Gr. Britain), A.C.C.C.E., Newcomen Soc. of England. Award: M. for Merit 1948. Trustee, Newton Savings Bank; pres., bd. of trustees, Wesleyan U.; mem. corp. & trustee, Northeastern U. Clubs: Union (Boston), Brae Burn Country (Newton), Chemists' (N.Y.), Cosmos (Wash.).

STEVENSON, George E., tech. dir., 180 Pearl St., So. Braintree, Mass., Weymouth Art Leath. Co.; res. 115 Hollis Ave., Braintree.
Chem. engr.; b. Cambridge, Mass., Feb. 22, 1909; s of Carl A. and Marie S. Stevenson; ed. B.S. Chem. Engrg., N. Eastern U., Boston; grad. studies M.I.T., Boston Coll.; m. Mildred E. Cooper, Apr. 24, 1937; ch.: Karen A., Constance L., Charles C. Weymouth Art Leath. Co., lab. asst.; plant frmn.; tech. dir., 1934 to date.

STEVENSON, Louisa Stone, emeritus prof. of chem., Mt. Holyoke Coll., So. Hadley, Mass.; res. 8 Park St., So. Hadley, Mass.
Emer. prof. of chem.; b. Lowell, Mass., Dec. 5, 1879; d. of Findlay and Emma L. (Pevey) Stevenson; ed. Vassar Coll., A.B. 1901, Phi Beta Kappa; Cornell U., Ph.D., 1911 (chem.), Sigma Xi Grad. student, Vasar Coll., 1901-02; asst. in chem., Vassar Coll., 1902-03; grad. student, Cornell U. on Babbott Fellowship from Vassar, 1903-04; sc. instr. H.S., Glen Ridge, N.J., 1904-05; instr. in chem., Vassar, 1905-09; grad. student at Cornell, 1909-11 (Ph.D. 1911); instr. in chem., Wellesley Coll., 1911-13; assoc. prof. and hd. of chem. dept., Sweet Briar (Va.) Coll., 1913-15; Mount Holyoke Coll., 1915-45 (instr. 1 yr., assoc. prof. 3 yrs. of chem., prof. to 1945; emeritus prof. 1945 to date; part time instr. 1945-46, academic advisor to students, 1946-49.

STEVENSON, Reston, prof. chem., C.C.N.Y., 140th St. and Convent Ave., New York, N.Y.
Prof. chem.; b. May 5, 1882, Wilmington, N.C.; ed. Univ. N.C., A.B., 1902, A.M., 1903; Columbia, 1908; m. Louise Courtodon, Apr. 7, 1920. Cornell, asst. instr., 1903-05; Gen. Chem. Co., anal. chem., 1905-06; C.C.N.Y., tutor chem., 1906-08, instr., 1908-12, asst. prof., 1912-20, assoc. prof., 1920-32, prof. chem., 1932 to date. U.S.A., France; Capt., Major, 1918; Chevalier de la Legion d' Honneur. Res. on sur. tension, equilibrium vaporization; electroplat. Mem.: Chemists' (secy. 1915), Electrochem. Soc. (chmn. N.Y. Sect. 1933), Chem. Tchrs'. (pres. 1912).

STEVINSON, Melvin R., process dev. dept. mgr., Gen. Aniline Wks. Div. of Gen. Aniline & Film Corp., Grasselli, N.J.; res. 872 Colonial Ave., Union, N.J.
Ind. chem. (org.); b. Orrick, Mo., Mar. 14, 1908; s. of James E. and Trella L. Stevinson; ed. Orrick, Mo., pub. schls.; Central Coll., Fayette, Mo., A.B., 1930; U. of Nebr.; M.S., 1932, Ph.D., 1934; Parke-Davis Co. Res. fellow at U. of Nebr. 1933-34; mem.: Alpha Chi Sigma; m. Florence C. Mulligan, Oct., 1933; ch.: Sheila M., Stanley R. Instr. of chem., Central Coll., Mo., 1930-31; res. chem., Reilly Tar & Chem. Corp., Indianapolis, Ind., 1934-35; General Aniline Wks., Grasselli, N.J.: res. chem. 1935-36; asst. plant chem., 1936-43; prod. supvr. 1943-46; asst. mgr., vat dye dept. 1946-48; mgr., vat dye dept. 1948-49; prod. mgr., Grasselli Plant, 1949; process dev. mgr., Grasselli Plant, 1950 to date. Res., dev. & mfg. experience in flds. of syn. dyes & dyestuff intermediates, org. pigments, photographic dyes & chem., surface active agents (detergents, emulsifying agents, wetting agents, dispersing agents, sequestering agents, etc.). Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S. Hobbies: gardening, bowling, golf, baseball (spectator), phonograph recording, reading.

STEWARD, Roy Franklin, Professional Bldg., Meriden, Conn.; res. Allen Ave., Meriden.
Pat. lawyer; b. Chicago, Ill., Aug. 16, 1880; s. of William Thompson and Mary (Franklin) Steward; ed. U. of Chicago, 1899-1900; Armour Inst. of Tech., Chicago, 1903-07, B.S. chem. engrg., Tau Beta Pi; Natl. U., Wash., D.C., 1909-11, LL.B.; m. Clara Merrill, Sept. 6, 1911; ch.: Merrill Franklin, Donald Thompson. 1907-08, asst. chf. chem., McCormick Harvester Wks., Chicago; 1908, asst. chem., Bur. of Mines, Pitts., Pa.; 1909, asst. chem., Dept. Agric., Leather & Paper Lab., Wash., D.C.; 1909-10, asst. examiner, U.S. Pat. Office, Wash., D.C.; 1910-13, pat. practice, McElroy & Steward, Wash.; 1913-21, pat. practice, own office; 1921-36, pat. practice, Steward & McKay, Wash. & N.Y.C.; 1936-43, pat. practice, own office, N.Y. C. & Wash.; 1943 to date, pat. practice, own office, Meriden, Conn. Professional Bldg. Corp. of Meriden, Conn. (v.p.). Mem.: A.C.S., N.Y. Pat. Law Assn., Conn. Pat. Law Assn., mem. of bar of District of Columbia & State of N.Y., mem., bd. of dir., Federal Union, Inc., Wash., D.C.; mem., Natl. Advisory Council, Atlantic Union Comm., N.Y.C. Club: Chemists' (N.Y.C.). Hobby: fishing.

STEWART, Carl Kern, metallurgist, dev. & res. dept., Internatl. Nickel Co. Inc., 67 Wall St., N.Y.C.; res. 263 Merrison St., Teaneck, N.J.
Chem. & metallurg. engr.; b. McKeesport, Pa., Jan. 28, 1898; s. of Harry T. and Florence M.

(Kern) Stewart; ed. pub. schls., McKeesport, Pa.; U. of Pitts.; mem.: Sigma Kappa Pi, Lock & Key; m. Margaret C. Disney, Jan. 28, 1925; ch.: Carl, Jr., Bruce A., Malcolm D. Chem., Carnegie Steel Co., Duquesne, Pa., 1917-23; chem. & metallographer, Westinghouse Air Brake Co., Wilmerding, Pa., 1923-27; consltg. chem. & metallurgist, McKeesport, Pa., 1927-28, 1931-34; res. engr., Westinghouse Res. Labs., 1929-30; chem. & metallurgist, Carnegie Ill. Steel Co., 1937-41; sr. metallurgist, Eclipse Pioneer Div., Bendix Aviation Corp., 1945; chf. res. engr., Lotte Chem. Co., Paterson, N.J., 1946-47; dev. metallurgist, Internatl. Nickel Co., 1947 to date; 2nd Lt., Inf. U.S.A., 1918; Capt., C.C.C. 1934-37; Maj. A.C. 1941-45 (now Lt. Col., U.S.A.F.R.). Res. on corrosion iron, copper alloys; dev. meths. anal. & tests, particularly meth. now stand. for control of palm oil on tinplate & meths. for identif. of films & deposits; dev. inhibitors & blankets for pickling solutions, dev. coatings for welding electrodes. Mem.: A.A.A.S. (fellow), A.C.S., A.S.M., A.I.M.E., A.S.T.M., P.A.S., Engrs. Club of McKeesport (pres.). Hobbies: flying, home workshop, magic, camping, history of warfare, anthropology, archeology, philosophy.

STEWART, James K., tech. adviser, pigment color & chem. div., Sherwin-Williams Co., 300 W. Lake St., Chicago 6, Ill.; res. 8228 S. Sangamon St., Chicago 20, Ill.
Tech. sales chem.; b. June 20, 1891; s. of Peter Charles and Mary L. (Kidder) Stewart; ed. A.B., U. of Kans.; M.S., Purdue U.; Ph.D., U. of Chicago; mem.: Alpha Chi Sigma; m. Bernice Thornton, July 25, 1930; ch.: Mary Joan. Internatl. Filter Co., res. chem., 1922-24; Firestone Tire & Rubber Co., res. chem., 1924-26; Sherwin-Williams Co., tech. assoc., sales training, 1926-29; Anderson-Prichard Oil Corp., dir., ind. naphtha res. 1929-39; Sherwin-Wiliams Co., tech. adviser, pigment color & chem. div., 1940 to date. Intermediates for sensitizing dyes; physical properties—rubber cmpds.; pet. solvents; tech. serv. coating problems in paint, leather; plastic color problems. Mem.: Alpha Chi Sigma, A.C.S., Sigma Xi, F.A.I.C., C.A.F., Paint, Varn. Lacq. Assn. Club: Chicago Chemists'. Hobbies: swimming, photography.

STEWART, Jeffrey Robert, pres., Stewart Research Laboratory, Franconia, Alexandria, Va.; res. R.D. 5, Box 274, Alexandria.
Chem. engr.; b. London, England, July 23, 1905; s. of Dr. Jeffrey M. and Nellie (Tew) Stewart; ed. Schl. of Sc. & Tech. of Pratt Inst., Bklyn., N.Y.; George Washington U., Wash., D.C.; mem.: Omega Iota Pi; m. Frances E. Spicer, June 7, 1930; ch.: Cadet Rodney Douglas, R.O.T.C.; Cadet Jeffrey Robert, R.O.T.C. 1929-31, chem., du Pont Co., Parlin, N.J.; 1931-37, chem., Natl. Paint, Varn. & Lacq. Assn.; 1937-43, pres., Stewart Res. Lab.; 1943-45, special asst. to Q.M. Gen., Dept. of Army, Wash., D.C.; 1945-49, pres., Stewart Res. Lab., Wash., D.C.; 1949-51, chem. engr., Raritan Arsenal, Dept. of the Army, Metuchen, N.J. Author: "Natl. Paint Dictionary" 1948. Mem.: A.I.C., A.C.S. Clubs: Mt. Vernon Lions, Franconia Choral Soc. Hobbies: stamp collecting, saxophone, singing, woodworking. Officer: Stewart Res. Lab. (pres.).

STEWART, Leroy Carlyle, mgr., Atlanta, Ga., off., The Dow Chem. Co., 161 Spring St. Bldg., Atlanta, Ga.; res. 3977 Club Dr.
Chem. engr., sales off. mgr.; b. Sept. 13, 1896; s. of Graham H. and Annie G. Stewart; ed. Case Inst. Tech., B.S. 1918; Ch.E. 1921; mem.: Phi Delta Theta, Tau Beta Pi, Sigma Xi; m. Ione Teal, Aug. 31, 1922; ch.: Eleanor A.S. Ryckman, Graham T. The Dow Chem. Co., 1918 to date; chem. engr., Midland, Mich., 1918-41; mgr., Wash., D.C., off., 1942-49; mgr., Atlanta, Ga., off., 1950 to date. Mem.: A.C.S., A.I.Ch.E. Clubs: Atlanta Sales Exec., Atlanta Athletic. Hobbies: golf, fishing.

STEWART, Paul Bennett, asst. prof. of chem. engrg., dept. of chem. engrg., U. of So. Calif., Los Angeles 7, Calif.; res. 1805 S. Gramercy Pl., Los Angeles 6.
Chem. engr., prof.; b. Seattle, Wash., Apr. 19, 1910; s. of Edward T. and Loda (Bennett) Stewart;; ed. U. of Wash., B.S. in chem., 1938, M.S. in Ch.E., 1942; U. of Texas, Ph.D. 1945; mem.: Phi Delta Theta, Tau Beta Pi, Sigma Xi, Ammonii Socii; m. Katherine Braun, June 6, 1942. University fellow, U. of Wash., Sept., 1938-June, 1942; instr., U. of Texas, 1942-44; Jackson Lab., E.I. du Pont de Nemours & Co., Wilmington, Del., chem. engr. 1944-48, res. wk. 1948-49; asst. prof. of chem. engrg., U. of So. Claif., 1949 to date. Co-author of arts. in J.A.C.S., Ind. & Engrg. Chem. Mem.: A.I.Ch.E. (active), A.C.S., A.A.A.S., Am. Soc. for Engrg. Ed. Hobbies: art metal work, glass & ceramics collections.

STEWART, Vernon Theodore, prof. emeritus in chem. engineering, Newark Coll. of Engineering, 367 High St., Newark 2, N.J.; res. 25 Trinity Pl., Montclair, N.J.
Coll. prof.; b. Silver Creek, N.Y., Nov. 13, 1883; s. of Theodore and Antoinette More Stewart; ed. Ph.B., Syracuse U., 1905, S.B., M.I.T., 1915; mem.: Beta Theta Pi, Tau Beta Pi; m. Helen L. Quale, Sept. 8, 1908; ch.: Richard More. Thomas A. Edison, Inc., 1917-20; Carleton Ellis, Montclair, 1920-21; prof. of chem. & of chem. engineering at Newark, N.J., Coll. of Engineering, 1921-48; prof. emeritus 1948 to present. Mem.: A.C.S., A.I.Ch.E. (associate member), Instrument Soc. of Am.

STEWART, Walter G(rant), prof. of chem., hd. of chem. dept., Springfield Coll., Springfield, Mass.; res. 45 Old Point St., Springfield.
Teacher of chem.; b. Los Angeles, Calif., June 18, 1906; s. of Charles A. and Lily (Wilson) Stewart; ed. Clark U., Worcester, Mass., A.B., 1929, A.M., 1930; Jonas Clark Scholarship, 1925, 1927; Columbia U., N.Y.C., Ph.D., 1937; mem.: Lambda Chi Alpha; m. Mary A. Swasey, Sept. 5, 1933; ch.: Charles Joseph. Instr. chem., Bates Coll., Lewiston, Me. 1930-34; grad. asst. chem., Columbia U., N.Y.C. 1934-37; hd. sc. dept., Centenary Jr. Coll., Hackettstown, N.J. 1937-46; prof. chem. Springfield Coll., Springfield, Mass. 1946 to date; prof. chem. Lafayette Coll., Easton, Pa. summer 1944. Res. for doctorate—an interpretation of the nature of titanium oxide sols. Mem.: A.C.S., New England Assoc. of Chem. Teachers, A.A.U.P., Phi Lambda Upsilon, Sigma Xi. Club: Hope Church Brotherhood. Hobbies: hunting, fishing, photography, bridge.

STEWART, William Dorsey, res. chem., B.F. Goodrich Res. Center, Brecksville, Ohio.
Biochem.; b. Sylacauga, Ala.; s. of B.D. and Sally Hardy Stewart; ed. Ala. Polytech. Inst., B.S. agr., 1926; U. Ill., 1926-29, M.S., botany; m. Mildred R. Ragle, Dec. 31, 1930; ch.: Richard Hardy. 1929-36 Boyce Thompson Inst. for plant res., biochem.; 1936-39, Malayan Res. Labs., B.F. Goodrich, biochem.; 1939-44, B.F. Goodirch res. labs., Akron Ohio, res. chem. (inc. govt. subsidized lab. at Kent U., Kent, Ohio); 1944-48, B.F. Goodrich Biochem. Lab., resident dir. (Boyce Thompson Inst., Yonkers, N.Y.); 1948 to date, res. center, B.F. Goodrich Co., Brecksville, Ohio, res. redox chem. Res. in redox catalysis for polymerization, invention & dev., U.S.A. (19 patents);

cont. cougul. & sheeting proc., for natural rubber; agr. chem., synth. rubber, etc. (15 patents).

STEYERMARK, Al, hd. microchem. lab., Hoffmann-La Roche Inc., Kingsland Rd., Nutley 10, N.J.; res. 115 Beech St., Nutley 10, N.J. Microchem.; b. Jan. 29, 1904, St. Louis, Mo.; s. of Ben and Jennie (Levy) Steyermark; ed. U. of Ill., 1923; Wash. U. (St. Louis), B.S., 1928, M.S., 1928, Ph.D., 1930; mem.: Sigma Xi, Pi Lambda Phi; m. Janet Lomberg, Aug. 9, 1941. Res. fellow, Wash. U., 1927-30; instr., Mabel Evans Schl. (St. Louis), summers, 1928 and 1929; res. chem. Thomas & Hochwalt Labs. Inc. (Dayton, O.), 1931-33; res. chem., Lab. of Samuel C. Hooker (Bklyn.), 1933-36; Hoffmann-La Roche since 1936; hd. microchem. lab., Hoffmann-La Roche, 1939 to date. Res. largely in microchem.; extensive contrib. to sc. and tech. jls. Mem.: A.C.S. (chmn. comm. for standard. of microchem. apparatus, 1947; standing comm., analyt. grp., N.J. Sec., secy.-treas. 1948-49, chmn.-elect, 1950-51, chmn. 1951-52); Research Soc. of America (pres. Roche Branch, 1950-51). Hobbies: pets, glass blowing.

STIEGLER, Harold Winfred, dir. of res., American Assoc. of Textile Chemists & Colorists, A.A.T.C.C. Natl. Headquarters, Lowell Textile Inst., Lowell, Mass.; res. 116 Salem St., Andover. Res. admin.; b. Lawrence, Mass., Apr. 5, 1895; s. of Emil C. and Louise A. Stiegler; ed. Lowell Textile Inst., 1918, B.S.; M.I.T., 1920; Northwestern U., 1922, M.S., 1924, Ph.D. (Univ. fellow); mem.: Phi Psi; m. Priscilla Jarvis Gilbert, Apr. 30, 1932; ch.: Mary Louise. Natl. Aniline & Chem. Co., res., 1919; Lowell Textile Inst., res. and tchg., 1924; Cheney Bros., Silks, res., 1927; Rohm & Haas Co., textile chems., 1931; Amer. Cyanamid Co., hd. textile chems. res., 1936; Amer. Assoc. of Textile Chemists & Colorists, dir. of res., 1946 to date. W.W. I, U.S.A., C.W.S., with W. Lee Lewis on devel. of "Lewisite" gas, 1918. W.W. II, Lt. Col., U.S.A., Office of the Chief, Chemical Corps; Staff of the Commanding General, Tech. Div. Chief Protective Div., Technical Command, 1942-46; Commanding Officer Res. & Dev. Grp., U.S.A.R., 1950. Beta-chlorovinyl arsines and derivatives (Lewisite). Structure and synthesis of dyes. Investigations in textile chems., finishes, resins, textile treatments and processing. Test methods and instruments. Author: Encyc. of Chemical Technology Vol. 5 (Dyes-application, test methods for colorfastness of textiles). Mem.: A.C.S., A.A.A.S. (fellow), A.I.C. (fellow), A.A.T.C.C., A.S.T.M., Amer. Standards Assoc., T.R.I., Advisory Comm. Commercial Standards, U.S. Dept. Commerce, Sigma Xi, Alpha Chi Sigma, U.S. Army citation, Commendation Medal. Club: Manhattan (N.Y.).

STIEGMAN, Clarence Albert, secy., dir. of tech. serv., Oldbury Electro-Chem. Co., Niagara Falls, N.Y.; res. 1344 Garrett Ave., Niagara Falls. Exec.; b. Piper City, Ill., Mar. 23, 1910; s. of Chris Fred and Elizabeth Stiegman; ed. U. of Ill., B.S., 1932, M.S., 1934, Ph.D., 1937; m. Hallie B. Whitesel, June 25, 1938; ch.: Ritta Jo, Hallie Beth, Christie Sue. Teaching asst., U. of I., 1933-37; Oldbury Electro-Chem. Co., process & dev. 1937-47, dir. of tech. serv. 1947 to date, asst. secy. 1948-50, secy., mem. of bd. 1950 to date. Mem.: A.C.S., A.A.A.S., A.I.Ch.E., A.I.C., Electrochem. Soc., Sigma Xi, C.M.R.A.

STIEHLER, Robert D(aniel), chf., testing & spec. sect., Natl. Bur. of Stands., Wash. 25, D.C. Chem.; b. Springfield, N.Y., July 10, 1910; s. of John and Margaret P. Stiehler; ed. Rensselaer Polytech. Inst., Troy, N.Y., 1926-29; Johns Hopkins U., Balt., Md., 1929-33, Ph.D., June, 1933; m. Grace Van Order, Dec. 18, 1949. 1933-34, Natl. Res. council fellow, Calif. Inst. Tech.; 1934-38, res. fellow, Wilmer Inst., Johns Hopkins U.; 1939-42, sr. res. chem., B.F. Goodrich Co., Akron, Ohio; 1942-43, sr. chem., Boston, Q.M. Depot; 1943-46, tech. asst., Off. Rubber Reserve, Wash., D.C.; 1946 to date, Natl. Bur. Standards. Res. in oxidation-reduction equil., thermochem. of purines, biochem. of eye, vulcanization of rubber, qual. contr., test. of rubber. Mem.: A.A.A.S., A.C.S., A.S.T.M., A.S.Q.C., Wash. Acdy. Sc., Philosophical Soc. Wash., Wash. Assn. Scs, Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon. Hobbies: photography, music. mountaineering.

STIFF, John F., resident mgr. Detroit office, Binney & Smith Co., 410 Curtis Bldg., Detroit 2, Mich.; res. 1452 Henrietta, Birmingham, Mich. Chem., sales engr.; b. Garwood, N.J., Oct. 7, 1917; s. of John T. and Elsie M. (Lewis) Stiff; ed. M.I.T., 1939, B.S. in chem.; mem.: Alpha Chi Sigma; m. Mildred A. Introne, Dec. 5, 1942; ch.: Janice L., John F., Jr. 1939-42, Pitts. Plate Glass Co., paint chem.; 1942-46, U.S.A., C.W.S. Dev. Lab., M.I.T., Cambridge, Mass., 1st Lt.; 1946-48, Binney & Smith Co., tech. serv., June, 1948 to date, sales. Mem.: A.C.S., div. of rubber chem., A.C.S., Detroit Paint, Varn. & Lacq. Assn., Detroit Rubber Group.

STILES, Alvin Barber, supt. in tech. sec., E.I. du Pont de Nemours & Co., Charleston, W. Va.; res. 3822 Staunton Ave., Charleston. Chem. engr.; b. Springfield, Ohio, July 16, 1909; s. of Paul H. and Lucille B. Stiles; ed. B.Ch.E., 1931, M.S., 1933, O.S.U.; mem.: Phi Kappa Psi; m. Julia K. Orr, Oct. 6, 1934; ch.: David, Cynthia. 1931-32, du Pont, Newburgh, N.Y., ind. engrg. res.; 1933-40, du Pont, Charleston, W. Va., res. in ind. catalysis, 1940 to date, supervising res. in ind. catalysis. Two U.S. pats. & 10 applications. Mem.: A.C.S., Sigma Xi, A.I.Ch.E. Clubs: University, F.&A.M. Hobbies: photography, geology, horticulture.

STILES, Hugh R., tech. dir. agr. div., Commercial Solvents Corp., Terre Haute, Ind.; res. St. Mary of the Woods, Ind. Biochem., nutritionist, bacteriologist; b. Lake Mills, Wis., Dec. 25, 1899; s. of Wilbur and Irene (Simmons) Stiles; ed. U. of Wis., B.A. 1924, M.S. 1925, Ph.D. 1929, Alpha Zeta, Phi Lambda Upsilon, Sigma Xi, Phi Sigma; mem.: Alpha Gamma Rho; m. Constance N. McClure, Aug. 24, 1926; ch.: Maurine R., Quentin R., Philip G., Sandra Ann, Robert M. Bacteriolog. res. dept., 1926-28, 1929-35, res. serv. to fermentation plants 1935-37, in chg. of bact. res. dept. 1937-42, spec. asst. to v.p. in chg. of res. 1942-43, mgr. agr. div. 1943-48, tech. dir. agr. div. 1948 to date, Com. Solvents Corp. U.S. pat. on process for producing butyl alcohol, first successful plant process for making butanol from molasses; U.S. pat. on biochem. process for prod. of riboflavin, this process supplied majority of riboflavin used in mfr. of mixed feeds during last war; 13 other U.S. pats. Mem.: Soc. of Animal Prod., Poultry Sc. Assn., I.F.T., Am. Soc. of Agronomy, Am. Feed Mfrs. Assn. (assoc. mem. Nutrition Council), A.I.C. Dir., Community Theater of Terre Haute, Inc. Hobbies: fishing, orchard, stamp & coin collecting.

STILES, Samuel Robert, proc. engr., oil & chem. constr., M.W. Kellogg Co., 225 Broadway, N.Y. 7, N.Y.; res. 71 Hillside Ave., Cresskill, N.J. Chem. engr.; b. Moorestown, N.J., Apr. 17, 1913; s. of Samuel R. and Caroline J. Stiles; ed.

1934, Lehigh U., B.S. Chem. Engrg.; mem.: Delta Sigma Phi; m. Barbara W. Bass, Aug. 31, 1935; ch.: Robert Kitchell, Jonathan Deacon, Arthur Webster. 1935-40, Atlantic Ref. Co.; 1941 to date, M.W. Kellogg Co. Mem.: A.I.Ch.E.; trustee Bd. Ed., Cresskill, N.J. Club: Lions (Tenafly). Hobbies: Boy Scouts, canoeing, camping, coin collection.

STILLER, Henry H., v.p. and treas., export mgr., Advance Solvents & Chem. Corp., 245 Fifth Ave., N.Y.C.; res. 111 N. Broadway, White Plains, N.Y.
Sales development; b. Bolivar, N.Y., June 20, 1888; s. of Julius and Bertha Stiller; ed. N.Y. schls., and Columbia U., Ph.D., 1908. For past 20 yrs. with Advance Solvents & Chem. Corp., N.Y.C. Clubs: Chemists', Nassau Lodge No. 536 F.&A.M. (life member). Hobbies: golf, photography.

STILLWELL, Charles W., dept. hd. chem. res., Dennison Mfg. Co., Framingham, Mass.; res. 30 Arch St., Framingham.
Chem.; b. Bklyn., N.Y., Apr. 5, 1901; s. of Albert G. and Anna (Pitcher) Stillwell; ed. Cornell U., B.Chem. 1922, Ph.D. 1926; mem.: Alpha Chi Sigma; m. Hope I. Cushman, Sept., 1928; ch.: Anne C., Linda H. U. of Vt., asst. prof. chem., 1926-29; U. of Ill., assoc. in chem., 1929-33; Dennison Mfg. Co., 1933 to date. Res. on x-ray diffraction studies of various matls., incl. metals, alloys, electrodeposits, cellulose & other fibers; formulation of adhesives, lacquers, special treat. of paper. Author: "Crystal Chem.," McGraw Hill Book Co., 1938. Mem.: Sigma Xi, Tau Beta Pi, Phi Lambda Upsilon, A.C.S.

STIMSON, Sister Miriam Michael, hd., dept. of natural sc., dir. res. lab., Siena Heights Coll., Adrian, Mich.; res. Siena Heights Coll., Adrian.
Educator; b. Chicago, Ill., Dec. 24, 1913; d. of Frank S. and Mary (Holland) Stimson; ed. B.S., Siena Heights Coll.; M.S., Institutum Divi Thomae; Ph.D., Institutum Divi Thomae; grad. study, Mich. State Coll., U. of Mich., Ill. Inst. of Tech. Instr., Siena Heights Coll., 1939; asst. prof., 1944; prof. and hd. of dept., 1948 to date; res. in ultraviolet absorption characteristics of purines and pyrimidines. Mem.: A.C.S., Catholic Round Table of Science. Hobbies: photography, poetry.

STINE, Charles M.A., dir., E.I. du Pont de Nemours & Co., 9458 Nemours Bldg., Wilmington, Del.; res. Wilmington.
Dairy farmer; b. Norwich, Conn., Oct. 18, 1882; s. of M.H. and Mary Jane (Altland) Stine; ed. Gettysburg Coll., A.B., M.A., B.S., M.S., First Honors; Sc.D. (hon.); Johns Hopkins U., Ph.D. 1907; Phi Beta Kappa; Gamma Alpha; LL.D., Cumberland U., 1932; Sc.D., Temple U., 1941; Sc.D., Lebanon Coll., 1949; m. Martha E. Molly, Feb. 3, 1912; ch.: Mrs. Franklin Samuel Wilcox, Jr., and Mrs. J. Seth Hopkins Cruice. Joined du Pont Co., July, 1907, in chg. org. chem. wk., Eastern Lab., 1909-16; hd. org. div. 1917, asst. dir. chem. dept., 1919, chem. dir. co. 1924-30, v.p., mem. exec. comm., dir., from 1930. Devel. num. procs. and prods., many pats. in connec. with high explosives, propellant pwdr., dyes, artificial leather, varn., paints, other inorg. and org. chem. procs. and prods. Mem.: A.C.S. (chmn. Del. Sect. 1922, counc. 1923-24), A.A.A.S., A.I.Ch.E. (past pres.), Princeton Engrg. Soc. (hon.), Directors Ind. Res. Mem. bd. of trustees and exec. comm., U. of Delaware; mem. bd. of trustees Tower Hill Schl.; mem. bd. of trustees, Delaware Hospital; chmn. bd. of trustees, Gettysburg Coll.; on bd. of Delaware Curative Workshop. Clubs: Wilmington; The Everglades (Palm Beach, Fla.); Wilmington Country; Chemists' of Johns Hopkins; Rotary (Wilmington); Arnold Bog F. & H. Club, P.Q., Canada. Hobbies: fishing, hunting.

STIRTON, Robert I(ngersoll), mgr., prod. dev. dept., Oronite Chem. Co., San Francisco, Calif.; res. 745 Alvarado Rd., Berkeley 5, Calif.
Chem. engr.; b. Pt. Huron, Mich., Mar. 3, 1908; s. of James William and Martha (Philp) Stirton; ed. Calif. Inst. of Tech., 1928-30, B.S. with hon., 1931-34, Ph.D. in chem. & chem. engrg.; mem.: Pharos (local); m. Yvonne M.M. Menzies, June 30, 1934; ch.: Roderick I.M. Union Oil Co. of Calif., 1934-47, res. chem., asst. to mgr. export sales, res. supvr., asst. mgr. of res.; Oronite Chem. Co., 1947 to date, mgr. prod. dev. dept. Catalyst studies, anti-detonation additives for aviation gasoline, aviation gasoline advisory comm. (P.A.W.), toluene tech. comm. (P.A.W.), tech. advisory comm. (P.I.W.C.), xylene isomers & derivatives. Mem.: A.C.S., A.I.Ch.E., S.A.E., Armed Forces Chem. Assn., Reg. Prof. Engr. State of Calif., Sigma Xi, Tau Beta Pi. Club: Engineers (San Francisco). Hobbies: photography, high fidelity sound reproduction.

ST. JOHN, Alexander N.T., tech. dir. of res. and engineering, Resistoflex Corp., Belleville 9, New Jersey; res. 54 Daily St., Nutley 10, N.J.
Engr.; b. New York, Feb. 19, 1909; s. of Nikita John Troshkin and Josephine Troshkin; ed. Daniel Guggenheim Schl. of Aeronautics, N.Y.U., B.Sc. in Aero. Engrg., Grad. Schl. of N.Y.U., M.S.; mem.: Delta Sigma Phi; m. Stephanie Florence McKay, Sept. 2, 1939; ch.: Stephen Alexander, Elizabeth Sonia. Instr., aeronautics, Curtiss Wright, Inc., Valley Stream, L.I., 1931-32; prof. aeronautics, Beckley Coll., Harrisburg, Pa., 1932-33; instr. aeronautics, Daniel Guggenheim Schl., N.Y.U., 1933-38, associate consulting engr. with Dr. Alexander Klemin; 1933-38; chf. engr. & dir., Resistoflex Corp., Belleville N.J., 1938-41; power plant specialist, Civil Aeronautics Bd., Washing, D.C., 1941-42; Major, U.S. Army, Air Transport Command, A.M.E.W., 1942-44; tech. dir., Resistoflex Corp., Belleville, N.J., 1944 to date. Res. in dev. of first infra-red cable lacquer tower, pioneered use of plastics in ind. hose applications. Holds number of pats. on synthetic hose processing & couplings. Mem.: S.A.E., Inst. of Aero. Sc. Hobbies: engines, flying, reading.

ST. JOHN, Ancel, sr. abstractor, Library of Congress, Wash. 25, D.C.; res. 3915 7th St. S., Arlington 4, Va.
Physicist, professional engr.; b. Plainfield, N.J., June 20, 1882; s. of Edward and Eliza (Rhees) St. John; ed. U. of Rochester, 1902-06, Ph.B. 1906, Phi Beta Kappa; Columbia U., 1909-10; Clark U., 1912-17, Ph.D. 1917; mem.: Alpha Delta Phi; m. 1. Edith Almond (dec.), July 3, 1909; 2. Mabel Hale, Sept. 1, 1933. 1906-09, instr. in chg. of physics dept., Syrian Protestant Coll.; 1909-10, asst. in physics, Columbia U.; 1910-12, acting prof., Emory & Henry Coll.; 1912-17, instr., Worcester Polytech. Inst.; 1917-18, prof., Lake Forest Coll.; 1918-24, res. physicist, Carbide & Carbon Res. Labs.; 1924-43, consltg. physicist & physical metallurgist; 1930-33, pres., St. John X-Ray Serv. Corp.; 1931 to date, licensed professional engr. N.Y.; 1933-43, v.p. & consltg. engr., St. John X-Ray Serv., Inc., 1943 to date v.p.; 1943-1948, metallurgist, Ordnance Dept., U.S.A.; 1948 to date, sr. abstractor, Library of Congress. Discovered pseudographite, dev. x-ray diffraction meths. of chem. anal., est. competence of such meths. in pat. litigation, dev. techniques & specs. for inspecting fusion welded pressure vessels now approved. Co-author: "Indus. Radiography" 1st edit. 1934; "Indus. Radiology" 2nd edit. of I, 1943; author: "Photoelements & their Applications,"

1938. Mem.: Phi Beta Kappa, Sigma Xi, A.S.M., A.I.M.E. (past mem.), A.S.M.E., A.S.T.M. Hobby: gardening.

ST. JOHN, J.L., chmn., dept. agr. chem., State Coll. Wash., Pullman, Wash.; res. 1501 Gary St., Pullman.
Chem.; b. Janesville, Iowa, Feb. 12, 1891; s. of J.W. and Ola St. John; ed. Purdue U., M.S., 1917; Ph.D., U. Minn., 1927; m. Ruth S. Lotts, June 6, 1916; ch.: Robert G., Dorothy Jean. Chem., agr. exp. sta., U. Ill. 1917-19; chem. agr. exp. sta., St. Coll. Wash. 1919-21; chmn., dept. agr. chem., 1921-50. Contrib. extens. to sc. and trade jls. Mem.: A.C.S. (chmn subdiv. econ. poisons), Sigma Xi, Phi Lambda Upsilon, Phi Sigma. Hobby: short-wave radio.

STOCK, Frederick Joseph, v.p. in chg. of sales, Chas. Pfizer & Co. Inc., mfg. chem., 630 Flushing Ave., Bklyn. 6, N.Y.; res. 21 Beechmont Ave., Bronxville, N.Y.
Chem. mfg. exec.; b. Evansville, Vanderburgh Co., Ind., Jan. 23, 1908; s. of Louis Carl and Anna (Schultheis) Stock; ed. Purdue U., Lafayette, Ind., phar. chem., hon. D.S.; mem.: Phi Kappa Frat., Purdue P. (former pres. of Alumni Chapter); m. Margaret Lucille Wilson, Aug. 5, 1931; ch.: Mary Suzanne, Carol Anne, Frederick Joseph, Jr. 1926-28, part time while in coll., Hoffman Drug Co.; 1928-34, clerk, store mgr., asst. supvr., supvr., Walgreen Co.; 1934-41, chf. prescription dept., Walgreen Co., Chicago, Ill.; 1941-45, chf. of drug branch, W.P.B., Wash., D.C.; 1945 to date, v.p., dir., Chas. Pfizer & Co. Inc., Bklyn. Mem.: Natl. Vitamin Foundation (chmn. exec. comm., N.Y.C.), N.Y. Bd. of Trade (mem. of bd. of dir., N.Y.C.), Drug, Chem. & Allied Trades Sec. of N.Y. Bd. of Trade (former chmn. N.Y.C.). Clubs: Chemists' (N.Y.C.), Drug & Chem. (N.Y.C.), Knollwood Country (White Plains, N.Y.). Hobby: philately.

STOERTZ, Howard, metallurg. engr., Electric Storage Battery Co., 19th St. & Allegheny Ave., Phila. 32, Pa.; res. 310 Wellesley Rd., Phila. 19, Pa.
Metallurg. engr., storage batteries; b. Phila., Pa., Feb. 23, 1894; s. of Frank and Ella Barbara (Muesse) Stoertz; ed. U. of Pa., B.S. in chem. engrg. 1916, chem. engrg. 1931; m. Helen Kramer Eimert, Oct. 8, 1925; ch.: Howard, Jr., George Eimert. Chem., Westinghouse Lamp Co., 1916-17; chem., E.I. du Pont de Nemours, Phila., 1917-19; chem. engr., Crown Cork & Seal Co., Baltimore, 1919-20; res. chem., C.W.S., Edgewood, 1920-21; res. engr., Electric Storage Battery Co., Phila., 1921-29; assoc. prof. of chem., Phila. Coll. of Osteopathy, 1929-34; metallurg. engr., Electric Storage Battery Co., Phila., 1934 to date. On Chem. Abstracts staff for about 25 yrs.; one time chmn. Abstracting Comm., Phila. Sec., A.C.S. Mem.: A.C.S., A.I.Ch.E. (active), Franklin Inst., Sc. & Arts Comm. Franklin Inst., A.I.C. (one time chmn. Pa. Chapter), Natl. Assn. of Corrosion Engrs. Dir., Nicetown Club for Boys & Girls, Phila.; one time trustee, Unitarian Church of Germantown, Phila., co-chmn., Human Relations Committee of Germantown and Chestnut Hill. Hobbies: chess, books, tennis, canoeing.

STOKES, Charles Anderson, dir. of res. & dev., Godfrey L. Cabot, Inc., 77 Franklin St., Boston 10, Mass.; res. 93 Woodlawn Ave., Wellesley Hills 82, Mass.
Chem. engr.; b. Mohawk, Fla., Oct. 28, 1915; s. of Harry K. and Laura C. Stokes; ed. B.S. Ch.E. cum laude, U. of Fla., 1937; grad. wk. M.I.T. 1938-41; mem.: Phi Eta Sigma, Sigma Tau, Phi Kappa Phi, Sigma Xi; m. Constance Wickes Currier, Feb., 1939; ch.: Jeffrey Andrew, Harry Currier, Christopher Alden. Chem., Fla. State Rd. Dept., 1937; instr. chem. engrg., M.I.T., 1940-42; asst. prof. chem. engrg. M.I.T. & private conslt. wk. 1942-45; asst. to tech. dir., Cabot Companies, Pampa, Texas, 1943-44; mgr., retort chem. div., Cabot Carbon Co., Gainesville, Fla., 1945; cons. to W.P.B., O.P.R.D., Wash., D.C. on carbon black & hydrogen peroxide, 1945; dir. res. & dev., Godfrey L. Cabot, Inc., 1945 to date. Mem.: A.C.S., A.I.Ch.E., A.I.M.M.E. Clubs: Boston Res. Dir., N.Y. Assn. of Res. Dir., Engineers (Boston). Hobby: public affairs.

STOKES, Sydney N., mgr., N.Y. branch, Merck & Co. Inc., 161 Sixth Ave., N.Y.C.; res. 925 Kensington Ave., Plainfield, N.J.
Sales exec.; b. New Haven, Conn., May 8, 1911; s. of Sydney and Hilda Marie Stokes; ed. Wharton Schl. of Finance & Com., U. of Pa., Phila., Pa., 1930-34, B.S. in economics; mem.: Phi Gamma Delta, Phi Kappa Beta, Blue Key Soc., Sphinx Sr. Soc.; m. Anne A. Denny, Oct. 23, 1943; ch.: Sydney N., Jr., Sandra W. Stetson (step-daughter), Stuart C. Stetson (step-son). Merck & Co. Inc., July 1, 1934 to date, held var. staff & sales adm. positions until June 30, 1942; July, 1942-Dec., 1945 U.S.N., Lt. Cmdr. Supply Corps; Merck & Co. Inc., Jan., 1946 staff asst., office of adm. v.p., Feb., 1949 mgr. N.Y. branch. Mem.: Am. Drug Mfrs. Assn. (entertainment comm. 1950-51); Salesman's Assn., Am. Chem. Ind.; D.C.A.T. Sec., N.Y. Bd. of Trade (membership comm., 1949-50 (exec. comm., 1950-51). Clubs: Plainfield Country, Drug & Chem. (N.Y.), Uptown (N.Y.), Plainfield Commuters, Pa. Varsity, N.Y. Sales Execs. Hobbies: golf, photography.

STOLLER, Benjamin, v.p., treas., Wallerstein Labs., 180 Madison Ave., N.Y. 16, N.Y.; res. Bedford House, Garth Rd., Scarsdale, N.Y.
Exec.; b. Brest-Litovsk, Poland, Aug. 19, 1889; s. of Harry and Sarah Stoller; ed. N.Y.U., Columbia U.; m. Bessie Greenberg, June 8, 1913; ch.: Lucille, Alice, Dr. Robert Jesse. With Wallerstein Labs. since 1906, now v.p., treas., dir. Bosco Co., Inc., treas., dir.; Advance Chem. Co., Inc., treas., dir.; Am. Rapidase Co., secy., treas., dir.; Am. Burtonizing Co., sec., treas., dir.; Wallerstein Co. (Can.) Ltd., v.p., dir.; Wallerstein Co., Ltd. (Eng.), dir. Treas., Relief & Res. Fund, Inc., N.Y. Clubs: Chemists', Sales Executives. Hobbies: fishing, hunting (with camera), photography.

STONE, Chas. H., 1005 Commercial Bank Bldg., Charlotte 2, N.C.; res. 1801 Queens Rd., Charlotte 7, N.C.
Chem. conslt.; b. Pilot Mountain, N.C.; s. of Thomas J. and Charlotte T. (Venable) Stone; ed. high schl.; m. Clara Kouns McKay, Dec. 16, 1907. Entire life in chem. & dyestuff ind., starting in 1905 with Old Farbenfabriken of Elberfeld Co., home office, Elberfeld, Germany, & remained active, building up own bus. in Charlotte between 1926-37, at which time sold bus. to Am. Cyanamid Co., remaining with them for several years, after which has done chem. consltg. Built up chem. merchandising bus. in Charlotte, making it possible for ind. chem. users in Southeast to get chems. needed overnight, or from building on call; also built first chem. plant in south devoted entirely to prod. of fatty finishing matls. for textile ind. Mem.: A.C.S., A.A.T.C.C., A.A.A.S., founded the Carolina-Piedmont Sec. of A.C.S. in 1943, headquarters in Charlotte. Clubs: Charlotte Country, Rotary, Charlotte Engrs. Hobbies: civic & Community affairs.

STONE, Hosmer Ward, prof. of chem., chem. dept., U. of Calif., Los Angeles 24, Calif.; res. 526 Spoleto Dr., Santa Monica, Calif.

University teaching & res.; b. Kalamazoo, Mich.; s. of Fred Ward and Elizabeth (Warrant) Stone; ed. Kalamazoo Coll., U. of Wis., A.B., 1916, A. M., 1918, Ph.D., 1921; mem.: Alpha Chi Sigma; m. Emma Van Cleve Skillman, 1927; ch.: Alice Gayley. Teacher, Columbia City Ind. H.S., 1916; instr., Pa. State Coll., 1917; teaching asst., U. of Wis., 1920, fellow in chem., 1920; private, sergeant, 2nd Lt., U.S.A., 1918-19; instr., U. of Calif., Southern Branch, 1921; asst. prof., assoc. prof., prof. U. of Calif., Los Angeles, successively prof. U.C.L.A. at present time. Res. in fld. of inorg. anal. & educational chem.; anal. chem. incl. chem. of selenium, chromous chromium, carbon dioxide, activated carbon & gas anal. Coauthor: "Experiments in Inorg. Chem." (McGraw-Hill), Stone & Dunn, 1929; "Experiments in Gen. Chem." (McGraw-Hill), Stone, Dunn & McCullough, 1935, 1940. Mem.: Sigma Xi, Alpha Chi Sigma, Phi Lambda Epsilon, A.C.S. Hobbies: gardening, photography, hand ball.

STONE, Irwin, chem. in chg. res. lab., Wallerstein Co., Inc., 180 Madison Ave., N.Y. 16, N.Y.; res. 690 Ft. Washington Ave., N.Y. 33.
Res. chem.; b. N.Y.C., Nov. 18, 1907; s. of Jacob S. and Ida B. Stone; ed. C.C.N.Y., 1924-31; m. Barbara Cohen, June 20, 1931; ch.: Steven F. 1924-34, Pease Labs., chem.; 1934 to date, Wallerstein Co., res. chem. Res. in oxidation & stability of malt beverages. Numerous publ. & pats. in chem. literature. Mem.: A.I.C. (fellow), A.S. Brew.C., A.C.S., N.Y. Acdy. of Sc., A.A.A.S., Fed. Am. Scientists. Hobbies: photography, ceramics.

STONE, Leo, pres., Benzol Prods. Co., Newark, N.J., 237 South St., Newark 5, N.J.; res. 146 Park Ave., East Orange, N.J.
Exec., chemist; b. Ratibor, Germany, Oct. 11, 1878; s. of Simon Stein and Rosalie (Cohn) Stein; ed. Real Gymnasium, Ratibor, 1897; U. of Berlin, U. of Munich, Germany, Pharmaceut. Chem., 1905; Columbia U. of N.Y., Phar.D., 1913; m. Cecile Louise Cleverley, Jan. 2, 1906; ch.: Donald Cleverley. 1906-08, Societè anonyme Hausman A.G. St. Gall, Switzerland; 1908 to date, treas., Dehls & Stein, Inc., Newark, N.J.; 1923 to date, pres., Benzol Prods. Co., Newark, N.J. Fermentation, proteins; prod. of fine organic chems. Mem.: A.C.S., A.Phar.S., A.A.A.S. Clubs: Manhattan Chess, Crestmont Golf (W. Orange, N.J.), B.P.O.E. No. 21, (Newark, N.J.). Hobbies: chess, golf.

STONE, R. (Robt.) King, mfr. agt., 5806 Mass. Ave., N.W., Wash. 16, D.C.
Chem. engr.; b. Wash., D.C., Nov. 17, 1891; s. of Dr. T. Ritchie and Lelia Whitney Stone; ed. M.E., Cornell, 1915; N.Y. Ind. Engrg. Inst., 1923, Ind. E., (N.Y.C.); U. Tenn., 1943, Chem. E. (Chattanooga); mem.: Chi Phi; m. Josephine Gineschi, June 17, 1934; ch.: R. King Stone, Jr., Ula S. Glen, Lois M. E.I. du Pont de Nemours & Co., 1915-23, area supvr. (expl.); Bethlehem Shipbuilding, 1924-27, dir. personnel; engr. 1928-40, chf. engr. various engrg. jobs; U.S.N. Ord., 1941, expls.; Hercules Powder Co., 1941-45, area supvr. expls. operations TNT; mfgrs. agt. (self) 1945 to date, represent. follow cos.: Ross-Meehan Foundries Moccasin Bushing Co., Chattanooga Pattern Wks., Trinler, Inc. (Chattanooga); R.D. Werner Co., Inc., (N.Y.); Alloy Mfg. Co., (Pitts.); Res. in var. wk. expls., smokeless powder, TNT; Contrib. extens. to sc. and tech. jls. Mem.: A.I.Ch.E., A.C.S., A.O.A., Cornell Engrs., N.C. Soc. Engrs., Charlotte Engrs., Piedmont Sect. A.C.S., A.A.A.S., Assn. Ex-mems. Squadron A. Clubs: Chi Phi (Charlotte, N.C.). Hobbies: gardening, golf, fishing, hunting.

STOOPS, Charles E., sr. chem. engr., res. & dev. dept., Phillips Pet. Co., Bartlesville, Okla.; res. 1572 Penn, Bartlesville.
Chem. engr.; b. Grove City, Pa., Dec. 17, 1914; s. of Charles E. and Elizabeth (Burke) Stoops; ed. Ohio State U., B.Ch.E., 1937; Purdue U., Ph.D., 1942; mem.: Phi Eta Sigma, Tau Beta Pi, Phi Lamda Upsilon, Sigma Xi; m. Clarice Koehler, Mar. 13, 1943; ch.: Carol Elizabeth, David Charles, John Frederick. Plant & dev. engr., Oldbury Electro-Chem. Co., Niagara Falls, N.Y., 1941-42; asst. prof. chem. engrg., Lehigh U., Bethlehem, Pa., 1942-44; process engr., Publicker Alcohol Co., Phila., Pa., 1944; sr. chem. engr., Phillips Pet. Co., Bartlesville, Okla., 1944-47; prof., hd. dept. Ch.E., Clemson Coll., Clemson, S. C., 1947-48; sr. chem. engr., Phillips Pet. Co., Bartlesville, Okla., 1948 to date. Mem.: A.I.Ch.E., A.C.S., A.A.A.S.

STOPPEL, Arthur Edward, assoc. prof. chem. engrg., dept. of chem. engrg., U. of Minn., Minneapolis 14, Minn.; res. 5225 16th Ave. S., Minneapolis.
Teacher; b. Rochester, Minn., Feb. 27, 1897; s. of Fred and Julia (Hoffman) Stoppel; ed. B.S. 1920, Ph.D. 1924, U. of Minn.; mem.: Alpha Chi Sigma; m. Angeline Potratz, Dec. 26, 1929; ch.: David A., Susan S. U. of Minn., instr. 1923-26, asst. prof. 1926-44, assoc. prof. 1944 to date. Calorimetry, distillation. Mem.: A.C.S., Sigma Xi.

STOREY, Oliver Wendell, consltg. engr., 180 N. Wabash Ave., Chicago 1, Ill.; res. 924 Golf Lane, Wheaton, Ill.
Chem. & metallurg. engr.; b. Grafton, Wis., Sept. 15, 1888; s. of Wendel and Mary (Kohlhagen) Storey; ed. U. of Wis., B.S. in chem. engrg., 1910, chem. engr. 1913; mem.: Sigma Phi Epsilon, Tau Beta Pi, Alpha Chi Sigma, Sigma Xi, Phi Lambda Upsilon; m. Miriam Elizabeth Byam, Sept. 3, 1913; ch.: Eilzabeth Miriam. Chem. engr., Natl. Metal Molding Co., Pitts., Pa., 1910-12; instr., chem. engrg. dept., U. of Wis., 1912-14; chem., dir. corrosion sec., U.S. Bur. of Mines, 1914-15; chem. & met. engr., C.F. Burgess Labs., Inc., 1915-45, also secy., treas., dir. of pat. dept.; secy., Burgess Battery Co., 1938-44; consltg. engr., 1945 to date. Worked on metallurgy of iron & steel, corrosion of iron & steel, galvanizing, electrodeposition, dry cells, zinc coatings. Burgess Cellulose Co. (secy., dir.). Mem.: Electrochem. Soc. (v.p. 1929-31, 1937-39), Joseph W. Richards Memorial Lecturer 1949, A.C.S., S.C.I., A.S.T.M., Chicago Pat. Law Assn., Tech. Club of Malison (Wis.) (pres. 1929), Wis. Acdy. of Sc., Arts & Letters. Clubs: Chicago Engineers, Chemists' (N.Y.). Hobbies: stamps, native ferns, color photography.

STOUT, Albert Wilbur, res. chem., Western Pine Assoc., 7733 S.E. 13, Portland 2, Oregon; res. P.O. Box 365, Oak Grove, Ore.
Chem.; b. Waterford, Calif., Jan. 18, 1908; s. of Albert W. and Frances Stout; ed. Oregon State Coll., B.S. Chem. Engrg., 1930; U. of Wis., Ph.D., 1934; m. Zelda Harlan; ch.: Margaret, Helen. 1934-42 Linfield Coll., prof. of chem. and biol.; 1942 to date Western Pine Assoc., res. chem.; res. in wood preservation and waste wood utilization. Mem.: A.C.S., Sigma Xi, Forest Prods. Res. Soc. Club: Kiwanis. Hobbies: woodworking, gardening.

STOUT, Lawrence Edward, dean, schl. of engrg., dir. Sever Inst. of Tech., Wash. U., St. Louis 5, Mo.; res. 7606 Md. Ave., Clayton 5, Mo.
Dean; b. Seymour, Ind., Mar. 30, 1898; s. of Edward W. and Rosalie (Lewis) Stout; ed. DePauw U., A.B., 1919; Ohio St. U., M.S., 1921; Ph.D., 1923; Ch.E., 1934; m. Catherine Mary Frasch, Sept. 8, 1925; ch.: Lawrence Edward, Jr., Catherine Rachel. Grad. asst. chem., Ohio St. U., 1919-20; grad. asst. chem. engrg., 1920-21; asst. Ch.E., 1921-23; asst. prof. chem., Miami U., Oxford, Ohio, 1923-27; assoc. prof. chem.,

Wash. U., 1927-34; assoc. prof. Ch.E., 1934-38; prof. chem. engrg., 1938 to date, hd. dept. chem. engrg., 1940 to date; dean Schl. of Engrg., dir., Sever Inst. Tech., 1948 to date. 30 yrs. conslt. chem. engr. Contrib. extens. to sc. and tech. jls. Mem.: A.I.Ch.E., A.C.S., Am. Soc. Engrg. Ed., Sigma Xi, Phi Lambda Upsilon, Tau Beta Pi; Univ. Club (St. Louis). Hobbies: photography, music.

STOVER, Albert M., mgr., vinyl dev., Naugatuck Chemical, dir. of U.S. Rubber Co., Naugatuck, Conn.; res. R.F.D. No. 1, Woodbury, Conn.
Chem. engr.; b. Baton Rouge, La., Apr. 3, 1918; s. of I. Maxwell and Florence P. Chase Stover; ed. Yale Engrg. Schl., B.Ch.E., 1940; m. Laura J. Hanken, Oct. 15, 1940; 1940-43, B.F. Goodrich Co., Akron, Ohio, sr. res. chem.; July, 1943-Nov., 1943, Plasticite Chems., N.Y.C. (contract job), chf. chem.; 1943-45, Foster D. Snell, Inc., N.Y.C., group leader, rubber plastics; 1945-49, Glenn L. Martin Co., chems. div., Balt., Md., dir. of dev.; Dec. 1949 to date, Naugatuck, Conn., Naugatuck Chem. (a div. U.S. Rubber Co.), mgr., vinyl dev. Rec'd. 2nd prize for color picture in internatl. compet., sponsored by A.A.A.S., on "Photography in Sc." 1948. Mem.: bd. dirs., Balt.-Wash. sect. S.P.E. (v.pres.), A.C.S., A.I.Ch.E., S.P.I., Y.E.A. Hobbies: bridge, gardening.

STRADER, Kenneth Harold, dir. res., Lee S. Smith Mfg. Co., 7325 Penn Ave., Pittsburgh, Pa.
Dir. res.; b. Decatur, Ill., Oct. 8, 1899; ed. U. of Ill., B.S. (Ch.E.), 1923; U. of Pittsburgh, M.S. (Met.E.), 1926; m. Helen Huehne, Apr. 25, 1935; ch.: 1 son. Am. Smelt. & Refin. Co., Ark. Valley Plant, Leadville, Colo., chem. 1919-20; chf. chem. 1923-24; Mellon Inst. Indus. Res., Pittsburgh, indus. fellow 1924-25; Lee S. Smith & Son Mfg. Co. 1925 to date. Mem.: A.C.S., A. S.M., A.I.M.E. Club: Pittsburgh Athletic Assoc. Hobby: horses.

STRAGNELL, Gregory, pres., Organon, Inc., 20 Main St., Orange, N.J.; res. 272 Old Short Hills Rd., Short Hills, N.J.
Physician; b. Boulder, Colo., Dec. 26, 1888; s. of Cannon and Diana Stragnell; ed. Columbia U., Coll. P. & S., 1914, M.D.; m. Louise Edith, July 10, 1944; ch.: Robert, Barbara. Med. Officer French Army, 1914-18; med. res., 1918-30; exec. v.p., Schering Corp., 1930-46; edit. "Med. Record," 1918-45; gen. mgr. antibiotic div. Heyden Chem. 1946-49; pres. Organon, Inc.; res. endocrinology, 1918-46; var. papers. Mem.: Amer. Med. Editors Assoc., Amer. Psycopath. Assoc., Assoc. Study Int. Secretions, Amer. Psycho-analitical Assoc., Am. Inst. Med. Directors Assoc. Clubs: Chemists', Advertising. Hobbies: gardening, mechanical developments, anthropology.

STRAIN, Franklin, acting dir. of res., Pittsburgh Plate Glass Co., Columbia chem. div., Barberton, Ohio; res. 639 Hillcrest Dr., Barberton, O.
Chem.; b. Peyton, Colo., Sept. 23, 1908; s. of Melvin E. and Harriett A. Strain; ed. Sc.B., Ottawa U. (Kansas), 1929; A.M., U. of Kansas, 1931; Ph.D., 1933; mem.: Phi Beta Kappa, 1933; asst. instr. (chem.), U. of Kans., 1929-33; Sigma Xi, 1931; Alpha Chi Sigma; m. Bernice R. Winkelman, May 28, 1938. Luziers', Inc., Kansas City, Mo., res. chem. 1933-34; Behr-Manning Corp., Troy, N.Y., res. chem., 1934-37; Pittsburgh Plate Glass Co., Columbia Chem. Div., Barberton, O., res. chem. 1937-40, res. supvr. 1940-43, asst. dir. of res. 1943-Sept., 1950, acting dir. of res. Sept., 1950 to date. Devel. of synth. resin binders for coated abrasives, thermosetting polyesters for glass-like plastics, molding and laminating; devel. of new org. solvents, plasticizers, insecticides, herbicides, princ. chlorine derivatives. Author: Chapter "Allyl Plastics" in Symposium on Plastics, A.S.T.M., Phila., Pa., 1944; sec. on "Allyl Resins and Plastics" in Encyc. of Chem. Technology, Vol. I, Intersc. Publishers, Inc., N. Y.C. Mem.: A.C.S., A.A.A.S., S.C.I. Hobbies: golf, gardening.

STRAIN, Harold H(enry), sr. chem., Argonne Natl. Lab., Chicago, Ill.; res. Chicago.
Chem.; b. San Francisco, Calif., Jan. 12, 1904; s. of E.R. and Mary I. (McCurdy) Strain; ed. Stanford U., A.B., 1923, A.M., 1924, Ph.D., 1927; mem.: Alpha Chi Sigma, Phi Lambda Upsilon; m. Grace T. Johnson 1929; ch.: Bonnie Lee, Carol Jean. Staff mem., Carnegie Institution of Wash., 1927 (on leave); Rockefeller Foundation fellow to Carlsberg Lab., Copenhagen, 1937-38; sr. chem., Argonne Natl. Lab., 1949 to date. Ammonia system of cmpds., carbohydrates, photo syn., chromatography. Author: "Leaf Xanthophylls," 1938; "Chromatographic Adsorption Anal.," 1942. Mem.: A.C.S.

STRASBURGER, LeRoy Victor, partner, Strasburger & Siegel, 1403 Eutaw Pl., Baltimore 17, Md.; res. 3800 Menlo Dr., Baltimore 15.
Consltg. chem., food technologist; b. Baltimore, Md., June 30, 1899; s. of Milton V. and Sadye B. Strasburger; ed. Johns Hopkins U., B.S. in chem., 1921; grad. wk., U. of Md.; Johns Hopkins Schl. of Hygiene & Public Health; m. Ruth Kaufman, Feb. 12, 1926; ch.: Betty Anne. 1921, training period, Natl. Canners Assn.; 1921-26, chem., Martin Wagner Co., Baltimore, Md.; 1926 to date, Strasburger & Siegel, anal., consltg. chem., bacteriologist, food technologists, sanitarians. Conslts. Natl. Can Corp., official chem., Baltimore Canned Foods Exchange, Tri State Packers Assn., Pa. Canners Assn. Num. arts. pub. in canning trade jls.; monthly column in "The Canning Trade" "Technologically Speaking," with Maurice Siegel. Mem.: I.F.T. (charter mem.), A.I.C. (fellow), Am. Public Health Assn., A.C.S., Md. Water & Sewage Assn. Club: Suburban. Hobby: golf.

STRATTON, Bruce D., process engr., engrg. dept., E.I. du Pont de Nemours & Co., Wilmington 98, Del.; res. R.D. Glen Mills.
Process engr. design div.; b. Phila., Pa., May 20, 1914; s. of Leon D. and Laura B. Stratton; ed. Pa. State Coll., B.S.Ch.E.; mem.: Alpha Chi Sigma; m. Sarah A. Metzger, July 16, 1938; ch.: Barbara, Patricia. du Pont: ind. engrg. div., engr. Jan. 1, 1936-July, 1940, ind. engrg. div. group supvr. July, 1940-Dec., 1945, design div. process engr. Dec., 1945 to date. Mem.: A.C.S., A.I.Ch.E. Hobbies: farming, stamps, hunting.

STRATTON, Helen Louise, sec.-treas., Packaging Machinery Mfrs. Inst., 342 Madison Ave., New York 17, N.Y.; res. Shelton Hotel, N.Y.C.
Exec. secy., trade assoc.; b. Malden, Mass.; d. of Andrew Dwight and Carrie (Gill) Stratton; ed. Passaic H.S., Passaic, N.J.; N.Y.U.; Northwestern U. Asst. secy., Chamber of Commerce, Passaic, N.J., 1925-32; secy.-treas., Packaging Machinery Mfrs. Inst., 1934 to date. Mem.: Amer. Trade Assoc. Executives, Trade Assoc. Executives in N.Y.C., Natl. Industrial Council.

STRATTON, Leon Dupre, chmn. chem. dept., dean of men, Drexel Inst. Tech., Phila., Pa.; res. 205 Penn St., Ridley Park, Pa.
Prof., dean; b. Camden, N.J., Jan. 13, 1888; s. of Horatio M. and Maria L. Stratton; ed. Woodbury H.S.; U. of Pa., B.S. in chem., 1905, B.S. in chem., 1909, M.S. in chem., 1917, Ph.D., 1923; mem.: Alpha Chi Sigma, Theta Chi; m. Laura Whipple Bruce, July 29, 1913; ch.: Bruce Dupre, Stephen Miller. Drexel Inst., instr., 1909-18, sr. instr. in chem., 1918-21, prof. of chem., 1921 to date, chmn. chem. dept., 1946 to date. dean of men, 1930 to date. Mem.: A.C.S., Alpha Chi Sigma. Hobby: gardening.

STRAUB, Frederick G., res. prof. chem. engrg., U. of Ill., 223 E. Chem. Bldg., Urbana, Ill.; res. 1204 W. William St., Champaign, Ill.
Res. prof., consltg. engr.; b. Chicago, Ill., Aug. 31, 1896; s. of William F. and Harriett L. (Hill) Straub; ed. B.S. chem. engrg., U. of Ill., 1920; M. S. met. engrg., Pa. State Coll., 1923, met. engrg. 1928; mem.: Alpha Chi Sigma, Sigma Phi Delta; m. Nellie Cora Perry, June 8, 1921; ch.: Evelyn Elizabeth. 1920-21, Mellon Inst., res. fellow; 1921-22, instr. metallurgy, Pa. State Coll.; 1922-24, res. Guggenheim Bros., N.Y.C.; 1924 to date, res. chem. engrg., U. of Ill. Res. on embrittlement, scale, corrosion, turbine blade deposits, etc. as related to the steam water cycle of the modern power plant. Bulletins 155, 177, 216, 261, 282, 283, & 364 of Engrg. Expt. Station, U. of Ill., 1926-46. Mem.: A.C.S., A.S.M.E., Boiler Code Comm. of A.S.M.E. Club: Champaign Country. Hobby: photography.

STRAUB, Gilbert Joseph, chf. chem., Harrower Lab., Inc., 2117 Franklin Ave., St. Louis 6, Mo.; res. 554 So. Brook Drive, Kirkwood 22, Mo.
Biochem.; b. N.J., Nov. 25, 1912; s. of Frank J. and Mary V. Straub; ed. Rutgers U., B.Sc., 1934; m. Martha De Domenico, 1946; ch.: Gilbert, Gary, Linda Marie. Dir., Adv. Res. Clinical Labs. 1934-39; Gen. Foods Corp., res. chem., 1934-41; U.S.A., Major, Med. Serv. Corp., 1941-45; William R. Warner & Co., mgr., biol. contr. sect. 1945-46; Harrower Lab., Inc., chf. chem., 1946 to date. Res. in dev. phar. spec. Contrib. to sc. and tech. jls. Mem.: A.C.S., A.Phar.A., A.I.C., N.Y. Acdy. Sc., Am. Soc. Qual. Contr., A.A.A.S., Military award: Commendation M. Hobby: photography.

STRAUB, William S., supt., Pitts. Plate Glass Co., Columbia Chem. Div., Barberton, Ohio; res. 217 Castle Blvd., Akron 3, Ohio.
Supt.; b. Fergus Falls, Minn., Jan. 26, 1904; s. of Frank H. and Kate (Jordan) Straub; ed. U. of Minn., 1925-29, B.S. chem. engrg.; mem.: Kappa Sigma; m. Mary Cunningham, 1934; ch.: Frances Lynn. 1929 dev. engr., 1931 supt. caustic soda prod., 1933 prod. supt., 1941 asst. supt., 1947 to date supt., Columbia Chem. Div. Mem.: A.I.Ch.E. Trustee, Citizens' Hosp., Barberton, Ohio. Clubs: Fairlawn Country (Akron, Ohio), Elks (Akron, Ohio). Hobbies: golf, fishing.

STRAUGHN, J. Lloyd, prof. of chem., Western Maryland Coll.; res. 181 Pennsylvania Ave., Westminster, Md.
Chem. & teacher; b. Lancaster, Pa., Apr. 20, 1910; s. of William R. and Dorothy Lloyd Straughn; ed. B.S., Mansfield State Teachers Coll., Pa., 1929; M.A. Johns Hopkins U., Baltimore, Md., 1937, Ph.D., 1942 Johns Hopkins U.; mem.: Kappa Alpha (Southern), Alpha Lambda Chapter; m. Edna Benson, Nov. 30, 1934; ch.: Sarah, Patricia. Asst. prof. chem., State Teachers Coll., Kirksville, Mo., 1931-32; chem. & general science, Du Bois H. Schl., Du Bois, Pa., 1934-35; chem. & math., State Teachers Coll., Salisbury, Md., 1935-42; chem., Western Md. Coll., Westminster, Md., asst. prof., 1942-44, assoc. prof., 1944-46, prof. 1946 to date; chem. (part time) Sanitary Products Corp., Taneytown, Md., 1949 to present. Mem.: A.C.S. Club: Mason. Hobbies: bowling, golf, photography.

STRAUS, Roger Williams, chmn. bd., Am. Smelting & Refin. Co., 120 Broadway, New York, N.Y.; res. 6 E. 93rd St., N.Y.C.
Exec.; b. N.Y.C., Dec. 14, 1891; s. of Oscar S. and Sarah L. (Lavanburg) Straus; ed. Collegiate Schl., N.Y.C., Lawrenceville (N.J.) Schl.; Litt.B., Princeton U., 1913; hon. L.H.D., Bucknell U., 1936; hon. D.H.L., Hebrew Union Coll., 1943; m. Gladys Guggenheim, Jan. 12, 1914; ch.: Oscar S., Roger Williams, Florence G. (Mrs. Max A. Hart). With Am. Smelting & Refin. Co. since 1914; mem. bd. dirs. since 1916, pres. 1941-47, chmn. bd., chmn. exec. comm. since 1947; Fed. Mining & Smelting Co.; chmn. bd. Gen. Cable Corp., dir. and chmn. exec. comm. Revere Copper and Brass, Inc.; dir. N.Y. Life Ins. Co. Regent-at-large, U. of State of N.Y. Capt., Intellig. Off., Commdg. General's Staff in Siberia, W.W. I; Maj., O.R.C., 1920-34; hon. pres., Natl. Fed. Temple Brotherhoods, trustee, John Simon Guggenheim Memorial Found., Daniel and Florence Guggenheim Found., Roosevelt Memorial Assoc., The Natl. Found. for Infantile Paralysis, Union of Am. Hebrew Congregations (mem. exec. bd.), Congregation Emanu-El (v.p.); pres. Fred L. Lavanburg Found.; co-chmn. Natl. Conf. Christians and Jews; mem. exec. comm. Am. Jewish Comm; Mem. at Lge., Natl. Council B.S. of A.; mem. A.I.M.E., Am. Legion; awarded Am. Hebrew M. for Promotion of Better Understanding betw. Christians and Jews, 1936; Class Cup (Princeton 1913), 1936. Clubs: Natl. Republican, Princeton, Bankers of America, Lotos (N.Y.), Cosmos (Wash., D.C.). Contrib. var. arts. on religious liberty; co-editor, "The American Way," 1936; author: "Religious Liberty and Democracy," 1939.

STRAUSS, Frank Abraham, v.p., Barsky & Strauss, Inc., 202 E. 44th St., N.Y. 17, N.Y.; res. 220 Prospect Ave., Staten Is. 1, N.Y.
Chem. engr.; b. Wilkes-Barre, Pa., Oct. 16, 1893; s. of Seligman J. and Miriam (Weiss) Strauss; ed. Cornell U., A.B., 1913; Columbia U., M.A., 1915, Ph.D., 1920; mem.: Sigma Xi, Phi Lambda Upsilon; m. Felicie Bousson, May 13, 1922; ch.: George, William, Miriam. Instr., Schl. of Fire For Fld. Artillery, U.S.A., Ft. Sill, Okla., 1918; lecturer in electrochem., Dept. of Chem. Engrg., Columbia U., 1919-20; chf. chem., Stand. Varn. Work-Toch Bros., Staten Is., N.Y., 1920-35; v.p., Barsky & Strauss, Inc., chemists & chem. engrs., 1936 to date. Mem.: A.A.A.S. (fellow), A.C.S., A.C.C.C.E. (councilor 1939-42), A.O.C.S. Trustee, Staten Is. Inst. of Arts & Sc., 1930 to date, v.p., 1936 to date, dir., Staten Is. Hist. Soc., 1928 to date, secy., 1933-42. Club: Chemists' (N.Y.). Hobbies: old scientific books, photography.

STRAWN, Lynn Rudolph, plant mgr., Jefferson Chem. Co., Inc., Port Neches, Texas; res. Port Arthur, Texas.
Chem. engr.; b. Denver, Colo., Aug. 14, 1909; s. of Claude M. and Lillian Irene Strawn; ed. B.S. in Ch.E., U. of Denver, 1931; M.S. in Ch. E., Columbia U., 1932; mem.: Beta Kappa, Phi Lambda Upsilon; m. Lois Curtis, 1933; ch.: Lynois Irene, Catherine Beatrice. May, 1932-Mar., 1933, anal. lab., Texas Co., Port Arthur, Texas; Mar. 1933-36, chem. engr., plant control & res. wk., distillation & light oil processing, Texas Co., Port Arthur, Texas; 1936-38, asst. dir., distillate & light oil processing dept., Texas Co., Port Arthur, Texas; Oct., 1938-May, 1942, dir., distillate & light oil processing dept., Texas Co., Port Arthur, Texas; May, 1942-Jan., 1949, asst. chf. chem., Texas Co., Port Arthur, Texas; Jan., 1949 to date, plant mgr., Jefferson Chem. Co., Inc., Port Neches, Texas. Mem.: A.C.S., Natl. Assn. of Corrosion Engrs. Clubs: bd. of govs., Port Arthur Country, Rotary (Port Arthur). Hobby: golf.

STREAN, Lyon P(eter), dir. of res., Novocol Chemical Mfg. Co., Inc., 2911 Atlantic Ave., Bklyn., N.Y.; res. 63-64 110th St., Forest Hills, N.Y.
Bacteriologist-dentist; b. Montreal, Canada, Mar. 26, 1902; s. of Max and Ray (Pearson) Strean; ed. McGill U., D.D.S. 1923, Gold Medal for first rank standing, M.Sc., 1940, bacteriology & im-

munity, Ph.D., 1942, bacteriology & immunity; m. Lillian Ruth Henkin, 1929; ch.: Herbert, Barbara. Dir. of bacteriol. res. & prod., Ayerst, McKenna & Harrison, Ltd., Montreal & N. Y., 1937-46; conslt. to Wyeth, Inc. and Whitehall Pharmacal Co., subsidiaries of Am. Home Prods. Corp., 1944-46; dir. of res., Novocol Chem. Mfg. Co., Brooklyn, N.Y., 1946 to date. Assoc. ed., "Dental Items of Interest," 1947 to date. Wk. in dev. endotoxin from whooping cough bacillus capable of immunizing against the disease; dev. control procedures capable of predetermining toxic reactions from local anesthetics, also methods for eliminating difficulty. Contrib. extens. to sc. and tech. jls. Author: "Oral Bacterial Infection—Diagnosis and Treatment," 1949. Mem.: Sigma Xi, Am. Public Health Assn. (fellow), Soc. Bacteriologists. Past dist. deputy grand master, Grand Lodge Masons, Province of Quebec, past pres. Westchester Lodge B'nai B'rith. Club: Speakers Bureau. Hobby: photography.

STREET, John Northcott, dir. of labs., Firestone Tire & Rubber Co., Akron 17, Ohio; res. 540 Avalon Ave., Akron 20.
Chem.; b. Belleville, Ontario, Canada, Sept. 19, 1898; s. of J.R. and Rose (Northcott) Street; ed. Syracuse U., 1916-21, A.B., 1921-23, M.S.; U. of Iowa, 1923-24; U. of Wis., 1924-26, Ph.D.; mem.: Phi Kappa Psi, Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi; m. Dorothy Hastings, Dec. 27, 1926; ch.: Elizabeth, Janet, Robert. Firestone Tire & Rubber Co.: 1926-28, res. chem., 1928-36, asst. dir. of res., 1936-44, dir. of res., 1944-49, asst. dir. of labs., 1949 to date, dir. of labs. Rubber, syn. rubber, & plastics. Mem.: A.A.A.S., A.C.S., A.I.C., A.I.Ch.E., French Chem. Soc., German Chem. Soc., London Chem. Soc., Soc. of Chem. Ind. (London). Club: Portage Country (Akron, Ohio).

STREIGHT, Harvey Richard Lyle, Nylon Div., Canadian Industries, Ltd., P.O. Box 10, Montreal, P.Q., Canada; res. 26 Dufferin Rd., Hampstead, Montreal 29.
Chem. engr.; b. New Westminster, B.C., May 31, 1907; s. of Harvey Milton and Alice Maud Streight; ed. B.A. (1st. class honours), U. of Brit. Columbia (1927); Univ. Scholarship; M.A., U. of Brit. Columbia (1929), awarded 1851 Exhibition Scholarship; Ph.D., Birmingham U. (1931); post-grad. wk. at Oxford U., (1931-32); mem.: Phi Delta Theta; m. Sina Margaret Burrows, Oct. 2, 1937; ch.: Alison Jean, Margaret Catherine. 1932-37, Central Res. Lab., Gen. Chems. Div., Imperial Chem. Indust., Ltd., at Widnes, Lancs., Eng.; grp. ldr. covering heavy chems. and chem. engrg.; 1937-39 Windsor, Ont. Wks. of Canadian Indust. Ltd., proc. dev. mgr.; 1939-41 spec. study, Engrg. Dept., Canadian Indust. Ltd.; 1941-50, Res. and Dev. Dept., Canadian Iudust. Ltd.; 1950 to date, Nylon Div., Canadian Indust. Ltd. Author of number of papers pub. on university res. in Canadian, Swiss and English jls.; dev. sev. plant proc. and designs now in use; holds 3 pats. Mem.: Chem. Inst. of Canada, (chmn. of Student Guidance Comm., and of the Chem. Engrg. Subj. Div., also past dir.); A.I.Ch.E. Club: Royal St. Lawrence Yacht.

STRICKHOUSER, Sherman I., factory mgr., U.S. Rubber Co., Providence, R.I.; res. 12 Alhambra Circle, Edgewood, R.I.
Chem.; b. York, Pa., Oct. 25, 1901; s. of Paul A. and Kate E. Strickhouser; ed. Penn. State Coll., B.S. 1922; U. of Ill., M.S., 1923, Ph.D., 1926; John G. White Fellowship: (Penn. State) Sigma Xi, Phi Kappa Phi, Sigma Tau, Phi Lambda Upsilon; mem.: Phi Kappa Tau, Alpha Chi Sigma; m. Julia A. Butler, Dec. 28, 1926; ch.: Sherman A., Barbara J. U.S. Rubber Co.: N.Y., res. chem. 1926-32; Providence, dev. chem., 1932-37, asst. dev. mgr., 1937-41, dev. mgr., 1941-45, asst. fact. mgr., 1945-47, factory mgr., 1947 to date. Several pubs. on water & sewage treat.; a number of pats. on rubber chem. & rubber latex processing. Clubs: University, Wannamoisett Country, Town Criers of R.I., R.I. Rubber Group A.C.S. Hobbies: bridge, golf, gardening, television.

STRICKLER, Alvin, hd. of chem. dept., Evansville Coll., Evansville 4, Ind.
Coll. teacher; b. Caledonia, Mich., Sept. 1, 1889; s. of John and Mary (Wagner) Strickler; ed. Mich. State Normal Coll., A.B., 1913; U. of Mich., B.S., 1914, M.S., 1915; U. of Wis., Ph.D., 1921, Courtesy Fellow, U. Southern Calif., 1938; mem.: Phi Delta Pi; m. Florence C. Forney, 1908; ch.: William Hobart. Co. Schls. of Mich., 1907-09; high schl. principal, Daggett, Mich., 1909-10; asst. instr., Mich. State Normal Coll., 1912-17, asst. prof. of chem., 1917-18; asst. chf. chem., Natl. Biscuit Co., 1918-19; lecturer org. chem., Hunter Coll., 1918-19; student, instr., U. of Wis., 1919-21; supt. of schls., Kendall, Wis., 2nd sem., 1921; hd. of chem. dept., Evansville Coll., 1921 to date; U.S. Air Corps, Lt. Col., 1942-46. Studies in electroendosmose. Author: "Lab. Manual for Gen. Chem." 4th ed. 1948; "Lab. Manual for Org. Chem." 2nd ed. 1948. Mem.: A.C.S., A.A.A.S. (fellow), A.I.C. (fellow), Ind. Acdy. of Sc., A.A.U.P., Phi Beta Chi, Phi Lambda Upsilon, Phi Delta Kappa, Sigma Xi. Clubs: Kiwanis, Scientec, Schoolmen. Hobbies: service club work, carpentry, hiking.

STRIEBY, Mrs. Irene Macy, librarian, Lilly Res. Labs., Eli Lilly & Co.; res. 402 N. Meridian St., Indianapolis 4, Ind.
Librarian; b. Converse, Ind., Sept. 6, 1894; d. of Milton and Mary O. (Hunt) Macy; ed. Brenau Coll., Gainesville, Ga., A.B., 1916; U. of Wis., Madison, Wis., certificate summer 1930; U. of N.C., Chapel Hill, N.C., B.S. in L.S., 1933; mem.: Delta Delta Delta; m. A. Wright Strieby, Dec. 25, 1917; ch.: Robert Milton. Teacher, Shreveport, La. & Anderson, Ind., H.S. 1917-19; in bus. with husband, 1920-27; librarian, Riverside Military Acdy., Hollywood, Fla. & Gainesville, Ga., 1929-32; employee, Inst. for Res. in Social Sc., U. of N.C., 1933-34; librarian, Lilly Res. Lab., 1934 to date. Pub. several arts. on tech. libraries. Mem.: Special Libraries Assn. (1935 to date; chmn. biolog. sc. div. 1938-39; convention chmn. 1940; v.p. 1941-42; chmn. public relations comm., sc.-tech. div. 1944-46; v.p., 1946-47; pres. 1947-48; bd. of dir. 1948-49), Medical Library Assn. (1936 to date), Am. Library Assn. (1935 to date) subcomm. on curricula & degrees, Board of Education for Librarianship, 1950—; Council of Natl. Library Assns. (1947-49), Joint Comm. on Library Education, 1949—, Aslib (London, 1945 to date), A.C.S. Div. of Chem. Lit. (assoc. mem.). V.p., U.S. Book Exchange, Inc., 1948 to date; Library Serv. Com. of Comm. on Economic Dev. 1944-49.

STRIMBECK, George Richard, supervising engr., U.S. Bur. of Mines, 308 Mineral Industries Bldg., Morgantown, W.Va.; res. Box 500, R. 6, Morgantown.
Chem. engr.; b. Saginaw, Mich., June 13, 1900; s. of George R. and Jane (Lees) Strimbeck; ed. U. of Mich., Ann Arbor, B.Sc.Ch.E., 1922, M.Sc.Ch.E., 1923; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi; m. Annette Marie Ahlstrom, Apr. 1, 1923; ch.: G.R., III (dec.), Lee Allen, Donald Charles. 1923-41, Consumers Power Co., Jackson, Mich., asst. supt. construction, supt. operations gas dept.; 1941-45, E.I. du Pont de Nemours & Co., Morgantown Ordnance Plant, supt. coke & gas div.; 1945-46, U.S. Bur. of Mines, Morgantown; 1946-48, Heyden Chem. Co., Ordnance Plant, supt. gas plant; Apr. 1948 to date, U.S. Bur. of Mines. Res. in gasification of pulverized coal. Mem.: Am. Gas Assn., A.I.

Ch.E. (active). Mem. exec. bd., Mountaineer Area Council, Boy Scouts of Am. Hobbies: gardening, woodworking.

STRIPLIN, Marcus Melvin, Jr., chem. engr., T.V.A., Wilson Dam, Ala.; res. 1002 Jackson Rd., Florence, Ala.
Chem. engr.; b. Florence, Ala., Feb. 27, 1910; s. of M.M., Sr. and Celeste O. Striplin; ed. B.Sc. chem. engrg., 1933, Ala. Polytech. Inst., Auburn, Ala., sr. hon.; mem.: Kappa Sigma. 1933, asst. to consltg. elec. engr.; 1934 to date, chem. engr., Tenn. Valley Authority. Pats. & papers on dev. of processes for prod. of chem. & alloys. Author: "Dev. of Processes & Equipt. for Prod. of Phosphoric Acid," U.S. Govt. Printing Office, 1948. Mem.: A.C.S., A.I.Ch.E. (chmn. Tenn. Valley Sect.). Co-author, 1946, A.I.Ch.E. Walker Award Paper. Club: Tri Cities Boating. Hobby: fishing.

STROBL, Alexander, mgr., Stroblite Co., 35 W. 52nd St., N.Y. 19; res. 7 E. 85th St., New York 28, N.Y.
Chem. engr., exec.; b. Hungary, Aug. 22, 1886; s. of Adolf and Nanette Strobl; ed. Tech. U. of Budapest, chem. engr.; m. Lily Adams, 1928; ch.: Annette Louise. 1911-16 res. chem., Toch Bros.; 1917-21 supt. and mgr., U.S. Radium Corp.; 1922-23 conslt. chem.; since 1924 self employed, Stroblite Co., mgr. and owner; notable wk.: prod. of barium salts and pigments; extraction of radium from carnotite; dev. fluorescent colors and prods. Mem.: A.C.S., A.I.C., Illuminating Engrg. Soc. Hobby: painting.

STRONG, Erwin R., Jr., res. engr., Southwest Res. Inst., P.O. Box 2296, San Antonio 6, Tex.
Res. engr.; ed. B.S., Tex. Coll. of Arts and Indust.; M.S., Ill. Inst. of Tech.; special flds.: Gas and Chem. Engrg. and Indust. Waste Disposal. Lab. instr. in gas measurement, Tex. A.& I.; instr. in tech. drawing, Ill. Inst. of Tech.; engr. and storekeeper, Garland Distr. of the Lone Star Gas Co.; res. asst., Inst. of Gas. Tech.; built equip., recorded data, and made calculations for the following res. projs.: Determ. of the Compo. of Propane Hydrate; Oxy-Nitration fo Bezene using Mecuric Nitrate and Dilute Nitric Acid to Produce 2-4 Di Nitro Phenol; assoc. res. engr., Inst. of Gas Tech.; proj. ldr. on following res. projs.: gasification of oil with highly superheated steam in horizontal metal tubes at short times of contact; fluidized gasif. of anthracite fines with highly superheated steam for synth. gas prod.; partial devolitization of high volatile coals by fluidization proc. to prod. a smokeless domestic fuel, a blender for the prod. of metallurg. coke, high btu gas, and extensive tar yields; operation of a slot-type coke oven on sev. projs. to determ. coking characteristics of coals and var. blends of coals; also assisted in setting up equip., and taking data on basic studies in fluidization; studying fluidiz. characteristics and attrition tendencies of a wide variety of matls. at var. temps.; res. engr., Southwest Res. Inst.; proj. ldr. on industrial waste disposal projs.; dev. of spec. sampling equip. and chem. anal. for pollution control. Pub. sev. arts. in sc. jls. Mem.: Amer. Gas Assoc., Natural Gas Engrs. Assoc., Sigma Xi, A.C.S., Tex. Acdy. of Sc., Texas Water and Sewage Works Assoc., Mission Water and Sewage Works Assoc., Licensed Prof. Engr., State of Illinois.

STRONG, Frederick Carl, III, asst. prof. chem., Villanova Coll., Villanova, Pa.; res. 120 Elm Ave., Ardmore, Pa.
Teacher; b. Denver, Colo., Nov. 17, 1917; s. of Frederick Carl and Ruby Lady Strong; ed. B.A. 1939, Swarthmore Coll., high hon.; M.S. 1941, Lehigh U.; m. Hilda Irene Krader, Oct. 5, 1941; ch.: Nancy Clare, Frederick Carl, IV. Chf. chem., Superior Metal Co., Bethlehem, Pa., 1940-42; res. chem., Lea Mfg. Co., Waterbury, Conn., 1942-43; teaching fellow, Wesleyan U., Middletown, Conn., 1943-45; res. chem., Enthone Co., New Haven, Conn., 1945; instr., Cedar Crest Coll., Allentown, Pa., 1945-47; asst. prof., Villanova Coll., Villanova, Pa., 1947 to date. Contrib. to sc. liter. Mem.: A.C.S., A.A.U.P., Sigma Xi. Dir., Alumni Cosmopolitan Club of Lehigh U., Inc. Hobbies: cycling, photography, philately, ornithology.

STRONG, John Gordon, chem. prof., acting chmn. of Phys. Sc. Dept., N.W. Mo. State Coll., Maryville, Mo.; res. 816 N. Main St., Maryville, Mo.
Tchr.; b. Loda, Ill., Aug. 1, 1893; s. of James Melville and Mary (Tibby) Strong; ed. B.S., Muskingum Coll., 1915; M.A., Ohio State U., 1916; Ph.D., U. of Colo., Boulder, Colo., 1934; m. Nettie Bell Welch, 1920; ch.: Helen May (Strong) Riedinger, Melville Welch. Chem. prof., Gordon Coll., Rawal Pindi, India, 1916-20; chem. prof., Tarkio Coll., Tarkio, Mo., 1920-43; chem. prof., N.W. Mo. State Coll., Maryville, Mo., 1943 to date. Mem.: Sigma Xi, A.A.U.P. V.p., Atchison-Nodaway Co. Religious Council. Club: Maryville Kiwanis (pres.). Hobby: farming.

STRONG, Ralph K(empton), prof. chem., Rose Polytech. Inst., R.R. 5, Terre Haute, Ind.; res. 240 Van Buren St., Terre Haute.
Chem., engr., auth., conslt.; b. Kentville, Nova Scotia, Canada; s. of Samuel Stuart and Sarah Julia (Eaton) Strong; ed. A.B., Acadia U., 1905; B.S. 1906; A.M. Harv. U., 1907; U. Chicago, 1917, Ph.D. (magna cum laude). Works chem. & joint supt., Stand. Chem. Co., Montreal, 1907-10; hd. dept. chem., du Pont Manual Training Schl., Louisville, Ky., 1911-15; assoc. chem., U. Chicago, 1915-17; hd. dept. chem. engrg., Oregon State Coll., Corvallis, 1917-20; hd. dept. chem., Reed Coll., Portland, Ore., 1920-34; auth., conslt., 1934 to date; hd. dept. chem., Rose Polytech. Inst., 1936 to date. Author: "Chemistry for the Executive," 1946. Mem.: A.C.S., A.I.Ch.E., S.C.I., A.A.A.S. (fellow), A.S.E.E., A.A.U.P., Sigma Xi.

STROUP, Philip Trimble, chf. proc. metal. div., Aluminum Co. of Am.; P.O. Box 772, New Kensington, Pa.; res. 213, M.R.1, New Kensington.
Process metal.; b. Mishawaka, Ind., Feb. 17, 1904; s. of Chas. C. and Helen A. (Trimble) Stroup; ed. A.B., Ind. U. (cum laude), 1925; A.M., 1926; Ph.D., Wis., 1929; mem.: Sigma Phi Epsilon, Alpha Chi Sigma, Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon; m. Esther L. Simerman, Apr. 26, 1930. Res. chem., du Pont Pathé Film Corp., 1926-27; physical chem., Al. Co. Am., 1929-36; metal., 1936-42; chf., chem. dev. div., 1942-43; chf. proc. metal. div., 1943 to date. Res. in al., magnes., red. proc.; al. coating of steel; alloys of al., magnes.; refining reclam. al.; joining processes of al. Mem.: A.C.S., E.S., A.I.M.M.E., A.S.M., A.Cer.S. Hobby: color photography.

STRUB, Paul T. W., chf., Butadiene-Styrene Sect., Office of Rubber Reserve, R.F.C., Room 1273-A, 811 Vermont Ave., Wash., D.C.; res. 2943 Upton St. N.W., Wash., D.C.
Chem. engr.; b. May 21, 1917; s. of Rev. H.M. Strub; ed. 1939, Bucknell U., Lewisburg, Pa., B.S. chem. engrg.; 1941, Lehigh U., Bethlehem, Pa., M.S. chem. engrg.; m. Vera M. Rea, July 8, 1940; ch.: Rea Louise, Paul T. Fellowship, Lehigh U., chem. engrg.; grad. asst., Lehigh U., chem. engrg.; Esso Stand. Oil Co., chem. engr.; Office of Rubber Reserve, R.F.C., chem. engr. Mem.: A.I.Ch.E., A.C.S., Wash. Rubber Group.

STRYKER, Edgar Harvey, engrg. mgr., The Paraffine Co.'s, Inc., Emeryville 8, Calif.; res. 2481 Casa Way, Walnut Creek, Calif.
Mech. engr.; b. Rochester, N.Y., July 22, 1920; s. of Harvey A. and Grace M. Stryker; ed. grad. 1942, U. of Calif., B.S. Mech. Engrg., (honor student); m. Kathryn Roberts, Aug. 28, 1942; ch.: John H., Martin F. Shell Chem. Corp., 1942-47, sr. engr.; The Paraffine Co.'s, Inc., 1947 to date, engrg. mgr. Mem.: A.S.M.E., Tau Beta Pi. Hobbies: hunting, fishing, tennis, golf, photography.

STUART, Alfred Herbert, dir. of res., Charles Bruning Co., 200 Pleasant Valley Way, W. Orange, N.J.; res. 245 W. Fairview Ave., S. Orange, N.J.
Res. chem.; b. Farmville, Va., May 7, 1913; s. of Fred H. and Laura M. Stuart; ed. Hampden-Sidney Coll., 1933, B.S. 1st hon.; U. of Va., 1937, Ph.D.; mem.: Sigma Chi, Sigma Xi, Alpha Chi Sigma; m. Beatrice Madison, Oct. 21, 1944; ch.: James A. Schieffelin & Co., N.Y., res. chem. 1939-43, dir. of chem. res., 1943-47; Charles Bruning Co., dir. of res., 1947 to date. Syn. & dev. of the new syn. estrogenic hormone "Benzestrol" 1942-45. Mem.: A.C.S.

STUBBLEBINE, Warren, res. dir., chem. & plastics sec., Res. & Dev. Br., Office of Quartermaster Gen., Wash. 25, D.C.; res. 3435 25th St. S.E., Wash. 20, D.C.
Chem. engr.; b. Reading, Pa., Jan. 18, 1917; s. of William E. and Rebecca (Reber) Stubblebine; ed. Pa. State Coll., State Coll., Pa., B.S. in chem. engrg., 1938, M.S. chem., 1940, Ph.D. chem., 1942; m. Jane E. Kemmerling, Aug. 20, 1938; ch.: Warren, Jr., James M., Judith E., Margaret A., Scott D. 1938-42, res. asst., Pa. Laundry Owners Res. Fellowship, Pa. State Coll.; 1942-47, hd., plastics sec. res. lab., Armstrong Cork Co., Lancaster, Pa.; 1947 to date, res. dir., chem. & plastics sec., Res. & Dev. Branch, Office of Q.M. Gen., Wash., D.C. 4 pats. on use of drying oils & resins in floor coverings. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S., Wash. Rubber Group, Chem. Engrg. Club of Wash., Quartermaster Assn. Hobbies: woodworking, hunting, fishing.

STUBBLEFIELD, Daniel Wilkin, pres., Belle Alkali Co., Belle, W. Va.; pres., U.S. Stamping Co., Moundsville, W. Va.; res. Charleston, W. Va.
Mfr.; b. Nashville, Tenn., Nov. 29, 1890; s. of Dr. D.R. and Hetty W. Stubblefield; ed. Vanderbilt U., B.S., 1911; mem.: Sigma Chi; m. Frances P. Ogden, 1917; ch.: Mrs. J.R. Williams, Mrs. R.L. Muehlman, Mrs. J.V. Hardy. Niagara Alkali Co., 1911-15; Marden Orth & Hastings, 1915-17; Capt., U.S.A. 1917-18; Rollin Chem. Co., 1919; Belle Alkali Co., 1920 to date. Clubs: Edgewood Country (Charleston), Ft. Henry (Wheeling), University (Niagara Falls), Rotary (Charleston, pres.). Hobbies: golf, tennis, hunting, fishing, bridge.

STUBBS, Morris Frank, prof., hd. dept. of chem., New Mexico Schl. of Mines; res. Socorro, New Mexico.
Chem. b. Sterling, Kan., May 25, 1898; s. of Frank C. and Sarah E. Stubbs; ed. A.B., Sterling, Coll., 1921; M.S., U. of Chicago, 1925, Ph.D., 1931; m. Lois K. MacCarthy, Dec. 26, 1923; ch.: Marilyn Joy. Sc. instr., Elgin Jr. Coll. & Acdy., 1921-23; hd. dept. of sc., Athens Schl., U. of Chattanooga, 1923-25; prof. of chem. & physics, Tenn. Wesleyan Coll., 1925-42, dean 1931-42; prof., hd. dept. of chem., Carthage Coll., 1942-44; prof. of chem., Tenn. Polytech. Inst., 1944-46; prof., hd. dept. of chem., New Mexico Schl. of Mines, 1946 to date. Res. on calcium hydride & cmpds. of indium; active in Div. of Chem. Ed. A.C.S. Bd. of Public Utilities, Athens, Tenn. (mem. of bd.). Author: "A Lab. Manual of Gen. Chem.," Edwards Bros., 1946. Mem.: Tenn. Acdy. of Sc., A.C.S., Sigma Xi, A.A.U.P., Am. Soc. for Engrg. Ed., A.A.A.S. Chmn. & councillor, E. Tenn. Sec. A.C.S. Club: Rotary Internatl. Hobby: photography.

STUHR, Herman F., Jr., tech. supt., Am. Viscose Corp., Nitro, W. Va.; res. 116 Saunders St., St. Albans, W. Va.
Chem. engr.; b. Cleveland, Ohio, Mar. 18, 1918; s. of H.F., Sr. and Florence (Adams) Stuhr; ed. Case Inst. of Tech., Cleveland, Ohio, 1940, B.S. in chem. engrg., Alpha Chi Sigma; mem.: Sigma Chi; m. Crystal Chaney, Mar. 1, 1941; ch.: Marilyn Jean, Herman F., III. Am. Viscose Corp., 1940, Front Royal Plant, 1940 lab., 1941 spinning, 1942 textile res., 1943-45 asst. to prod. mgr., 1945-48 ind. engrg., Nitro Plant, 1948-49 tech. asst. to plant mgr., 1949 to date tech. supt.

STULL, Harold Webster, dir. of ind. relations, Mathieson Chem. Corp., Mathieson Bldg., Baltimore 3, Md.; res. 4802 Wilmslow Rd., Baltimore 10.
Lawyer, bus. exec.; b. Tacoma Park, Md., Feb. 5, 1906; s. of Howard William and Jane (McGahan) Stull; ed. A.B., Pa. State Coll., 1928; LL.B., George Washington U., 1933; mem.: Sigma Alpha Epsilon, Phi Alpha Delta; m. Viola Orr, June 24, 1932; ch.: Jay Webster, Stephen Howard, Jonathan Williamson. Secy. to father, Congressman Howard W. Stull, 1932-34; admitted to practice before Supreme Court of D.C. & U.S. Court of Appeals for D.C., 1934, U.S. Supreme Court 1937; exec. asst. to dir. of Young Republican Div., Republican Natl. Comm., 1936; asst. secy., Mathieson Chem. Corp., 1937 to date, hd. legal dept. & company counsel, 1940-49, exec. asst. to pres., 1946-47, dir. of personnel, 1947-49, dir. of ind. relations, 1949 to date. Mem.: Ind. Relations Res. Assn.

STULL, Philip Barton, v.p., Hercules Powder Co., Wilmington, Del.; res. "Calmar" Greenville, Del.
Exec.; b. Chicago, Ill., Dec. 13, 1901; s. of John Walter and Dorothy Evelyn (Case) Stull; m. 1st, Florence Roper, 2nd, Katherine A. Dillard; ch.: Dorothy Wilson, Elizabeth Wamsley, Philip Barton, Jr., Stephanie, Deborah.

STULZ, Harry J(oseph), pres., treas., Titan Chem. Prods. Inc., Mill Rd. and Wayne St., Jersey City, N.J.
Exec.; b. Bklyn., N.Y., July 23, 1893; ed. Pratt Inst., Bklyn., N.Y.; m. Edna M. Williams, Nov. 20, 1920; ch.: 2 sons, 1 dau. Has held positions with following firms: Am. Sugar Refinery, Bklyn.; Merck & Co., mfg. chem.; H.A. Metz & Co., N.Y.C.; Commonwealth Color & Chem. Co., Bklyn.; United Chem. Prods., Inc., N.J., secy., treas. Mem.: Elks, A.A.T.C.C., Pratt Inst. Chem. Alumni Assn. Hobbies: fishing, motoring, golf.

STURTEVANT, Julian Munson, assoc. prof. of chem., Yale U., 225 Prospect St., New Haven, Conn.; res. Seaview Ave., Branford, Conn.
University prof.; b. Edgewater, N.J., Aug. 9, 1908; s. of Edgar Howard and Bessie (Fitch) Sturtevant; ed. Columbia U., A.B. 1927; Yale U. Ph.D. 1931; mem.: Theta Delta Chi; m. Elizabeth Reihl, June 9, 1929; ch.: Ann, Bradford. Instr., Yale U. 1931-39, asst. prof. 1939-43; staff mem., radiation lab., M.I.T., 1943-45; assoc. prof., Yale U., 1946 to date; conslt., Socony-Vacuum Oil Co., 1946 to date. Reaction kinetics; calorimetry, particularly of slow liquid-phase reactions; applications of electronics to chem. Co-author: "Introduction to the Prep. & Identification of

Org. Cmpds." with R.D. Coghill, 1936; "Microwaves and Radar Electronics" with E.C. Pollard, 1949; chapters on temp. measurement, temp. control & calorimetry, in Weissberger's "Physical Meths. of Org. Chem.," 1949. Mem.: A.C.S., N.Y. Acdy. of Sc., A.A.A.S., Alpha Chi Sigma, Sigma Xi. Hobbies: sailing, squash.

STURZNICKLE, Donald McClelland, sr. engr., Texas Co., 135 E. 42 St., N.Y.C.; res. 75 Greenridge Ave., White Plains, N.Y. Chem. engr.; b. Erie, Pa., Dec. 16, 1906; s. of Edward J. and Catherine (McClelland) Sturznickle; ed. M.I.T., 1928, S.B., 1929, S.M., 1932, Sc.D. Struthers Wells Co., Warren, Pa., process engr., 1933-34; Penn-Kansas Refining Co., Clarendon, Pa., frmn., 1934-35; Texas Co., N.Y.C., 1936 to date. Mem.: A.I.Ch.E. (active), A.C.S. Clubs: Westchester Co. Philatelic Soc., University (White Plains). Hobbies: stamp collecting, bird watching, golf.

STUTT, John Henry, regional sales mgr., E.I. du Pont de Nemours & Co., Finishes Div., 1616 Walnut St., Phila. 3, Pa.; res. Seven Springs Tree Farm, R.D. 2, Downingtown, Pa. Exec.; b. Phila., Pa., Aug. 31, 1892; s. of John H., Sr. and Mary E. Stutt; ed. Phila. pub. schls.; Drexel Inst., Phila.; Wharton Schl. of Comm. & Finance Eve. Schl.; U. of Pa.; m. Helen Lightcap, June 20, 1916; ch.: John H., III, Susan Jane. Branch mgr., Loose Wiles Biscuit Co., L.I.C., N.Y.; fld. sales mgr., Spencer Kellogg & Son, Buffalo, N.Y.; Phila. dist. mgr., acids, chem. & pigments div., dir. ind. sales finishes div., regional sales mgr. finihes div., E.I. du Pont de Nemours & Co. Was first pres. Chem. Club of Phila., when dist. mgr. of chems., pigments, and color div., later transferred to finishes div., du Pont Co. Clubs: Seaview Country (Absecon, N.J.), Uptown (N.Y.C.).

STUTZ, George Frederick Adelbert, sr. engr., titanium unit, tech. dept., New Jersey Zinc Co. (of Pa.), Palmerton, Pa.; res. 422 Edgemont Ave., Palmerton. Chem. and metal. engr.; b. Washington, D.C., June 3, 1900; s. of George F.A. and Wilhelmina (Fey) Stutz; ed. Ch.E., Lehigh U., 1922, A.M., Johns Hopkins, 1924, Ph.D., 1929; mem.: Tau Beta Pi, Sigma Xi; m. Madeleine Spilman, Oct. 22, 1924; ch.: Marjorie Ann, Eleanor Winchip, Carolyn Fey. Investigator, res. div., New Jersey Zinc Co., 1924-28; and the following, all in the tech. dept. of the same co.; chf. fundamental res., 1928-32; chf. pigment res., 1932-37; asst. chf., res. div., 1937-43; chf. dev. engrg. div., 1943-46; sr. engr. titanium unit, 1946 to date. Res. in optical properties of pigments, ultra-violet absorption, zinc sulfide pigment dev., luminescent pigments. Mem.: A.C.S., Am. Physical Soc., A.S.T.M., A.I.M.M.E., A.I.C., A.A.A.S. Clubs: Blue Ridge Country, Soc. of Gallows Birds, Physics Club of the Lehigh Valley, Engineers Club of the Lehigh Valley, American Legion. Hobbies: golf, gardening.

SU, GOUQ-JEN, visiting prof. chem. engrg., U. Rochester, Rochester 3, N.Y.; res. 226 Castleman Rd., Rochester 20. Chem. engr.; b. Fukien, China, Mar. 15, 1908; s. of Yung-Chang and Kiang-Shih; ed. Natl. Tsing Hua U., Peking, China, B.S. Chem., 1931; M.I.T., Sc.D. Ch.E., 1937; m. Shou-Tsung Chiao, Apr. 22, 1939; ch.: Irene, Tina, Eugene. Lect., Natl. Tsing Hua U., 1937-38; asst. prof. 1938-39; assoc. prof., prof., hd. Dept. Chem. Engrg., Natl. South-Western Assoc. U. Kunming, 1939-43; chf. chem engr., gen. mgr., Heng-Tung Chem. Industs., Ltd., Kunming, 1943-45; visit. engr., Jos. E. Seagram & Sons, Inc., Louisville, Ky., 1946-47; visit. prof. chem. engrg., U. Rochester, 1947 to date. Res. on compressibility of gases, sugar ref., alcohol prods. Author: "Modified Law of Corres. States for Real Gases"; "Change of Latent-Heat of Vaporization with Temp."; "On the Compressibility of Gas Mixtures"; all pub. in sc. jls. Mem.: A.I.Ch.E., A.C.S., Sigma Xi. Club: M.I.T. (Rochester). Hobbies: swimming, hiking.

SUAREZ, Frances M., advertising mgr., Phila. Quartz Co., Public Ledger Bldg., Phila. 6, Pa.; res. 4216 N. 7th St., Phila. 40. Advertising; b. Phila., Pa., May 31; d. of Pedro J. and Frances Suarez; ed. high schl.; Temple: Chas. Morris Price Schl. Adv. & Journalism, 1926. Phila. Quartz Co., secretarial, 1918, asst. foreign mgr., 1924, hd. of adv. dept., 1927 to date. Pioneer silicate soda adv.; first hon. mention Josephine Snapp Award for outstanding achievement in adv., 1938. Author: "I Advertise Chemicals" chapter, Advertising Careers for Women, Harper & Bros., 1939. Mem.: Am. Marketing Assn., Phila. Club of Adv. Women (pub. dir., 1933-34, corresp. secy., 1934-35), Eastern Ind. Advertisers (pub. chmn., 1935, pub. chmn., secy., 1936-39). Clubs: Eliot Seminar, Altrusa, New Century Guild. Hobbies: hiking, photography, travel.

SUFFERN, Walter Garrie, asst. treas., Merck & Co., Inc., Rahway, N.J.; res. 8 Doris Parkway, Westfield, N.J. Exec.; b. Elmira, N.Y., Sept. 12, 1905; s. of Garrie E. and Jennie Suffern; ed. Rutgers Univ.; m. Jeanne Woodward, Apr. 18, 1948; ch.: Wendy. With Merck & Co., Inc., since 1928, apptd. asst. treas. in 1939. Club: Echo Lake Country (Westfield, N.J.). Hobby: golf. Officer: asst. treas., Merck & Co., Inc.; treas., Merck (North America) Inc. (wholly owned export subsid. of Merck & Co., Inc.).

SUHR, Henry B(runo), asst. dir. of res., Am. Potash & Chem. Corp., Trona, Calif.; res. Trona. Chem. engr.; b. Niagara Falls, Ontario, Canada, Dec. 27, 1909; s. of Otto B. and Katherine (Searle) Suhr; ed. Calif. Inst. of Tech., B.S., 1933; m. Jodell Simpson, 1936; ch.: Sylvia Margaret. Res. chem., Am. Potash & Chem. Corp., 1933-39, res. engr., 1939-45, asst. dir. of res., 1945 to date. Process & equipt. design in inorg. heavy chem. fld.; equilibria in salt soluts.; graphical representation of multi-component systems. Mem.: A.C.S.

SUITS, C(hauncey) G(uy), v.p., dir. of res., Gen. Elec. Co., Res. Lab., The Knolls, Schenectady, N.Y.; res. 1317 Regent St., Schenectady. Res. physicist; b. Oshkosh, Wis., Mar. 12, 1905; s. of Chauncey Gibbs (dec.) and Otillia (Berger) Suits; ed. B.A., U. of Wis., 1927; D.Sc., Natl. Technische, Zurich, Switzerland, 1929; D.Sc. hon., Union Coll., 1944; D.Sc. hon., Hamilton Coll., 1946; D.Engrg. hon., Rensselaer Polytech. Inst., 1950; mem.: Phi Beta Kappa, Sigma Xi, Phi Mu Alpha, Phi Sigma Phi, Sigma Pi; m. Laura Struckmeyer, Oct. 28, 1931; ch.: James Carr, David Guy. Physics conslt., U.S. Forest Prods. Lab., Madison, Wis., 1929-30; res. physicist, Gen. Elec. Co., Res. Lab., Schenectady, N.Y., 1930-40, asst. to dir., 1940-45, v.p., dir. of res., 1945 to date. Num. pubs. in tech. jls. Fellow, A.I.E.E. Mem.: Am. Physical Soc., Natl. Acdy. of Sc., Dir. of Ind. Res., Sigma Xi, Eta Kappa Nu Award 1937, Am. Young Men 1940, M. for Merit 1948, His Majesty's M. for Serv. in the Cause of Freedom, 1948. Harvard Coll. Bd. of Overseers, Comm. to visit Dept. of Physics; Scientific Res. Soc. of Am., bd. of governors. Clubs: Mohawk Golf Club & Mohawk Club (Schenectady, N.Y.), Schenectady Wintersports. Hobbies: photography, skiing, woodworking, chamber music (clarinet), sailing.

SULLIVAN, Bernard James, resident chem. engr., Box G., Rossford, Ohio; res. 2041 Glenwood Ave., Toledo, Ohio.
Engr.; b. Genesee, Pa., June 18, 1916; s. of Joseph J. and Jane F. Sullivan; ed. Hofstra Coll.; U. of Mich., B.S.E. (Ch.E.), 1942; mem.: Crown & Lance Club; m. Dorothy Jean Windel, Mar. 30, 1944; ch.: Eileen K., Sandra J. Internatl. Minerals & Chem., Magnesium Div., 1942-44, Austin, Texas, tech. asst., asst. supt.; Linde Air Prods. Res. Lab., 1944-45, Tonawanda, N.Y., chem. engr.; Internatl. Minerals & Chem., Amino Prods. Div., 1945 to date, Rossford, Ohio, resident chem. engr. Mem.: A.C.S., A.I.Ch.E. Hobbies: gardening, sports.

SULLIVAN, David Joseph, tech. supt., E.I. du Pont de Nemours & Co., Fairfield, Conn.; res. 27 E. Eaton St., Bridgeport, Conn.
Chem. engr.; b. Salem, Mass., Apr. 1, 1903; s. of James P. and Josephine (Quinlan) Sullivan; ed. S.B., M.I.T.; m. Irene Shannahan, Sept. 24, 1928; ch.: David, Donal, Irene, Kevin. 1924-25, British Am. Rubber Co., Stamford, Conn.; 1925-28, rubber technologist, Fisk Rubber Co., Chicopee Falls, Mass.; 1928-39, res. chem., E.I. du Pont de Nemours & Co., Fairfield, Conn., 1939-46, asst. tech. supt., 1946-49, asst. plant mgr., 1949 to date, tech. supt. Num. pats. on coated textile compositions & processes. Mem.: A.C.S. Dir., Fairfield Community Chest; dir., Catholic Charities; pres., Bellarmine Fathers' Club, Fairfield U.; bd. of mgrs., Fairfield Bd. of Trade; rep., Fairfield Town Govt., troop chmn., Boy Scouts of Am. Clubs: M.I.T., K. of C., Lions.

SULLIVAN, Eugene Cornelius, honorary chmn. of bd., Corning Glass Wks., Corning, N.Y.; res. 222 Pine St., Corning, N.Y.
Chem.; b. Elgin, Ill., Jan. 23, 1872; s. of Thomas E. and Mary A. (Richards) Sullivan; ed. U. of Mich., B.S. chem., 1894; U. of Göttingen, 1896; U. of Leipzig, Ph.D. 1899; Sc.D., honorary, U. of Mich., 1933; 1st m. Ada Bisbee, July 16, 1902; 2nd m. Gladys Lindsay, Dec. 27, 1949; ch.: Eldon Bisbee, Dorothy (Sullivan) Scott, Genevieve (Sullivan) Robertson. Asst., Dept. Mines & Mining, World's Columbian Exposition, Chicago, 1893; chem., Price Baking Powder Co., Chicago, 1894-96; instr. anal. chem., U. of Mich., 1899-1903; chem. lab., U.S. Geological Survey, 1903-08; Corning Glass Wks., Corning, N.Y., since 1908, successively chf. chem., res. dir., v.p. in chg. mfg., pres., v.chmn. of bd., honorary chmn. of bd. Dow Corning Corp., Midland, Mich., pres., dir.; Corning Glass Wks., Corning, N.Y., hon. chmn., dir.; Corhart Refractories Co., Louisville, Ky., v.p., dir.; Pitts. Corning Corp., Pitts., Pa., dir.; Dow Corning Ltd., London, England, dir.; Societè Industrielle des Silicones, Paris, dir.; former dir. of L'Electro-Refractaire, Paris, France, Cristalerias Rigolleau, Buenos Aires, Argentina, Owens-Corning Fiberglas Corp., Toledo, O. Organized lab. which dev. "Pyrex" brand resistant glasses for lab. & household ware & various other special glasses & refractories, also first com. application of silicones. Publ. papers on physical chem., geological chem. & glass. Mem.: A.C.S., E.S., Am. Ceramic Soc. (fellow), Wash. Acdy. of Sc., A.I.Ch.E., A.I.M.E., Soc. of Glass Tech. (Brit., hon. fellow). Former mem. Chem. Advisory Comm. of Army & Navy Munitions Bd. & C.W.S., former mem. Editorial Advisory Bd., Indus. & Engrg. Chem.; mem. N.R.C., 1939-42; shared Potts M., Franklin Inst. 1928; Perkin M. 1929, v.p., Corning Bd. of Ed. Clubs: Chemists' (N.Y.), Corning (dir.), Elmira & Rochester Country, Genesee Valley. Hobbies: glass, golf.

SULLIVAN, Frederick W., Jr., consltg. chem., 139 Ridgedale Ave., Madison, N.J.; res. same.
Consltg. chem.; b. Erie, Pa.; s. of F.W. and Sarah A. Sullivan; ed. U. of Mich., B.S., M.S., Ph.D.; mem.: Alpha Sigma Phi; m. Lois Clark, Sept. 6, 1923; ch.: F.W., III, Clark, Richard A., Robert L. U. of Mich., 1920-23; Stand. Oil Co. (Ind.) 1923-38; Barrett Div., 1940-42; Inst. of Gas. Tech., 1942-43; consltg. chem., 1943 to date; F.W. Sullivan Co. (pres.). Mem.: A.C.S. (chmn. pet. div., 1933) Chem. Engrg., A.A.A.S., Chemists' Club, Cosmos Club. Trustee, Madison Presbyterian Church. Hobby: gardening.

SULLIVAN, John Daniel, asst. dir., Battelle Memorial Inst., 505 King Ave., Columbus 1, Ohio; res. 322 Arden Rd., Columbus 2, Ohio.
Engr.; b. Columbia Falls, Mont., Feb. 4, 1900; s. of Dennis D. and Mary Ann (O'Neill) Sullivan; ed. student, U. of Mont., 1917-19; B.S., U. of Wash., 1921, M.S., 1922; grad. study in phys. chem., U. of Calif., 1923-27; grad. study in mining and admin., U. of Ariz., 1927-28; mem.: Sigma Phi Upsilon; m. Marguerite Cudahy Sicard, July 17, 1928. Fellow in chem., U. of Wash., 1921-22; anal., Northwest Exper. Sta., U.S. Bur. of Mines, Seattle, Wash., 1922-23; asst. phys. chem., Pacific Exper. Sta., U.S. Bur. of Mines, Berkeley, Calif., 1923-27; assoc. metallurg. chem., Southwest Exper. Sta., U.S. Bur. of Mines, Tucson, Ariz., 1927-31; chf. chem., Battelle Memorial Inst., Columbus, O., since 1931; chf. chem., and asst. dir., since 1945. Author of abt. 100 pubs. in var. tech. flds.; holds more than 30 pats. in ceramics and metallurgy. Fellow, Amer. Ceramic Soc. (natl. treas., 1944-45; natl. v.p., 1946; natl. pres., 1947); A.I.M.M.E. (dir. 1949); A.S.T.M., (served on num. committees in above societies); Amer. Foundrymen's Soc. (mem. of Subcomm. on Cupola Frefractories, 1939 to date); E.S. (v.chmn., Electrothermic Div., 1930-36; chmn., 1936-42; mem. Acheson M. Comm., 1943-46, chmn., 1944); mem. also British Ceramic Soc., London Chem. Soc., Ohio Ceramic Industries Assoc., Colo. Mining Assoc., fellow, Soc. of Glass Technology, S.C.I. of Gr. Britain, hon. mem. Mining Assoc. of Montana, Deutsche Chem. Soc. (until war disrupted) and Deutsche Ceramic Soc. (until war disrupted); War Metallurgy Comm. of Natl. Res. Council and Natl. Acdy. of Scs., 1940-46 (chmn.) Proc. Res. Div., chmn. Alumina Grp., (Adv. Comm. on Metals and Minerals), Ferroalloys and Ferrous Matls. Grp., (Adv. Comm. on Metals and Minerals), Nonmetallic Minerals Grp. (Adv. Comm. on Metals and Minerals); member, Chemistry and Chemical Technology Div., Natl. Res. Council, 1950; hon. mem. of Keramos; Sigma Xi. Clubs: Cosmos (Wash., D.C.); Chemists' (N.Y.C.).

SULLIVAN, Michael Xavier, res. prof. biochem. & dir., Chemo-Medical Res. Inst., Georgetown U., 37 & O Sts., Wash. 7, D.C.; res. 3100 Ellicott St. N.W., Wash. 8.
Chem. prof., res. chemist; b. Fall River, Mass., Oct. 25, 1875; s. of John X. and Mary (Holland) Sullivan; ed. A.B. (magna cum laude), Harvard, 1899; A.M., Brown; Ph.D., Brown; mem.: Phi Kappa, Phi Sigma Kappa, Sigma Xi, Alpha Chi Sigma; m. Rachel Brock, July 28, 1919; ch.: Nancy Ruth. Asst. in chem., Harvard, 1899-1900; instr. in physiol. & physiol. chem., 1903-07; fertility expert, Bur. Soils, U.S.D.A., 1907-15; biochem., U.S.P.H.S., 1915-31; dir., Chemo-Medical Res. Inst., Georgetown U., 1931-36; dir. & res. prof. biochem., Grad. Schl., & hd. dept., 1936 to date. Biochem.; highly specific tests important biolog. constituents; res. on pellagra, muscular dystrophy, diabetes (current), cancer (current); many pubs. & some 190 articles in sc. & tech. jls. Mem.: Wash. Acdy. Sc., A.A.A.S. (fellow), Am. Soc. Biol. Chems., A.C.A. (councillor), Soc. Expt. Biol. & Med., Am. Bact. Soc. Georgetown U., Grad. Studies (exec. bd.). Gold Key, Georgetown U.; Hillebrand Award, A.C.S. Club: Cosmos (Wash., D.C.). Hobby: singing.

SULLIVAN, William H., scientific dir., Naval Radiolog. Defense Lab., San Francisco Naval

Shipyard, San Francisco 24, Calif.; res. 50 Hudson St., Redwood City, Calif.
Radio-chem., nuclear chem.; b. Matthews, Ill., May 18, 1914; s. of William H. and Myrtle (Matthews) Sullivan; ed. A.B., 1936, Washington U., St. Louis, Mo.; M.S.Ch., 1938, U. of Mich., Ann Arbor, Mich., Ph.D., 1940; mem.: Tau Kappa Epsilon, Alpha Chi Sigma, Gamma Alpha; m. Kathleen Grant, Nov. 2, 1940; ch.: William Grant, Dwight Matthew. Res. investigator, N.J. Zinc Co., Nov., 1940-June, 1942; res. assoc., Iowa State Coll., June, 1942-Feb., 1944; asst. sec. chf., Radiochem. Sec., Clinton Labs., Feb., 1944-Oct., 1944; sr. supvr., Fission Prods. & Heavy Elements Group, Hanford Engrg. Wks., July, 1945; area supvr. Process Chem. Sec., July, 1945-Jan., 1946; sr. chem., Clinton Natl. Labs., Feb., 1946-Jan., 1947; U.S. Scientific Representative for the A.E.C. & principal chem. on leave of absence from Clinton Natl. Lab., Jan., 1947-Jan., 1948; scientific dir., N.R.D.L., San Francisco, Calif., Jan., 1948 to date. Res. on identification & characterization of fission prod. radioisotopes; measurement of nuclear radiation & standardization of techniques therefor; study of inorg. & physical chem. of sulfur cmpds. Author: "Trilinear Chart of Nuclear Species," (John Wiley & Sons, Inc.,) Dec., 1949. Mem.: Phi Lambda Upsilon, Sigma Xi, A.C.S., A.Phys.S., Naval Civilian Adm. Assn., Natl. Comm. on Radiation Protection, N.R.C. Comm. on Nuclear Sc., chmn. N.R.C. Subcomm. on Nuclear Constants, Conslt. for Tech. Info. Div., Atomic Energy Commis. Hobbies: photography, fishing.

SULZBERGER, Nathan, res. chem., 128 Central Park South, N.Y.19; res. same as above.
Res. chem.; b. N.Y.C., 1874; s. of Ferdinand and Rosa Sulzberger; ed. Munich U., Bavaria, Germany, and Berlin; Charlottenburg Polytech.; Columbia U. (N.Y.), and Chicago U.; num. wks. in pharmaceutical preparations used extensively as Cresatin, Feenamint, Godin Powder Sulzberger, etc. (Cresaton was used in last W.W. by U.S. Govt.); has written var. tech. arts. Mem.: Chemists' Club and F.A.I.C. (N.Y.C.). Author of German and English stories and poems. Many pats. on var. inventions: chemical, etc.

SUMMERBELL, Robert Kerr, prof. of chem., chem. dept., Northwestern U., Evanston, Ill.; res. 2608 Payne, Evanston.
Prof. of chem.; b. Le Grand, Iowa, July 30, 1904; s. of Carlyle and Anna (Kerr) Summerbell; ed. B.A., Defiance, Ohio, Coll., 1925; student U. of Chicago, 1925, Ph.D., Ohio State U., 1928; m. Pauline Gordon, Dec. 17, 1932; ch.: Gordon Carlyle, Alice Anne. Began as instr. in chem., Northwestern U., 1928, now prof. of chem. and hd. of dept. Res. on oxygen heterocycles. Mem.: A.C.S. (chmn. Chicago Sec., councillor), A.A.A.S., Sigma Xi, Gamma Alpha. Club: University. Hobby: fishing.

SUMNER, Howard Allen, pres., Eaton Labs., Inc., 17 Eaton Ave., Norwich, N.Y.; res. 18 Locust St., Norwich.
Exec.; b. Norwich, N.Y., Oct. 24, 1895; s. of William Graham and Katherine Harvey (McCullough) Sumner; ed. U. of Pa., 1914-17; m. Bertha Johnston, Oct. 25, 1920; ch.: Kenneth H., Robert M. Norwich Pharmacal Co., chem., June, 1919, asst. supt. Oct., 1924, supt. of production Jan., 1929, Norwich bd. of dir., 1939 to date, asst. gen. mgr., 1940; Norwich Pharmacal Co. Ltd., bd. of dir., 1945 to date; Eaton bd. of dir., 1945 to date; exec. v.p. 1945-49, pres. 1949 to date, Eaton Labs., Inc. Mem.: Packaging Inst., Inc. (dir. 1930-46). Clubs: Adjutant Warren E. Eaton D.S.C. Post 189 Am. Legion 1922-28, Commander 1929; Chenango Co. Republican Comm. 1924 to date, treas. & secy. 1930-34; 77th Div. Assn., B.P.O.E., U. of Pa. Alumni Assn., Chamber of Com., F.&A.M., Norwich Club.

SUMNER, James B., prof. of biochem., Savage Hall, Cornell U., Ithaca, N.Y.; res. 508 Cayuga Heights Rd., Ithaca, N.Y.
Chem.; b. Canton, Mass., Nov. 19, 1887; s. of Charles and Elizabeth Sumner; ed. Roxbury Latin Schl.; Harvard, A.B., 1919; A.M., 1913, Ph.D., 1914; mem.: Pi Eta; m. Mary Beyer, June 5, 1943 (third wife); ch.: Roberta, Prudence, Jacques, Frederick, John, Samuel. Asst. prof., Cornell U., 1914-38; prof. 1938 to date.

SUMNER, John K., asst. tech. dir., Chicopee Mfg. Corp. of N.H., Milltown, N.J.; res. 145 Parkside Rd., Plainfield, N.J.
Org. chem.; b. Cambridge, Mass., Nov. 24, 1903; s. of James H. and Annie Y. Sumner; ed. M.I.T., S.B. chem. engrg., 1926, Ph.D. org. chem., 1934; m. Dorothy A. Simpson, Sept. 18, 1934; ch.: Elizabeth Ann, John C. Dev. chem., Hodgman Rubber Co., Framingham, Mass.; dev. chem., Hood Rubber Co., Watertown, Mass.; res. dev. prod. & application wk., Rohm & Haas Co., Bristol, Pa.; asst. tech. dir., Chicopee Mfg. Corp., Milltown, N.J. Mem.: A.C.S., A.S.T.M., A.A.T.C.C., Sigma Xi.

SUMNER, Richard E., mgr. textile resin dept., Am. Cyanamid Co., Bound Brook, N.J.; res. 1147 Evergreen Ave., Plainfield, N.J.
Exec.; b. Minneapolis, Minn., June 13, 1891; s. of Edward A. and Martha (Dickinson) Sumner; ed. Yale; mem.: Beta Theta Pi; m. Irene Barlow Sayre, June 12, 1920; ch.: Margaret Dickinson, William Sayre, Richard E., Jr. Marden Orth & Hastings, textile dept., salesman, 1916-20; Calco Chem. Co., dyestuff dept., dept. sales mgr., 1920-45; Am. Cyanamid Co., Calco Chem. Div., textile resin dept., mgr., 1945 to date. Mem.: A.C.S., A.A.T.C.C. Clubs: Plainfield Country (pres.), Yale (N.Y.C.), Log Cabin Gun, Wilderness. Hobbies: golf, sailing, fishing, trap shooting, bridge.

SUMNER, Robert J., dir. of yeast res., Anheuser-Busch, Inc., St. Louis, Mo.; res. 9846 Affton Pl., Affton, Mo.
Chem.; b. Springfield, Mass., Oct. 26, 1915; s. of George H. and Bertha (Rutherford) Sumner; ed. B.A. cum laude, Hobart Coll., 1937, Phi Beta Kappa; Ph.D., Cornell U., 1941; m. Julia Bayle, 1940; ch.: Gertrude C., Robert B., Cheryl L. 1937-38, technician, Eastman Kodak Co.; 1938-41, asst. in res., N.Y.S. Agric. Exp. Station, Geneva, N.Y.; 1939-40, asst. in org. chem., Cornell U., Ithaca, N.Y.; 1941-45, ind. fellow, Mellon Inst., Pitts., Pa.; 1945-47, res. dir., C.J. Patterson Co., Kansas City, Mo.; 1947-48, res. fellow, Am. Inst. of Baking, Chicago, Ill.; 1948 to date, Anheuser Busch, Inc., dir. of yeast res. Res. on enzymic ozidation of unsaturated fats, on measurement & mechanics of amylase action in bread mfr., on baking tech., on staling of bread, on yeast mfr., on flour quality. Mem.: A.A.C.C., A.C.S., Am. Soc. of Bakery Engrs., I.F.T. Hobbies: hunting, fishing, golf.

SUN, Yun-Pei, dir., insecticide testing lab., Julius Hyman & Co., Denver 1, Colo.; res. 1066 Harrison St., Denver.
Insect toxicology; b. Kiangsu, China, June 20, 1910; s. of Y.W. and S.N. (Tso) Sun; ed. China Foundation Res. Fellow, 1939-41, 1943; B.S., 1932 chem. engrg., Natl. Cheking U., China; M.S., 1941, Ph.D., 1943 (major, entomology; chem., minor), U. of Minn.; mem.: Rho Psi; m. J.Y. Tung, Jan. 15, 1938. Natl. Agric. Res. Bur., China, jr. chem., in chg. insecticides lab.; U. of Minn., res. asst.; Cornell U., res. fellow; Julius Hyman & Co., dir., insecticide testing lab. Specialized in insect toxicology; recent paper (J. Econ. Ent. 43-45) suggested use of toxicity index to

express relative toxicity of chem.; many factors which greatly changed mortality and L.D. 50 values did not appreciably affect toxicity index; toxicity index can be calculated from one standard to another without losing accuracy. Mem.: Sigma Xi Soc., Am. Assn. of Economic Entomologists.

SUNDNESS, Odin Alfred, gen. mgr., Snyder Mining Co., 1101 Alworth Bldg., Duluth, Minn.; res. 137 Waverly Pl., Duluth.
Mining engr., chem.; b. Fergus Falls, Minn., Jan. 12, 1888; s. of Nickolas E. and Anna (Schm) Sundness; ed. 1906-09, Schl. of Mines, U. of Minn.; mem.: Sigma Rho; m. Olive Lucile Strand, Sept. 15, 1915; ch.: Margaret. Mining engr., Oliver Iron Mining Co., Eveleth, 1909-11; mining engr., Shenango Furnace Co., Buhl, 1911-12, chf. chem., Chisholm, 1912-20; chf. chem., chf. engr., T.S.F. Co. & Snyder Mining Co., 1920-41; gen. supt., Snyder Mining Co., Chisholm, 1941-46, gen. mgr., Duluth, 1946 to date (mem. bd. dirs.). Paper, "Atmospheric Effect on Chem. Determinations on Iron Ore." Mem.: A.C.S., A.I.M.E., Engineers Club Northern Minn., Duluth Engineers Club. Bd. of Ed., Chisholm, 9 yrs.; Minn.-N.D. Resources Planning Commis.; Governmental Res. Bur., Duluth. Clubs: Kitchi Gammi (Duluth, Minn.), Duluth Athletic (Duluth, Minn.), Algonquin (Hibbing, Minn.). Hobbies: hunting, fishing, philately, gardening.

SUNNES, Phillip H., mgr., West Coast Operations, Culligan Zeolite Co., San Bernardino, Calif.; res. 484 25th St., San Bernardino.
Chem. engrg.; b. June 29, 1912; s. of Henry M. and Ethel Sunnes; ed. B.S., Ch.E., Purdue U., Lafayette, Ind., 1937; mem.: Phi Kappa Tau; m. Geraldine Richmond, June 15, 1940; ch.: Martin Phillip, Lawrence Richmond, Phyllis Jeanette. 1937-40, res. engr., Celotex Corp., Chicago, Ill.; 1940-45, serv. engr., Infilco, Inc., Chicago, Ill.; 1945 to date, chem. engr., plant mgr., Culligan Zeolite Co.; Calif. Manufacturers Assn., Southern California, vice chmn. of Industrial Waste Committee; prof. engr. in chem. engrg. in State of Calif. Trustee, Emanuel Methodist Church, San Bernardino, Calif. Club: Elks. Hobbies: reading, bridge, sports.

SURE, Barnett, prof. & hd. of dept. of agric. chem., U. of Ark., Fayetteville, Ark.; res. 99 S. Duncan St., Fayetteville.
Agric. biochem.; b. Vilkomir, Lithuania, Feb. 7, 1891; s. of Harry and Dina Sure; ed. U. of Wis., Coll. of Agric., dept. of agric. chem., B.S., 1916, M.S., 1917, Ph.D., 1920; m. Ethel Estes, Dec. 22, 1924; ch.: Charmian (Sure) Rane. Asst. in biochem., Schl. of Hygiene & Public Health, Johns Hopkins, 1917-18; asst. & scholar in agric. chem., U. of Wis., 1918-20; asst. prof. in agric. chem., U. of Ark., 1920-21, assoc. prof. 1921-27, prof. & hd. of dept. 1927 to date. Amino acids in nutrition; dietary requirements for reproduction & lactation; independent discoverer of vitamin E; vitamin metabolism; influence of vitamin B complex on protein utilization; vitamins & hyperthyroidism; enzymic changes in malignancy; nutritional improvement of cereal grains. Author: "Vitamins in Health & Disease," Williams & Wilkins, 1933; "The Little Things in Life" (vitamins, hormones, & other dietary essentials for health), Appleton-Century Co., 1937. Mem.: Sigma Xi, A.S.Biol.C., Am. Inst. of Nutrition, S.E.B.M., A.A.U.P. Hobbies: music, amateur violinist, played in symphony orchestras since the early teens, chess.

SUSIE, Alfred G., supvr. of plastic & rubber res., Armour Res. Foundation, 35 W. 33rd St., Chicago 16, Ill.; res. 3539 E. 9th Ave., Gary, Ind.
Res. chem.; b. Midland, Pa., Jan. 18, 1910; s. of Philip and Christina Susie; ed. B.S. in chem. engrg., Ohio Northern U., Ada, O., 1928-32; M.S., U. of Toledo, Toledo, Ohio, 1937; Ph.D., Purdue U., 1939; mem.: Sigma Xi, Phi Lambda Upsilon; m. Marjorie Houser, Apr., 1940; ch.: Alfred, Jr., Jacqueline, Daniel, Charles. 1932-36, chem., Sun Oil Co., Toledo, Ohio; 1936-39, res. fellow, Purdue U., W. Lafayette, Ind.; 1939-45, res. chem., Gustavus J. Esselen, Inc., Boston, Mass.; 1945-49, chf. chem., Marbon Corp., Gary, Ind.; 1949 to date, supvr. of plastics & rubber res., Armour Res. Foundation, Chicago, Ill. Res. on nitroolefins (doctorate thesis); dev. wk. on org. reinforcing resin in rubber compounding. Mem.: A.C..S, Rubber Div. A.C.S., Chicago Rubber Group. Hobbies: reading, photography.

SUSSMAN, Sidney, chf. chem., Water Serv. Labs., Inc., 423 W. 126 St., N.Y. 27, N.Y.; res. 175 Nassau Ave., Manhasset, L.I., N.Y.
Chem.; b. Bklyn., N.Y., Aug. 29, 1914; s. of Abraham and Mollie Sussman; ed. Polytech. Inst. of Bklyn., B.S. in chem., magna cum laude, 1934; M.I.T., Ph.D., 1937; mem.: Alpha Phi Omega; m. Ann Rosenberg, Aug. 20, 1939; ch.: Peter Y., George D., Carl A. 1937-40, ammonia dept., E.I. du Pont de Nemours & Co., res. chem.; 1940-46, Permutit Co., res. chem., group leader, chf. res. chem.; 1946-49, Liquid Conditioning Corp., chf. chem.; 1949 to date, Water Serv. Labs., Inc., chf. chem. Catalytic oxidations, ion exchange resin syn. & application, sea water desalting, ind. water conditioning. Contributed 3 chapters to "Ion Exchange-Theory & Application" 1949. Mem.: A.C.S., A.I.C. (fellow), A.W.W.A., S.C.I., Sigma Xi, Phi Lambda Upsilon. Award: War Dept. Citation for wk. on sea water desalting. Hobby: home workshop.

SUTCLIFFE, Edwin G., chf. chem., Samuel Hird & Sons, Garfield, N.J.; res. 52 Beechwood Dr., Packanack Lake, N.J.
Chem. engr.; b. Worcester, Mass., Aug. 12, 1911; s. of George and Gertrude Sutcliffe; ed. 1932, Newark Coll. of Engrg., B.S., 1934, Ch.E.; m. Ann Ruth Miko, 1934; ch.: Diane, Gail, Bruce, Ralph. 1934 to date, Samuel Hird & Sons. New dyeing procedure; new scouring procedure. Mem.: A.A.T.C.C. Supt. of St. John's Episcopal Sunday Schl., Passaic. Club: Stamp. Hobbies: stamp collector, books.

SUTER, C(hester) M(erle), assoc. dir., Sterling-Winthrop Res. Inst., Rensselaer, N.Y.; res. 32 Tudor Rd., Albany 3, N.Y.
Chem.; b. Dunnell, Minn., Dec. 13, 1902; s. of H.C. and Alice M. (Edwards) Suter; ed. B.S., Southwestern Coll., Kansas, 1923, M.S., Kansas, 1926, Ph.D. chem., Kansas, 1927; hon. D.Sc., Franklin & Marshall Coll., 1947; mem.: Phi Beta Kappa, Sigma Xi; m. Verl Fry, June 17, 1928; ch.: Charles A., Norman M. Metz fellow, Yale, 1927-28; instr. chem., Northwestern 1928-31, asst. prof. 1931-36, assoc. prof. 1936-42, prof., chmn. dept. 1942; dir. chem. res., Winthrop Chem. Co., 1942-46; assoc. dir. res., Sterling-Winthrop Res. Inst., 1946 to date. Civilian with Office of Sc. Res. & Dev. A.A.; Chem. Soc. (councilor, 1939; ed. "Medicinal Chem.," 1947 to date). Author: "Org. Chem. of Sulfur," John Wiley & Sons, 1944. Mem.: A.C.S., A.A.A.S., Chem. Soc. London (fellow), Swiss Chem. Soc. Clubs: University (Albany), Torch.

SUTER, Harold Russell, assoc. dir. res., Wyandotte Chem. Corp., Wyandotte, Mich.; res. 2284 18 St., Wyandotte.
Chem.; b. Kunkle, Ohio; s. of Frank and Myrtle May Suter; ed. Detr. Inst. Tech., B.S. Chem., 1937; Wayne U., U. Mich.; mem.: Delta Kappa Phi; m. Evelyn B. Jenks, Aug. 18, 1934; ch.: Lois Evelyn, Donald Edward. Instr., Detr. Inst. Tech. 1937-39; chem., Audio Taps Rec. Corp., 1939-40; asst. prof., Detr. Inst. Tech. 1940-42; res. chem., Wyandotte Chem. Corp. 1942-46; asst.

v.p., res., 1946-49; assoc. dir. res., 1949 to date. Res. on indust. detergents, Catalytic Combust. Corp., v.p. & dir. Mem.: A.C.S., A.S.T.M., A.O.C.S., A.A.C. Club: Lions. Hobbies: fishing, hunting, golf.

SUTERMEISTER, **Edwin**, res. chem., S.D. Warren Co., Cumberland Mills, Me.; res. 799 Main St., Westbrook, Me.
Res. chem.; b. Milton, Mass., Nov. 29, 1876; s. of Emanuel and Harriet G. (Davenport) Sutermeister; ed. M.I.T., S.B. 1899; hon. D.Sc., U. of Me., June, 1948; m. Bertha M. Babb, Dec. 31, 1903; ch.: Margaret, Pauline Horr. 1899, S. D. Warren Co., chem.; 1907-10, U.S. Forest Serv., Wash., D.C. & Madison, Wis.; 1910 to date, S. D. Warren Co., chem., res. chem. Fairly complete coverage of pulp & paper ind. Author: "Chem. of Pulp & Paper Making" (John Wiley & Sons, N. Y.), 3 edit. 1920, 1929, 1941; "Casein & its Ind. Applications" (Reinhold Pub. Co.), 1927 (rev. in 1939 by Dr. F.L. Browne). Mem.: T.A.P.P.I.

SUTTON, **Thomas Scott**, prof., chmn., dept. agric. biochem., Ohio State U., Columbus 10, Ohio; res. 142 Leland Ave., Columbus.
Teaching, res.; b. Hammondsville, Ohio, Jan. 10, 1902; s. of Robert W. and Emma (Mylar) Sutton; ed. Bergholz, High Schl., 1920 Kent State, Ohio State U., B.Sc., 1928, M.Sc., 1929, Ph.D., 1934; mem.: Delta Theta Sigma, Gamma Alpha; m. Carrie Barnes, Sept. 2, 1926. Teacher pub. schls., 1921-25; instr., Ohio State U. 1929-36, asst. prof. 1936-38, assoc. prof. 1938-40, prof. 1940-48, prof., chmn. 1948 to date. Res. on vitamins in nutrition, amino acids, nutrition of young animals. Editor Journal of Dairy Sc., 1938-46. Mem.: A.C.S., Am. Inst. of Nutrition, Am. Soc. Animal Prod., Am. Dairy Sc. Assn., Gamma Sigma Delta, Phi Lambda Upsilon, Phi Zeta, Sigma Xi (present chapter pres.). Club: O.S.U. Faculty. Hobbies: amateur photography, fishing.

SVESHNIKOFF, de, **Vladimir V.**, chem. engr., conslt. chem. and metallurg., Fort Belvoir, Va.; res. Dormitory S-42, Rm. 25, Fort Belvoir.
Conslt. engr.; b. Moscow, Russia, Feb. 22, 1889; s. of Vladimir and Sofia de Sveshnikoff; ed. Moscow U., 1911, corresp. to M.Sc. Petrovsky Agric. Acdy., 1914; Spec. Agric. Specialists Schl., Moscow, 1914; Artillery Coll. of Petrograd, by exam. for complete course in 1915, D.Sc.; Public U. of Moscow, 1918, hon. D.Sc.; Geo. Washington U., Schl. of Engrg., 4 mo. course, 1942; Army Indust. Coll., 1 mo. course, 1942. Mem. of Russian High Military Commis. as expert on high explosives, 1916-17; Natl. Bur. of Stds., metallurg. res., 1919-24; U.S.N., metallurg. and then in chg. of Chem. & Met. Testing Lab. in the P.I.; res. assoc. at Bur. of Stds., 1930-31, for producers of elec. furnace abrasives in U.S. and Canada; indust. spec. with Small War Plants Corp., 1944-45; in times betw. employments shown, self-employed as conslt. in chem. and metallurgy for var. firms and corps.; res. wk. in var. branches of sc.; in chem. one of pioneers on electroplating gun barrel bore; in metallurgy on deterior. of steels in syn. of ammon. and steel composition for gun barrels; in artificial abrasives did consid. res. wk. in improvement of meths. of control and standardization of test of artificial abrasives; did considerable res. wk. in gun barrel erosion and ref. prev. wk. found in W.W. II reports of War Def. Res. Council; theories in interior ballistics in reg. to cracking of the bore and carburization stand so far challenged, but not disproved; Dr. H.H. Lester of The Watertown Arsenal wrote a paper in 1929 on "The White Layer in Gun Tubes" wherein he analyzed above findings; suggeston on rounding of "grooves" and "lands" in gun barrel bore was adopted at later date by Ord. Dept.; submitted num. suggestions dur. W.W.II on design of Ord. Materiel through Natl. Inventors Council. Contrib. num. arts. to var. sc. jls. Mem.: A.O.A., Amer. Legion, Natl. Cathedral Post No. 10. Club: University (Wash., D.C.). Hobbies: golf, fishing, bridge.

SWAIN, **Robert Cuthbertson**, v.p. in chg. of res. & dev., Am. Cyanamid Co., 30 Rockefeller Plaza, N.Y. 20, N.Y.; res. Meadow Rd., Riverside, Conn.
Chem.; b. Palo Alto, Calif., Sept. 14, 1907; s. of Robert Eckles and Harriet King (Cuthbertson) Swain; ed. Stanford U., 1924-28, A.B. chem.; U. of Heidelberg 1928, physical chem.; U. of Berlin, 1928-32, Ph.D. chem.; Stanford U., 1932-34, Natl. Res. Council Fellowship; mem.: Sigma Nu; m. Frances Grace Johnson, Aug. 27, 1929; ch.: Mary Frances, Robert Johnson, Nancy Elizabeth. Am. Cyanamid Co.: res. chem., Warners, 1934-36; res. chem., Stamford, 1937-42; dir. of res. div., Stamford, 1942-45; res. dir., N.Y., 1945-46; v.p. in chg. of res. & dev., N.Y., 1946 to date. Jefferson Chem. Co. (dir.). Conslt., Office of Sc. Res. & Dev., 1943-45; mem., Panel on the Nation's Potential for Basic Res. in Chem., 1947-50; mem., Exec. Com. of Div. of Chem. & Chem. Tech., N.R.C., 1947 to date; mem., Advisory Comm. of Internatl. Union of Chem., 1947 to date; mem., Com. on Chem. Warfare, Res. & Dev. Bd., Dept. of Defense, 1948 to date, chmn. 1950 to date; v.chmn., Am. Sec. of Soc. of Chem. Ind. 1949 to date. Mem.: Alpha Chi Sigma, Sigma Nu, A.C.S., A.I.C., Soc. of Chem. Ind., Mfg. Chemists Assn. Clubs: Greenwich Country (Conn.), Riverside Yacht (Conn.), Rockefeller Center Luncheon (N.Y.), Chemists' (N.Y.). Hobby: golf.

SWAIN, **Robert Eckles**, prof. of chem. emer., Hoover Inst. & Library, Stanford U., Stanford, Calif.; res. 634 Mirada Ave., Stanford.
Prof. of chem.; b. Hollister, Calif., Jan. 5, 1875; s. of Thomas Henry and Leila (Gilbert) Swain; ed. A.B., Stanford, 1899; A.M., Yale U. 1901, Ph.D. 1904; LL.D., Coll. of the Pacific, 1929; student, Strassburg & Heidelberg Universities, 1901-02; mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma, Alpha Omega Alpha; m. 1st Harriet King Cuthbertson, Aug. 22, 1900 (dec.); m. 2nd Juanita Elena Jaffe, May, 1947; ch.: Dorothy Muriel (Swain) Begien, Robert Cuthbertson. Inst. chem., Stanford U., 1900, asst. prof. 1902, assoc. prof. 1907, prof. 1912-41, exec. hd. dept. chem. 1917-41, acting pres. 1929-33, gen. chmn. 50th Anniversary Commemoration 1939-41, md. bd. of dir. Hoover Inst. & Library 1938 to date, prof. emer. 1941 to date; special agent, Dept. of Justice U.S. in smelter smoke investigations, 1909-11; expert chem., Referee Bd., Consltg. Sc. Experts, U.S.D.A., 1910-12; Commissioner Federal Court, smelter smoke litigation, Salt Lake City, 1920-21; sc. advisor, U.S.-Canada Internatl. Tribunal, 1937-38; tech. conslt. 1938-41; awarded Chandler M., Columbia U., 1923; chmn. Bd. of Overseers, Calif. Coll. in China, 1931-33; pres. Bd. of Regents 1933-46. Special flds. biochem., atmospheric pollution by indus. wastes. Report submitted to Trail Smelter Arbitral Tribunal with R.S. Dean, Bull. 453, U.S. Bur. of Mines, 304 pp. 1944; monograph, "Atmospheric Pollution by Indus. Wastes," Columbia U. Press, 1922. Mem.: Legion d'Honneur of France (chevalier), A.A.A.S. (fellow), A.I.C. (hon.), Calif. Acdy. Sc. (fellow), London Chem. Soc. (fellow), Internatl. Union Chem. (v.p. 1938-47), A.C.S., A.S.Biol.C. Mem. Bd. of Dir., A.C.S., 1937-46. Clubs: Commonwealth (Calif.), Bohemian (San Francisco), Faculty (Stanford). Hobbies: wing shooting, fishing, travel.

SWALLEN, **Lloyd Clayton**, asst. dir. of res., Great Lakes Carbon, Morton Grove, Ill.; res. Route 1, Elmhurst, Ill.
Res. chem.; b. Ohio, July 9, 1901; ed. Ohio Wesleyan U., B.A., 1922; Ohio State U., M.S., 1924,

Ph.D., 1926. du Pont Expt. Sta., Wilmington, Del., 1926-27; Commercial Solvents Corp., Terre Haute, Ind. org. res. chem. and grp. ldr., 1927-36; Corn Prods. Refin. Co., Pekin, Ill. and Argo, Ill., grp. ldr., res. dept., 1936-42; Great Lakes Carbon Corp., Morton Grove, Ill., grp. ldr. and asst. dir. of res., 1943 to date. Mem.: A.C.S., A.A.A.S., E.S., Phi Beta Kappa, Phi Lambda Upsilon, Sigma Xi.

SWAN, Donald O., gen. frmn., catalytic cracking, Esso Stand. Oil Co., Baton Rouge, La.; res. 220 Steele Blvd., Baton Rouge.
Chem. engr.; b. Jan. 18, 1916, Minneapolis, Minn; s. of Oscar A. and Bernice S. Swan; ed. B.Ch.E., U. Minn. (honors); mem.: Tau Beta Pi, Phi Lambda Upsilon; m. Ruth L. Gatarneau, Feb. 16, 1940; ch.: Beverly G. Esso Standard June, 1939-Jan., 1941, proc. cont. engr.; Jan., 1941-42 tech. asst. supt. light End. Dev.; 1924-46 proc. engr.; 1946-50 hd. pet. tech. serv. dept.; Jan., 1950 to date, gen. frmn. catalytic cracking. Wk. in coord. of utilz. of light hydrocarbs. by refining (also purchases and sales) during war for prod. of synth. rubber and aviation gasoline. Mem.: Tau Beta Pi, Phi Lambda Upsilon, A.I.Ch.E., A.C.S., Amer. Waterwks. Soc. Hobbies: fishing, both fresh water and deep sea.

SWAN, Thomas Hadden, chf., polymer res. branch, Office of Rubber Reserve, R.F.C., 811 Vermont Ave., Wash. 25, D.C.; res. 15 Spruce Ave., Bethesda 14, Md.
Res. chem.; b. Monmouth, Ill., July 8, 1896; s. of John N. and Jane (Duffield) Swan; ed. Monmouth Coll., 1914-15; U. of Miss., 1915-18, B.S.; Columbia U., 1919-21, M.A.; Ohio State U., 1921-24, Ph.D.; mem.: Gamma Alpha, Alpha Chi Sigma; m. Elizabeth Baker Kirk, Aug. 22, 1930; ch.: Sarah Ann. Mellon Inst. of Ind. Res., 1924-48, sr. fellow 1934-48; Office of Rubber Reserve, R.F.C., chf. polymer res. branch, 1948 to date. Res. on plastics & textiles. Mem.: A.C.S., A.A.A.S., Sigma Xi. Hobbies: photography, gardening, numismatics.

SWAN, William Orr, prof. of chem., U. of Chattanooga, Chattanooga 3, Tenn.; res. 164 N. Crest Rd., Chattanooga 4.
Teacher; b. Monmouth, Ill., Mar. 20, 1898; s. of Dr. John N. and Eurilda Jane (Duffield) Swan; ed. B.S., U. of Miss., 1919, Taylor M. Winner; M.S., 1921, Ph.D., 1922, U. of Va.; mem.: Theta Chi, Phi Beta Kappa, Alpha Chi Sigma, Phi Lambda Upsilon; m. Mary Louise Phillips, Sept. 4, 1924; ch.: William O., Jr., Jane Duffield. Acting asst. prof. of chem., U. of Va., 1922-23; asst. prof., U. of W.Va., 1924-25; prof. & hd. chem. dept., Southwestern 1925-35; hd. chem. dept., V.M.I., 1935-40; prof. Louisiana Coll., 1940-41; prof. U. of Chattanooga, 1941 to date. Secy., chmn. & councillor, A.C.S. Chatt. Sec., conslt. in foods & forsenic chem. Author: "Qualitative Anal." 1927. Mem.: A.C.S., A.I.C., A.A.A.S., Va. & Tenn. Acdy. of Sc. Clubs: Rotarian, Chatt. Engrg. Hobbies: philately, gardening, sports.

SWANBERG, Curt O., consltg. engr., R.S. Aries & Assoc., 400 Madison Ave., N.Y.C.; res. 10 Rowan Rd., Summit, N.J.
Chem. and indust. engr.; b. Avesta, Sweden, July 4, 1897; s. of Oscar Wm. and Wilhelmina Swanberg; ed. Chalmers Inst. of Tech., Sweden, Ch.E., 1922; Columbia U., N.Y.C., Indust. Engrg., 1924; mem.: "C.S." (Concordia Silencium) Chalmers Inst. Tech. Track & Rifle teams; m. 1st. Maria Johanson, 1923-40; m. 2nd. June 1, 1947, Pearl Rita Dewjea; ch.: Sixten C., Vivian U. Chem. engr., Acdy. of Engrg. Scs., Sweden, 1922-23; res. engr., Guggenheim Bros., 1924; E.I. du Pont de Nemours & Co., 1925; prod. mgr., United Carbon Co., 1926-34; v.p. and wks. mgr., Panhandle, Century, Crown, Continental Carbon Cos., 1934-37; conslt. engr., Acdy. of Engrg. Scs., Sweden, 1938-39; The Cooperative Union, Sweden, 1938-40; procurement engr., Atmospheric Nitrogen Corp. (Allied Chem. Co.), 1941-42; gen. supt., Ford, Bacon & Davis, Manhattan Proj., Oak Ridge, Tenn., 1943-44; conslt. engr., Sanderson & Porter, 1944-47; conslt. engr., Gvt of Holkar State, India, 1947-48; constr. coordin., The M.W. Kellogg Co., 1948-49; conslt. engr., Internatl. Bank for Reconstr. and Dev., 1949; Indust. Off., E.C.A. Mission to Sweden, 1949-50; conslt. engr. and assoc., R.S. Aries & Assoc., 1950 to date. V.p., Panhandle & Continental Carbon Co., 1934-37; Indust. Off. (F.S.R.-2 attaché), E.C.A. Spec. Mission to Sweden, 1949-50. Wk. in oil shale proc. dev., Sweden, 1922-23; Chilean Nitrate Proc., 1924; synth. ammonia, 1925, carbon black dev. and constr., 1926-37; hd., Peat Proc. Dev., Sweden, 1938-39; Plant Modernis, Sweden, 1938-40; constr. Ammonia & Nitrate Plants, U.S. Ord., 1941-42, gen. supt. Atomic Bomb Proj., 1943-44, var. Ind. Projs., 1944-47, Ind. Surveys, India, 1947-48, Marshall Plan, 1949-50. Mem.: A.C.S., Am. Soc. Swed. Engrs., Swedish Inventors' Soc., U.S. Roster of Ammunition "Knowhow," Citation by U.S. Secy. of War for wk. on Atomic Bomb Proj., etc. Club: Travelers. Hobbies: travel, geography and history, fishing, hunting.

SWANN, Sherlock, Jr., res. prof. of chem. engrg., U. of Ill., 13 E. Chem. Bldg., Urbana, Ill.; res. 1210 W. Calif. Ave., Urbana.
Electro-org. chem.; b. Baltimore, Md., Sept. 30, 1900; s. of Sherlock and Edith Robinson (Deford) Swann; ed. Calvert Schl., Gilman Country Schl., Baltimore, Md.; Princeton U., B.S., 1922; Johns Hopkins U., Ph.D., 1926. Chem., Columbia Gas & Elec. Co., 1926-27; Engrg. Expt. Station, U. of Ill., 1927 to date. Res. in electro-org. chem., electrodeposition & catalysis. Chapter in Catalytic Photochem. & Electrolytic Reactions, ed. by Weissberger, Intersc., N.Y., 1948. Mem.: Electrochem. Soc., A.C.S., A.A.A.S., Sigma Xi. Club: University (Urbana, Ill.).

SWANN, Theodore, pres., Swann & Co., 930 Brown Marx Bldg., Birmingham, Ala.
Exec.; b. Danridge, Tenn., Sept. 5, 1889; ed. Carson & Newman Coll.; Va. Inst.; Oglethorpe U. (hon. D.Sc., 1930); Ala. Polytech. (hon. D.Sc., 1932); m. Catherine Dunwody; ch.: 1 dau. Bristol, Va., elec. contr., 1906-10; Westinghouse Elec. & Mfg. Co., salesman, 1910-12; Va. Power Co., comml. mgr., 1912-13; Ala. Power Co., sales mgr., 1913-17; Anniston Steel Co., v.p., 1916-17; Southern Manganese Corp., pres., 1917; W.Va. Light & Traction Co., pres., 1914-26; Swann Corp., pres., 1917-35; Swann & Co., pres., 1936 to date; assoc. mem. U.S.N. Conslt. Bd., W.W.I; Col., Ord. Res., Act. Dist. Chf., Birmingham Dist. Ord. Off. Mem.: Am. Iron & Steel Inst., A.C.S., Am. Electrochem. Soc., A.I.E.E., Army Ord. Assoc. Clubs: Bankers (N.Y.), Union League, Chemists' (N.Y.), Kiwanis, Country (Birmingham), Mountain Brook Country (Birmingham). Hobby: flowers.

SWANSON, Walter Hobart, dir. of mfr., Kimberly-Clark Corp., Neenah, Wis.; res. Lake Rd., Menasha, Wis.
Chem. engr.; b. Paxton, Ill., Oct. 10, 1896; s. of Chas. H. and Matilda L. Swanson: ed. U. of Minn., 1914-18, B.S.; U. of Wis., 1922-24, M.S.; mem.: Sigma Alpha Epsilon; m. Lucile E. Hutchinson, Nov. 26, 1920; ch.: Carol Lucile, Stoakley Walter. 1919-21, Gen. Motors, asst. metallurgist; 1921-26, U.S. Forest Prods. Lab., asst. & assoc. technologist; 1926-27, Champion Fibre Co., Canton, N.C., asst. res. dir.; 1927 to date. Kimberly-Clark Corp., Neenah, Wis., tech. staff supt. sulphite mills, staff supt. pulp mills, chf. of staff, dir. of mfr. Various articles on chem. of

sulphite process & dev. of modern processess for mfr. of wood pulp. Co-author: (with R.N.Miller), "Chem. of the Sulphite Process"; publ. about 1927 by T.A.P.P.I. Mem.: T.A.P.P.I. (past pres.), A.I.Ch.E., Forest Prods. Res. Soc., Sigma Xi. Pres., Valley Council, Boy Scouts of Am. Club: North Shore Golf (Neenah, Wis.). Hobbies: golf, fishing, hunting.

SWARD, George Gilbert, asst. dir., sc. sec., Natl. Paint, Varn. & Lacq. Assn., Inc., 1500 Rhode Is. Ave., N.W., Wash. 5, D.C.; res. 2825 Greenvale St., Chevy Chase 15, Md.
Chem.; b. Mediapolis, Iowa, Apr. 8, 1892; s. of William and Anna (Carlson) Sward; ed. State U. of Iowa, B.S. in chem., 1919, M.S., 1920; mem.: Sigma Phi Epsilon, Gamma Alpha; m. Hazel Leinbaugh, June 16, 1920; ch.: Gilbert L. Chem., Sears, Roebuck & Co., Chicago, 1920-21; chem., Natl. Bur. of Stand., Wash., D.C., 1921-26; chem., Natl. Paint, Varn. & Lacq. Assn., Wash., D.C., 1926 to date. Meths. of testing paints, etc.; U.S. pat. for surface testing apparatus known as the Rocker. Co-author: "Physical & Chem. Examination of Paints, Varn., Lacq. & Colors"; special edit., Webster Internatl. Dictionary, 2nd edit.; num. circulars of the Natl. Paint, Varn. & Lacq. Assn. Mem.: A.C.S., Natl. Assn. of Corrosion Engrs., Forest Prods. Res. Soc., A.S.T.M., A.I.C. Hobby: gardening.

SWART, Gilbert Holm, dir. of res., Gen. Tire & Rubber Co., Akron, Ohio; res. 3841 Grupe Ave., R.D. 10, Box 483, Akron 10.
Chem. res.; b. LaGrande, Ore., Sept. 25, 1903; s. of James A. and Edna (Holm) Swart; ed. B.S. in chem. engrg., U. of Wash., Seattle, 1927; mem.: Tau Beta Pi, Phi Lambda Upsilon, Theta Chi; m. Florence McMeeken, Aug. 5, 1927; ch.: Gilbert, Alan. 1927-36, rubber chem., B.F. Goodrich Co.; 1936-43, chf. chem., Wabash Mech. Goods Plant, Gen. Tire & Rubber Co.; 1943 to date, dir. of res., Gen. Tire & Rubber Co. Mem.: S.A.E.-A.S.T.M. (tech. comm. on automotive rubber, past secy.), A.C.S., A.A.A.S. Club: Franklin. Hobby: Oriental art.

SWARTWOOD, Kenneth, pat. lawyer in chg. of pat. wk. for Ethyl Corp., 1600 W. 8 Mile Rd., Detroit, Mich.; res. 507 Linden Rd., Birmingham, Mich.
Pat. lawyer; b. Kearney, Nebr. June 6, 1905; s. of Charles and Bessie Swartwood; ed. U. of Nebr., B.Sc., chem. engrg., 1928; DePaul U., J.D. in law, 1940; mem.: Alpha Chi Sigma; m. Marjorie Brinton, June 21, 1929; ch.: David, Anne, Elsie. 1928-29, chem., White Eagle Oil and Refg. Co.; 1929-35, chem. engr., Universal Oil Prods. Co.; 1935-41, pat. dept. same co.; 1941-44, hd. of pat. dept. same co.; 1944-47, private law pract., Danville, Ill.; 1947 to date, hd. of pat. dept., Ethyl Corp.; notable wk. in process chem. engrg. Holds over 30 pats. in chem. and petroleum flds. Mem.: A.I.Ch.E., Amer. Pat. Law Assoc., Mich. Pat. Law Assoc. Hobbies: bridge, sports, music and collector of authentic foreign dolls.

SWARTZ, Carl E(rrett), chmn. metals res., Armour Res. Foundation, 35 W. 33rd St., Chicago 16, Ill.; res. 321 N. Garfield Ave., Hinsdale, Ill.
Metallurgist; b. Olney, Ill., Oct. 7, 1900; s. of William C. and Georgia Gertrude (Olwin) Swartz; ed. B.S., U. of Ill., 1923, M.S.; Ph.D., U. of Wis.; m. Elenor Leach. Sept. 28, 1940. Instr. in chem., U. of Wis., 1923-26; res. chem. & metallurgist, Am. Smelting & Refining Co., 1926-35; chf. metallurgist, Cleveland Graphite Bronze Co., 1935-45; supvr. matls. res., Kellex Corp., 1946-50; chmn. metals res., Armour Res. Foundation, 1950 to date. Mem.: A.I.M.M.E. (mem. James Douglas M. Award Comm. 1937-39, mem. Papers & Pub. Comm. 1933; Inst. of Metals Div., mem. exec. comm., membership, program comm. 1937-44, v.chmn. of div. 1940-41, chmn. of div. 1942); A.S.M. (mem. nominating comm. 1943, mem. "Metal Progress" advisory comm. 1945-47; Cleveland Chapter, mem. exec. comm. 1937-42, v.chmn. 1940, chmn. 1941; Wash. Chapter, mem. exec. comm. 1948-49); A.S.T.M. (secy. comm. B-2, 1939-44, mem. Cleveland district comm. 1943-46); Soc. for Experimental Stress Anal.; Soc. for Non-Destructive Testing (mem. Cleveland chapter exec. comm. 1942-45). Hobbies: figure skating, hiking, gardening, farming.

SWARTZ, William Robert, supply mgr., Texas Gulf Sulphur Co., Inc., Newgulf, Tex.; res. Newgulf.
Mgr.; b. Parkston, S.D., July 28, 1890; ed. pub. schl. of Trail, Brit. Col.; m. Elfrida Arnold Gill, Oct. 12, 1920; ch.: one son, one dau. 1907-16, cost and metall. act. depts., Consol. Min. & Smelt. Co. of Can.; 1916-19, with Can. Exped. Forces; 1919, cost acct. Consol. Min. & Smelt. Co. of Can.; 1920 to date, cost acct. and supply mgr. Tex. Gulf Sulphur Co. 1916-19, Can. Inf. & R. R. Troops. Mem.: Natl. Panel, Am. Arbit. Assoc., Natl. Assoc. Pur. Agts., v.p. 1922-23, Army Ord. Assoc., Am. Legion. Clubs: Newgulf Golf, Lions, Masonic Lodge. Hobbies: tennis, hunting.

SWEARINGEN, Judson S., chmn. chem. engrg., Southwest Res. Inst., P.O. Box 2296, San Antonio 6, Tex.
Chmn., chem. engrg.; ed. B.S. in Ch.E., The Univ. of Tex.; M.S. in Ch.E., same U.; also Ph. D. Prof. chem. engrg., particularly on spec. chem. proc. and equip.; Sanitary engrg.; prof. of chem. engrg. at U. of Texas; design and construc. of petroleum cracking plant; sc. investigations in Europe since the war, esp. in Czechoslovakia and Germany; equip. design for new type submarine drive, rockets and rocket ships; Manhattan Engrg. Distr. on Uranium 235 plant, cited as one of ten key scientists in Diffusion Plant Proj. (Natl. Petroleum News); tonnage oxygen units; evaluation of proc.; planning and dir. res. and dev. programs; spec. flds.: prep. of final designs for chem. proc. and equip.; petroleum refin.; oil and gas prod.; gas turbines; low temp. proc. Author of var. pubs. in bacteriology, chem., oil refin., gas-condensate prod., low temp. equip. Mem.: A.I. Ch.E., A.I.M.M.E., A.C.S., Sigma Xi.

SWEENEY, Orland Russell, prof. chem. engrg., Iowa State Coll., Ames, Iowa; res. 538 Hayward St., Ames, Iowa.
Chem. engr. tchr.; b. Martins Ferry, Ohio; s. of Robert E. and Elizabeth (Wood) Sweeney; ed. Ohio State, B.S., M.S.; U. of Pa., Ph.D.; m. Louella DuBoise Smith, 1920; ch.: Elizabeth Jester, Jacqueline. Instr. in chem., Ohio State, 1910; instr. in chem., U. of P., 1911-16; instr. in chem., Iowa State, 1917; prof. chem., N. Dak. Agric. Coll., Fargo, N.D.; prof. chem. engrg., U. of Cincinnati, 1919; prof. chem. engrg., Iowa State Coll. 1920 to date; Major, C.W.S. 1915-19; wk. in utilization of agric. waste matls. Ex-chmn. of Greater Iowa Comm. Dir. of Ames Natl. Bank. Author: "Commercial Util. of Agric. Wastes." Mem.: A.C.S., A.I.Ch.E., Sigma Xi, Tau Beta Pi, etc.

SWEENEY, William Joseph, v.p. in charge of res. and dev., Standard Oil Dev. Co., 15 W. 51st St., New York 19, N.Y.; res. 24 Greenbriar Dr., Summit, N.J.
Chem. engr.; b. Boston, Mass., May 6, 1898; s. of Thomas J. and Ellen Sweeney; ed. B.Sc., Mass. State Coll., 1919, M.Sc., Pa. State Coll., 1924, D.Sc., du Pont Fellow, M.I.T., 1928; mem.: Sigma Phi Epsilon; m. Louise Clark Sweeney, Aug. 19, 1930; ch.: William Joseph, Jr., John Francis, Robert Emmet. Asst. prof., Penn. State

Coll., 1919-26, 1928, 1929; Standard Oil Co. of La., 1929-34; dir. of res. Standard Oil Co. of La., 1934-36. Held following positions in Standard Oil Dev. Co.: assoc. dir. of res. div. 1936-45; asst. mgr. res. & dev. dept. 1945-47; v.p. 1947 to date. Res. and pet. processing and its prods., 20 or more pubs.; Priestley lecturer at Penn. State Coll., 1950; 30 pats. on pet. processes and prods.; former chmn. of Amer. Pet. Inst., advisory comm. on fundamental res. on composition and properties of pet. Mem.: A.C.S., A.I.C., A.I.Ch.E., Soc. of Automotive Engrs., Amer. Pet. Inst., member of bd. of directors coordinating Res. Council, Scientific Advisory Bd. of U.S.A.F. Res. and Dev. Bd. of Dept. of Defense. Club: Baltusrol Golf. Hobby: golf.

SWEET, Leon Albert, dir. of res. and prods. dev., Parke, Davis & Co., Jos. Campau at the river, Detroit 32, Mich.; res. 1029 Cadieux Rd., Grosse Pointe Park 30, Mich.
Res. exec. (org. chem.); b. Polo, Ill., May 17, 1909; s. of Albert J. and Bertha E. Sweet; ed. A.B., 1930, Carthage Coll., Carthage, Ill.; 1931, M.S. U. of Nebr.; 1933, Ph.D. same U.; mem.: Sigma Xi, Phi Lambda Upsilon, Theta Chi Delta, Alpha Kappa Pi; m. Euvon Mae Hyndman, May 21, 1934; ch.: Frank Albert, Carol Ann. Parke, Davis & Co. Fellowship, U. of Nebr., 1931-33; res. chem. Commercial Solvents Corp., 1933; res. chem. Parke, Davis & Co., 1933-37; asst. dir. of res. 1937-42, jr. sc. dir. 1942-45, dir. of chem. res. and prods. dev., 1945-49, and dir. of res. and prods. dev., 1949 to date, all with Parke, Davis & Co. Has served as v.chmn., secy. and chmn. div. of med. chem., A.C.S.; now on Panel on Chem. Warfare, R.&D.B., Natl. Mil. Estab. Mem.: Engrg. Soc. of Detroit, Detroit Physiolog. Soc., A.C.S., A.Ph.A., A.A.A.S., N.Y. Acdy. Scs. Club: Detroit Yacht. Hobbies: golf, bowling.

SWENSEN, Alf. Waldemar, hd. chem. dept., Wartburg Coll., Waverly, Iowa; res. 709 Fourth Ave. N.W., Waverly.
Prof. of chem., conslt.; b. Jackson, Minn., Nov. 26, 1897; s. of Daniel and Elizabeth (Hansen) Swensen; ed. Luther Coll., Decorah, Iowa, B.A.; State U. of Iowa, M.S., Ph.D.; mem.: Alpha Chi Sigma; m. Alice Wilharm, Aug. 6, 1924; ch.: Robert, Richard. B.A. 1920; supt. of schls., Alta Sists 1920-21; Wartburg Coll. 1921-44; acting hd. anal. dept. of chem., State U. of Iowa, 1944-45; Wartburg Coll. 1945 to date. Polorography of rare earth metals; correlation between ethyl alcohol in body fluids & degree of intoxication. Mem.: Phi Lambda Upsilon, Sigma Xi, A.C.S., A.A.A.S., Iowa Acdy. of Sc. Supt. of St. Paul's Lutheran Sunday Schl., 700 pupils. Hobbies: refinishing black walnut furniture, gardening, fishing, participation in music.

SWENSON, Theodore Lowell, pres., Food, Chemical & Research Labs., Inc., 1201 E. 38th St., Seattle 5, Wash.; res. 5212 20th Ave. N.E., Seattle 5.
Biochem.; b. Marquette, Mich., Dec. 19, 1894; s. of Samuel and May Lydia (Eastman) Swenson; ed. B.S. bacteriology, B.S. pharmacy, Ph.C. pharmacy, State Coll. of Wash., Pullman, Wash., 1923; M.S. bacteriology, 1932, Ph.D. biochem. 1934, Am. U., Wash., D.C.; mem.: Sigma Alpha Epsilon, Alpha Chi Sigma, Kappa Psi, Sigma Xi; m. Betty Jean Loftus, June 7, 1945; ch.: Don L., Sally Jean. Bacteriologist in chg. of lab., Hazelwood Dairy Co. Ltd., Spokane, Wash., 1923-26; technician in chg. acidophilus milk prod., Western Labs., Yakima, Wash., 1926-27; bacteriologist, food res. div., Bur. of Chem. & Soils, U.S. Dept. of Agric., 1929-35, chem. 1935-38. prin. chem. in chg. western survey for Regional Res. Labs., Bur. of Agric. Chem. & Engrg. Labs. (name of bur. changed to Bur. of Agric. & Ind. Chem. 1943), 1938-39, hd. chem., Western Regional Res. Labs., Albany, Calif. 1939; in chg. U.S. Fruit & Vegetable Lab., Pullman, Wash., U.S. Food Tech., Stanford Res. Inst., 1946-47; pres., exec. dir., Food, Chem. & Res. Labs., Inc., Seattle, Wash., 1948 to date. Dev. process for deaeration of fruit & vegetable juices; enzymatic process for liquefying egg white; meth. for recovery of egg foam; carbon dioxide meth. for oil treat. of shell eggs; instrumental in dev. various new types of food prods. Mem.: A.C.S., I.F.T., Soc. of Am. Bacteriologists. Hobbies: fishing, golf.

SWENSON, William Lennart, sales mgr., General Dyestuff Corp., 435 Hudson St., N.Y. 14, N. Y.; res. 363 Prospect Ave., Hackensack, N.J.
Exec.; ed. Germantown H.Schl. & Phila. Textile Schl. 1919, with Kuttroff, Pickhardt & Co., Phila., one of the predecessors of Gen. Dyestuff; office, lab., & dyestuff & chem. sales; transferred to N. Y. as asst. to sales mgr.; 1939, sales mgr., Gen. Dyestuff.

SWERDLOFF, Will, chf., economics & dev. sec., natural gas dept., Magnolia Pet. Co., Box 900, Dallas, Texas; res. 8203 Chadbourne Rd., Dallas.
Chem. engr.; b. Phila., Pa.; s. of Morris and Ida Swerdloff; ed. Kansas City, Mo. Jr. Coll., 1929-31; U. of Kan., 1932-34, B.S. in chem. engrg.; shared Alpha Chi Sigma award at Kansas U.: mem.: Sigma Tau. 1934-40, chem. engr., natural gas dept., Phillips Pet. Co.; 1940-42, process engr., fld. res. dept., Magnolia Pet. Co.; 1942, instr. night course in chem. engrg. economics for A.&M. Coll. of Texas under E.S.M.D.T. program of U. S. Office of Ed., course taught at Dallas, Texas; 1942-44, supvr., process design & dev. sec., fld. res. dept., Magnolia Pet. Co., 1944-46 chf., dev. sec. fld. res. dept., 1946 to date chf., economics & dev. sec., natural gas dept. Design and economic studies of plants for production, transportation, treat. & conversion of light hydrocarbons, nat. gas & nat. gasoline; 7 U.S. pats. Mem.: A.I.Ch.E., A.C.S., Reg. Prof. Engr. States of Texas & Okla.

SWICKER, Victor Calvin, glass tech., Alexander H. Kerr & Co., Rm. 875, 417 So. Hill St., Los Angeles, Calif.; res. 907 Floral Dr., Whittier, Calif.
Glass tech.; b. Brookline, N.H., July 8, 1893; s. of Stephen James and Lena May (Corkum) Swicker; ed. B.S., Bates Coll., Lewiston, Me.; Geo. Washington U., Washington, D.C.; m. Margie M. Bradbury, Nov. 28, 1917; ch.: Muriel Elaine (Swicker) Haggerty. With Cuban Amer. Sugar Co., Delicias, Cuba, 1916-19; Morbihan Sugar Co., New Iberia, La., 1918; West India Sugar Finance Corp., Cuba, 1924-25; Hartford Empire Co., Hartford, Conn., 1926-46; Alexander H. Kerr & Co., Los Angeles, Calif., 1947 to date. Mem.: A. Cer.Soc., Reg. Prof. Engr., Calif. and Conn., Soc. for Quality Control.

SWIFT, Ernest Haywood, prof. anal. chem., Calif. Inst. of Tech., Pasadena, Calif.; res. 572 La Paz Drive, San Marino, Calif.
Chem.: b. Chase City, Va., July 2, 1897; s. of John Wesley and Anna (Williams) Swift; ed Randolph-Macon Coll., B.S., U. of Va., 1918; M.S. Calif. Inst. Tech., 1920; Ph.D., 1924; mem.: Phi Kappa Sigma; m. Elizabeth Allen, 1923; ch.: Mary Elizabeth. With Froehling & Robertson, chem., 1917; U. of Va. lab. asst., 1917-18; Calif. Inst. of Tech., tchg. fellow, 1919-20; instr., 1920-28; asst. prof. 1928-39; assoc. prof. 1939-43; prof. 1943 to date. Official Investigator, N.D.R.C., W. W. II; pubs. and res. in inorg. and anal. chem. Author: "A System of Chem. Anal.," 1939; "Qualitative Chem. Anal.," Noyes & Swift, 1942; "Quantitative Chem. Anal.," 1950. Mem.: Sig-

ma Xi, A.C.S., A.A.U.P. Club: Athenaeum (Pasadena). Hobby: tennis.

SWINDELLS, Frank E., res. assoc., photoprods. dept., E.I. du Pont de Nemours & Co., Parlin, N.J.; res. 11 Garthwaite Terrace, Maplewood, N.J.
Res. chem.; b. Wash., D.C., 1899; s. of Samuel A. and Margaret S. Evans Swindells; ed. Carnegie Inst. Tech., B.S., 1921; U. Pa., M.S., 1923; Ph. D., 1925; Harrison Fellow 1923-25; mem.: Sigma Xi (hon.); m. Pauline Thompson, 1928; ch.: David G., Margaret H. Asst. chem., Bur. Stands., Wash., 1921-22; res. chem. Patterson Screen Co., Towanda, Pa., 1925-35; res. dir., 1935-46; res. assoc. E.I. du Pont de Nemours & Co., Parlin, N.J., 1946 to date. Res. in dev. of phosphors for X-ray screens, fluorescent lighting, cathode ray tubes, res. mfgr. of X-ray screens, photographic film. Mem.: A.C.S., Opt.S.A., A.A.A.S. (fellow).

SWOPE, Robert Bricker, pres., Southern Oxygen Co., Inc., 2900 Kenilworth Ave., Bladensburg, Md.; res. 3748 Huntington St. N.W., Wash., D.C.
Exec.; b. Pasadena, Calif., Aug. 25, 1888; s. of A.B. and J.E. (Bricker) Swope; ed. public schls., Harrisburg, Pa.; Lehigh U., Bethlehem, Pa., E.E.; mem.: Sigma Phi Epsilon, Lehigh U.; m. Lydia M. Leibert 1912; ch.: Robert L., Marcia L. 1910-11, Gen. Elec. Co., Schenectady, N.Y., test engr.; 1911-13, Southern Railway, Atlanta, Ga. & Wash., D.C., signal inspector; 1913-16, Potomac Elec. Power Co., Wash., D.C., com. engr.; 1916 to date, est. Southern Oxygen Co., co. incorp., 1919; Children's Hosp., Wash., D.C., mem. of bd., 1930, v.p., 1935-42, chmn. building fund campaign, 1946; Boys' Club of Wash., D.C., bd. of dir.; Am. Welding Soc., chmn. Wash. sec. 1941-42; Compressed Gas Assn., mem. from 1918 to date, mem. of bd. & exec. comm. 1942 to date; Natl. Oxygen & Acetylene Assn., bd. of dirs. until terminated, 1938; Internatl. Acetylene Assn., pres. 1947; Wash. Bd. of Trade, Wash., D.C.; Independent Oxygen Mfrs. Assn., pres. 1945. Clubs: Columbia Country (Wash., D.C.), Wash. Rotary (pres. 1937-38). Hobby: photography, travel.

SYLVESTER, Donald Maurice, chf. chem., U.S. Industrial Chemicals, Inc., Brownsville, Texas; res. 3810 Boca Chica Blvd., Brownsville.
Chem.; b. Jefferson, Me., Dec. 4, 1911; s. of Leslie S. and Lucy I. (Sprowl) Sylvester; ed. U. of Me., B.S. 1933; mem.: Sigma Chi; m. Rose A. Stack, Jan. 30, 1937. 1934-35, Gen. Chem. Co., process operator; 1935 to date, U.S. Ind. Chem., Inc., Baltimore, Md., chem. in dev. lab & from 1946 to 1950 asst. group leader; 1950 to date, chf. chem. Mem.: A.C.S.

SYMONS, George E., mng. ed., "Water & Sewage Works" mag., consult., 155 E. 44th St., New York 17, N.Y.; res. 86 Edgewood Ave., Larchmont, N.Y.
Tech. ed., conslt.; b. Apr. 20, 1903, Danville, Ill.; s. of Martin M. (dec.) and Dora Symons; ed. U. of Ill., B.S. (hon. in chem.), M.S., Ph.D.: mem.: Phi Kappa Sigma, Alpha Chi Sigma; m. Virginia Thompson, July 16, 1928; ch.: James Martin. 1930-33, instr. dept. chem., U. of Ill.; 1930-33 res. chem., Ill. State Water Survey; 1933-34, res. chem., Freeport Sulphur Co.; 1934-35 conslt.; 1935-36 engr., Greeley & Hansen, Engrs. (Evansville, Ill.); 1936-43 chf. chem., Buffalo Sewer Authority (N.Y.): 1943-50 assoc. ed. "Water & Sewage Works" (N.Y.): 1950 to date, mng. ed., conslt. Wk. in sewage treat., indus. waste treat., stream pollution; author "Buffalo Formula" charging for indus. waste in municpl. sewage. Author, co-author, over 60 tech. & sc. articles, 50 reports, edits., book reviews, mo. column ("Here & There with Doc Symons"); co-compiler 20 yr. index "Sewage Wks. Jl." 1949-50; ed. 9th Edit. "Standard Methods for the Examination of Water & Sewage," 1946; ed. 2nd Edit., "A.W.W.A. Manual of Water Quality and Treatment." Mem.: A.C.S., A. I.Ch.E. (secy. Western, N.Y. sec., 1942), A.S.C.E. (secy. Buffalo sec. 1941-43), A.W.W.A., A.P.H. A. (fellow), N.Y. Soc. P.E., N.Y.S. Sewage Wks. Assoc. (v.p. 1944; pres. 1945; chmn. comm. sewage res. 1939-42; chmn. program comm. 1943; secy. 1939-42, chmn. 1943, Western sec.); Fed. Sewage Wks. Assoc. (dir. 1948-51); Erie-Niagara Water Works Operats. Conf. (chmn. 1942); Inter-Am. Assoc. San. Engrg.; Sigma Xi; Phi Lambda Upsilon; MuSan; Kenneth Allen Mem. Award for Res. (N.Y.S. Sewage Wks. Assoc.) 1947. Clubs: Torch (Buffalo), (Manhattan), U. Ill. Alumni, Western, N.Y. (pres. 2 yrs.), Larchmont Shore Club. Statler Club of Cornell Univ. Hobbies: after dinner speaking, letter writing. Licensed Prof. Engr. (N.Y. Lic. No. 23,552).

SZYMANOWITZ, Raymond, tech. dir., Acheson Colloids Corp., 1019 Broad St., Newark 2, N. J.; res. 1463 Compton Ter., Hillside 5, N.J.
Chem.; b. Newark, N.J., Jan. 3, 1898; s. of Hugo and Katherine A. (Murweis) Szymanowitz; ed. Cooper Union, N.Y.C., B.S., 1922; m. Edna L. Rohr, Sept. 3, 1926. 1919-21, Hyatt Bearings Div., Gen. Motors Corp., chem.; 1921-24 res. asst. to Dr. C.J. Thatcher, N.Y.C. org. electrochem.; Apr., 1924 to date, Acheson Colloids Corp., tech. dir.; Acheson Colloids Corp., Pt. Huron, Mich. (v.p. chg. of res.); 1928-41 part-time instr., dept. of chem. engrg., Cooper Union, N.Y.C. During past 26 yrs. spec. in mfr. & utilization of colloidal graphite, contrib. num. arts. on its history, properties, preparation, & applications. Contrib. sect. on "Colloidal Graphite" Alexander's "Colloidal Chem." Vol. 6 (1946). Mem.: A.C.S., A.I.C. (fellow), S. A.E., A.A.T.C.C. (assoc. mem.), Photographic Soc. of Am., A.S.T.M. (co. represt.). Club. Chemists'. Hobby: photography.

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TAEBEL, Wilbert A., dir. chem. prod. dept., Eimer & Amend-Fisher Scientific, 635 Greenwich St., N.Y. 14; res. 174 Watchung, Upper Montclair, N.J.
Chem.; b. Chicago, Ill., Apr. 18, 1907; s. of Albert and Wilamena Taebel; ed. B.S. Elmhurst Coll., Ill., 1935 (summa cum laude); M.S., U. of Ill., 1936; Ph.D. 1938; m. Ruth Schlosser, May 21, 1931; ch.: Wilbert J., Esther M. Univ. of Ill., fellow, 1935-36, chem. dept.; asst. instr., 1936-38; instr., 1938-41, same dept., same U.; Westinghouse Electric Corp., 1941-46; with Eimer & Amend 1946 to date; res. in rare earths, fluorescent material, powder metallurgy, molybdenum and tungsten. Author: "Lab. Exercises," Stipes Pub. Co., 1942. Mem.: A.C.S., Alpha Chi Sigma, Sigma Xi, Phi Lambda Upsilon, Phi Kappa Phi, A.I.C., E.S. Club: Chemists'. Hobby: gardening.

TAFT, George Henry, mgr. prod. dev., Deecy Prods. Co., 120 Potter St., Cambridge, Mass.; res. 9 Monument St., Concord, Mass.
Chem. engr.; b. Menomonie, Wis., May 6, 1910; s. of George A. and Gertrude (Burt) Taft; ed. U. of Minn., B.Sc. in chem. engrg.; mem.: Triangle; m. Jean Murfin, Oct. 27, 1937; ch.: Nancy, Philip A., Daniel G. 1933-38, chem., Minneapolis St. Paul Sanitary District; 1938-44, chem., res. dept., B.F. Goodrich Co., 1944-46 mgr. chem. purchase; 1946 to date, mgr. prod. dev., Deecy Prods. Co. Mem.: A.C.S., A.I.C. (fellow), Chemists' Club (N.Y.), A.A.A.S.

TAFT, Robert, prof. of chem., U. of Kans., Lawrence, Kansas.
Tchr. of chem.; b. Tokyo, Japan, Mar. 24, 1894;

s. of George W. and Jessie H. Taft; ed. A.B., Grand Island Coll., 1916; M.Sc., U. of Iowa, 1919; Ph.D., U. of Kansas, 1925; m. Josephine Miller, July 24, 1916; ch.: Robert, Jr., Dorothy L. Instr. in chem., Grand Island Coll., 1916-17; instr. in sc., Gilbert (Minn.) Tech. H.S., 1917-18; instr. in chem., U. of Iowa, 1918-19; prof. of chem., Ottawa (Kans.) U., 1919-22; instr. in chem., 1922-25, asst. prof. of chem., 1925-28, assoc. prof. of chem., 1928-38, prof. of chem., 1938 to date, all U. of Kansas; res. in non-aqueous solutions. electrochemistry. Author: "Photography and the Amer. Scene," 1938, 1942; "Across the Years on Mount Oread," 1941; editor, Trans., Kans. Acdy. Sc. (quarterly), 1940 to date. Mem.: A.C.S., Kans. Acdy. Sc., A.A.U.P., Kans. Hist. Soc. Dir., Kans. Hist. Soc. (Topeka). Hobby: Western American history.

TAGGART, Arthur F., prof. of mineral engrg., Columbia U., N.Y.C. 27; res. 19 Donellan Rd., Scarsdale, N.Y.
Tchr., conslt.; b. N.Y.C., Oct. 1, 1884; s. of Jesse and Ophelia (Fay) Taggart; ed. Stanford U., A.B. 1909, E.M., 1910; m. Ruth Field, Aug. 31, 1911; ch.: Mary S. (Taggart) Dillon, Lois T. (Taggart) Hall, Jesse F. Yale U., instr. and asst. prof. of mining, 1912-19; Columbia U., prof. of mineral engrg., 1919 to date; conslt. engr., 1914 to date; notable wk.: chem. theory of flotation; ultrafine grinding. Author: "Manual of Flotation Processes," 1921; "Handbook of Ore Dressing," 1927; "Handbook of Mineral Dressing," 1944; Sections on Boring, Crushing and Sorting of Ores, Flotation, Testing of Ores, Ore Dressing in Mining Engrs. Handbook, Colliers Encyc., Encyc. Americana. Mem.: A.I.M.E., rec. Richards Award. Trustee, 1926-42, and pres. 1940-42 Scarsdale Bd. of Educ. Club: Scarsdale Golf. Hobby. photography.

TAINTER, Dr. M(aurice) L(ane), dir., Sterling-Winthrop Res. Inst.; v.p., Sterling Drug, Inc., Rensselaer, N.Y.; res. 846 Warren St., Albany, N.Y.
Pharmacologist; b. Carroll, Iowa, May 10, 1899; s. of Emory Baxter and Winnifred Alice (Lane) Tainter; ed. Stanford U., A.B., M.A., M.D.; mem.: Phi Rho Sigma, Sigma Xi, Alpha Omega Alpha; m. Dorothy McGuinness, Sept. 1, 1925; ch.: Shirley, Cynthia. Asst. in pharmacology, Stanford U., 1922-24, instr. in pharmacol. 1924-27; fellow of N.R.C., Johns Hopkins, 1926-27; asst. prof. of pharmacol., Stanford U., 1927-29, assoc. prof. of pharmacol. 1929-35; volunteer worker, Phar. Soc. of Gt. Brit., London, 1930; prof. of pharmacol., Coll. of Physicians & Surgeons Dental Schl., 1934-43; prof. of pharmacol., Stanford U., 1935-43; hd. of dept. of physiolog. sc., Coll. of Physicians & Surgeons Dental Schl., 1940-43; prof. of applied physiol., Albany Medical Coll., 1943-47; dir. of res., Winthrop Chem. Co., 1943-46; dir., Sterling-Winthrop Res. Inst., 1946 to date; v.p., Sterling Drug Inc., 1946 to date. Dir. of & conslt. on chem. warfare defense in civilian defense organizations, 1942-43. Num. sc. pubs. in fld. of medical & dental pharmacol. Assoc. ed. Pharmacolog. Reviews, assoc. editor Archives internationales de pharmacodynamie et de therapie, past assoc. editor of Calif. & Western Medicine, past ed.-in-chf. of Stanford Medical Bulletin, A.A.A.S. (fellow), Am. Soc. of Pharmacol. & Experimental Therapeutics, A.C.S., Am. Physiolog. Soc., Am. Medical Assn. (fellow), Internatl. Assn. of Dental Res., Am. Soc. of Anesthetists (hon.). Calif. State Dental Assn. (hon.), San Francisco Dist. Dental Soc. (hon.), Ariz. State Dental Assn. (hon.), N.Y. Acdy. of Sc., Medical Soc. of State of N.Y., Friends of Medical Progress, Soc. of Pharmacol. & Therapeutics of the Argentine Medical Assn. of Buenos Aires (hon.), A.Phar.A., Am. Soc of Tropical Medicine, Natl. Malaria Soc., N.Y. Acdy. of Medicine (non-resident fellow). Trustee, Albany Coll. of Pharmacy. Club: University.

TALBOT, Frank, chem. specialist, Natl. Security Resources Bd., Wash. 25, D.C.; res. 6409 Western Ave., Wash. 15, D.C.
Chem. engr.; b. Bklyn., N.Y., May 6, 1895; s. of John J. and Catherine Talbot; ed. N.Y.U., B.S. in chem. engrg., 1917, Ch.E., 1925; m. Mary T. Donahoe, Mar. 12, 1926; ch.: Frank J., Helen M. Ordnance Dept., 1917-18; chem. engr., Givaudan, Inc., Delawanna, N.J., 1919-23; special expert, U.S. Tariff Comm., Wash., D.C., 1923-29; 1929-41, Mutuelle Solvay of Am. & C.R. DeLong, consltg. chem. engr.; 1941-45, War Prod. Bd., Chems. Bur., chf. program branch; 1945-48, War Assets Adm., Chem. Plants Disposal; 1948 to date, Natl. Security Resources Bd. Num. arts. in chem. jls. Mem.: A.C.S., A.I.Ch.E. Club: Chemists' (N.Y.). Hobbies: golf, gardening, music.

TALLEY, S(amuel) K(inter), chem., Shell Dev. Co., 4560 Horton St., Emeryville, Calif.; res. 791 Hilldale Ave., Berkeley, Calif.
Lub. engr.; b. Dauphin, Pa., Apr. 29, 1907; s. of G.R. and Agnes R. (Kinter) Talley; ed. Harvard U., A.B. (cum laude) 1929; A.M. 1931; Ph.D. (physical chem.) 1933; m. Isabella G. McCurtain, Dec. 16, 1933; ch.: Wilson K., Isabella G., James D. Shell Pet. Corp., Shell Oil Co., Shell Dev. Co., June 4, 1933-Nov. 15, 1936, Wood River, Ill., Mar. 4, 1940, Houston, Tex., Oct. 17, 1942, Emeryville, Calif.; res. chem., hd. dept.; U.S. Rubber Co., Oct. 17, 1942-June 1, 1944, Eau Clair, Wis., Charlotte, N.C., mech. engr. (dept. hd.) mfg. munitions; June 1, 1944 to date, Shell Dev. Co., lub. engr. & res. Pub. in precision viscometry & lubrication. Mem.: A.C.S., A.S.M., A.S.M.E., A.S.Lub.E., Reg. Mech. Engr. (Calif.), Alpha Chi Sigma, Sigma Xi, Boy Scouts. Hobbies: horticulture, mech. arts, applied electronics.

TALLMAN, Ralph Colton, mgr., planning & survey dept., res. div., Lion Oil Co., El Dorado, Ark.; res. El Dorado.
Res. chem.; b. Cedar Rapids, Iowa, Oct. 6, 1905; s. of J.M. and Lida (Colton) Tallman; ed. Cornell Coll., Iowa, A.B., 1927; Cornell U., Ph.D., 1931; mem.: Sigma Xi; m. Dorothy Hershey, Aug. 29, 1929; ch.: Dorothy Jean. Instr. in org. chem., Cornell U., 1930-35; dir. of res., Schieffelin & Co., N.Y., 1935-43; project leader, Allied Chem. & Dye Corp., Central Res. Lab., Morristown, N.J., 1943-50; mgr., planning & survey dept., res. div., Lion Oil Co., El Dorado, Ark., 1950 to date. Syn. of phar., org. chem. in gen. Mem.: A.C.S., N.Y. Acdy. of Sc. Hobbies: golfing, reading, motoring.

TAMELE, Miroslav W., assoc. dir. of res., Shell Dev. Co.; res. 1073 Walker Ave., Oakland 10, Calif.
Chem.; b. Praha, Czechoslovakia, Aug. 20, 1899; s. of Karel and Zdenka Tamele; ed. Charles U., Praha. Czechoslovakia, R.N.D. (Rerum Naturalium Doctor) 1925; m. Ida P. Broderick, 1927. 1925-26, Internatl. Res. Fellow, Int. Ed. Bd., res. assoc., U. of Calif.; 1927-29, res. chem., Calif. Ink Co.; 1929 to date, Shell Dev. Co., Emeryville, Calif. Pet. chem., cracking catalysts, utilization pet. in chem. ind. Mem.: A.C.S., A.A.A.S., Sigma Xi Soc. Hobbies: skiing, fishing.

TANIMOTO, Tyrus T., asst. biochem., Experiment Sta., H.S.P.A., Honolulu, T.H.; res. 2466-A S. King St., Honolulu, T.H.
Biochem.; b. Koloa, Kauai. T.H., Sept. 4, 1911: s. of Senkichi and Ichi Tanimoto; ed. 1931-35, U. of Hawaii, B.S.; 1935-36, M.S.; m. Gladys

Ching, 1936; ch.: Elaine Joyce, Suzanne Asako, Nadeane Mae. July, 1936-Nov., 1936, Hawaii Exper. Sta., anal.; Dec., 1936 to date, Exper. Sta., H.S.P.A., asst. biochem., res. asst.; notable wk.: complete anal. of Taro; res. studies on tuber of Cordyline Terminalis; prod. of Levulose from tuber of Cordyline Terminalis; dev. micromethod for sugar anal. of cane tissues. Mem.: A.C.S. (secy. of local sect. in 1949), Hawaiian Acdy. of Sc., A.A.A.S. Club: Photographic Soc. of Amer. Hobbies: photography, fishing.

TANNER, Fred Wilbur, prof. of bacteriology, U. of Ill. (on leave of absence); res. 921 Lincoln Circle, Winter Park, Fla.
Bacteriol. prof.; b. Buffalo, N.Y., Feb. 15, 1888; s. of Wellington Boughton and Emma M. (Olds) Tanner; ed. Warsaw H.S., Warsaw, N.Y., 1908; B.S., Wesleyan U., Middletown, Conn., 1912; D.Sc., 1944; M.S., U. of Ill., 1914; Ph.D., 1916; mem.: Alpha Chi Rho, Alpha Chi Sigma, Phi Sigma, Sigma Xi; m. Louise Pickens, Dec. 27, 1936; ch.: Fred Wilbur, Jr., Wells Montgomery, Stuart Wellington. Chem. and bact., Ill. State Water Survey, Urbana, Ill., 1912-16; Bact. Dept., U. of Ill., 1916-49; prof. and hd. bact., Br. Lab., Ill. Dept. Pub. Health, 1917-29; res. in food tech., food poisoning, sanitation. Author: "Bacteriology and Mycology of Foods," 1919; "The Yeasts," 1920; "Bacteriology," 1948; "Practical Bacteriology," 1928; "Microbiology of Foods," 1944; "Food Barn Infections and Intoxications," 1933; "Work-Book in Food Microbiology," 1950. Affiliate fellow, A.M.A.; charter fellow, Am. Pub. Health Assoc.; fellow, A.A.A.S., Soc. Amer. Bact., Soc. Exp. Biol. and Med., Internatl. Assoc. Milk Sanitarians, I.F.T. Editor-in-chf., Food Research. Clubs: Rotary (Winter Park, Fla.), (past pres. Urbana, Ill.), Univ. Club of Winter Park, Florida.

TANNER, Herbert Giles, chf., physical chem. branch., Bio. Div. Cml. C. Dept. Army, Camp Detrick, Frederick, Md.; res. same.
Physical chem.; b. Atchison, Kans., Nov. 30, 1893; s. of F.W. and Harriet (Williams) Tanner; ed. Ottawa U., Kans. A.B. 1915; U. of Nebr. M.A. 1916; Stanford U. Ph.D. 1929; mem.: Alpha Chi Sigma; m. Theresa R., May, 1931; ch.: Mrs. Irving Harris. Chf. chem., U.S. Bur. Soils Kelp-Potash Station, 1919-21; asst., assoc. prof. chem., U. of Oregon 1921-27; res. chem., E.I. du Pont de Nemours & Co. 1929-42; Lt. Col. in chg. of a res. & dev. div., Biolog. Warfare, C.W.S. Catalysis, thermodynamics, adsorption, explosives, optical rotation, ultra-fine grinding. Mem.: A.C.S., N. Y. Acdy. Scs., Sigma Xi, Legion of Merit. Club: Civitan. Hobbies: fishing, camping.

TANNER, Wellington Lee, chf. chem., Reade Mfg. Co., 2300 Ave. B, Ensley, Birmingham 8, Ala.; res. Box 17, Panasoffkee, Fla.
Chem.; b. Roseville, Ohio, Sept. 5, 1889; s. of Charles A. and Elizabeth (Bichard) Tanner; ed. Sprague Coll., B.S. Bethlehem Steel Co., explosives plant, chf. chem., 1915-19; Tropic Chem. Wks., chf. chem., 1919-21; Grasselli Chem. Co., res. chem., 1921-25; Tigre Mining Co., chf. chem., 1926-28; Reade Mfg. Co., chf. chem., 1929 to date. Tropic Chem. Wks. (proprietor). Pats. herbicides, insecticides, chem. processes. Author: "Aceites Naturales" 1928, Mexico. Mem.: A.C.S. (1916), A.I.C. (fellow 1921), A.A.A.S. Hobby: horticulture.

TAPLEY, Mark Watkins, dir. new prods. dept., Sterling Drug, Inc., 1450 Broadway, N.Y. 18, N.Y.; res. 36 Ridge Rd., New Rochelle, N.Y.
Exec. chem.; b. Bloomington, Ill., Nov. 20, 1897; s. of John L. and Mary E. (Watkins) Tapley; ed. U. of Chicago, B.S., 1920, Ph.D., 1923; mem.: Delta Upsilon; m. Virginia Ault, 1923; ch.: John Mark, David Ault. 1923, res. chem., 1927 asst. to v.p. in chg. of prod., 1929-35 asst. to exec. v.p., E.R. Squibb & Sons; 1935, Sterling Drug, Inc. Mem.: Sigma Xi, F.A.C.I., A.C.S., A.A.A.S., Am. Inst., A.Ph.A., Toilet Goods Assn., Proprietary Assn. Pres. 1942, Inst. for the Study of Analgesic & Sedative Drugs. Clubs: Larchmont U., Larchmont Shore.

TARBELL, Dean Stanley, prof. of org. chem., U. of Rochester, Rochester, N.Y.; res. 103 Brookdale Ave., Rochester 19.
Org. chem.; b. Hancock, N.H., Oct. 19, 1913; s. of Sanford M. and Ethel L. (Millikan) Tarbell; ed. A.B. with honors in chem. 1934, A.M., 1935, Ph.D., 1937, Harvard; m. Ann Tracy, Aug. 15, 1942; ch.: William Sanford, Linda Tracy. Asst. in chem., Radcliffe Coll., 1936-37; post-doctoral fellow in org. chem., U. of Ill., 1937-38; instr. in org. chem., U. of Rochester, 1938-41, asst. prof. 1941-45, assoc. prof. 1945-46, prof. 1946 to date; fellow of the Guggenheim Foundation, 1945-46. Res. on organometallic cmpds., Claisen rearrangement, structure of colchicine, chem. of sulfur cmpds., antimalarials. Mem.: A.C.S., Sigma Xi, Phi Lambda Upsilon. Hobbies: reading, languages, music.

TARNUZZER, Edmund C., res. chem., Stein, Hall & Co., 753 School St., Pawtucket, R.I.; res. 70 Miller Ave., Rumford 16, R.I.
Chem. engr.; b. Chur, Switzerland, Oct. 3, 1899; s. of Christian and Catherine Tarnuzzer; ed. Swiss Federal Polytech. Zurich, 1922 chem. engr.; mem.: Chemists Club E.T.H.; m. Gladys J. Wilkin, June 3, 1932; ch.: Edmund C., Jr. 1924-26, West Warrn Cotton Mill (Marshal Field) dyehouse asst.; 1926-42, Arnold Print Wks., No. Adams, lab., staff plant chem., chf. chem.; 1942 to date, res. chem., Stein, Hall & Co. Mem.: A. C.S., A.A.T.C.C., A.A.A.S.

TARPLEY, Edward Cecil, chem., U.S. Bur. of Mines; res. Louisiana, Mo.
Chem.; b. Hampshire, Tenn., Aug. 5, 1902; s. of Edward Mark and Annie Mae Tarpley; ed. U. of Ky., 1926, B.S. in ind. chem.; m. Elizabeth Ann Miller, Sept. 3, 1927; ch.: Martha Ann. P. R.R., Altoona, Pa., chem., 1926-35; U.S. Bur. of Mines, Pitts., Pa., 1935-48; U.S. Bur. of Mines, Louisiana, Mo., 1948 to date. Coal anal., syn. liquid fuels. Mem.: A.C.S., Natl. Geographic Soc. Club: Rotary. Hobbies: wood working, gardening.

TARR, Lester Winslow, pres., Cinch Mfg. Corp., 1026 S. Homan Ave., Chicago, Ill.; res. 2452 W. Greenleaf Ave., Chicago, Ill.
Mfr.; b. Rockport, Mass., June 20, 1893; s. of John and Maud (Grimes) Tarr; ed. Mass. State Coll., 1915; m. Elizabeth Jefferson, Dec. 18, 1918; ch.: Elizabeth, Anne, John. Asst. chem., Del. Agric. Expt. Station, Newark, Del., 1915-17; chem., du Pont, Wilmington, Del., 1917-21; chf. chem., Del. Agric. Expt. Station 1921-24; gen. mgr., Continental Diamond Fibre Co., 1924-37; v.p., United Carr Fastener Corp., 1937 to date; pres., Cinch Mfg. Corp., 1945 to date. Mem.: A.C. S., A.I.Ch.E. Clubs: BraeBurn Country (West Newton, Mass.), River Forest Country (Elmhurst, Ill.), Park Ridge Country (Park Ridge, Ill.), Executives (Chicago, Ill.).

TARR. Philip R., European tech. rep., Monsanto Chem. Co., 29 Rue Francois Ier, Paris 8, France; res. Paris, France.
Org. chem.; b. Greensburg, Pa., Apr. 25, 1910; s. of F.D. and Nelle (Crissman) Tarr (dec.); ed. Pa. State Coll., 1928-32 B.S., 1932-33 M.S.; mem.: Phi Lambda Upsilon; m. Marjorie Miller, Feb. 5, 1934; ch.: Carol. 1933-40, Pitts. Coal Co., chem.; 1940-46, U.S.A., officer; 1946-July, 1950, Monsanto Chem. Co., asst. to exec. v.p.,

July, 1950 to date, European tech. rep. Mem.: A. C.S., S.C.I., A.I.C. Hobbies: fishing, hunting.

TASHIRO, Shiro, prof. of biolog. chem., Medical Coll., U. of Cincinnati, Cincinnati 19, Ohio; res. 257 Loraine Ave., Cincinnati 20.
University prof.; b. Togo, Satsuma, Japan, Feb. 12, 1882; s. of Shirobe and Wari Tashiro; ed. Hyde Park H.S.; U. of Chicago, S.B., Phi Beta Kappa, Ph.D. magna cum laude, Sigma Xi; m. Shizuka Kawasaki, 1915; ch.: Kiyoshi, Kazuo, Mitsuko. Asst. in biolog. chem., U. of Chicago, 1909; fellow in physiolog. chem. 1910-12; asst. 1912-13; assoc. 1913-14; instr. 1914-18; asst. prof. 1918; assoc. prof. of biolog. chem., U. of Cincinnati, 1919-21, prof., 1921 to date; lecturer in Japanese, U. of Cincinnati Evening Coll. during the war. Metabolism of nerve fiber; studies in bile salt. Author: "A Chem. Sign of Life." U. of Chic. Press, 1917; "Kawamura Studies on Tsutsugamashi Disease" ed. with N.C. Foot 1926. Mem.: A.A.A.S. (fellow), A.S.Biol.C., Am. Physiol. Soc., A.C.S., S.E.B.M., Am. Naturalist, Soc. Gen. Physiol., Ohio Acdy. Sc. (ex. v.p.), Sigma Xi, Alpha Omega Alpha; Dr. Med. Sc. (Kyoto U.). Awarded Crown Prince Mem. Prize of Imperial Acdy. of Japan. Club: Literary. Hobbies: wood carving, book binding.

TATOR, Kenneth, sr. mem., Kenneth Tator Associates, Montour St. Ext., Coraopolis, Pa.; res. R.D. 4, Coraopolis.
Chem. engr.; b. Northport, N.Y., Feb. 5, 1907; s. of Charles Samuel and Georgia (Bushnell) Tator; ed. Reed Coll., B.A., 1928; M.I.T., M.S., 1930; m. Louise Matheson. Nov. 21, 1938; ch.: Kenneth Bushnell, Katrine Louise. Dewey & Almy Chem. Co., 1930-40, asst. dir. res.; War Prod. Bd., 1941-42, deputy chf., conservation; Office of Rubber Dir., 1942-44, chf. requirements planning; Ind. Lining Engrs., Inc., 1944-49, pres.; Kenneth Tator Associates 1949 to date, sr. mem. Construction Specialties Co. (principal). Pats. & applications of org. resins & coatings to corrosion prevention; chmn., Tech. Practice Comm. on Protective Coatings of N.A.C.E.; mem. Tech. Coordinating Comm. for Paint Ind. Mem.: Natl. Assn. of Corrosion Engrs. Hobbies: sailing, skiing.

TATUM, Arthur Lawrie, prof. of pharmacol., Schl. of Medicine, U. of Wis., Madison 6, Wis.; res. 1718 Summit Ave., Madison 5.
Coll. prof.; b. Wall Lake, Iowa, May 17, 1884; s. of Elwood and Deborah C. Tatum; ed. B.S., Penn. Coll., Iowa, 1905; M.S., State U. of Iowa, 1907; Ph.D., U. of Chicago, 1913; M.D., Rush Med. Coll., 1914; Doctor Honoris Causa, San Marcos (Peru) honorary 1948; Charles Mickle Fellow, U. of Toronto, 1942, honorary; mem.: Phi Chi, Alpha Chi Sigma; m. 1st, Mabel Webb, Dec. 20, 1908; 2nd, Celia Harriman, Sept. 9, 1940; ch.: Edward L., Besse T. Rasmussen, Howard J. Instr. physiol., U. of Pa., 1915-16; prof. physiol., U. of S.D., 1916-17; asst. prof. pharmacol. & physiol., U. of Chicago, 1918-25; assoc. prof. pharmacol., U. of Chicago, 1925-28; prof. pharmacol., U. of Wis., 1928 to date. Contribs. to med. jls. on endocrinol.; narcotic, stimulant analeptics & local anesthetic drugs; chemotherapy with arsenical & bismuth preparations; malaria. Author: "Prescription Notes," U. of Chicago Press, 1925. Mem.: Sigma Xi, A.A.A.S., A.M.A., Am. Physiol. Soc., Am. Soc. Pharmacol. & Exper. Therap., Natl. Malaria Soc., Inst. Medicine of Chicago, Am. Soc. Anesthesiologists (hon.), Phar. Revision Comm. XI., S.E.B.M. Clubs: Chaos (Chicago), University (Madison). Hobbies: floriculture, fishing. foreign languages.

TAUB, Abraham, prof. of phar. chem., Coll. of Pharmacy, Columbia U., 115 W. 68th St., N. Y. 23; res. 225 W. 86th St., N.Y. 24.
Prof. of chem. and conslt. chem.; b. N.Y.C., Sept. 21, 1901; ed. Columbia, B.S., 1922; A.M., 1927. Schwarz Labs., chem. 1921; Columbia, instr. chem., 1922-27; asst. prof., 1927-37; assoc. prof., 1937-48; prof., 1948 to date. Author: "Vitamin Manual," 1936; res. on effect of light on med. chem.; colorimetric anal. and stand.; arts. pub. in sc. jls.; coauthor: "Organic Chem. in Pharmacy," Lippincott, 1949. Co-recipient Ebert M. for Pharmaceu. Res. 1923; spec. asst. U.S.P. revision 1926, 1936. On bd. of dirs. (former v.p.) Assoc. Conslt. Chem. and Chem. Engrs. Mem.: A.C.S., A.Phar.A., N. Y.S. Phar. Assoc., A.A.A.S., Sigma Xi. Clubs: Metropolitan Museum of Art, Alumni Assoc. (Columbia, pres. and secy. for many yrs.). Hobbies: books, bowling.

TAUSZ, Jenoe E., chem. conslt., 26 Division Ave., Belleville 9, N.J.; res. same.
Chem. conslt.; b. Pecs, Hungary, Dec. 3, 1886; s. of Wilhelm and Rose Tausz; ed. after absolving schls. in hometown Pecs, Hungary, went to Germany to study chem. at Techn. U. in Karlsruhe, B., in 1910 deg. of Diplom Engr., 1911 Doctor-Engrg.; m. Dr. Marta Peter, Feb. 26, 1920. 1908-10, instr. in anal. lab. of chem. dept., Tech. U. in Karlsruhe, Baden, Germany, 1911-13 post-doctorate wk., 1913-20 asst. & assoc. of prof. Dr. C. Engler, hd. of chem. dept., 1925-33 hd. of Pet. Res. Labs., 1925-33, lectured on chem., physics & tech. of pet., during that time directed the postgrad. wk. of num. students leading to their doctor deg., did res. wk. publ. in various sc. journals, conslt. wk. for various firms; 1935 came to this country.; 1935-38, res., L. Sonneborn Sons, Inc., Petrolia, Pa.; 1939 literature studies; 1940-44, L. Sonneborn Sons, Inc., Belleville, N.J.; Sept., 1944 est. own lab. in Belleville, N.J.; 1944-46 conslt. activity; June, 1946-June, 1947, scientific conslt. Dept. of Com., investigating wartime ind. & scientific dev. in Germany; 1947 to date, conslt. activity. Res. in pet.; first antioxidant pat. for mineral oils; bacterial oxidation of hydrocarbons; refractive indices of gases with the interferometer;—dielectric constants of various substances; micro-meths.; various pats. Co-author: "Ignition Temp. & Combustion Processes in Diesel Engines" with F. Schulte, 1924, Verlag Knapp, Halle, S. Germany. Editor of 2nd edit. of encyclopedia "Das Erdoel"; storage & transportation of pet. & its prods. 1929, chem., physical & geolog. meths. 1930, pet. geology of European countries 1930, prod. of pet. 1932. Mem.: A.C.S., A.I.C. (fellow), A.C.C.C.E., N.Y. Acdy. of Sc. Hobbies: development of physical instruments.

TAYLOR, Alvin M., priv. conslt., 534 Poplar St., Spartanburg, South Carolina.
Chem. conslt.; b. Hope, R.I., May 1, 1876; s. of Robert and Sarah (Mitton) Taylor; ed. U. of Vermont, B.S. chem., 1899; Sc.D. (hon.) 1924; mem.: Lambda Iota; m. Clara Crandall, Sept. 12, 1901; ch.: Robert E., Helen F. 1901-24 chem., supt. of var. plants, distr. mgr., Chicago District; mgr. of operations, N.Y. Off., (1922-24) for the Gen. Chem. Co.; 1924-25 asst. to operating supt., Grasselli Chem. Co.; 1925-46 on staff of Hercules Powder Co., priv. consltg.; 1950 priv. consltg. Mem.: A.C.S., A.I.Ch.E. Club: Chemists' (N.Y.). Hobby: golf.

TAYLOR, Bert S., mgr. dev. dept., Ohio-Apex, Inc., Nitro, W.Va.; res. 402 Sixth St., Marietta, Ohio.
Chem., plastics engr.; b. Springfield, Ill., Apr. 30, 1902; s. of Bert S. and Mary (Barnes) Taylor; ed. U. of Ill., 1923, B.S. in chem.: Harvard, 1925, M.A. in chem.; mem.: Alpha Chi Sigma; m. Pamela C. Kincaid, Jan. 30, 1938; ch.: Catherine Anne, Mary Josephine, John Charles. B.F. Goodrich Co., 1925-27, chem., 1927-30, mgr. wks. lab., 1930-35 mgr. raw matls. dev. dept., 1935-38, special problems, 1938-47, gen. supt. of processing div., 1947-50, plant mgr. plastics div.; Ohio-

Apex, Inc., 1950 to date, mgr. of dev. dept. Pubs. in fld. of org. chem., rubber chem., personnel. Mem.: Sigma Xi, Gamma Alpha, A.C.S., A.I.Ch.E., Soc. of Plastics Ind., Soc. of Plastics Engrs. Bd. of dirs., Marietta Memorial Hosp. Clubs: Akron University, Marietta Country, Collectors Club of N.Y. Hobby: stamp collecting.

TAYLOR, C. George, exec. asst. to pres., Woburn Chem. Corp., 1200 Harrison Ave., Harrison, N.J.; res. 210 East 68th St., New York, N.Y.
Exec.; b. Stanstead, Quebec, Canada, Mar. 2, 1909; s. of Joseph Thomas and Clara Martha Taylor; ed. McGill U., B.A., Columbia U., B.S. U.S. Dipl. Corps, 18 mos. foreign serv.; Woburn Chem. Corp. (N.J.) 1938-42; U.S. Naval Res., 1942-45; Woburn Chem. Corp. (N.J.), 1946 to date. Club: Wings (Hotel Biltmore, N.Y.C.). Hobbies: golf, hunting, fishing.

TAYLOR, Cyril Stead, chf. physical chem. div., Aluminum Res. Labs., New Kensington, Pa.; res. Aluminum Club, New Kensington.
Physical chem.; b. Worthington, Minn., Dec. 18, 1887; s. of William Clyde and Zilpha (Darling) Taylor; ed. U. of Minn., B.S. chem. 1913; Carnegie Inst. Tech., M.S. chem. 1935; mem.: Alpha Chi Sigma. Natl. Bur. of Stands. asst. chem. 1913-18, assoc. chem. 1918-20; Aluminum Res. Labs., phy. chem. 1920-29, chf. physical chem., 1929 to date. Res. on refrigeration constants; metallurgy of al.; physical chem. of al. & alumina. Co-author: "Lab. Glass Blowing" 1928, with Francis C. Frary & Junius D. Edwards. Mem.: A.C.S., Electrochem. Soc., Pa. Chem. Soc. Club: Kiwanis (New Kensington, Pa.). Hobbies: hiking, camping. ornithology.

TAYLOR, Donald F., chf. chem., Fansteel Metallurg. Corp., North Chicago, Ill.; res. 928 Rogers Court, Waukegan, Ill.
Chem.; b. Woodstock, Ill., Jan. 24, 1903; s. of Jas. H. Taylor (mother dec.); ed. U. of Ill., B.S. in chem. engrg. 1925; mem.: Gamma Pi Upsilon; m. Eunice Barr, June 7, 1929; ch.: Jane. Fansteel Metallurg. Corp., 1925 anal., 1929 chem. engr., chem., 1938 to date, chf. chem. Mem.: A.C.S., A.S.M., Electrochem. Soc. Club: University (Waukegan, Ill.). Hobbies: gardening, photography.

TAYLOR, Francis Henry Laskey, assoc. in res. med., Harvard U., Cambridge, Mass.
Assoc. in res. med.; conslt. biochem., tutor; b. Bristol, Eng., Nov. 23, 1900 (naturalized U.S. cit.); ed., B.S., 1922, U. of Saskatchewan; M.S., 1924; Ph.D., 1928, U. of Wis.; m. Z. Eileen Sharp, M.D., 1926; ch.: Patricia Vieve, Eugene Maxwell Laskey. 1920-22, demonstrator in chem., U. of Saskatchewan; 1922-24, res. fel., Engrg. Inst. of Canada, U. of Saskatchewan; 1924-25, sc. master, North Battleford Collegiate Inst.; 1925-27, prof. of chem., Regina Coll.; 1927, fld. chem., Wis. Natural Hist. and Geolog. Survey; 1927-28, res. fel. in Limnology, U. of Wis.; 1928-37, res. fel. in Medicine, Harvard Med. Schl.; 1931 to date, chem., Thorndike Memorial Lab., Boston City Hosp.; 1933 to date, conslt. biochem., Pondville Hosp.; 1934-44, lecturer in chem., Danforth-Dunbar Schl., Worcester; 1937 to date, conslt. biochem., Robert Breck Brigham Hosp.; 1937-45, res. assoc. in Medicine, Harvard Med. Schl.; 1940 to date, tutor in biochem. sc., Harvard Coll.; 1941-46, responsible investigator, O.S.R.D. Contracts, also instructor Postgrad. Med. Courses, War Dept.; 1943-46, civ. conslt., Army Med. Res., Dom. of Canada; 1945 to date, assoc. in res. med., Harvard U.; 1946 to date, mem. Edit. Bd., "Blood." Amer. Jl. of Hematology; 1947, mem. Spec. Bd., U.S.-Canadian Arctic Maneuvers "Operation Musk Ox"; 1947 to date, conslt., biochem. and physiolog., Arctic Inst. of N.A.; 1948 to date, conslt. biochem. Radioisotope Program, V.A.; also, dir. of Biochem. Labs., Boston City Hosp. Contrib. numerous arts. to sc. and med. jls. Mem.: A.C.S., A.A.A.S., S.E.B.M., Sigma Xi, Phi Lambda Epsilon, Phi Sigma. Clubs: Harvard (Boston), Harvard Faculty, Masonic Lodge. Hobbies: sailing, riding.

TAYLOR, Francis McBryde, prof., hd. schl. chem. engr., Tulane U., New Orleans, La.; res. 1312 Fern St., New Orleans 18.
Chem. engr., tchr.; b. Richmond, Va., Oct. 31, 1904; s. of Robert Wm. and Meta Hicks Brogdon Taylor; ed. B.S. King Coll., 1928; B.S., M.S. Chem. Engrg., Va. Poly. Inst., 1932, 1933; Ph.D., Ohio St. U. 1942; mem.: Phi Lambda Upsilon, Tau Beta Pi, Alpha Chi Sigma, Sigma Xi; m. Mary Iva Carter, Aug. 18, 1934; ch.: Robert Wm., Rebecca Sue. Tenn. Mineral Prods. Co., summ., 1926; res. chem., Hecht's Bakery 1932, res. chem.; Tenn. Eastman Corp., 1933-36; chem. engr.; Ohio St. U., 1936-38 grad. asst., asst. chem. engr.; Tulane U., 1938-43 asst. prof. chem. engrg.; 1943-45 assoc. prof. chem. engrg; 1945 to date prof., hd. schl. chem. engrg. Mem.: A.I.Ch.E., Am. Soc. Engrg. Ed., La. Engr. Soc. Club: Young Men's Bus. (New Orleans).

TAYLOR, Frank Owen, tech. conslt. for Parke, Davis & Co.; res. 205 E. 78th St., New York, N.Y.
Chem., tech. conslt.; b. Cass County, Ill., Oct. 29, 1879; ed. Cincinnati Coll. Phar., Ph.B., Ph.C., 1901; Wayne Univ., D.Sc. (hon.) 1944. Parke, Davis & Co., successively, anal., res. chem., mgr. chem. mfg. dept., asst. chf. chem., chf. chem. (now retired); tech. conslt. to date. Mem.: U.S.P. Revision Comm. 1920-30; 1940-50; 1950-60. Dir. Topics Pub. Co. Contrib. to "Allen's Comml. Org. Anal.," also "Annual Surveys of Am. Chem.," "The Pharmaceutical Survey," and a chapt. on Packaging and Preservation. "Amer. Pharmacy." Mem.: A.C.S. (past chmn. Div. Med. Prods., past chmn. Detroit Sect.), A.Phar.A. (past first v.p.), Am. Drug Mfrs. Assoc. (chmn. var. comms.), A.A.A.S. Clubs: Detroit Boat, Torch.

TAYLOR, George Edwin, dept. mgr., Amer. Cyanamid Co., 30 Rockefeller Plaza, N.Y.C.; res. 30 Winter St., Forest Hills, N.Y.
Chemicals; b. Bklyn., N.Y., July 2, 1896; s. of Thomas and Lillie May (French) Taylor; ed. N.Y.U., B.A. 1915; mem.: Zeta Psi; m. Irene Fallon, Mar. 31, 1918; ch.: Ann. With American Cyanamid since 1929. Dir., Cypress Hills Cemetery. Clubs: Turf & Field, West Side Tennis.

TAYLOR, H(enry) Austin, prof. of chem., N.Y.U., N.Y. 53, N.Y.; res. 9 Homewood Rd., Hartsdale, N.Y.
University prof.; b. St. Helens, Lancs., England, Aug. 12, 1899; s. of James and Ellen (Stott) Taylor; ed. Liverpool U., England, B.Sc. Hons. Chem., 1920, Ph.D., 1922; m. Anita O. Schorse, Dec. 27, 1927; ch.: Austin James, Hugh Alan, Anita Theresa. Asst. chem. Princeton, 1923-24; instr., N.Y.U., 1924-26, asst. prof., 1926-30, assoc. prof., 1930-35, prof., 1935 to date. Res. in chem. kinetics: thermal & photochem., homogeneous & heterogeneous. Co-author: "Elementary Physical Chem." (D. Van Nostrand) 2nd edit. 1937, 3rd edit. 1942. Mem.: Phi Beta Kappa, Sigma Xi, A.C.S.

TAYLOR, Hugh Stott, dean of Grad. Schl., Princeton U., 3 Nassau Hall, and Frick Chemical Lab., Princeton, N.J.; res. Wyman House, Princeton.
Educational Administrator; b. St. Helens, Lancashire, England; s. of James (dec.) and Ellen (Stott) Taylor (dec.); ed. Liverpool U., B.S., 1909, M.S., 1910, D.Sc., 1914; m. Elizabeth Agnes Sawyer, 1919; ch.: Mrs. W.W. Ashley, Mrs. M. F. Healy, Jr. Princeton, instr., 1914-15, asst. prof., 1915-22; prof., 1922-26; chmn. dept. chem.,

1926-50; David B. Jones, prof. of chem., 1927 to date; dean of Grad. Schl., Princeton U., 1945 to date. British Munitions invent. dept. 1917-19; chmn. comm. on photochem., Natl. Res. Council. Author with E.K. Rideal, "Catalysis in Theory and Practice," 1919, 1926; "Fuel Produc. and Utilizat.," 1920; "Indus. Hydrogen," 1921; "Elem. Physical Chemistry," 1927; with H.A. Taylor, 2nd ed. 1937; 3rd ed. 1942; editor and part author, "Treatise on Phys. Chem.," 3rd ed. 1942. Contrib. over 200 arts. to var. sc. jls. Res. catalysis at surfaces, photochem., mech. chem. react.; Nichols Medal of A.C.S. 1928; Mendel Medal of Villanova Coll. 1933; Longstaff Medallist of Chem. Soc. London; Franklin Medallist of American Philosophical Soc. Mem.: Royal Soc. London (fellow) 1932, Jl. A.C.S. (assoc. ed.), Jl. Phys. Chem., Jl. Chem. Phys., A.C.S., Am. Electrochem. Soc., Am. Philosophical Soc., Faraday Soc., Franklin Inst., German Bunsen-Gesellschaft, A.A.A.S., Sigma Xi, Pontifical Acdy. of Scs., Vatican City, Belgium Chem. Soc., Chem. Soc. London, Soc. Chim. Belge, Brussels, Polish Chem. Soc., Amer. Acdy. Arts & Scs., Acdy. Natzionale dei Lincei, Rome, Acdy. Scienze Inst. Bologna, Acdy. Sciences, Lyon, Acdy. Sciences, Brussels. Clubs: Nassau, Princeton. Hobby: photography.

TAYLOR, James Alonzo, prof., hd. of chem. & metallurg. engrg., Wayne U., Detroit 1, Mich.; res. 16715 Edinborough, Detroit 19.
Prof.; b. Davenport, Iowa, Oct. 8, 1906; s. of John Augustus and Laura Enola (Fuller) Taylor; ed. U. of Iowa, B.S. in chem. engrg., 1928; U. of Wash., Ph.D. in chem. & chem. engrg., 1932; mem.: Alpha Chi Sigma; m. Eleanor Neukirch, Sept. 9, 1946; ch.: Susan Elaine, Charles Richard. Asst. chem. engr., Northwest Expt. Station, Seattle, Wash., 1932-34; asst. prof., Mineral Industries, Pa. State Coll., State Coll., Pa., 1934-42; chem. engr., Pitts. Coke & Chem. Co., Pitts., Pa., 1942-43; chem. engr., Girdler Corp., Louisville, Ky., 1943-44; chem. engr., Cardox Corp., Chicago, Ill., 1944-45; chem. engr., Procter & Gamble Co., Ivorydale 17, Ohio, 1945-46; proc. chem. engrg., U. of Alberta, Edmonton, Alberta, Canada, 1946-48; prof. chem. engrg., Wayne U., Detroit, Mich., 1948 to date. Fuel tech., ash softening & clinkering problems, coking problems, continuous grease mfr., activated carbon mfg., carbon dioxide mfg., propane distribution, oxygen mfg. Mem.: Tau Beta Pi, Sigma Xi, Phi Lambda Upsilon, Sigma Gamma Epsilon, A.C.S., Chem. Inst. of Canada, Engrg. Inst. of Canada, Am. Soc. for Engrg. Ed. Trustee, Wayne Engrg. Res. Inst. Club: Engrg. Soc. of Detroit. Hobby: photography.

TAYLOR, Malcolm Langford, tech. dir., Union Bag & Paper Corp., Box 570, Savannah, Ga.; res. 321 E. 52nd St., Savannah.
Chem. engr.; b. Louisville, Ky., Jan. 7, 1912; s. of Langford Alvis and Florence (Hegan) Taylor; ed. B.S. in Ch.E., 1933, U. Louisville, Ky.; D. Eng., 1940, Yale U., New Haven, Conn.; mem.: Alpha Pi, Sigma Tau, Sigma Xi; m. Ellabell Robertson, Feb. 27, 1933; ch.: John Hegan, Norris Robertson. 1933-37, Tenn. Valley Authority, Wilson Dam, Ala., jr. chem. engr.; 1937-39, Yale U., New Haven, Conn., instr. in chem. engrg.; 1939-41, Southern Kraft Corp., Panama City, Fla., chem. engr.; 1941 to date, Union Bag & Paper Corp., Savannah, Ga., asst. chf. chem., chf. chem., tech. dir. Mem.: A.I.Ch.E., T.A.P.P.I., A.C.S., A. S.T.M.

TAYLOR, Nelson W(oodsworth), asst. dir. central research dept., Minn. Mining & Mfg. Co., 367 Grove St., St. Paul 1, Minn.; res. 909 Lake Ave., White Bear Lake 10, Minn.
Chem., ceramics; b. Pincher Creek, Alta, Canada, Apr. 26, 1899; s. of John B. and Emma D. Taylor; ed. B.Sc., Saskatchewan; Ph.D. Calif.; mem.: Sigma Xi, Phi Lambda Upsilon, Sigma Gamma Epsilon; Guggenheim Foundation Fellow (Germany) 1929-30; m. Miriam McIntyre, 1938; ch.: Cecily Jane (by an earlier marriage). Lecturer & asst., Saskatchewan 1920; teaching fellow, Calif., 1920-23, instr. chem., 1923-25; asst. prof., Minn., 1925-33; prof. ceramics, hd. of dept., Pa. State Coll., 1933-43; asst. dir., central res. dept. Minn. Mining & Mfg. Co., 1944 to date. Gas solubility; mechanism of acid taste; thermodynamics of liquid alloys; paramagnetism of "odd" molecules; reaction kinetics; mineral flotation; crystal structure; reactions between solids; physical properties & structure of glass; mechanism of fracture of brittle matl.; fluorocarbon chem. Mem.: Rheology Soc. (Am. Inst. of Physics), Fellow Soc. of Glass Tech., A.C.S., Fellow Am. Ceramic Soc. Hobbies: photography, travel.

TAYLOR, Robert B(rownsmith), dir. of res., Structural Clay Prods. Res. Foundation, 20 N. Wacker Drive, Chicago 6, Ill.; res. Dunham Road, St. Charles, Illinois.
Physicist; b. Nanking, China (U.S. citizen), Dec. 14, 1913; s. of W. Robert and Harriet D. Taylor; ed. Denison U., 1931-35, B.A. physics, math.; Ohio State, 1935-36, grad. wk. in physics, Phi Beta Kappa, Omicron Delta Kappa, pres. Denison Engrg. Soc.; mem.: Kappa Sigma, Blue Key; m. Hazel G. Hill, Feb. 12, 1938; ch.: Helen Beth, Owens-Illinois Glass Co.; 1938-42, res. physicist, Robert David, Jeffrey Hill. 1936-38, res. physicist, Owens-Corning Fiberglas Corp., 1942-45 chf. physicist, 1945-50 asst. dir. of res.; 1950 to date, dir. of res., Structural Clay Prods. Res. Foundation. Papers publ. on acoustics, heat flow, electronics, physics of matls. in several jls. incl. J. Inst. Chem. Engrg., J. Soc. Motion Picture Engrg., J.A.I.E.E. Mem.: A.Phys.S., Am. Ceramic Soc., Wash. Soc. Engrg., Housing Res. Council. Awards: Naval Ordnance, Denison U. Citation. Trustee, Denison U. Res. Foundation. Hobbies: radio (W8NVA) station, photography, gardening. Officer: T.A.K.K. Corp., Newark, Ohio (v.p. in chg. of res.).

TAYLOR, Robert Lewis, exec. v.p., Mfg. Chemists Assn., 246 Woodward Bldg., Wash., D.C.; res. 420 Hunt Lane, Manhasset, N.Y.
Chem. engr.; b. Peoria, Ill., Aug. 2, 1914; s. of Lewis Edmund and Nida May (Adams) Taylor; ed. U. of Mich., B.S. (Ch.E.) 1936; Columbia, 1937; m. Mary Ellen McCord, June 4, 1939; ch.: James McCord, Donald Adams, Ellen Jane. 1935, Sharples Chem. Corp., Wyandotte, Mich., plant operations; 1936-38, "Chem. & Metallurg. Engrg.," asst. edit.; 1938-43, Monsanto Chem. Co., tech. adv. mgr., asst. to dir. of adv. & pub. rel.; 1943-50, "Chem. Industries," edit., mgr.; 1950 to date. "Mfg. Chemists Assn. Tech." press. rep. at Bikini bomb tests 1946. Mem.: A.C.S., A.I.Ch.E., Soc. of Chem. Ind., A.I.C. (fellow), Tau Beta Pi. Chemists' Club.

TAYLOR, Robert Seth, Servel, Inc., Evansville 20, Ind.; res. 1612 Southeast Blvd., Evansville 14, Ind.
Chf. engr.; b. Ft. Worth, Tex., Apr. 13, 1898; s. of Washington Ross and Gerda Elizabeth Taylor; ed. B.A., U. of Tex., 1919; M.A., 1920; Ph. D., M.I.T., 1923; mem.: Sigma Xi, Phi Lambda Upsilon; m. Ruth E. Stohl, 1919; ch.: R. Leighton. Res. assoc., M.I.T., 1923-24; tech., U.S. Bur. of Fisheries, 1924-26; res. engr., Electrolux Servel Corp., 1926-28; res. engr., Servel, Inc., 1928-34; chf. engr., in chg. of gen. engrg. and inspection, Servel, Inc., 1934 to date. Author num. arts. pub. in sc. jls. 32 pats. Mem.: A.C.S., A.S. Refrig. Engrs., Army Ord. Assoc., Soc. Military Engrs. Commis., Bd. of Aviation, Evansville, Ind. Hobbies: music, aviation.

TAYLOR, Roger Kirkbride, res. chem., Davison Chem. Corp., Baltimore 3, Md.; res. 3122 N. Calvert St., Baltimore 18.

Chem.; b. Wilmington, Del., Sept. 18, 1899; s. of Arthur K. and Rebecca (Robb) Taylor; ed. Roland Park Pub. Schl. (Balto.), 1906-12; Friends Schl. (Balto.), 1912-16; Johns Hopkins U., 1916-20 A.B. with honor, Ph.D., 1921-23; mem.: Gamma Alpha (grad. frat.); m. Janette Emily LaMont, Dec. 22, 1923; ch.: Roger K., Jr., Jeanne L. Eastman Kodak Co. 1920-21, res. chem.; Johns Hopkins U. 1923-30, instr. then assoc. in chem.: Silica Gel Corp., 1930-31, res. chem.; Porcelain Enamel & Mfg. Co., 1934-42, chf. chem.; Davison Chem. Corp., 1942 to date, res. chem.; radium technician, Kelly Clinic 1923; U.S. Marine Hosp. 1943. Physical chem., colloid chem., catalysis; design of lab. apparatus. Mem.: A.C.S., Phi Beta Kappa, A.A.A.S. (former mem.), Am. Ceramic Soc. (former mem.). Hobbies: chess, horticulture.

TAYLOR, T(homas) Ivan, prof. of chem., chem. dept., Columbia U., N.Y.C.; res. 460 Riverside Dr., N.Y.C.
Chem.; b. Utah, Sept. 11, 1909; s. of Thomas G. and Harriet Mae Taylor; ed. B.S., U. of Idaho, 1931, M.S. 1933; Ph.D., Columbia U., 1938; m. Rachel Nichols, Sept. 22, 1939; ch.: Mary Frances, Arthur John. Instr. in chem., U. of Idaho, 1931-35; teaching asst., Columbia U., 1935-38; instr. in chem., U. of Minn., 1938-40, asst. prof., 1940-42; chem., Natl. Bur. of Stand., 1942-44; chem., Res. Control Group, Manhattan District, Wash., D.C., Oak Ridge, Tenn. & N.Y.C., 1944-45; prof. of chem., U. of Iowa, 1945; assoc. prof. of chem., Columbia U., 1945-48, prof., 1949 to date. Res. & teaching in physical & anal. chem.; special res. in separation & use of isotopes in chem. problems; instrumental meths. of anal. Co-author: "Experiments in Gen. Chem." with J.L. Maynard, 1944, D. Van Nostrand, N.Y.; "Semimicro Qualitative Anal." with H.H. Barber, 1942, Harpers, N.Y. Mem.: A.C.S., A.Phys.S., A.A.A.S., Soc. for Applied Spectroscopy, Instrument Soc. of Am., Sigma Xi, Phi Lambda Upsilon, Gamma Alpha, Sigma Tau. Club: Men's Faculty, Columbia U.

TAYLOR, Walter A., mgr. res. & contr. labs., Pond's Extract Co., John St., Clinton, Conn.; res. 114 E. Main St.
Exec. chem.; b. Alberta, Canada, Apr. 15, 1908; s. of William E. and Ina E. Taylor; ed. Ph.D., Ia. St. U., 1937; M.S., 1936; B.S., Tenn. St. Coll., 1933; mem.: Phi Lambda Upsilon, Gamma Alpha; m. Priscilla Smith, 1937; ch.: Thomas A. High schl. tchr., Tenn. pub. schl., 1933-34; res. chem., Atlas Powder Co., 1937-41; mgr., res. & contr. labs., Pond's Extract Co., 1941 to date. Res. in cosmetic, phar. chem.; num. pats. on edible baked prod. proc., deodorant cream, essential oil compositions. Mem.: S.C.C. (pres. in 1948), A.I.C., (fellow), A.C.S.

TAYLOR, Wilbur Leyland, tech. adviser, chem. div., Gen. Mills, Inc., 400 Second Ave. S., Minneapolis 1, Minn.; res. 4443 Garrison Lane, Minneapolis 10.
Chem. dir.; b. Lawrence, Mass., May 15, 1887; s. of Wilbur L. and Anna F. Taylor; ed. Dartmouth Coll., B.S.; U. of Wash.; mem.: Phi Beta Kappa; m. Ella I. Chapin, 1931. 1919-21, chem., Natl. Oil Prods. Co.; 1922, chem., Consolidated Color & Chem. Co.; 1925-30, chf. chem., Wm. O. Goodrich Co.; 1930-44, Chicago mgr., Archer-Daniels-Midland Co.; 1944 to date, tech. adviser, Gen. Mills, Inc. Mem., v.chmn. & chmn. of Tech. Comm. of Natl. Soybean Processors Assn., 1930 to date. Mem.: A.C.S., A.O.C.S., Ind. Chemists Forum, Am. Soybean Assn.

TAYLOR, William Anthony, partner, W.A. Taylor & Co., 7300 York Rd., Baltimore 4, Md.; res. 7302 York Rd., Baltimore 4.
Mfg. chem.; b. Jarrettsville, Md., Nov. 6, 1886; s. of Jesse C. and Ida V. Taylor; ed. Randolph Macon Coll., B.A. and M.A. 1908, Ph.D., Johns Hopkins U., 1914; mem.: Phi Gamma Delta. Res., Carnegie Foundation, 1914-15; instr. U. of Wis. 1915-16; chf. of Sulphur Color Dept., E.I. du Pont de Nemours & Co. 1916-21, chf. of Organic Dept. C.W.S., 1921-24; v.p., pres., chem. dir., La Motte Chem. Products Co., 1924-30; pres., W.A. Taylor & Co., 1930-41; partner, W. A. Taylor & Co., 1941 to present. Mem.: A.C.S., A.I.Ch.E. Club: Country (Maryland).

TAYLOR, William S., prof., Ga. Inst. of Tech., Atlanta, Ga.; res. 1040 Peachtree Battle Ave. N.W., Atlanta.
Prof. of chem.; b. Eddystone, Pa., 1896; s. of Alfred F. and Sarah G. Taylor; ed. Swarthmore Coll., A.B. 1918; Columbia U., M.A. 1927, Ph. D. 1931; m. Norwood Key, 1921. E.I. du Pont de Nemours & Co., 1918-20; Ga. Inst. of Tech., 1920 to date. Dissertation "Constitution & Color in the Thioflavine Group," Columbia U. & in Czechoslovak Chem. Communication. Co-author: "Gen. Chem. Problems," John Wiley & Sons, 1943. Mem.: Sigma Xi, A.C.S., Alpha Chi Sigma, Phi Lambda Upsilon. Hobbies: fishing, golf.

TEAGUE, Merwyn C., in chg. latex dev., Footwear & Gen. Prods. Div., U.S. Rubber Co., 1230 Ave. of the Americas, N.Y.C.; res. 3414 81st St., Jackson Heights, N.Y.
Exec.; b. Ind., June 17, 1890; s. of William A. and Anna E. Teague; ed. A.B., Wabash Coll., Ind., 1914; A.M., Princeton U. 1917, Ph.D. 1920 physical chem.; mem.: Theta Chi, Sigma Xi; m. Sarah Haskins Irby, Sept. 4, 1920; ch.: Mrs. Charles A. Barton, Mrs. Robert G. Chadwick. Prof. of chem., Vincennes U., 1914-15; with U.S. Bur. of Mines & Capt., U.S.A., C.W.S., 1917-19; in chg. adm. & supervising chem., Holland Vehicular Tunnel, 1919-20; res. chem., Gen. Labs., U.S. Rubber Co., 1920-26; sales mgr., latex prods., Naugatuck Chem. Co., 1926-34; sales mgr., Dispersions Process, Inc., 1929-34; in chg. dept. sales promotion, Naugatuck Chem. Div., U.S. Rubber Co., 1934-38; in chg. new prods. dept., U.S. Rubber Co., 1938-44; mgr., Luvon-Kuron Elastic Fabrics Dept. 1944-49, in chg. latex dev. Footwear & Gen. Prods. Div., U.S. Rubber Co., 1950 to date. War gas investigations, exhaust gas investigations, physical & colloid chem. as applied to rubber & latex, textiles, automotive seating investigations, rubber mfg. processes. Lock Thread Corp., Detroit, (dir.); Jackson Heights, N.Y., Community Church (trustee); 187-24th St. Jackson Heights Inc. (dir.). Mem.: A.C.S., Sigma Xi, Am. Farm Chemurgic Council. Club: Lake Mohawk Country. Hobbies: landscaping, golf.

TEAGUE, Peyton Clark, assoc. prof, chem. dept., U. of S.C., Columbia, S.C.; res. 709 Abelia Rd., Columbia.
Chem.; b. Montgomery, Ala., June 26, 1915; s. of Robert S. and Sara (Clark) Teague; ed. Ala. Polytech. Inst., B.S. 1936; Pa. State Coll., M.S. 1937; U. of Texas, Ph.D. 1942; mem.: Phi Delta Theta; m. Patricia Cussons Lamb, June 14, 1937; ch.: Norah. Res. chem., Am. Agr. Chem. Co., 1937-39; instr., Ala. Polytech. Inst., 1941-42; res. chem., Naval Res. Lab., 1942-45; asst. prof., U. of Ga., 1945-48; asst. prof., U. of Ky., 1948-50; assoc. prof., U. of S.C., 1950 to date. Teague Hardware Co., Montgomery, Ala. (dir.). Mem.: A.C.S., A.A.A.S., Sigma Xi, Phi Lambda Upsilon, Phi Kappa Phi, Alpha Chi Sigma. Hobbies: golf, bridge, poker.

TEBBENS, Wilke Gerhard, tech. dir., Transparent Package Co., 3520 S. Morgan, Chicago; res. 276 Shenstone Rd., Riverside, Ill.
Chem.; b. Chicago, Ill., July 9, 1917; s. of Wilke Gerhard and Leda Emily (Grewe) Tebbens; ed. Pa. State Coll., 1939, B.S. chem. engrg.; U. of N.C., 1943 Ph.D. org. chem.; Rockefeller Foundation Fellowship 1943; mem.: Alpha Chi Sigma; m. Mary

MacKesson, Sept. 2, 1939; ch.: Wilke Gerhard, III. 1942-43, res. chem., E.I. du Pont de Nemours & Co., 1943-47, chf. chem., Southern Chem. Cotton Co., Chattanooga; 1947 to date, tech. dir., Transparent Package Co. Chem. constitution & the tanning effect; nitric acid oxidation of org. substances; cellulose chem.; high polymers. Mem.: A.C.S., A.A.A.S., T.A.P.P.I., Sigma Xi. Hobby: woodworking.

TEBEAU, Carl P(reston), prof. of chem., U. of Miami, Coral Gables, Fla.; res. 4090 Battersea Rd., Coconut Grove, Fla.
Coll. prof., conslt.; b. Guyton, Ga., Sept. 18, 1911; s. of J.W. and Ellen (Davis) Tebeau; ed. Newberry Coll., A.B. 1932; Georgia, M.S. 1937; Ill. 1939; N.C., Ph.D. chem. 1941; U.C.L.A. summer 1950; m. J. Ruth Stripling, 1935. Asst., Ga., 1936-37; instr. chem., W.Ga. Coll., 1938-39; instr., Ga., 1940-41; asst. prof. Ga., 1941-43; instr. chem. U.S. Naval Acdy., Annapolis, 1943-46; assoc. prof., U. of Miami, 1946-47, prof. 1947 to date. Electrodeposition of copper heteropoly salts of Cb & Ta; alkaline storage battery; electrodeposition of tantalum; polarography of cerium. Mem.: A.C.S., Fla. Acdy. of Sc. U.S.N.R.-Active Duty Lt., 1943-46, U.S. Naval Acdy. Hobby: fishing.

TEBEAU, Edmund Earl, hd. dept. of chem. & physics, Tenn. Wesleyan Coll., Athens, Tenn.; res. 237 N. Jackson St., Athens.
Teacher chem.; b. Rincon, Ga., Aug. 16, 1905; s. of Frederick Edmund and Mary Annie (Gnann) Tebeau; ed. B.S. gen. 1928, U. of Ga., M.S. chem. 1930; m. Dallis Higginbotham, Aug. 30, 1935; ch.: Joyce, Jack Earl. 1928-29, U. of Ga., instr. chem.; 1929-30, U. of Ga. Richmond Fellow, chem.; 1930-33, Reinhardt Coll., hd. sc. dept.; 1934-35, C.C.C. Camp ed. adviser; 1935-36, U.S.D.A. seafood inspection; 1936-37, Weston, Ga., supt. high schl.; 1937-41, Reinhardt Coll., hd. sc. dept., 1940-41 acting dean; 1941-42, S. Ga. Coll., Univ. System, hd. chem. dept.; 1942-45, du Pont de Nemours & Co., control & stand.; 1945-46, Childersburg H.S. (Ala.), hd. sc. dept.; 1946-47 Reinhardt Coll., dean, hd. sc. dept.; summer, 1947, Miss. Sou. Coll. acting asst. prof. math.; 1947-49, Reinhardt Coll., dean, registrar; 1949 to date, Tenn. Wesleyan Coll., hd. dept. of chem. Mem.: A.C.S., Tenn. Acdy. of Sc., Natl. Ed. Assn., Tenn. Ed. Assn., Anal. Group, E. Tenn. Sec. of A.C.S. Hobby: poultry.

TECHTER, Fred Thomas, v.p., Barrett Div., Allied Chem. & Dye Corp., 40 Rector St., N.Y.C.; res. 71-36 110th St., Forest Hills, N.Y.
Sales mgr.; b. Brooklyn, N.Y., Nov. 19, 1895; s. of Frederick and Clara (Edwards) Techter; ed. Com. H.S., Brooklyn; ch.: Merritt N., Dare, David. Feb. 1, 1912 to date, Barrett Div., Allied Chem. & Dye Corp.

TEETER, Albert A., business exec. (retired); res. Ridge Road, Rumson, N.J.
Exec. (retired); b. White House, N.J., Sept. 3, 1888; s. of David Alexander and Rebecca (Miller) Teeter; ed. Ph.G., Columbia U., 1908; m. Agnes Clair Sullivan, Nov. 23, 1915; ch.: Albert A., John O., Anne Marie. Drug and chem. business, 1906-15; with Chas. Pfizer & Co. from 1915 to retirement; sales rep., 1918-24, sales mgr., 1924-28, dir. from 1928, asst. secy., 1928-34, secy. 1934, treas., 1934-45, v.p., 1945-49, mem. exec. comm., 1939-49; dir. Indust. Molasses Co., Leonia, N.J. V.chmn. Rumson (N.J.) Planning Bd.; v.chmn. Rumson Civil Com. Defense Bd.; mem. bd. and treas. Monmouth Memorial Hosp.; trustee Rumson Cath. War Vets; chmn. Red Cross Blood Bank Monmouth County. Mem.: Royal Photog. Soc. Gt. Britain, Universal Photographers, Radio Soc. Gt. Britain, Inst. Radio Engrs. N.Y., Am. Radio Relay League, Internatl. Short Wave League, Chem. Salesmens Assoc., N.Y., Chem. Alliance (dir.), N.Y. Bd. Trade, N.Y. C. of C., Am. Ord. Assoc., A.Ph.A., A.A.A.S., Photographic Soc. of Amer., Armed Forces Communications Assoc. Clubs: Drug and Chemical (N.Y.), Rumson (N.J.) Country, Seabright (N.J.) Beach, Seabright Tennis. Hobby: photographs exhibited and pub.

TeGROTENHUIS, Theodore Alcott, pat. lawyer, 524 Bulkley Bldg., Cleveland 15, Ohio; res. Columbia Rd., Olmsted Falls, Ohio.
Pat. law and chem. conslt.; b. Olmsted Falls, Ohio, July 15, 1907; s. of Theodore H. and Mabel (Alcott) TeGrotenhuis; ed. Baldwin-Wallace Coll., 1924-28 (B.S.); Case Inst. of Tech., 1928-30, (B.S. in E.E.); Cleveland Law Schl., 1933-37, (LL.B.); mem.: Lambda Chi Alpha; m. Marjorie Brouse, Dec. 25, 1935; ch.: Neil Alcott, Lynn Ann, David Alan. Gen. Electric Co., student engr. 1930-31, refrig. engr., 1931-33; Firestone Tire & Rubber Co., res. physicist and chem., 1933-37; Rohm & Haas Co., pat. lawyer, 1937-38; assoc., Evans & McCoy, 1938-46; partner, Evans & McCoy, 1946 to date; also conslt. res., The Gen. Tire & Rubber Co., 1943 to date. Holds many pats. on synthetic rubber composition, sponge rubber, curing of tires, etc. Mem.: A.C.S., former mem. A.Phys.S., A.I.E.E., Cleveland Patent Law Assoc., Ohio Bar.

TEITSWORTH, Clark Salem, dir. of mfg., Socony-Vacuum Oil Co. Inc., 26 Broadway, N.Y. 4, N.Y.; res. 1301 Cushing Rd., Plainfield, N.J.
Exec.; b. Minneapolis, Minn., Nov. 10, 1895; s. of Minor C. and Anna N. Teitsworth; ed. A.B., Stanford U., 1919; grad. student, U. of Minn., 1919-20; Calif. Inst. of Tech., 1921-23; mem.: Alpha Delta Phi; m. Abba Flint, Mar. 24, 1923; ch.: Richard C., Robert A. 1920-21, res. chem., Fixed Nitrogen Res. Labs., War Dept., Wash., D.C.; 1923-26, chf. res. engr., Celite Co., Lompoc, Calif.; 1926-34, chem. engr., supvr. process labs., Gen. Pet. Corp., Los Angeles, Calif.; 1934 to date, Socony-Vacuum Oil Co., Inc., N.Y.C., 1940, v.chmn. mfg. comm., 1945 to date chmn. mfg. comm., 1947 to date dir. of mfg. Neches Butane Prods. Co. (dir.). Mem.: Phi Lambda Upsilon, A.C.S. Clubs: Stanford Club of N.J., Plainfield Country. Hobbies: golf, gardening.

TEMPLETON, Hugh L(ongwill), tech. dir., Fairmont Foods Co., Omaha 8, Nebr.; res. 6125 Florence Blvd., Omaha 11, Nebr.
Food chem.; b. Madison, Wis., May 30, 1899; s. of Archibald and Emily E. (North) Templeton; ed. Beloit Coll., 1917-19; U. of Wis., B.A. 1921; M.S. 1922; Ph.D. 1925; mem.: Alpha Chi Sigma, Sigma Xi, Phi Lambda Upsilon; m. Ruth Elizabeth Marks, June 28, 1930; ch.: Arch W., Elizabeth H. Asst., org. chem., U. of Wis., 1920-24; instr., gen. chem., Kans. State Coll., 1924-25; jr. chem., Forest Prods. Lab., U.S.D.A., 1925-26; indust. res. fellow, dept. of dairy indust., U. of Wis., 1926-37; lab. dir., Roberts Dairy Co., Omaha, 1937-40; tech. dir., Fairmont Foods Co., Omaha, 1940 to date. Wk. in use of citric acid and its salts in milk and milk prods.; processed cheese; heat treatment of liquid eggs. Mem.: A.C.S., Am. Dairy Sc. Assn., I.F.T., Inst. of Milk and Food Sanitarians. Club: Mason.

TEN EYCK, Hugh Skillman, v.p., Internatl. Ore & Fertilizer Corp., 500 Fifth Ave., N Y.C.; res. 525 Teaneck Rd., Ridgefield Park, N.J.
Met. engr.; b. North Branch, N.J., July 30, 1909; s. of Hugh B. and Mary B. (Skillman) Ten Eyck; ed. Lehigh U., Pa., grad. 1931. B.S. Met. Engrg.; mem.: Beta Kappa: m. Pauline C. Saunders, June 27, 1931; ch.: Gaynell, Mary Bogart, Kathryn Anne. 1931-33, metallurgist, Pyrites Co. Ltd., Wilmington, Del.; 1933, N.J. Zinc Fellowship at Lehigh U.; 1934, res. metallurgist, Pyrites Co. Ltd., Wilmington, Del., 1935, dept. frmn., 1936-38, asst.

gen. supt.; 1938-41, chf. res. metallurgist, Southern Phosphate Corp., N.Y.C. & Bartow, Fla., 1941-43, asst. to pres., 1944-47, v.p.; 1947-48, asst. mgr. Phosphate Rock Div., Davison Chem. Corp., Bartow, Fla.; 1948 to date, v.p., Internatl. Ore & Fertilizer Corp. & Continental Fertilizer Corp., N.Y.C. Mem.: A.I.M.M.E. Clubs: Lehigh, Chemists', Mining.

TENNENT, Howard Gordon, mgr., Cellulose Prods. Res. Div., Hercules Powder Co., Expt. Station, Wilmington, Del.; res. 1201 Newport Pike, Newport, Del.
Chem.; b. Quebec City, Canada, Feb. 29, 1916; s. of Henry Kirkpatrick and Mable Taylor (Clarke) Tennent; ed. Rensselaer Polytech. Inst., B.S. chem. 1937, M.S. chem. 1939; U. of Wis., Ph.D. phys. chem. 1942; mem.: Chi Phi; m. Alice Jean Tennent, Nov. 26, 1949. Hercules Powder Co., res. dept. 1942 to date, res. chem. 1942-45, asst. group leader 1945-48, res. div. mgr. 1948 to date, Cellulose Prods. Res. Div. Sedimentation & diffusion behavior of nucleic acids (Ph.D. thesis); wk. on prep. & use of cellulose derivatives at Hercules. Mem.: A.C.S., Sigma Xi, Phi Lambda Upsilon. Hobbies: high fidelity radio & phonograph, railroads, geology.

TENNEY, Robert I., pres., Wahl-Henius Inst., 1135 Fullerton Ave., Chicago 14, Ill.; res. 1156 Ash St., Winnetka, Ill.
Conslt. to fermentation ind.; b. Decatur, Ill., Nov. 15, 1910; s. of Ralph M. and Susanne (Imboden) Tenney; ed. U. of Ill., B.S. chem., 1932; mem.: Theta Chi; m. Sigrid Carlson, 1935; ch.: Sally Susanne, Carla, Lynne. Chf. chem., master brewer, Rockford Brewing Co.; chf. chem., asst. prod. mgr., Best Malt Prods. Co.; tech. dir., pres., Wahl-Henius Inst. Ind. utilization of micro-biolog. processes; stabilization of beer; food flavor dev. Mem.: A.C.S., A.S.Brew.C., Cereal Chem., Master Brewers Assn. of Am., Inst. of Brewing, I.F.T., Soc. Am. Bacteriologists, Assoc. Referee on Malt-Cereal Beverages Assn., Offic. & Agr. Chemists.

THACKER, Carlisle Monroe, pilot plant dir., Solvay Process Div., Allied Chem. & Dye Corp., Hopewell, Va.; res. Seven Oaks, Conduit Rd., Colonial Heights, Va.
Chem. engr.; b. Latta, S.C., Apr. 14, 1904; s. of Rev. J.H. and Annie (Goddard) Thacker; ed. B.S., The Citadel, 1924; Ph.D., U. of Va., 1930, Soc. of Sigma Xi; mem.: Kappa Alpha, Alpha Chi Sigma; m. Helen Muldrow, Apr. 6, 1931; ch.: Helen Muldrow, Aquilla Priscilla. Res. chem. or group leader with E.I. du Pont de Nemours & Co., A.O. Smith Corp., Allied Chem. & Dye Corp., Pure Oil Co.; present position, pilot plant dir., Solvay Process Div., Allied Chem. & Dye Corp. Pet. processing; chem. from pet.; carbon disulfide from methane; thermodynamics. Mem.: A.I.Ch.E., Am. Pet. Inst., A.C.S., Sigma Xi.

THALHEIMER, William Hastings, mgr., E.I. du Pont de Nemours & Co., Box 71, New Brunswick, N.J.; res. 67 Lafayette Rd., Princeton, N.J.
Exec.; b. Cincinnati, O., May 9, 1906; s. of William and Aletha Tuttle Thalheimer; ed. B.S., Bowdoin Coll., 1927, A.M., Harvard, 1933; mem.: Delta Upsilon; m. Irma Good, Sept. 7, 1929; ch.: Caroline, William Good. Res. asst., Arthur D. Little Co., 1927-28. Held following positions with E.I. du Pont de Nemours & Co.: plant supvr., 1928-43, asst. wks. mgr., 1943-45; asst. div. mgr., 1945-48; prod. mgr., 1948-49; wks. mgr., 1949 to date. Mem.: A.C.S., A.I.Ch.E.

THAU, Marcus, tech. dir., Universal Coatings Incorporated, 10 Ave. C, Newark 5, N.J.; res. 405 E. 72nd St., New York 21, N.Y.
Res. chem., exec.; b. Tarnov, Austria; s. of Isak and Rosa Thau; ed. U. Vienna, 1918-22, Ph.D. (with distinction); m. Dr. Frances Krasnow, Dec. 25, 1930; ch.: Hudelle K. 1921-24, res. chem., Vienna, synthet. resins and plastics; 1923-25, res. chem., Wmburgh. Chem. Co. (now Calco Chem. Co.) ass'd. Bklyn., N.Y., dyes, recovery of waste prods. in new processes, lacquers; 1925-26, res. chem., Lacquer-Chem. Co., Bklyn., N.Y., formulation and application; 1926-27, dir. of res., same co., supvn. of res. and devel.; 1927-48, tech. dir., same co., supvn. of res., devel. and produc.; 1950 to date, tech. dir. and pres. also owner, Universal Coatings Inc., creation of engineered finishes, answer requirements for improv. adhesion universally. Res. in synthetic resins, dyes, protective coatings, insulation; holds pats. on following: Non-Inflammable Lacquers; Aircraft Coating Aimed to Increase Speed in Flight; Dielectric Strength of Paint, Varnish and Lacquer Films; Infra-red in Convection Ovens Baking. Mem.: A.C.S., N.Y. Paint, Varnish & Lacquer Prod. Club (chmn. Tech. Comm., subcomm. dealing with The Influence of Pigments on Electrical Properties of Paint, Varnish, Lacquer Films). Hobbies: studies of history with special interest in cultural relationships to sc. in Biblical and Greek times, reading, walking.

THAYER, Floyd K., dir., chem. sales div., Abbott Labs., N. Chicago, Ill.; res. Waukegan, Ill.
Dir.; b. Castle Rock, Colo., July 22, 1896; s. of William H. and Hattie May (Kinyon) Thayer; ed. A.B., U. Denver, 1918; A.M., U. Ill., 1920; mem.: Beta Theta Pi, Gamma Alpha, Sigma Xi; m. Edith Fales, July, 1921; ch.: Willard K., Jean E. Dir., Abbott Labs., Inc.

THAYER, Harold Eugene, v.p., Mallinckrodt Chem. Wks., Second & Mallinckrodt Sts.; res. 28 Almeda Pl., Ferguson, Mo.
Chem. engrg. adm.; b. Rochester, N.Y., Mar. 3, 1912; s. of Helen E. Thayer; ed. grad. from M.I.T., 1934, chem. engrg. adm.; mem.: Phi Delta Theta; m. Elinor Constantinides, May 14, 1938; ch.: Lawrence Aldrich. Calco Chem. Co., tech. sales; Mallinckrodt Chem. Wks., project mgr., v.p. Clubs: Norwood Hills Country, Missouri Athletic. Hobbies: golf, philately.

THAYER, James Russell, prof. of chem., St. Louis Coll. of Phar., 4588 Parkview Pl., St. Louis, Mo.; res. 7816 Murdock, Shrewsbury, Mo.
Tchr., chem.; b. Medina, O., Sept. 7, 1897; s. of William C. and Delilah M. Thayer; ed. A.B., Ohio U., 1922; M.S., Wis., 1926; Ph.D., 1928; m. Ruby; ch.: Cheryl Deane, Brenda Lea. Res. chem., Parke, Davis & Co., 1928-29; prof. chem., and phar., Calif. Coll. Phar., 1929-30; prof. chem., St. Louis Coll. of Phar., 1930 to date. On bd. dirs., Od-Peacock-Sultan Co.; conslt., same co.; conslt., Coca Cola Co. Mem.: A.C.S., A.Phar.A., A.A.A.S., St. Louis Acdy. of Sc. Hobbies: fishing, hunting, talking.

THAYER, Lucius E., pres., Exolon Co., 60 State St., Boston, Mass.; res. 27 Estabrook Rd., W. Newton, Mass.
Lawyer, industrialist; b. Portsmouth, N.H., June 19, 1896; s. of Lucius H. and Helen (Rand) Thayer; ed. Amherst Coll., A.B., 1918, Phi Beta Kappa; Harvard Law Schl., LL.B., 1923; mem.: Psi Upsilon; m. Virginia Speare, Sept. 13, 1924; ch.: L. Harrison, II, Virginia. Hale & Dorr, attys., assoc. 1924-29, jr. partner 1929-32, sr. partner 1932 to date; Exolon Co., treas. 1934-49, v.p. 1936-49, pres. 1949 to date. Parkwood Corp. (chmn. bd.); Alden Speare's Sons Co. (v.p.); Bukidnon Associates (trustee). Mem.: Am., Mass., & Boston Bar Assns., Am. Soc. of Internatl. Law, United Nations League of Lawyers (former v.p. U.S. div.). Trustee, Am. Coll. for Girls, Istanbul,

Turkey, Aleppo Coll., Syria; moderator, Mass. Congregational Conference. Clubs: Union & Algonquin (Boston), Braeburn (W. Newton), Newcomen Soc. Hobbies: travel, gardening.

THAYER, Sherman Rand, Parkwood Corp., pres.; Exolon Co., treas., 24 Water St., Wakefield, Mass.; res. 48 Cedar Rd., Brookline, Mass. Mfr.; b. Portsmouth, N.H., 1904; s. of Lucius H. and Helen C. (Rand) Thayer; ed. Amherst Coll., A.B.; Harvard Bus. Schl., M.B.A.; mem.: Psi Upsilon; m. Caroline Blanton, 1931; ch.: Helen C. Second Natl. Bank of Boston, mgr. of investment res. dept., 1928-41; Army Air Forces, 1941-46, Lt. Col., chf., Communications Equipt. Div., H.Q., A.A.F.; Raytheon Mfg. Co., Waltham, Mass., 1946-48, project adm.; Parkwood Corp., Wakefield, Mass. (plastic laminators), treas. 1948-49, pres. 1949 to date; Exolon Co., treas. 1950 to date. Award: Legion of Merit, U.S.A.A.F. Beaver Co. Day Schl., trustee, 1948 to date. Clubs: Cohasset Yacht, Cohasset Golf. Hobby: sailing.

THAYER, Sydney, Jr., v.p., treas., Henry Bower Chem. Mfg. Co., 2815 Gray's Ferry Rd., Phila. 46, Pa.; res. Thornbury Rd., Haverford, Pa. Mfr.; b. Merion, Pa., Apr. 17, 1897; s. of Sydney and Elise E. (Bower) Thayer; ed. Haverford Schl., Haverford, Pa.; Phillips Acdy., Andover, Mass., deg. 1915; U. of Pa., 1915-17, war deg.; mem.: Phi Kappa Sigma; m. Margaretta Jeanes, Mar. 28, 1921 (div.); ch.: Martha W. (Thayer) Wood, Margaretta (Thayer) Hirsh, Sydney, III. Henry Bower Chem. Mfg. Co., 1921 to date, minor exec., v.p. Dir., Mutual Chem. Co. of Am. Clubs: Union League (Phila.), Racquet, Merion Cricket, Aronimink Golf, Chemists'. Hobbies: tennis, upland game shooting.

THEILHEIMER, William, editor, "Synthetic Methods of Organic Chemistry" 18 Laura Ave., Nutley, N.J.; res. same. Editor conslt.; b. Augsburg, Germany, Oct. 11, 1914; s. of Norbert and Susi (Rau) Theilheimer; ed. U. Cologne, Germany, Verbandsexamen 1937; U. Basle, Switzerland, M.L.A., Ph.D. U. Basle, Switzerland,, asst. to Prof. Erlenmeyer, 1940-47; editor, Syn. Meths. of Org. Chem., 1944 to date; Hoffmann-La Roche, Inc., conslt., 1948 to date; Aries Assoc., conslt., 1950 to date. Author: "Syn. Meths. of Org. Chem.," vol. I, 1946; vol. II, 1948; vol. III, 1949; vol. IV, 1950. Mem.: A.C.S. Hobbies: travel, modern languages.

THEWS, Karl B., sales mgr., chf. dev. engr., Titanium Alloy Mfg. Div., National Lead Co., 111 Broadway, New York, N.Y.; res. 83-09 Talbot St., Kew Gardens, L.I., N.Y. Chem.; b. Potsdam, Germany, May 29, 1895; s. of Edmund R. and Marie Thews; ed. Potsdamer Hoch Schule, Potsdam, Germany, Temple U., Phila., Chem., 1917; m. Edna F., May 1, 1920; ch.: Richard McClure, Karl S. Primos Chem. Co., chem., 1916-18; Stand. Chem. Co., res. chem., 1918-20; Colo. Vanadium Corp., plant supt., 1920; A.Bell Est., plant supt., 1920-22; Keystone Mets. Red. Co., plant mgr.; Ralph W. Harbison, tech. adv., Pittsburg Lac. & Chem. Co., v.p. & gen. mgr., Am. Chem. Co., secy., treas. 1922-28; Thews, Harbison, Thews, v.p., treas. 1928-32; Titanium Alloy Mfg. Div., Natl. Lead Co., sales mgr. to date. 3 patents on radium recov., 1 steel pickling inhibitors. Contrib. extens. to sc. and tech. jls. Mem.: A.I.C. (fellow), A.Cer.S. Hobbies: golf, books, bridge.

THIES, Herman R., mgr., Chem. Div., The Goodyear Tire & Rubber Co., 1485 Archwood Ave., Akron, Ohio; res. Stow, Ohio. Chem. and mgr.; b. Peck, Kans., Sept. 27, 1895; s. of Herman W. and Mary (Berry) Thies; ed. pub. and H.S., Enid, Okla.; A.B. in Chem., Phillips U.; M.S. in Org. Chem., U. of Chicago; m. Mildred W. Bliss, June 24, 1923; ch.: Lawrence, Patricia. 1917-19, U.S.A., 2nd and 1st Lieut., Heavy Artillery, 36th Div.; 1920-22, chem., Miller Rubber Co., Akron, Ohio; 1922-26, dir. Testing Lab., same co.; 1926-30, asst. dir. of res., same co.; 1930 to date, following positions with The Goodyear Tire & Rubber Co.: 1930-32, res. compdr.; 1932-43, asst. dir. of res.; 1943-44, mgr. Plastics & Coatings Dept.; 1945-48, mgr. Plastics & Coatings Dept.; 1948 to date, mgr. Chem. Div.; 1944-45, spec. conslt. on Plastics, U.S.A. Military Planning Div.; discovered petroleum based softener for rubber to replace more expensive pine tar, "Para Flux"; discovered that pigments such as clay and carbon black absorb accelerators in rubber compds., thereby retarding cure; discovered that SO2 previously absorbed on surface of zinc oxides adversely effected cure; discovered that small amts. of an acid such as benzoic acid functions as an anti-scorcher in rubber and that certain indicators function in rubber as in water; as long as indicators stay acid in color, cure does not progress; when they go alkaline, the vulcanization proc. starts; worked out org. acceleration for rubber floor tile; dev. and marketed Pliolite Resin, a cyclized prod. from natural rubber used for paint, printing inks, moisture vapor-proof paper coating, etc.; discovered a novel way of prod. pearl essence in plastic by replacing expensive essence of pearl with small amts. of aluminum powder and soluble dye; introduced sev. new prods. to the commercial market, such as Pliofilm, Pliolite S-5, Pliolite S-6, Pliobond, Chemigum and var. synth. latices, made available and helped dev. a new type of fabric coating for tentage which was water, weather, mildew and flame resistant; and dyed army tentage O.D. all in one operation; worked on and helped dev. Doran, glass fabric resin laminate that can be used as body armour for troops with possibility of reducing combat casualties by abt. 50%; initiated, organized and managed the Chem. Div. of Goodyear. Mem.: A.C.S., A.I.Ch.E., T.A.P.P.I., S.P.I. Dir., Soc. Plastics Industry. Club: Torch.

THIESSEN, Garrett William, prof. of org. chem., Monmouth Coll., Monmouth, Ill.; res. 408 N. 10th St., Monmouth. Coll. prof.; b. Stanwood, Iowa, Jan. 9, 1902; s. of William F. and Susan (Steiner) Thiessen; ed. Stanwood H.S., 1920; Cornell Coll., Mt. Vernon, Iowa, B.S., 1924; Phi Beta Kappa; U. of Iowa, M.S., 1925, Ph.D., 1927; Sigma Xi; m. Isabel Davidson, July 10, 1940. Instr. in chem. & math., Geneva Coll., 1927-30; prof. of chem., Monmouth Coll., 1930 to date. Studies on Kolbe electrochem. synthesis. Co-author: "How to Solve Problems in Physical Chem." with Babor, Crowell, 1944. Mem.: A.C.S., Am. Electrochem. Soc., Phi Beta Kappa, Sigma Xi, Ill. Acdy. of Sc., Phi Lambda Upsilon. Club: Natl. Rifle Assn. (life mem.). Hobbies: rifle & pistol shooting, microscopy, Sunday Schl. work.

THIGPEN, Geo. P., pres., Sou. Testing Labs. Inc., 2227 First Ave. So., Birmingham, Ala.; res. 323 Westover Dr., Homewood, Ala. Chem. & testing engr.; b. Mobile, Ala., July 10, 1902; s. of John Wm. and Lily (Rabby) Thigpen; ed. Birmingham-Southern Coll., B.Sc.; mem.: Delta Sigma Phi, Theta Chi Delta; m. Mary Ethel Duke, Oct. 3, 1936; ch.: Geo. Duke. Inspecting & testing engr., Sou. Testing Labs. Inc., 1924-30, res. in bituminous matls. 1930-34; testing engr., Ala. State Hway. Dept., 1935-42; Sou. Testing Labs. Inc., v.p., mgr. 1942-45, pres. 1945 to date (chmn. bd. dirs.). Res. coal tar & asphalt prods.; Miss. River revetment; paving; manufactured prods. Many mag. arts. & res. reports. Mem.: A.S.T.M., Assn. of Asphalt Paving Technologists, Am. Concrete Inst., Am. Council of Com. Labs., Sou. Assn. of Sc. & Ind. Councilman, City of Homewood, streets & parks. Club: Lions. Hobbies: fishing, raising tropical fish.

THING, Curtis Willard, res. chem., Brown Co., Berlin, N.H.; res. 252 Denmark St., Berlin. Chem.; b. Arcadia, Nebr., 1894; s. of Milo J.P. and Nonio (Locke) Thing; ed. Lenox Coll., B.S.; U. of Wash., M.S., Ph.D.; mem.: Phi Lambda Upsilon, Sigma Xi; m. Alma Murray, 1921; ch.: Charles M., John A. Brown Co., 1920 to date. Mem.: A.C.S. Hobby: photography.

THOM, John C., mgr. of sales, Westvaco Chem. Div., Food Machinery & Chem. Corp., 405 Lexington Ave., N.Y.C.; res. 6 Whitehall Rd., Tuckahoe 7, N.Y. Sales; b. Honolulu, Hawaii, Apr. 19, 1916; s. of J.C. and M.N. Thom; ed. U. of Mich., 1938 A.B.; mem.: Phi Gamma Delta; m. Mary Margaret Thomas, Sept. 25, 1939; ch.: William J., John C., Steven B. Marsh & McLennan, Detroit, Mich., 1938-39, clerk; Fram Corp., Providence, R.I., 1939-41, sales; Westvaco Chem. Div., Food Machinery & Chem. Corp., 1941 to date. Christjane Corp., N.Y.C. (v.p., dir.). Clubs: U. of Mich. Club, Phi Gamma Delta Club of N.Y., Tamarack Country (Greenwich, Conn.), Chemists' (N.Y.C.). Hobby: athletics.

THOM, William Bouton, pres., Westvaco Div., Food Machinery & Chem. Corp., 405 Lexington Ave., N.Y. 17, N.Y.; res. 375 Park Ave., N.Y. 22. Exec.; b. Buffalo, Johnson Co., Wyo.; s. of William John and Margaret E. (Bouton) Thom; ed. Johnson Co. H.S., Buffalo, Wyo.; U. of Mich., A.B., 1915; mem.: Phi Gamma Delta; m. Genevieve L. Riggs (dec.) Apr. 8, 1916; Hilda A. Ohrstrom, Jan. 18, 1923; ch.: 1st marriage, Janet H., Genevieve H.; 2nd marriage, Ann B., Christjane O. 1916, bookkeeper, Warner Chem. Co., 1920-26 asst. secy.; 1927-48, pres., Westvaco Chlorine Prods. Corp.; 1948 to date, pres., Westvaco Chem. Div., Food Machinery & Chem. Corp. Food Machinery & Chem. Corp. (v.p., dir.); Christjane Corp. (pres., dir.); United Chemicals, Inc. (pres., dir.). Clubs: University (N.Y.), University of Mich. (N.Y.), Chemists' (N.Y.), Phi Gamma. Hobbies: reading, golf.

THOMAS, Benjamin Edmund, div. prod. mgr., Monsanto Chem. Co., 1700 S. 2 St., St. Louis, Mo.; res. 418 Sherwood Dr., Webster Groves, Mo. Chem. engr.; b. Sept. 3, 1896; s. of James and Eva Jeanette Youlen Thomas; ed. Rutgers U., B.S., M.S.; mem.: Lambda Chi Alpha; m. Olive Mildred Stalker, July 28, 1920; ch.; Olive Jane Emerson, Nancy Ellen Straub, Richard Irving. 1917, Monsanto Chem. Co., chem. prod. supvr.; 1920, foreign serv., England, 1 yr. subs. Monsanto Chem.; 1924, asst. plant supt.; 1935, mfg. supt.; 1943 to date, prod. mgr. organ. chems., div. of Monsanto. Dir., v.p. G.H. Packwood Mfg. Co., St. Louis, Mo. Mem.: A.C.S., A.I.Ch.E., Engrs. (St. Louis), Reg. Prof. Engr. (Mo.); secy., mem. bd. trustees Webster Groves Pres. Ch., mem. Bd. Adjust. City of Webster Groves, Mo. Clubs: Algonquin Golf, (Glendale, Mo.), Univ. (St. Louis). Hobbies: golf, fishing, flower gardening, contract bridge.

THOMAS, Bertram David, asst. dir., Battelle Memorial Inst., 505 King Ave., Columbus 1, Ohio; res. 326 Walhalla Rd., Columbus 2. Chem.; b. Renton, Wash., May 5, 1903; s. of David and Minnie B. (Custer) Thomas; ed. U. of Wash., B.S. in chem., 1929, Ph.D., 1933; mem.: Acacia; m. Glorian Butler, Dec. 22, 1928; ch.: Preston David, Nancy G., Lawrence E. Chem., Pacific Car & Foundry Co., Seattle, Wash., 1928-32; res. chem., Battelle Memorial Inst., Columbus, Ohio, 1934-38, asst. dir. 1938 to date (also secy.). Organization & adm. of ind. res. Mem.: A.C.S., Sigma Xi, Phi Lambda Upsilon. Club: Chemists' (N.Y.). Hobby: music.

THOMAS, Charles Allen, exec. v.p., Monsanto Chem. Co., 1700 S. Second St., St. Louis 4, Mo.; res. 609 S. Warson Rd., St. Louis 24. Exec.; b. Scott Co., Ky., Feb. 15, 1900; s. of Charles Allen and Frances (Carrick) Thomas; ed. Transylvania Coll., B.A., 1920; M.I.T., M.S., 1924; Transylvania Coll., D.Sc., 1933; Wash. U., D.Sc., 1947; LL.D., Hobart & Smith Coll., 1950; mem.: Kappa Alpha; m. Margaret Stoddard Talbott, Sept. 25, 1926; ch.: Charles Allen, III, Margaret Talbott, II, Frances Carrick, Katharine Tudor. 1923, res. chem., Gen Motors Corp.; 1924, res. chem., Ethyl Gasoline Corp.; 1926, res. chem., Thomas & Hochwalt Labs.; Monsanto Chem. Co., 1936 res. dir., 1945 v.p., 1947 to date exec. v.p. Discovery of the reaction of olefins & diolefins to form polymers & the chem. involved when a catalyst of the AlCl3 type is used. Author: "Anhydrous Al. Chloride in Org. Chem." 1941. Mem.: A.C.S. (chmn. bd. dirs., pres. 1948), Natl. Acdy. of Sc., A.A.A.S., A.I. Ch.E., A.I.C., Chem. Soc., Franklin Inst., S.C.I., Am. Philosophical Soc., Sigma Xi. Awards: M. for Merit, 1946, Ind. Res. Inst. Gold M. 1947, A.I.C. Gold M. 1948. Curator, Transylvania Coll.; trustee, John & Olga Queeny Educational Foundation; mem. bd. of mgrs., Central Inst. for the Deaf; dir., Barnard Free Skin & Cancer Hosp.; mem. exec. bd., St. Louis Council, Boy Scouts of Am. Clubs: Links, Chemists' (N.Y.), Cosmos (Wash.). Hobbies: hunting, fishing, tennis. Officer: Monsanto Chem. Co. (dir.); Southwestern Bell Telephone Co. (dir.); St. Louis Union Trust Co. (dir.).

THOMAS, Charles Lamar, dir. of res. & dev., Great Lakes Carbon Corp., Morton Grove, Ill.; res. 333 Fairview Ave., Winnetka, Ill. Chem.; b. Hendersonville, N.C., Oct. 13, 1905; s. of Julian Willett and Lula Harriet (Hawkins) Thomas; ed. U. of N.C., Chapel Hill, N.C., B.S. chem., 1928; M.S., 1929, Northwestern U., Evanston, Ill., Ph.D., 1931; mem.: Phi Mu Alpha, Alpha Chi Sigma, Sigma Xi, Phi Lambda Upsilon; m. Virginia Miner, Dec. 30, 1930; ch.: Dian, Karl Miner. Universal Oil Prods. Co., Chicago, 1931-45, res. chem., res. supvr., assoc. dir. of res.; Great Lakes Carbon Corp., 1945 to date, dir. of res., dir. of res. & dev. Over 100 U.S. pats. & 25 arts. on pet. chem. & technol., espec. catalytic cracking & aviation gasoline. Mem.: A.C.S., A.I. C., A.I.Ch.E., S.A.E., Am. Pet. Inst. Club: University (Evanston).

THOMAS, George Cullen, v.p. & dir. prods. control, Gen. Mills, Inc., 400 - 2nd Ave., S., Minneapolis, Minn.; res. 2 Orono Lane, Wayzata, Minn. Exec.; b. Parke Co., Ind., Aug. 21, 1890; s. of Samuel M. and Harriett E. Thomas; ed. Butler U., B.S., Indianapolis, Ind.; mem.: Phi Delta Theta; m. Margaret Lomax, July 27, 1915; ch.: Jane. Athletic dir., Butler U.; chem., food, drug labs., St. Ind.; W.W. I, Capt., F.A.; gen. mgr., Atlas Bread Co., Milwaukee, Wis.; chem. prod. mgr., Regan Bakeries, Minneapolis; chem., dir. Bakery Serv., Washburn Crosby Co.; v.p., dir., prods. contr., bakery serv., Gen. Mills. Res. in improved meths. comm. bread baking, wheat survey, flour contr., bread, flour improv., thru vitamin, mineral enrichment. Contrib. extens. to sc. and tech. jls. Mem.: A.C.S., A.A.A.S., A.A.C.C., Am. Soc. Bakery Engrs., Food, Nutrition Bd. Natl. Res. Council; trustee, Nutrition Found., dir. Am. Inst. Baking Found., 1st pres. Cereal Inst., Founder mem. Am. Soc. Bakery Engrs., dir. Wheat Flour Inst. Clubs: Minneapolis, Woodhill Country (Wayzata, Minn.). Hobby: tennis.

THOMAS, Joseph James, asst. res. dir., S. D. Warren Co., Cumberland Mills, Me.; res. 176 Mason St., Cumberland Mills.
Res. chem.; b. Columbia, Pa., Sept. 10, 1909; s. of Frank L. and Anna (Cox) Thomas; ed. Pa. State Coll., B.S., 1930, M.S., 1932, Ph.D., 1935; mem.: Phi Kappa, Phi Lambda Upsilon, Gamma Sigma Delta, Sigma Xi; m. Mary Stack, Sept. 24, 1932; ch.: Joseph James, Jr., Anne Marie, Dolores, Gerard, Patricia. 1929, H.J. Heinz Co., Pitts., Pa., control chem.; 1930, N.Y. Agr. Expt. Station, Geneva, N.Y., asst. chem.; 1931-36, Pa. State Coll., instr.; 1936-41, Rohm & Haas Co., Phila., Pa., res. chem.; 1942 to date, S.D. Warren Co., Cumberland, Mills, Me., asst. res. dir. Mem.: Sigma Xi, A.C.S., T.A.P.P.I.

THOMAS, Robert K., chf. chem., Warner Co., Bellefonte Div., Bellefonte, Pa.; res. Bellefonte.
Chem.; b. Lewistown, Pa., Sept. 10, 1913; s. of Robert E. and Mary M. Thomas; ed. Pa. State Coll., 1935, B.S.; m. Ruth Mulbarger, July 19, 1938; ch.: Kenneth R., Melanie M. 1935-36, plant chem., 1936-47 asst. chem., 1947 to date, chf. chem., Warner Co., Bellefonte, Pa. Mem.: A.C.S., A.S.T.M., Pa. Ceramic Assn., Centre Co. Engrs. Soc. Mem. of Town Council, 1946 to date. Club: Kiwanis. Hobbies: public health work, carpentry.

THOMPSON, Albert Johnson, Jr., mgr., Govt. Liaison Dept., Chem. Control Div., Merck & Co., Inc., Rahway, N.J.; res. 1135 Hollywood Rd., Linden, N.J.
Chem.; b. Graham, N.C., Nov. 15, 1908; s. of A.J., Sr., and Evelyn (Holt) Thompson; ed. Davidson Coll., Davidson, N.C., B.S. (in chem.), 1930; N.C. State Coll., Raleigh, N.C., B.S. (in chem. engrg.), 1931; mem.: Gamma Sigma Epsilon; m. Vivian Austin, Apr. 19, 1933; ch.: Donald Albert, Marlyn Austin. Apr., 1934 to date, with Merck & Co., Inc., Rahway, N.J., in following positions: Apr., 1934-Aug., 1937, control chem.; Aug., 1937-June, 1946, control chem., supvr.; June, 1946-Nov., 1948, chf., Label & Registration Section, Label & Govt. Dept.; Nov., 1948 to date, mgr., Govt. Liaison Dept., all in Chem. Control Div. Mem.: A.C.S. Hobbies: music, bridge.

THOMPSON, Alberto Frederic, chf. tech. info. branch, U.S. Atomic Energy Commis., 1901 Constitution Ave. N.W., Wash., D.C.; res. 9117 Walden Rd., Silver Spring, Md.
Govt.; b. Waltham, Mass., Dec. 1, 1907; s. of Alberto F., Sr. and Mary (Haynes) Thompson; ed. Waltham H.S., Waltham, Mass., 1920-24; Dartmouth Coll., Hanover, N.H., 1924-30, B.S., M.A.; Harvard U., Cambridge, Mass., 1930-33, Ph.D.; U. of Munich, Munich, Germany, 1933-34; mem.: Alpha Chi Sigma; m. Althea Taylor, July 7, 1942; ch.: Joyce Emily, Gilbert Dakin. 1934-37, instr. chem., U. of Minn., Minneapolis, Minn.; 1937-43, instr., asst. prof. of chem., M.I.T., Cambridge, Mass.; 1943-46, Adm. Officer, U.S. Public Health Serv., Boston, Mass., Wash., D.C., N.Y.C., Oak Ridge, Tenn.; 1946-47, U.S.A., Atomic Energy Commis., Oak Ridge, Tenn.; 1947 to date, Atomic Energy Commis., Wash., D.C. Org. syn., biolog. oxidation, acetylene chem., explosive chem. Mem.: A.C.S., Sigma Xi.

THOMPSON, A(lfred) Paul, dir. of res., Eagle-Picher Co., P.O. Box 290, Joplin, Mo.; res. 619 Islington Pl., Joplin.
Res. engr.; b. Florence, Colo., Nov. 6, 1893; s. of Western Talbot and Mary Grace Thompson; ed. B.S., 1915, Mont. State Coll., Bozeman, Mont.; M.S., 1923, U. of Ill., Urbana, Ill.; du Pont fellow, 1924-25, U. of Ill.; Ph.D., 1925, U. of Ill.; m. Kathryn Waite Thomas; ch.: Gordon Paul. 1915-22, testing engr. to acting chf. chem., Anaconda Copper Mng. Co., Anaconda & Great Falls, Mont.; 1922-25, asst. in chem. & grad. student, U. of Ill., Urbana, Ill.; 1925-28, res. engr., Gen. Chem. Co., Laurel Hill, L.I., N.Y.; 1928-32, res. engr. & conslt., Internatl. Nickel Co. of Canada, Ltd., Copper Cliff, Ontario & New York, N.Y.; 1932-49, indus. fellow & sr. fellow, Mellon Inst., Pitts., Pa.; 1949 to date, dir. of res., Eagle-Picher Co., Joplin, Mo. Thomas Fruit Co., Joplin, Mo. (dir.). Active, with num. pubs. & pats., in flds. of non-ferrous, ferrous & rare metal metallurgy (both process & physical), inorg. chem., heavy chems. & pigments, ceramics, etc. Mem.: A.C.S. (chmn.-elect Southeast Kan. Sec.), Am. Ceramic Soc. (v.-chmn. Refractories Div.), A.S.M., A.S.T.M., A.A.A.S. (fellow), E.S., Sigma Xi, Epsilon Chi, Phi Lambda Upsilon, Keramos, Alpha Chi Sigma, Prof. Engr. State of Pa. Clubs: Rotary (Joplin, Mo.), Twin Hills Golf & Country (Joplin, Mo.). Hobbies: philosophy & administration of research, economics.

THOMPSON, Charles Thiers, pres., Thompson-Hayward Chem. Co., 2915 Southwest Blvd., Kansas City 8, Mo.; res. 6136 Mission Rd., Mission, Kan.
Exec.; b. Tinton Falls, N.J., Apr. 21, 1887; s. of Henry Denise and Ann Cornellia (Proctor) Thompson; ed. Rutgers Coll., Litt.B., First Vanderpool in chem., 1908-09; wk. accredited toward master's deg.; hon. deg., Dr. of Art, Kansas City Art Inst. & Schl. of Design; mem.: Delta Upsilon; m. Marion Ellis Moreau (Vassar 1909), May 31, 1914; ch.: Charles Moreau, Marion Ruth, Robert Smock, Ann Ellis. 1909, asst. City Health Officer, New Brunswick, N.J.; State Sanitary Inspector of N.J.; salesman & partner, A.S. Barada & Co., Kansas City, Mo.; pres., Thompson-Monroe-Robbins, 1917 to date, now known as Thompson-Hayward Chem. Co. Jersey Realty Investment Co. (pres.); McPheeters Warehouse Co. (pres.); Thompson-Hayward Chem. Co. of Texas (pres.). Mem.: A.C.S., A.I.C. (fellow), Midwest Res. Inst. (trustee, v.p.; bd. of governors & one of original incorporators). First v.p. Kansas City Art. Inst. & Schl. of Design, chmn. of Finance Comm., bd. of governors & bd. of trustees. Clubs: Kansas City Club, Mission Hills Golf, University Club, Chemists' (N.Y.). Hobbies: collector of antique furniture, several farms, breeder of registered livestock, horseback riding, sailing.

THOMPSON, Clyde Lowry, asst. dir. of res., Harbison-Walker Refractories Co., Hays Lab., Pitts. 7, Pa.; res. 4922 New Plymouth Rd., Pitts. 27.
Ceramic engr.; b. Mt. Vernon, Ill., Apr. 22, 1903; s. of Clovis L. and Clara Anna (Capron) Thompson; ed. U. of Ill., B.S., 1927, high hon., M.S., 1930, Ph.D., 1936; m. Elizabeth Roane, Jan. 24, 1925; ch.: Carol, Betty Ellen. 1927-28, grad. res. asst., 1928-34, instr., ceramic engrg., 1934-36 assoc., ceramic engrg., U. of Ill.; 1936-50 lab. mgr., Harbison-Walker Refractories Co., 1950 to date, asst. dir. of res. Var. tech. arts. on ceramics & refractories. Mem.: Tau Beta Pi, Sigma Tau, Sigma Xi, Keramos, A.A.A.S., A.S.T.M., Am. Cer. Soc (fellow, past chmn. Refr. Div. & Pitts. Sec.), Am. Mineralog. Soc. Hobby: fly-fishing.

THOMPSON, Daisy Ruth, prof. of chem., hd. of dept., Sterling Coll., Sterling, Kan.; res. Sterling.
Teacher; b. New Concord, Ohio, Mar. 10, 1893; d. of Ansley N. and Ida E. (George) Thompson; ed. Sterling Coll., A.B.; U. of Kan. M.A.; U. of Colo. Prof. of chem., Sterling Coll., Sterling, Kan., 1920 to date. Mem.: Kan. Acdy. of Sc., A.A.A.S., A.C.S., Iota Sigma Pi, A.A.U.W. Club: Mutual Improvement. Hobbies: flowers, astronomy, reading.

THOMPSON, Dorothy Dewhurst, assoc. prof. of chem., Sweet Briar Coll., Sweet Briar, Va.; res. same.
Teacher; b. Newton, Mass., May 22, 1909; d. of Sanford E. and Stella (Converse) Thompson; ed.

Mt. Holyoke Coll., 1931 B.A. magna cum laude, 1932 M.A.; Ph.D., M.I.T., 1935. Wheaton Coll., Norton, Mass., instr., 1935-39, asst. prof., 1939-43; res. chem., Pioneering res., rayon dept., E.I. du Pont de Nemours 1943-44; assoc. prof., Sweet Briar Coll., 1944 to date. Articles in Journal of A.C.S. on physical properties of org. cmpds. Mem.: A.C.S., New England Assn. of Chem. Teachers, Sigma Xi. Hobby: meteorology.

THOMPSON, Frederick S., pres., gen. mgr., Corhart Refractories Co., 1600 W. Lee, Louisville, Ky.; res. 2416 Douglass Blvd., Louisville.
Exec.; b. Wapakoneta, Ohio, June 4, 1890; s. of Charles J. and Cora (Craig) Thompson; ed. Defiance Coll., A.B.; Case Schl., Cleveland, chem. engr.; mem.: Sigma Chi; m. Norma Yost, Aug. 22, 1914; ch.: Katherine Russell, Virginia Williams. High schl. principal & teacher 1913-17; var. superv. & exec. positions with Gen. Elec. Co., 1917-27; Corhart Refractories Co., sales mgr. to pres., 1927 to date (and dir.). L'electro Refractaire, Paris, France (dir.); Vogt Mfg. Co., Louisville (dir.). Mem.: Am. Ceramic Soc., Brit. Ceramic Soc. Louisville Safety Council, dir. & past pres.; dir., pres., Louisville Automobile Club. Clubs: Pendennis, Rotary.

THOMPSON, Herbert Leroy, gen. operations mgr., Miss. Chem. Corp., Yazoo City, Miss.; res. 322 N. Monroe St., Yazoo City.
Chem. engr.; b. Greenville, Ala., Mar. 20, 1915; s. of H.M. (dec.) and Minnie B. Thompson; ed. Ala. Polytech. Inst., Auburn, Ala., B.S. chem. engrg., 1941, Dean's List, Collegiate Who's Who, Pres. Engineers' Council; mem.: Tau Beta Pi, Phi Lambda Upsilon, Phi Kappa Phi; m. Virginia K. Brittain, Apr. 10, 1938; ch.: Herbert Leroy, Jr., John Comer. From jr. to sr. chem. engr., Tenn. Valley Authority, Wilson Dam, Ala., 1941-48; exec. v.p., Finklea Chem. Co., 1948; gen. operations mgr., Miss. Chem. Corp., 1948 to date; instr. evening classes, Ala. Polytech. Inst., Auburn, Ala., & Ala. State Teachers Coll., Florence, 1941-47. Ammonia syn. & related catalysts; mfr. & uses of fertilizers; engrg. thermodynamics; elec. furnace tech. Mem.: A.C.S., A.A.A.S., Southern Assn. of Sc. & Ind. Clubs: Elks, Yazoo Country, Rotary. Hobby: fishing.

THOMPSON, John Fairfield, pres., The Internatl. Nickel Co. of Canada, Ltd., 67 Wall St., New York City; res. New Canaan, Conn.
Exec.; b. Portland, Maine, Mar. 8, 1881; s. of Frank E. and Mary J. (Clarke) Thompson; ed. Schl. of Mines, Columbia U., B.S. 1903; Ph.D., 1906; rec. Thomas Egleston M. of Columbia U. Engrg. Schls. Alumni Assoc., 1944; hon. D.Sc. Columbia, 1950; m. Elizabeth Fisher Wheeler, Oct. 10, 1911 (dec.); ch.: John Fairfield, Jr., Barbara Warren (Mrs. Ralph R. Birdsall). Asst. in metallurgy, Schl. of Mines, Columbia U.; with The International Nickel Co. from 1906 to date in following capacities: metallurgist to design and operate res. lab. at Co.'s Orford Wks., for investigation of potentialities of nickel-copper alloy Monel; in chg. of all res. and tech. activities on Monel and malleable nickel and hd. of all fld. and outside plant operations 1906-18, estab. and became mgr. of first tech. dept., a forerunner of co.'s dev. and res. div.; became mgr. of operations, 1921 and supvd. construction and initial operations of Co.'s Huntington Wks., Huntington, W.Va., founded for prod. of non-ferrous alloys; at formation of The Internatl. Nickel Co. of Canada, Ltd., in 1928, became asst. to pres.; made a dir. and mem. of Exec. Comm. in 1931; v.p. in 1932, exec. v.p. in 1936, mem. of adv. comm., 1937, pres., Feb., 1949; elected pres. of Co.'s U.S. subsid., The Internatl. Nickel Co., Inc., Mar. 7, 1949, prev. to which had been exec. v.p. since 1935 and a dir. of that co. since 1928; in addition to directorships in above cos., is chmn. and dir., Whitehead Metal Prods. Co., Inc.; pres. and dir., Whitehead Metal Prods. Co. of Canada, Ltd. a dir. of Amer. Bank Note Co., The Amer. Metal Co. Ltd., Texas Gulf Sulphur Co., Inc., and Tube Reducing Corp.; v.p. of Horseshoe Lake Mining Co. Ltd.; a trustee of the Bank of N.Y. and Fifth Ave. Bank, First Natl. Bank and Trust Co. (New Canaan), and Packer Collegiate Inst.; mem. of Advisory Comm. on Metals and Minerals, Natl. Res. Council, Natl. Acdy. of Scs., mem. of A.I.M.M.E., A.S.T.M., A.S.M. Canadian Mining and Metallurgical Soc.; mem. and past pres. of the Mining and Metallurg. Soc. of Amer., and hon. mem. of Inst. of Metals (Gr. Britain); Commander of the Order of the White Rose (Finland). Clubs: City Midday, Columbia University, University and Down Town Assoc., (all of N.Y.), New Canaan Country.

THOMPSON, John Graham, chf. metallurgy div., Natl. Bur. of Standards, Washington 25, D.C.; res. 114 Aspen St., Chevy Chase 15, Md.
Metallurgist; b. Eau Claire, Wis., Aug. 11, 1894; s. of George T. and Julia G. Thompson; ed. B. Chem., Cornell U., 1915, Ph.D. 1921; mem.: Sigma Nu; m. Ruth G., Aug. 15, 1931. Chem., Natl. Bur. Standards, 1921-25; chem. and metallurgist, U.S. Dept. of Agric., 1925-28; metallurgist, Cerro De Pasco Copper Corp., 1928-30; metallurgist, section chf., chf. metallurgy div., Natl. Bur. Standards, 1930 to date. Res. in corrosion, phase diagrams. Author: "The Metal-Iron," (McGraw Hill) 1937. Mem.: Sigma Xi, A.S.M., A.I.M.E., A.S. Ch.E., A.S.T.M., British Inst. of Metals, Acdy. Sc. (Washington). Club: Cosmos.

THOMPSON, LaRoy Bernard, coordinator of ind. res., U. of Rochester, Rochester 3, N.Y.; res. 2272 Westfall Rd., Rochester.
Res. adm.; b. Laconia, N.H., Oct. 16, 1920; s. of John Fawdrey and Anna (Hildebrand) Thompson; ed. 1934-38, Tilton, N.H., Tilton Prep. Schl.; 1938-43, Cornell U., Schl. of Chem. Engrg., B. Ch.E.; mem.: Kappa Sigma; m. Edwina Brown, June 14, 1948; ch.: Steven Marden, Virginia Katherine Graf. 1943-44, metallurg. lab., U. of Chicago, chem. engr.; 1944-46, Los Alamos, N. Mex., U. of Calif., jr. scientist; 1946-48, Cyclotron Lab., U. of Rochester, adm.; 1948-49, physics dept., Cornell U., res. asst.; 1949 to date, res. adm., U. of Rochester, coordinator of ind. res. Mem.: A.I.Ch.E., A.A.A.S.

THOMPSON, Marvin Russell, pres., dir. of res., Marvin R. Thompson, Inc., 67 Greenwich Ave., Stamford, Conn.; res. Cathlow Dr., Riverside, Conn.
Pharmacologist; b. July 11, 1905; s. of Paul and Inger (Holm) Thompson; ed. Ph.C., U. of Minn. 1926; B.S., George Washington U. 1930; Ph.D., Johns Hopkins U., 1934; hon. Ph.M., Phila. Coll. Pharmacy & Sc. 1938; mem.: Sigma Xi, Rho Chi, Phi Delta Chi; m. Florence Partello, June 29, 1929; ch.: Dolores R., Dorothy H., Paul C., Diana F. Assoc. prof. pharmacology, George Washington U., 1928-30; prof. pharmacology & therapeutics, U. of Md., 1930-38; pharmacologist, U.S. Food & Drug Adm., 1927-30; v.p., dir. of res., William R. Warner & Co., Inc., 1938-44, pres. 1944-45; dir., Warner Inst. for Therapeutic Res., 1937-44; founder and sponsor, Marvin R. Thompson, Inc. & Paul Thompson Associates, 1945. Awarded Ebert prize, 1930; trustee, Medical Memorial Fund, Inc., 1942 to date; pres., trustee, Gustavus & Louise Pfeiffer Res. Foundation, 1942-45. Contr. to J. Am. Phar. Assn., J. Urology, Am. J. Hygiene. Dir. res., Richard Hudnut, Inc., 1937-45; sc. conslt., U.S. Armed Forces, 1943-45. Mem.: Am. Foundation for Tropical Medicine, chmn. Ebert Prize Com. 1938-42, A.Phar.A. (comm. on biologic assays), A.A.A.S., Am. Phar. Mfrs. Assn., Am. Drug Mfrs. Assn., Am. Soc. Pharmacol. & Exptl. Therapy, Med. Drs. Club. V.p., chmn. bd. of trustees, Columbia U. Coll. of Pharmacy, 1944 to date.

THOMPSON, Maurice de Kay, prof. emeritus, M.I.T.; res. 75 Mount Vernon St., Boston 8, Mass.
Electrochem.; b. Covington, Ky.; s. of Maurice de Kay and Jennie (Burdsall) Thompson; ed. M.I.T., 1898, B.S. in math. physics; 1903, Ph.D. in chem., Basel, Switzerland; thesis at Federal Polytechnic Schl., Zurich; mem.: Delta Kappa Epsilon; m. Lilian Hastings, 1906; ch.: Janice (Mrs. Grenville Goodwin), Evelyn Hastings (Mrs. David Riesman, Jr.), Clare de Kay. 1898-1901, asst. in physics, M.I.T.; 1901, apptd. instr. in electrochem. with 2 yrs. lve. of absence and a fellowship; spent three semesters in the Fed. Polytech. Schl., Zurich, and one semester at U. of Basel; 1907, asst. prof. of electrochem., M.I.T.; 1913, assoc. prof., 1930, prof., 1942, retired as prof. emeritus; 1942-43, taught naval machinery at the Wentworth Inst., to men training for Navy; 1944, Sept., taught physics in the A.S.T.R.P. at th U. of N.H.; Oct., 1944, taught physics in A.S.T.R.P. at Mass. State Coll. to June, 1946; July-Sept. analyzed fertilizers in control lab. of Mass. State Coll.; summer, 1946, taught physics in summer schl. at Rutgers; Sept., 1946-June, 1949, taught physics at Newark Coll. of Engrg. Author: "Theoretical and Applied Electrochem.," revised edit. 1925, 3rd edit., 1939; also pub. abt. 50 sc. papers. Mem.: E.S., Am. Acdy. of Arts and Scs. Hobbies: climbing, swimming, boating, tennis, golf, squash, riding, skating, violin playing, chess, reading.

THOMPSON, Robert Smock, v.p., Thompson-Hayward Chem. Co., 2915 Southwest Blvd., Kansas City 8, Mo.; res. 311 W. 51st Terrace, Kansas City.
Agric. chem. sales; b. Kansas City, Mo., July 10, 1919; s. of Charles Thiers and Marion E. (Moreau) Thompson; ed. Dartmouth Coll., B.D. chem. 1940, M.I.T., Bus. & Engrg. Adm. 1940-41; Cornell 1945; mem.: Chi Phi; m. Helen Patricia Zimmer, Oct. 8, 1949. U.S. Naval Submarine Corps 1941-45; 1946 asst. plant supt., 1947 to date, agric. chem. tech. sales serv., Thompson-Hayward Chem. Co. Clubs: Kansas City University, Kansas City Country. Hobbies: golf, sailing.

THOMPSON, Thomas Gordon, prof. of chem., dir. of Oceanographic Labs., U. of Wash.; res. 4002 Burke Ave., Seattle, Wash., McConnell Is., Deer Harbor, Wash.
Prof.; b. Rosebank, S.I., N.Y., Nov. 28, 1888; s. of John Haslem and Mary Elizabeth (Langdon) Thompson; ed. A.B., Clark U., Worcester, Mass., 1914; M.S. 1915, Ph.D. 1918, U. of Wash., Seattle, Wash.; mem.: Alpha Delta Phi; m. Harriet Galbraith, June 27, 1922; ch.: Thomas Gordon, Jr., John Souter, Harriet. 1906-11, asst. chem., Am. Brass Co.; 1912, asst. chem., Am. Steel & Wire Co.; 1917-19, Pvt. Inf., 1st Lt. Ord., Capt. C. W.S.; 1915, Carnegie Scholar, Iron & Steel Inst., Gt. Brit.; 1919-22, asst. prof. chem., U. of Wash.; 1922-29 assoc. prof., 1929 to date prof., 1930 to date dir. Ocean. Labs.; 1921-42, Major O.R.D. C. W.S.; 1942-45, Lt. Col.; 1945 to date, Col., ret. 1946; 1942-46, dir. W.D.C.P.S., C.W.S., Chem. Warfare Bd., tech. dir., San Jose Project. Chem. Oceanography, anal. chem. travel grant 1930, Rockefeller Foundation, 1933 & 1936 Natl. Acdy. travel grant. Num. sc. papers. Mem.: A.C.S., A.A. A.S. (pres. Pacific div. 1947), Am. Geophys. U. (pres. Ocean Sec. 1935-38), Pacific Sc. Cong. (Chr. Com. Oceanography 1936 to date), N.R.C. (chmn. Com. Ocean.). Award: Agassiz Gold M. of Natl. Acdy. 1948. Clubs: Explorers (N.Y.), Cosmos (Wash., D.C.), Am. Legion, Vet. For. Wars. Hobbies: philately, dev. of an island estate.

THOMPSON, W. Furness, v.p. in chg. of res. & dev. div., Smith, Kline & French Labs., 1530 Spring Garden St., Phila. 1, Pa.; res. Harrison Rd., Ithan, Pa.
Phar. res. adm.; b. Phila., Pa., Feb. 20, 1907; s. of Wirt L. and H. Kate (Furness) Thompson; ed. 1920-26, St. Paul's Schl., Concord, N.H.; 1926-30, Yale U., Ph.B.; m. Eleanor Lewis, Apr. 18, 1940; ch.: Eleanor L., W. Furness, Jr., Kate F. 1930-33, John Hancock Mutual Life Ins. Co., Phila., sales rep.; 1933-36, J. Clark Sims Adv. Agency, Phila., jr. partner; 1936 to date, Smith, Kline & French Labs., tech. coordinator & adm., medical adm., asst. dir. of res., v.p. in chg. of res. & dev. Mem.: Am. Drug Mfrs. Assn. (res. & dev. sec., chmn. res. adm. comm.), Phila. Res. Management Group, A.A.A.S. Mem. gov. bd., The Preston Maternity Hosp. Clubs: Rittenhouse, Mill Dam. Hobbies: photography, sailing, woodworking, tennis.

THOMPSON, Will Scroggs, hd. dept. of chem., Kent State U., Kent, Ohio; res. 331 S. Willow St., Kent.
Teacher, chem.; b. Crawfordsville, Iowa, July 19, 1904; s. of Exekiel Hugh and Dorcas (Nichol) Thompson; ed. Muskingum Coll., A.B., 1925; Columbia U., A.M., 1929, Ph.D., 1934; m. Myra M. Waterman, July 23, 1931; ch.: Hugh Walter, Geoffrey Owen. Res. chem., Borden Co., N.Y., 1935-36; res. chem., U.S. Rubber Co., gen. labs., Passaic, N.J., 1936-38; instr. in chem., Adelphi Coll., Garden City, N.Y., 1938-39, asst. prof., hd. chem. dept. 1939-42; ind. specialist, War Prod. Bd., Chem. Div., Wash., D.C., 1942-44; prof. chem., hd. chem. dept., Kent State U., Kent, Ohio, 1944 to date. Year foreign travel 1934-35 in Europe & Asia; visited & inspected many educat. & res. institutions. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S., A.A.A.S., A.A.U.P., Ohio Acdy. of Sc., Kent Res. Group. Hobby: photography.

THOMPSON, William Donald, mgr., paper makers chem. res. div., Hercules Powder Co., Expt. Station, Wilmington 99, Del.; res. Hockessin, Del.
Chem.; b. Savannah, Ga., Oct. 8, 1910; s. of William E. and Florrie (Fulton) Thompson; ed. Emory U., B.S., 1930, M.A., 1931; Harvard U., M.S., 1933, Ph.D., 1936; m. Caroline Farquhar, May 13, 1939; ch.: Alan Bruce, Richard Douglas. E.I. du Pont de Nemours & Co., Inc., res. chem., 1936-39; U.S. Rubber Co., res. chem., 1939-44; Hercules Powder Co., res. chem. 1944-46, mgr. paper makers chem. res. div. 1946 to date. Mem.: A.C.S., T.A.P.P.I.

THOMPSON, William Theodore, pres., Thompson Horticultural Chemicals Corp., 2727 Hyperion Ave., Los Angeles, Calif.; res. 4120 Los Feliz Blvd., Los Angeles, Calif.
Exec.; b. Bremerton, Washington, May 5, 1906; s. of Joseph Benjamin and Mary Ellen (Murphy) Thompson; ed. Ph.G., U. Southern Calif., 1925, Phoenix Coll., 1926-27; mem.: Kappa Psi; m. Marian Coffin, Dec. 31, 1946; ch.: William T. II., Terry. Owner, Wm. T. Thompson Co., 1930-45; pres., Wm. T. Thompson Co., 1945 to present; pres., Thompson Horticultural Chemicals Corp., 1945 to present.

THOMSON, David Landsborough, Gilman Cheney prof. biochem., Dean of Faculty & grad. stud., McGill U., Montreal 2, Canada; res. 3521 Univ. St., Montreal.
Gilman Cheney prof. biochem., b. Aberdeen, Scotland, Nov. 14, 1901; s. of Sir J. Arthur and Margaret R. Stewart Thompson; ed. Aberdeen U., M.A., 1921; B.Sc., 1924; Cambridge U., Ph.D., 1928; m. Marian S. Collingwood, 1928; ch.: John A.C. 1925, Exhib. of 1851 sr. scholar; 1928, lecturer, biochem., McGill U.; 1937, prof. of biochem.; 1942, grad. Dean; 1950, Hon. LL.D., Middlebury Coll., hon. conslt. Montreal Gen. Hosp., Royal Victoria Hosp. Author: "The Life of the Cell," 1928. Mem.: Royal Soc. Canada (fellow), Canadian Inst. Chem., Soc. Biol. Chems., Biochem. Soc., Canadian Physiol. Soc., Sigma Xi, Fisheries Res. Bd. (Canada).

THOMSON, Procter, assoc. dir. chem. div. in chg. of proc. stds., The Procter and Gamble Co., Ivorydale, Ohio; res. 5922 Winton Rd., Cincinnati, Ohio.
Exec.; b. Astoria, Ore., Aug. 16, 1888; ed. U. of Mo., Ch.E. 1912; m. 1st, Gladys Craker, June 19, 1918 (dec.); m. 2nd, Norma Hucke, Aug. 16, 1923; ch.: 2 sons, 1 dau. Forest Prods. Chem. Co., chem., frmn., supt., 1912-14; Solvay Proc. Co., expt. Engrg. Off. 1914; Sears, Roebuck & Co., chem. 1915-16; Brunswick-Balke-Collender Co., chf. chem. 1916-19; Sears, Roebuck & Co., spec. chem. wk. 1919; Procter & Gamble Co., chem. engr., 1920 to date. Mem.: A.C.S., A.O.C.S., A.I.Ch.E., Kappa Sigma, Alpha Chi Sigma, Tau Beta Pi, F.&A.M. Hobby: statis. math.

THOMSSEN, Edgar G., chem. conslt., 306 Center St., Winona, Minn.
Chem.; b. Masulipatam, India, July 16, 1886; s. of Rev. George N. and Catherine F. Thomssen; ed. Columbia U., N.Y.C., B.S. 1907, A.M. 1908, Ph.D. 1911; mem.: Alpha Tau Omega, Phi Lambda Upsilon, Sigma Xi; m. Grace M. Brinkerhoff, 1912. 1910-11, asst. in physical chem., Columbia U., N.Y.; 1911-13, chem., Lightfoot-Schultz Co., Hoboken, N.J.; 1913-14, res. chem., U.S. Dept. Agr., Wash., D.C.; 1914-23, v.p., tech. dir., Lightfoot-Schultz Co.; 1923-44, chf. chem., J.R. Watkins Co., Winona, Minn.; 1944 to date, chem. conslt., Winona, Minn. Mem.: A.C.S., A.A.A.S. (fellow), A.S.T.M., A.I.C. (fellow).

THOR, Clifford J.B., mgr. central labs. & of food & packaging res., Visking Corp., 6733 W. 65th St., Chicago, Ill.; res. 4212 Garden Ave., Western Springs, Ill.
Res. chem.; b. Feb. 24, 1907; s. of Oscar and Nellie Thor; ed. U. of Minn., B.S, PhD; Oberlin Coll., A.M.; m. Hattie E. Ness, July 14, 1936; ch.: Carl G. 1931-34, agent, U.S. Dept. of Agr., Pecan Res. Lab., Austin, Texas; 1934 to date, Visking Corp., res. chem., group leader, asst. chf. chem., chf. chem. Physiol. of pecan & other crops; adsorption of fats on inorg. gels; amino acids & proteins; chitin; polyvinyl resins; cellulose, food packaging. Mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, Gamma Sigma Delta, Gamma Alpha, Alpha Zeta, A.C.S., A.A.A.S.

THORN, Frederick C., res. dir., Garlock Packing Co., Palmyra, N.Y.; res. North Creek Rd., Palmyra.
Exec.; b. N.Y.C., Aug. 11, 1891; s. of Charles and Florence Thorn; ed. Columbia, chem. 1912; m. Grace O'Tier 1925; ch.: Mary, Grace, Charles. Garlock Packing Co., 1923 to date, chf. chem., res. dir. Num. papers on mech. packings, mostly engrg. & testing. Sec. in "Marks Handbook," 1950; sec, (with J. Boyer, du Pont) in "Plant Engineering Handbook," McGraw-Hill, 1950. Mem.: A.S.T.M., A.S.M.E. Hobby: farm.

THORNE, Frank Hilton, v.p., Natl. Aluminate Corp., 2616 W. 66th Pl., Chicago 38, Ill.; res. 237 Bloomingbank Rd., Riverside, Ill.
Exec. in chem. ind.; b. Chicago, Ill., Jan. 8, 1891; s. of Albion Paris and Mary Hilton (Browne) Thorne; ed. B.S., U. of Ill., 1916; mem.: Sigma Nu; m. Edna Turck, Nov. 24, 1917; ch.: Marjorie, Frank Hilton, Jr., Patricia. U.S.A., W.W. I, Lee Tire & Rubber Co., Chicago Chem. Co., Natl. Aluminate Corp., Visco Prods. Co. Inc. (pres.). Clubs: Riverside Golf, Soc. for the Preservation & Encouragement of Barber Shop Quartet Singing in Am. Inc. Hobbies: singing, fishing, photography.

THORNE, Harold M(onroe), chf., oil-shale res. branch, Region IV, Bur. Mines, Pet. and Oil Shale Exp. Sta., Laramie, Wyo.; res. 1521 Rainbow St., Laramie.
Chem. engr.; b. Waukomis, Okla., Jan. 21, 1901; s. of L.H. and Lillie I. (Isebell) Thorne; ed. U. Okla., B.S. Ch.E., 1924; mem.: Alpha Chi Sigma, Sigma Tau, Scabbard and Blade, Sigma Xi; m. Ruth M. Plew, Apr. 17, 1927; ch.: Robert D., Charles E., Gordon H. 1924-26, jr. chem., Bur. Mines, Bartlesville, Okla.; 1926-28, asst. chem., Boulder, Colo.; 1928-5 assoc. chem., Boulder, Colo., Laramie, Wyo.; 1935-43, ref. engr., Laramie, Wyo.; 1943-44, sr. ref. engr.; 1944-48, engr. chg. res., dev.; 1948 to date, chf., oil-shale res. branch. Res. in pet. chem., ref.; oil shale, shale oil res. Mem.: Reparations Miss. China, Korea, 1946 on chem. & fuels industries. Mem.: Sigma Xi, A.C.S., A.P.I. Clubs: Rotary, Boy Scouts of Am. Hobbies: youth work, hunting, fishing.

THORNTON, Ernest Wood, in chg. special projs., Canada Dry Ginger Ale, Inc., 635 W. 54th St., N.Y.C.; res. 22 Park Rd., Maplewood, N.J.
Chem.; b. Talladega, Ala., Feb. 28, 1888; s. of J.A. and Annie C. Thornton; ed. B.S., 1907, M.S., 1910, Ala. Polytech. Inst., Auburn, Ala.; mem.: Kappa Sigma; m. Marie B. Simms, Nov. 29, 1916. Asst. prof. chem., Ala. Polytech. Inst. 1907-10; asst. state chem., N.C. Dept. Agr. 1910-Sept., 1918; chf. chem., R.B. Davis Co., Hoboken, N.J., Sept., 1918-May, 1944; dir., control lab., Canada Dry Ginger Ale, July 1944-48, in chg. special projects July, 1948 to date. Mem.: A.C.S. Hobbies: photography, flowers.

THORNTON, Marmaduke Knox, exten. agr. chem., Extension Serv., A.&M. Coll. of Tex., College Station, Tex.; res. 552 Walton Dr., College Station.
Agr. chem.; b. Helena, Ark., Feb. 8, 1892; s. of Marmaduke K. and Annie (Knox) Thornton; ed. Miss. State Coll., B.S., 1909; Columbia U., A.M., 1914; m. Lucille Ramsey, Dec., 1921; ch.: Marmaduke K., III, Lucille Ramsey (Thornton) Madeley. 1909-11 chem. T.C.I. and R.R. Co.; 1911-15 instr. in chem. A.&M. Coll. of Tex.; 1915-18 asst. chem. Picatinny Arsenal, N.J.; 1918-19 Hercules Powder Co., Kenvil, N.J., shift supvr.; 1919-35 prof. of ind. chem., A.&M. Coll. of Tex.; 1935-42 agr. chem. Exten. Serv., A.&M. Coll. of Tex.; 1942-45 U.S.A., Major in C.W.S.; 1945 to date agr. chem. Exten. Serv., A.&M. Coll. of Texas. Wk. in dev. of sev. new explosives; many arts. on cotton seed and its prods.; petroleum tech.; agricultural chem.; soil testing; fertilizer use; herbicide use. Author: "Cottonseed Prods." 1933. Mem.: A.C.S., A.S. of Agron., F.A.I.C., Epsilon Sigma Phi. Clubs: Masonic Lodge. Hobby: floriculture.

THORNTON, Max Horsley, chmn. of chem. div., Midwest Res. Inst., 4049 Pennsylvania, Kansas City; Mo.; res. 415 East 64th Terrace, Kansas City.
Chem.; b. Lockhart, S.C., Mar. 11, 1901; s. of Robert H. and Blanche (Perkins) Thornton; ed. B.S., Clemson Coll., 1921; M.S., Purdue U., 1931, Ph.D. 1937; m. Louise Leaming, Aug. 21, 1929; ch.: Ann Leaming, Alan Farrar. Purdue U., asst. chem. 1923-37, asst. prof. 1937-46; Midwest Res. Inst., res. assoc. 1946-49, chmn. chem. div. 1949 to date. Res. on plant sterols, phosphatides & oils. Mem.: Sigma Xi, A.C.S., A.O.C.S., Soc. of Chem. & Ind. Hobbies: fishing, gardening.

THORNTON, Samuel Farrar, dir., chem. control & farm serv., F. S. Royster Guano Co., P.O. Drawer 1940, Norfolk, Va.; res. 1415 Trouville Ave., Norfolk, Va.
Agronomist, chem.; b. Union Co., S.C., Apr. 26, 1895; s. of Robert Horsley and Blanche (Perkins) Thornton; ed. Clemson Agr. Coll., B.S.,

1916; Purdue U., M.S., 1930, Ph.D., 1935; m. Gail Bone, 1921; ch.: Charles Perkins, Robert Rundle. Chem., Parker Lab., Charleston, S.C., 1916-17; deputy state chem., Purdue U. Agr. Expt. Station, Lafayette, Ind., 1917-20; chem., Sou. States Phos. & Fert. Co., Savannah, Ga., 1920-21; chem., Calumet Fert. Co., New Albany, Ind., 1921-24; chem., Paul Smith Lab., Indianapolis, Ind., 1924-27; asst. chem. 1927-35, assoc. chem. 1935-36, soil chem. 1936-38, Purdue U. Agr. Expt. Station, Lafayette, Ind.; dir., chem. control & farm serv., F.S. Royster Guano Co., Norfolk, Va., 1938 to date. Fertilizer chem., meths. for determining fertilizer needs of soils & crops. Mem.: A.C.S., A.A.A.S., Am. Soc. Agron., Soil Sc. Soc. of Am., Am. Soc. Plant Physiol., Am. Soc. Hort. Sc., A.I.C., Va. Acdy. Sc. Club: Lions (Norfolk). Hobby: gardening.

THORP, Clark E., chmn., chem. & chem. engrg. dept., Armour Res. Foundation, 35 W. 33rd St., Chicago 16, Ill.; res. 86 Fir St., Park Forest, Ill.
Chem. engr.; b. Cleveland, Ohio; s. of Ayers C. and Ada M. Thorp; ed. Fenn Coll., Cleveland, Ohio, B.S. 1935; Western Reserve U., Cleveland, Ohio, M.S. 1937; mem.: Sigma Chi Alpha; m. Amelia Greenawalt, Aug. 14, 1937; ch.: Clark E. 1936-37, Fullers Earth Co., Cleveland, Ohio, res. engr.; 1937-41, Ozo Ray Process Corp., Chicago, Ill., dir. of res.; 1941 to date, Armour Res. Foundation, Chicago, Ill., chmn., chem. dept. Ozo Ray Process Corp. (mem. bd. dirs.). Authority on ozone tech. Mem.: A.C.S., A.I.Ch.E., T.A.P.P.I., Electrochem. Soc., Chicago Prof. Paper Soc., Am. Rocket Soc., A.I.C., Ill. State Acdy. of Sc., Amer. Ordnance Assn. Hobby: electronics.

THURMAN, (Edgar) Neal, mem. dev. dept., E.I. du Pont de Nemours & Co. Inc., Wilmington, Del.; res. 528 Cedar Lane, Swarthmore, Pa.
Chem.; b. Somerset, Ky., Dec. 20, 1901; s. of Edgar Woods and Pearl (Smith) Thurman; ed. B.S. chem., 1921, U. of Ky.; 1922, M.S., chem., 1924, Ph.D., Northwestern U.; mem.: Alpha Chi Sigma; m. Julia Gardner Ross, Feb. 3, 1924; ch.: Elizabeth (Thurman) Powell, John Neal. E.I. du Pont de Nemours & Co. Inc., 1924-26, res. chem., fabrics & finishes dept., 1926-36, res. supvr., 1936-39, asst. to chem. dir., 1939-41, asst. dir. Phila. Lab., 1941-43, dir. Phila. Lab., 1943-44, Manhattan Project explosives dept., 1944-46, mgr. fld. res. fabrics & finishes dept., 1946 to date, mem. dev. dept. Res. & res. direction in flds. of paints, lacquers, varnishes, resins & chem. specialties. Mem.: Sigma Xi, A.C.S. Club: Concord Country. Hobby: gardening, fishing, photography.

THURNAUER, Hans, dir. res., v.p., Am. Lava Corp., Chattanooga, Tenn.; res. 1811 Hixson Pike, Chattanooga.
Ceramic engr.; b. Nuremberg, Germany; s. of Kuno T. and Lisa T. Thurnauer; ed. Tech. Coll. Berlin, Germany, deg. dipl. engrg., 1930; U. of Ill., M.Sc. 1932; mem.: Keramos; m. Lotte O., Apr., 1935; ch.: Peter G., Dorothy E., Marion C. Steatit-Magnesia A.G., Lauf, Germany, cer. engr., 1933-34; Steatite A. Porcelain Prds. Ltd., Stourport, Eng., cer. engr., 1934-35; Am. Lava Corp., Chattanooga, Tenn., 1935 to date, dev. engr. 1935-45, dir. res. v.p. 1945 to date. High frequency ceramic insulation, various pubs. in trade journals. Mem.: Am. Ceramic Soc. (fellow), A.S. T.M., Electrochem. Soc., Chem. Soc. (local chmn. 1948). Clubs: Engineers (Chattanooga), Executives (Chattanooga). Hobby minerals.

THURSTON, Jack Theo, administrative dir., Stamford Res. Labs., American Cyanamid Co., 1937 W. Main St., Stamford, Conn.; res. Willow Rd., Riverside, Conn.
Res. chem.; b. Montello, Nev., Nov. 4, 1908; s. of John J. and Dora B. (Hunter) Thurston; ed. B.S., U. of Nev., 1931, M.S., U. of Ill., 1933, Ph.D., 1935; mem.: Alpha Chi Sigma (prof.); honorary: Phi Lambda Upsilon, Sigma Xi; m. Evelyn Briney, June 1, 1935; ch.: Gerda L., Sandra A., John A. Res. and dev. chem., Ammonia Dept., E.I. du Pont de Nemours & Co., Wilmington, Del., and Belle, W.Va., 1935-37; res. chem., amino resins, American Cyanamid Co., Stamford, Conn., 1937-40; group leader, 1940-43; asst. dir., chem. res. dept., 1943-45; dir. chem. res. dept., 1943-49; dir. res. div. of Stamford Labs., 1949-50; administrative dir., Stamford Labs., June, 1950 to date. Res. investig. of chem. properties of chanamide and related cmpds., formulations for anion and cation exchange resins, amino-aldehyde resins, triazines, insecticides; num. pats. in these flds. Mem.: N.Y. Acdy. Sc. (fellow), A.C.S. (chmn., Western Conn. Section, 1950), A.I.C., Sigma Xi, Phi Kappa Phi.

TIDWELL, Herbert C(ollier), prof. of biochem., chmn. of dept., Southwestern Medical Schl., Dallas, Texas; res. 4228 Stanhope, Dallas 5.
Biochem.; b. Mexia, Texas, 1897; s. of J.M. and Eva (Collier) Tidwell; ed. Baylor U., Waco, Texas, A.B., M.A., 1919; Johns Hopkins U., Baltimore, Md., Ph.D., 1930; m. L. Cogdell Suttle, Nov. 16, 1919. Ft. Worth, Texas, high schl., hd. of sc. wk., 1919-24; Texas A.&M. Coll., College Station, Texas, instr. in chem., 1924-27; Carnegie Inst. of Tech., Pitts., Pa., asst. prof. of chem., 1928-30; Johns Hopkins U., Baltimore, Md., Dept. of Pediatrics of Medical Schl., instr. in pediatrics (res.), 1930-35; Duke U., Durham, N.C., dept. of biochem., instr., 1935-36; Wake Forest Coll. of Medical Sc., Wake Forest, N.C., assoc. prof. of biochem. & toxicol., 1936-38; Baylor U. Coll. of Medicine, Dallas, Texas, prof. of biochem., chmn. of dept., 1938-43; Southwestern Medical Coll., Dallas, Texas, prof. of biochem., chmn. of dept., 1943-49; Southwestern Medical Schl. of U. of Texas, 1949 to date. Num. pubs. in sc. jls. Mem.: Sigma Xi, A.C.S., S.E.B.M., A.A.A.S. (fellow), A.A.U.P., Texas Acdy. of Sc., Am. Soc. of Biolog. Chemists. Clubs: Sigma Xi, Knife & Fork. Hobbies: golf, fishing.

TIEDCKE, Carl Heinrich Wilhelm, owner & dir., Laboratory of Microchemistry, 705 George St., Teaneck, N.J.; res. same.
Chem.; b. Lubeck, Germany, Mar. 1, 1903; s. of Christian and Eleonora Tiedcke; ed. 1922-28, U. of Hamburg, Germany, grad. with deg. of D.Sc.; m. Lisa Becker, May 28, 1948. 1928-31, asst., Chem. Inst., U. of Hamburg; 1931-33, asst., Pharmacolog. Inst., Medical Schl., U. of Hamburg; 1933-37, hd. of chem. dept., Res. Inst. for Tuberculosis & Cancer, U. of Hamburg; at same time hd. of Microchem. Inst. of U. of Hamburg; 1937 to date, owner, dir., Lab. of Microchem. Pubs. on high-vacuum fractional distillation of fatty acids, counter current extraction applied to var. substances, studies in halogen metabolism, studies of effect of coffein & other alkaloids on internal organs, var. studies microchem. meths. among others distillation of micro samples in spec. designed appar., the Tiedcke appar. for micro-determination of molecular weight. Mem.: A.C.S., A.A.A.S., Metropolitan Microchem. Soc., Austrian Microchem. Soc. Club: Liederkranz of City of N.Y. Hobbies: music, being active as impressario for musical talents.

TIEDJENS, Victor A(lphons), dir., Va. Truck Exper. Sta., Norfolk, Va.; res. P.O. Box 2160, Norfolk, Va.
Res. in vegetable crop prod.; b. Brillion, Wis., June 13, 1895; s. of John A. and Anna C. Tiedjens; ed. pub. schls. of Marinette, Wis.; B.S., U. of Wis., 1921; M.S. 1922; 1 yr. at Harvard, 1938;

Ph.D. Rutgers, 1932; mem. Farm House, Delta Theta Sigma; m. Dorothy Janet Dopp, June 2, 1923; ch.: Dorothy Lorraine, Penelope Emily. Sc. asst., U. of Wis., 1919-23; asst. res. prof. of veg. gardening, U. of Mass., 1923-29; res. prof. in hort., Rutgers U., 1929-32; dir. of res., Yoder Bros., Barberton, O., 1932-34; assoc. prof. veg. gardening, Rutgers, 1934-45; dir., Va. Truck Exper. Sta., Norfolk, Va., 1945 to date. Wk. in assimilation of nitrate and ammonia nitrogen in plants; also, relation of ampholytes to above assimilation proc.; has written 14 sc. papers, also 4 expt. sta. bulletins on subjects. Co-author: "Chem. Gardening for the Amateur," 1939; "A Practical Guide to Successful Farming," 1943; Author: "The Vegetable Encyc. and Gardening Guide," 1943. Mem.: A.A.A.S. (fellow), A.S. Hort. Sc., A. C.S., A.S. Plant Phys., Sigma Xi, Alpha Zeta, Phi Kappa Phi, Phi Sigma. Clubs: Rotary, Round Table Internatl. Hobbies: fishing, golf, gardening.

TIFFANY, Harold Edward, pres., dir., Wilmington Testing & Res. Labs. Inc., 808 Jefferson St., Wilmington, Del.; res. 1620 N. Franklin St., Wilmington.
Res. chem., dir. of testing lab.; b. Tunkhannock, Pa.; s. of Lewis Wm. and Kathrine (Loomis) Tiffany; ed. Keystone Acdy., Prep. Schl., Bucknell U., Harvard, Columbia, B.S., M.S. in chem., Ph.D.; mem.: Sigma Phi Epsilon, Boyleston Chem. Club; m. Mildred E., Feb., 1947; ch.: Elizabeth E., Harold Edward, Jr. U. of Del. chem. dept., asst. state chem. 1906-19; du Pont Co., res. chem., 1918-19; Hunter Coll., prof. geol. & mineralogy, 1919-20; U. of Del., prof. of chem., 1920-23; organized Wilmington Test. & Res. Labs., 1923; Wilmington City Chem.; New Castle, Co. Del. coroner's chem. & toxicologist; toxicologist to Attorney's Gen. Office; U.S. revenue chem.; official pulp & paper chem., T.A.P.P.I. Toxicity certain medicinal oils, viz, pine oils, chenopodium oil; electrolytic purification certain fibers; recovery of molybdenum & recovery of zinc from low grade zinc ores. Mem.: A.C.S., A.A.A.S., T.A.P.P.I. Dir. Rotary Club. Clubs: Rotary, Masonic bodies, Blue Lodge, Royal Arch Chapter, Knights Templar, Council Royal & Select Master Masons, Harvard Masonic Club, life mem., Rotary Club (past pres.). Hobbies: hunting, fishing, gardening, camping, Christmas parties.

TIGELAAR, Jacob H., dir. res., tests, Haskelite Mfg. Corp., Grand Rapids, Mich.; res. 2550 Albert Dr., S.E., Grand Rapids.
Chem.; b. Jamestown, Mich., Feb. 3, 1909; s. of Henry and Hermina Holleman Tigelaar; ed. 1930 A.B. (cum laude) Hope Coll., Holland, Mich.; 1932, M.S., Purdue U.; m. Florence Rynbrandt, June 15, 1933; ch.: Donna Lou, Robert Earl. 1931-38, chem. Haskelite Mfg. Corp., 1939 to date, dir. res. Res. in titrat. of certain alkal. Mem.: A.C.S., Sigma Xi, Phi Lambda Upsilon,, A.S.T.M., Forest Prod. Res. Soc., S.P.I., Grand Rapids Engrs. Hobbies: fishing, flowers.

TILLEY, J. Norman, mgr., planning div., rayon dept., E.I. du Pont de Nemours & Co., 3410 Nemours Bldg., Wilmington, Del.; res. Wilmington, Del.
Chem.; b. Everett, Wash., June 11, 1905; s. of Fred W. and Maie E. Tilley; ed. B.S., Industrial chem., cum laude, U. of Washington, 1928; m. Madge Wynn, 1937. E.I. du Pont de Nemours & Co., 1928 to date. Mem.: Phi Beta Kappa, Sigma Xi.

TILLOTSON, E(dwin) Ward, asst. dir., Mellon Inst., 4400 Fifth Ave., Pitts. 13, Pa.; res. 505 S. Murtland Ave., Pitts. 8.
Chem.; b. Farmington, Conn., Feb. 28, 1884; s. of Edwin Ward and Mary Lewis (Root) Tillotson; ed. Yale, B.A., 1906, Ph.D., 1909; m. Lida Charles LeSuer, July 24, 1913; ch.: Edwin Ward, III, Mary Katherine. Ind. fellow, U. of Kans., 1909-13; asst. dir., Mellon Inst., 1913 to date. Mem.: A.C.S., Am. Ceramic Soc., A.Phys.S., Soc. Glass Tech. (England). Award: Albert V. Bleininger M., 1949. Club: University (Pitts.).

TILSON, Donald Heath, wks. mgr., Aluminum Ore Co., 3300 Missouri Ave., E. St. Louis, Ill.; res. 5334 Waterman Ave., St. Louis 12, Mo.
Chem. engr.; b. Lafayette, Ind., Apr. 20, 1899; s. of Dr. Washburn and Frances (Heath) Tilson; ed. Purdue U., Lafayette, Ind., B.S. in chem. engrg., class of 1920; mem.: Phi Kappa Psi; m. Ann Coe, Sept. 24, 1926; ch.: Donald H., Jr., William C., Hugh H. 1920, Aluminum Co. of Am., reduction plant, Badin, N.C., tech. asst., 1921, control supt. in chg. of chem. control, efficiency wk., etc., 1922, res. div., in chg. of pilot plant refining process for producing high purity al., 1923, asst. supt. of res. pilot plant dev. new process for making alumina & cont. in chg. of refin. proc., 1925, sales dpet., N.Y. sales office; 1931, Aluminum Seal Co., New Kensington, Pa., sales mgr., 1936, v.p., 1942, assisted in starting Troutdale, Ore., D.P.C. reduction plant for producing pig al., became wks. mgr. of Riverbank, Calif., D.P.C. al. red. plant; 1943 to date, wks. mgr., Aluminum Ore Co., E. St. Louis, Ill., producing alumina & other chem. prods. Granted pats. on refining process for producing pure al., tamper proof closure for drugs, serums & chems. Dir., East Side Assoc. Industries and Chamber of Commerce, E. St. Louis, Ill.; dir., Purdue U. Alumni Assn., Lafayette, Ind. Mem.: A.I.Ch.E. Clubs: E. St. Louis Rotary, Klinker Klub (St. Louis), Bellerive Country (St. Louis), Mo. Athletic (St. Louis). Hobbies: golf, hunting, fishing.

TIMBLIN, Louis McFarland, treas., Charles Pfizer & Co., Inc., 11 Bartlett St., Brooklyn 6, N.Y.; res. 120 Edgewood Ave., Smithtown Branch, Long Island, N.Y.
Cert. public accountant; b. Midway, Pa., Mar. 11, 1899; s. of Monroe J. and Sara M. (McFarland) Timblin; ed. A.B. Marietta Coll., 1921; mem.: Delta Upsilon; m. Irene Norman, Nov. 23, 1932. Dir. of athletics, Aurelius Township H.S., 1921-23; certified pub. account., staff, F.W. Lafrentz & Co., 1923-39; auditor., Chas. Pfizer & Co., Inc., chem. mfgrs., 1940-44; asst. treas. & dir., same co., 1944, treas., 1945 to date. Citro Chemical Co. of Am., treas. & dir. Mem.: Soc. of C.P.A. (New York), Natl. Assoc. of Cost Accountants, Controllers Inst. of Am. Clubs: Chemists' (New York), Drug and Chemical (New York).

TIMM, John Arrend, dir., schl. of sc., chmn., div. of sc., prof. of chem., Simmons Coll., Boston 15, Mass.; res. 125 Arnold Rd., Newton Centre 59, Mass.
Educator, chem.; b. New Haven, Conn., Oct. 31, 1898; s. of Rev. John A. and Emma (Stein) Timm; ed. Yale U., Ph.B., 1919, Ph.D., 1922; mem.: Theta Xi, Sigma Xi, Alpha Chi Sigma, Gamma Alpha; m. Marquerite Benedict, June 9, 1923; ch.: Jane Benedict (Timm) Engle (daughter), John George Engle (grandson). 1922-27 instr., 1927-41 asst. prof., Yale U.; 1941 to date, dir., schl. of sc., chmn. div. of sc. and of chem. dept., prof. of chem., Simmons Coll. Author: "Charts of Chem. Reactions of the Common Elements" (Wiley) 1924; "An Introduction to Chem." (McGraw-Hill), 1930, 3rd edit. 1938; with Orion Shupp, "Lab. Exercises in Gen. Chem." (McGraw-Hill), 1930; co-author of "The Scs." (Yale U. Press), 1941; "Gen. Chem." (McGraw-Hill) 1944, 2nd edit. 1950; with Raymond Neal, "Lab. Exercises in Gen. Chem." (McGraw-Hill), 1948. Mem.: A.C. S. Club: Wellesley Country. Hobby: woodworking.

TIMMONS, Norman J.W., asst. sales mgr., resinous prods. div,. Rohm & Haas Co., 222 W. Wash. Sq., Phila. 5, Pa.; res. 48 E. Clearfield Rd., Havertown, Pa.
Tech. sales engr.; b. St. Catherine, Ont., Canada, Sept. 14, 1905; s. of John W. and Alice M. Timmons; ed. U. Rochester, M.A., 1939; m. Dora Irene Cullingworth, July, 1938; ch.: Barbara Ellen, Jeanne Alice. Res., 1939-40, tech. sales, 1941-42; sales dev., tech. sales mgt., 1942 to date. During war spent most time coordinating prod. dev. with govt. requirements. Was influential in dev. of prods. for use in treatment of fire, water, mildew, weather resistant fabrics for armed forces. Mem.: A.C.S., A.A.T.C.C., Gallows Bird Soc., chmn., Joint Comm. on Testing of Fire Resistant Fabrics of A.A.T.C.C., Natl. Prof. Activities Comm. on Coatings. Hobby: woodworking.

TINKER, James Bates, departmental engr., polychem. dept., E.I. du Pont de Nemours & Co., Wilmington, Del.
Mech. & chem. engr.; b. Wilkes Barre, Pa., Aug. 3, 1904; s. of John A. and Eleanor (Bates) Tinker; ed. U. of Pitts., B.S. in M.E., high hon.; m. Doris Trembath, Nov. 29, 1930; ch.: Judith Ann, William Bates. 1928-29, res. asst., Gulf Oil Co., Mellon Inst., Pitts., Pa.; 1929-30, res. div., Cincinnati Milling Machine Co., Cincinnati, Ohio; 1930-40, sr. engr., Belle Wks., du Pont Co., Charleston, W. Va., 1940-41 asst. to chf. engr. ammonia dept., 1941-44, tech. mgr. Morgantown Ordnance Wks., 1945-47, asst. tech. mgr. Belle Wks., 1947-50, tech. mgr. Belle Wks., 1950 to date, departmental engr. polychem. dept. Design dev. for high pressure chem. synthesis plants. Mem.: A.I.Ch.E., A.S.M.E., A.S.M. Clubs: Kanawha Country, University.

TINKER, John Marlin, dir., Jackson Lab., E.I. du Pont de Nemours & Co. Inc., P.O. Box 525, Wilmington, Del.; res. 106 W. 42nd St., Wilmington, Del.
Chem.; b. Maquoketa, Iowa, Apr. 28, 1897; s. of Frederick Seward and Helen Celeste (Goodenow) Tinker; ed. B.S. org. chem., 1918, U. of Chicago; mem.: Delta Upsilon; m. Janet Irene Casto (dec.), June 12, 1920; Adelaide Louise Camerano, Apr. 24, 1943; ch.: John Frank, Irene Celeste, Robert Frederick, Dorothy Jane McManus (by 1st marriage). U.S.A. Air Serv., July, 1918-Feb., 1919; Newport Chems. Co., Carrollville Lab., res. chem., 1919-30, div. hd., 1930-34; Jackson Lab., E.I. du Pont de Nemours & Co., div. hd., 1934-38, asst. dir., 1938-43, dir., July, 1943 to date. Num. arts. on condensing agents in tech. jls.; 41 U.S. pats. on processes & new prods. in org. fld. of chem. & engrg. Mem.: A.C.S., A.I.Ch.E., A.A.A.S., A.A.T.C.C., Chem. Soc. (London), S.C.I. (Am. Sec.), Soc. of Dyers & Colorists, Franklin Inst., Armed Forces Chem. Assn. Clubs: Wilmington Country, du Pont Wilmington Country, Masonic Lodge, Wilmington Whist. Hobbies: golf, flying, music, billiards, horticulture.

TINNON, John B., v.p., Metal & Thermit Corp., 100 E. 42nd St., N.Y. 17, N.Y.; res. 610 Forest Ave., Larchmont, N.Y.
Sales exec.; b. Ft. Worth, Texas, June 21, 1885; s. of Robert M. and Sarah P(reston) Tinnon; ed. Vanderbilt U., B.S., 1908; mem.: Phi Delta Theta; m. Edwine M. Munroe, May 6, 1916; ch.: John M., William M., Edwin M. Asst. engr., Chicago City Ry. Co., Chicago, 1908-12; chf. engr., Chicago & Joliet Elec. Ry. Co., Joliet, Ill., 1912-24; Ordnance Dept., U.S.A., Sept., 1917-Jan., 1919; Metal & Thermit Corp., N.Y., mgr. rail welding dept., sales mgr. & v.p. (1945), 1924 to date.

TIPSON, Robert Stuart, sr. fellow, dept. of res. in pure chem., Mellon Inst., Pitts. 13, Pa.; res. 631 Dewalt Dr., Pitts. 34.
Res. chem.; b. Derbyshire, England, Nov. 23, 1906; s. of Herbert James and Mary Jane (Stuart) Tipson; ed. U. of Birmingham, England, B.Sc., 1st class hon., 1927, Ph.D. 1932, D.Sc. 1945; m. Constance Goodwin, Mar. 12, 1932. 1927-28, Priestley res. scholar, U. of Birmingham, England, 1928-29 instr. in org. chem.; 1929-30, res. fellow, McGill U., Montreal, Canada; 1930-36, res. asst., Rockefeller Inst. for Medical Res., N.Y.C., 1936-39, res. assoc.; 1938-39, lecturer in advanced biochem., Bklyn. Coll., Bklyn., N.Y.; 1939-45, fellow, Mellon Inst., Pitts. 13, Pa., 1945 to date, sr. fellow. Res. on sugars, nucleic acids, plant gums, cinchona alkaloids, antipneumococcic & anti-malarial drugs. Chapters in "A Textbook of Biochem." ed. by B. Harrow & C.P. Sherwin, 1935; "Advances in Carbohydrate Chem." ed. by W.W. Pigman & M.L. Wolfrom, 1945; "Technique of Org. Chem." ed. by A. Weissberger, Vol. III 1950, Vol. IV in press. Mem.: Chem. Soc. (London), A.C.S., A.S. Biol.C., A.A.A.S., Pitts. Chemists' Club, Sigma Xi. Clubs: U. of Pitts. Faculty, Mt. Lebanon Lions (1st v.p. 1947-48; pres. 1948-49). Hobbies: gardening, carpentry, philately.

TISDALE, Harry R., dir. and v.p., Amer. Dyewood Co., 285 Madison Ave., New York 17; res. 42 Homestead Ave., Scarsdale, N.Y.
Exec.; b. New London, Conn., Feb. 19, 1888; ed. R.I. State, B.S., 1909; M.I.T., S.B., 1911; Univ. Leipzig, 1913; m. Grace R. Holloway, July 14, 1917. Brainerd & Armstrong Co., 1914-21; Am. Dyewood Co., 1921 to date; also dir. United Dyewood Corp. Mem.: Am. Soc. Chem. & Color., St. George's Lodge, A.F.&A.M. Club: Chemists' (N.Y.). Hobbies: fishing, camping, golf.

TISHLER, Max, dir. dev. res., Merck & Co. Inc., Rahway, N.J.; res. 674 Shackamaxon Dr., Westfield, N.J.
Chem.; b. Oct. 30, 1907; s. of Samuel and Anna Tishler; ed. B.S. Tufts Coll., magna cum laude, 1928; M.S., Harvard U., 1933, Ph.D. 1934, Phi Beta Kappa, Sigma Xi; mem.: Pi Lambda Phi; m. Elizabeth M. Verveer, June 17, 1934; ch.: Peter V., Carl L. Austin teaching fellow, Harvard U., 1929-34, res. assoc. 1934-36, instr. 1936-37; res. chem., Merck, 1937-41, sec. hd. process dev. 1941-44, dir. dev. res. 1944 to date. Dev. of processes; syntheses or isolations of cmpds. of pharmacolog. interest; syntheses of vitamins, drugs, amino acids, alkaloids, steroids; isolation of alkaloids, drugs, antibiotics. Co-author: "Chem. of Org. Cmpds." 1939, "Streptomycin" 1949; author & co-author of 55 chem. publ. J.A.C.S. & 43 U.S. pats. Mem.: A.C.S., A.A.A.S., N.Y. Acdy. of Sc. (fellow), Chem. Soc. London (fellow), Swiss Chem. Soc., Office Sc. Res. & Dev. (Natl. Defense Res. Comm.), Sigma Xi, Phi Beta Kappa, Harvard Assn. of Chemists. Hobbies: gardening, stamps.

TISZA, Dr. Edmond T., v.p. in chg. of dev. & res., Nepera Chem. Co. Inc., 21 Gray Oaks Ave., Yonkers 2, N.Y.; res. 461 Riverdale Ave., Yonkers 5, N.Y.
Chem.; b. Tiszafured, Hungary, Feb. 27, 1885; s. of Leopold and Josephine Tisza; ed. Ph.D. org. chem., Berne, Switzerland, 1907; m. Alma C. Schmorr, Jan. 21, 1914. Teaching asst., Berne, 1907, Budapest 1908; asst. chem., Thos. A. Edison, W. Orange, N.J., 1909; chem. dir., W.B. McVicker Co., Bklyn., N.Y., 1909-18; chf. chem., Caravel Co., 1918-22; chf. chem. Intravenous Products Co., New York, N.Y., 1922-27; tech. adviser in chg. of dev. & res., Nepera Chem. Co. Inc. (successor to Pyridium Corp.) Yonkers 2, N.Y. (mem. bd. dirs.). Publ. several papers in

org. chem., in fld. chemotherapeutics, heterocyclic cmpds., over 30 U.S. pats. in same fld. Mem.: A.C.S.

TITTEL, Herbert O., plant mgr., Monsanto Chemical Co., Anniston, Ala.; res. 812 Coleman Dr., Anniston, Ala.
Exec.; b. Highland, Ill., Jan. 14, 1910; s. of O.H. and Augusta Tittel; ed. U. of Ill., and Mo. School of Mines; B.S. in E.E., 1932, B.S. in C.E., 1933; m. Lucie Weber, Nov. 16, 1935; ch.: Bruce. Phosphate Div. Engr., 1941-46; maintenance supt., Anniston Plant, 1946-47; production supt., Trenton Plant, 1947-50; plant mgr., Anniston Plant, 1950 to date; all positions with Monsanto Chem. Co.

TITUS, Harry Waltner, tech. counselor, Lime Crest Res. Lab., R.D. 1, Newton, N.J.; res. Lakeview & W. Maple Sts., Andover, N.J.
Biolog. chem.; b. Laramie, Wyo., Mar. 30, 1896; s. of Edward D. and Emma E. Titus; ed. 1918, A.B., 1925 A.M., U. of Wyo.; 1919-20, Stockholms Högskola & Nobel Institutet; 1931, Ph.D., George Washington U.; mem.: Sigma Nu; m. Annie Laurie Greene, June 20, 1923; ch.: Harry Edwin. 1918-19, asst. State chem., Wyo.; 1920-21, hd. dept. chem., Okla. Schl. Mines & Metal; 1921-24, nutrition chem., 1924-26, assoc. prof. nutrition, N. Mex. State Coll.; 1926-30, assoc. biochem., 1930-43 sr. biochem. in chg. of poultry nutrition investigations, Bur. An. Ind., U.S.D.A.; 1943-44, hd. feed specialties div., War Food Adm.; 1944 to date, tech. counselor, Limestone Prods. Corp. of Am., Newton, N.J. poultry nutrition. Author: "The Sc. Feeding of Chickens" 1st ed. 1941, 2nd ed. 1949. Mem.: A.C.S., A.S.Biol.C., Am. Inst. Nutr., Poultry Sc. Assn., S.E.B.M., Soc. An. Prod., Am. Dairy Sc. Assn., Soc. for Applied Spectroscopy, World's Poul. Sc. Assn., Am. Nutr. Res. Council, A.A.A.S., Wash. Acdy. of Sc., N.Y. Acdy. of Sc. Hobbies: mathematical statistics, statistical analysis.

TITUS, Harvey Lind, pres., Carbon Black Export, Inc., 500 Fifth Ave., N.Y.C.; res. Interlaken Rd., Stamford, Conn.
Exec.; b. Cambridge, Mass., May 30, 1908; s. of Harvey O. and Daisy (Adams) Titus; ed. A.B., Harvard Coll., 1928; LL.B., Boston Coll. Law Schl., 1936; m. Beverly Clatur, Jan. 24, 1948; ch.: Naomi, Jonathan, Timothy, Meredith. 1936-40, asst. to exec. v.p., 1940-41, asst. gen. mgr., 1941-43, dir. of food tech., Godfrey L. Cabot, Inc., Boston, Mass.; 1943-45, v.p., Valley Vitamins, Inc., McAllen, Tex.; 1946 to date, pres., Carbon Black Export, Inc. Directed res. & construction of plant making first com. application of chromatographic separation technique. Mem.: Boston Bar Assn., A.C.S., I.C.C. Practitioners Assn., I.F.T., Traffic Club of N.Y., Chemists' Club of N.Y., Harvard Club of N.Y.

TOBEY, Elmer Robert, chem., hd. of dept. of chem., Me. Agr. Exp. Station, U. of Me., Orono, Me.; res. 5 Pond St., Orono.
Chem.; b. Norridgewock, Me., Apr. 8, 1889; s. of Fred H. and Lillia Christina (Miller) Tobey; ed. B.S., U. of Me., 1911, M.S. 1917, Ch.E. 1920, gen. hon.; grad. study, U. of Wis., 1930-32; mem.: Phi Kappa Phi, Sigma Xi, Alpha Tau Omega; m. Helen Bates White, Nov. 27, 1912. Pure food & drug inspector, Me. Agr. Exp. Sta., 1911-12, asst. chem. 1913-15; asst. res. chem., Va.-Carolina Chem. Co., Richmond, Va., 1916; asst. chem., assoc. chem., res. chem., chem., since 1917; hd. of dept. of chem., 1935 to date. Mem.: A.C.S., Assn. Official Agr. Chem., Am. Assn. of Feed Control Officials, Am. Assn. of Fertilizer Control Officials, Assn. of Economics Poisons Control Officials. Club: Masonic. Hobbies: athletics, gardening.

TOBIN, Elise, assoc. prof. of chem., Brooklyn Coll., Bedford Ave. & Ave. H., Bklyn. 10, N. Y.; res. 2911 Fillmore Ave., Bklyn. 29.
Teacher; b. Brooklyn, N.Y., Feb. 23, 1894; d. of Samuel Joseph and Sophie Tobin; ed. Barnard Coll., 1915, B.S., Phi Beta Kappa; Bryn Mawr Coll., 1919, Ph.D. in chem. Fleischmann Yeast Co., res. chem.; Merck & Co., res. chem.; instr., Wells Coll., asst. prof.; instr., asst. prof., assoc. prof., Bklyn. Coll. Mem.: A.C.S., A.A.A.S., N. Y. Acdy. of Sc., A.A.U.P.

TODARO, Casper A., dir. of process dev., Toni Co., 456 Merchandise Mart, Chicago, Ill.; res. 400 S. Main St., Mt. Prospect, Ill.
Chem. engr.; b. Niagara Falls, N.Y., June 19, 1916; s. of Frank and Mary Todaro; ed. B.S.E., Ch.E., U. of Mich., 1939; m. Josephine Arnao, May 8, 1940; ch.: Casper Franklin, Linda Marie. Oct., 1939-Aug., 1944, Mich. Chem. Corp., St. Louis, Mich., process control engr.; Aug., 1944-Apr., 1945, Fercleve Corp., Oak Ridge, Tenn., tech. supt., Apr., 1945-Sept., 1945 process dev. dir.; Oct., 1945-Oct., 1947, Raymond Labs., St. Paul, Minn., dir. of process dev.; Oct., 1947 to date, Toni Co., Chicago, dir. of process dev. Dev. of processes for the mfr. of many chems. in the phar. & cosmetic industries. Mem.: A.I.Ch.E., A.C.S., Chicago Chemists' Club. Clubs: Mt. Prospect Men's, Holy Name Soc. Hobby: sports.

TODD, Ernest Alfred, ref. chf. chem., Skelly Oil Co., El Dorado, Kan.; res. 916 W. Pine, El Dorado.
Chem.; b. Vermillion, S.D., Aug. 17, 1894; s. of J.E. and Lillie J. Todd; ed. A.B., Kansas U., 1916; mem.: Alpha Chi Sigma; m. Nina B. Miller, June 24, 1918; ch.: Richard N., Janet A. Chem., U.S. Zinc Co., Sand Springs, Okla., 1917-19; chem., Cosden & Co., Tulsa, Okla., 1919-20; chem., Pierce Oil Corp., Sand Springs, Okla., 1920-21; chf. chem., Southern Oil Corp., Yale, Okla., 1921-22; chf. chem., Sapulpa Ref. Co., Sapulpa, Okla., 1922-23; ref. chf. chem., Skelly Oil Co., El Dorado, Kan., 1923 to date. Mem.: A.C.S., A.S.T.M. Hobbies: hunting, fishing, gardening.

TODD, Leslie J(ay), assoc. prof. of chem., dept. of chem., Kent State U., Kent, Ohio; res. 236 E. Williams St., Kent.
Prof. of chem.; b. Hendrysburg, Ohio, Sept. 17, 1900; s. of William H. and Cora (Bond) Todd; ed. June, 1924, Muskingum Coll., New Concord, O., A.B.; June, 1928 & June, 1931, Columbia U., N.Y., M.A., Ph.D.; m. Violet M. Haworth, Apr. 4, 1926; ch.: William H., Leslie James. Marshall Coll., Huntington, W.Va., hd. of chem. dept., 1931-46; Ind. U., Bloomington, Ind., assoc. prof., 1946-49; Kent State U., Kent, Ohio, assoc. prof., 1949 to date. On the nature of al. oxybromide hydrosols. Mem.: Phi Lambda Upsilon, Sigma Xi, Alpha Chi Sigma, A.C.S., A.I.C., A. A.A.S. Clubs: A.F. & A.M. 32 deg., Lions (past pres.). Hobbies: gardening, woodworking.

TOENNIES, Dr. Gerrit, sr. mem., hd. dept. of gen. biochem., Inst. for Cancer Res. & Lankenau Hosp. Res. Inst., Phila. 11, Pa.; res. Gladwyne, Pa.
Res. chem.; b. Hamburg, Germany, Jan. 31, 1898; s. of Ferdinand and Marie Toennies; ed. Freiburg, 1920; Munich, 1921-22; Kiel, 1923-24, Ph.D.; m.

Dita T., 1925; ch.: Jan Peter, Ralf Gerrit. Texas Co., res. chem., 1925-28; Lankenau Hosp., Phila., 1929-49; Inst. for Cancer Res. & Lankenau Hosp. Res. Inst., 1950 to date. Over 60 publ. in syn. of derivatives of S-containing amino acids, non-aqueous acid & base systems, amino acid chem., chem. modification of protein, chem. composition of normal & cancer tissue, bacterimetric meths. for amino acids & vitamins, bact. metabolism. Mem.: A.S.Biol.C., Sigma Xi, A.C.S., Soc. of Study of Dev. & Growth.

TOMLINSON, George Herbert, v.p., Howard Smith Paper Mills Ltd., 1235 McGill Coll. Ave., Montreal, P.Q.; res. 3940 Cote des Neiges Rd., Montreal.
Chem. engr.; b. Toronto, June 19, 1880; s. of Richard H. and Julia (Young) Tomlinson; ed. Upper Canada Coll.; Toronto U., B.A., 1901; m. Irene Nourse, 1905; ch.: Ann Eleanor, Ruth Nourse, George Herbert, Charles Lester, Richard Howden. 1901, asst. chem., Lake Superior Power Co., Sault St. Marie; 1903, asst. to gen. supt., Liquid Carbonic Co., Chicago; 1908, mgr., Wood Waste Prods. Co., Chicago; 1910, mgr., Stand. Alcohol Co., N.Y.; 1918, res. dir., Riordon Pulp & Paper Co., Hawkesbury, Ont.; 1921 to date, tech. dir., v.p., Howard Smith Paper Mills, Ltd., Montreal. Responsible for numerous dev. in connection with the chem. processing & utilization of wood. Arborite Co., Ltd. (v.p., dir.). Mem.: A.C.S., A.I.Ch.E., T.A.P.P.I., S.C.E., C.I.C. Awards: S.C.I. (Canada) M. 1948; received the deg. of D.C.L. 1946. Governor, Ontario Res. Foundation; governor, Bishop's U. Clubs: Chemists' (N.Y.), Mt. Stephen, Royal Montreal Golf. Hobbies: gardening, fishing.

TOMLINSON, Ritner W., supt., Pennsylvania Salt Mfg. Co., Easton, Pa.; res. 709 Hamilton St., Easton.
Engr.; b. Elizabeth, N.J., Feb. 15, 1903; s. of Harry C. and May L. Tomlinson; ed. B.S. in administrative engrg., Lafayette Coll., Easton, Pa.; mem.: Sigma Nu; m. Helen N. Cooper, July 4, 1931. Draftsman, yard foreman, plant engr., 1925-38; supt., Greenwich Wks., Pa. Salt Mfg. Co., 1938-42; supt., Cornwells Wks., same co., 1942-46; supt., Easton Works, same co., 1946 to date.

TOMPKINS, Gerald Samuel, v.p., dir., Am. Viscose Corp., 1617 Pennsylvania Blvd., Phila. 3, Pa.; res. 183 Lakeside Rd., Ardmore, Pa.
Mfg.; b. New Haven, Conn., Nov. 1, 1896; s. of Walter L. and Elizabeth Tompkins; ed. Ph.B., Yale U., 1918; m. Florence Elizabeth Righter, 1922; ch.: Gerald S., Jr., Barbara Elizabeth. Am. Viscose Corp., 1919, Lewistown, Pa., plant chem.; 1921, Lewistown, Pa., chf. plant chem.; 1934, Lewistown, Pa., plant mgr.; 1939, Front Royal, Va., plant mgr.; 1947, hd. office, Phila., Pa., gen. mgr. of viscose mfg., dir. of corp.; 1949 to date, hd. office, Phila., Pa., v.p., viscose mfg., dir. Clubs: Yale (N.Y.C.), Racquet (Phila., Pa.), Merion Golf (Ardmore, Pa.).

TOMPKINS, Leonard George, prof. of chem., John B. Stetson U., DeLand, Fla.; res. 111 N. Stewart, DeLand.
Teaching, res.; b. Derby, England, Mar. 2, 1913; s. of George Burton and Marjorie Alice Tompkins; ed. John B. Stetson U., B.S. 1941; Purdue U., M.S. 1945, Ph.D. 1947; m. Winifred Elizabeth Thigpin, Aug. 24, 1940; ch.: Robert Stephen, Danny Neil. John B. Stetson U., 1938-41; Christ Hosp., Cincinnati, Ohio, 1941-42, lab. technician; Purdue U., 1943-46, teaching asst., res. fellow; Humble Oil & Refg. Co., Baytown, Texas, 1946-47, res. chem.; U. of Idaho, 1947-49, asst. prof. of chem.; Stetson U., prof. of chem., June, 1949 to date. Cont. to sc. jls. Mem.: A.C.S., Fla. Acdy. of Sc., Ind. Acdy. of Sc., Sigma Xi, Phi Lambda Upsilon. Wk. in Boy Scouts of Am. Club: Kiwanis Internatl. Hobby: amateur radio.

TONN, William H., Jr., consltg. chem. engr., ind. engrg. dept., Second Natl. Bank, Houston, Texas; res. 3906 Law Dr., Houston.
Consltg. chem., chem. engr.; b. Texas, July 26, 1918; s. of William H. and Eugenia (Noack) Tonn; ed. B.S., M.S., Ph.D., U. of Texas; mem.: Pi Kappa Alpha; m. Jeanne Runge, May 16, 1944. Shell Chem. Co., Houston, Texas, res. technologist, 1942-43; Sinclair Rubber, Inc., Houston, Texas, chem. engr., 1943-44; Natl. Cotton Council, War Prod. Bd., Office Prod. Res. & Dev., res. dir., Austin, Texas, 1944-45; M.I.T., asst. dir. of res., Plastic matls. mfg. assoc. project, Cambridge, Mass., 1944-46; U. of Okla., Norman, Okla., assoc. prof. of chem. engrg., private consltg. engr., 1946-47; Rohm & Haas Co., Houston, Texas, chf. chem. engr., 1947-48; private conslt. & associated with Second Natl. Bank, ind. engrg. dept., Houston, Texas, 1948 to date. Doctor's dissertation on cotton wax; casein & soy bean fibers; plastics & resins; paints; nitrogen compds.; org. & inorg. processes; market surveys. Author: "Matls. of Construction—Wood, Plastics, Textiles," chapter on plastics, editor A.G.H. Dietz, M.I.T., 1949. Mem.: Sigma Xi, Phi Eta Sigma, Phi Lambda Upsilon, A.C.S., A.I.Ch.E., Am. Men of Sc., A.A.A.S. Club: Chamber of Com., Houston, Texas. Hobbies: gardening, fishing.

TOONE, Gilbert C., mgr., Pt. Chester Lab., Natl. Aniline Div., Allied Chem. & Dye Corp., 5 New Broad St., Pt. Chester, N.Y.; res. 40 Park Ave., Pt. Chester.
Chem.; b. Needham Heights, Mass., Nov. 6, 1905; s. of G. Gilbert and Edith (Coult) Toone; ed. M.I.T., B.S., 1928, M.S., 1930, Ph.D., 1934; mem.: Alpha Chi Sigma; m. Isabel Taft, 1935; ch.: Richard Taft. 1928-33, lab. asst., M.I.T.; 1933-44, res. chem., Natl. Aniline Div., Buffalo, N.Y.; 1944 to date, mgr., Pt. Chester Lab., Natl. Aniline Div., Pt. Chester, N.Y. Res. Ph.D. wk. org. qualitative anal.; ind. wk., surface active agents. Mem.: A.C.S., A.I.C., N.Y. Acdy. of Sc., Sigma Xi, Alpha Chi Sigma (N.Y. prof. chapter), Natl. Geographical Soc. Hobbies: gardening, photography.

TOTMAN, James Emmons, pres. Summers Fert. Co. and Assoc. Co's., Totman Bldg., 210 E. Redwood St., Baltimore 2, Md.; res. 15 Meadow Rd., Hurstleigh, Balt. 12, Md.
Exec.; b. Fairfield, Maine, Oct. 20, 1893; s. of Howard E. and Blanche (Bean) Totman; ed. U. of Maine, B.S. (agronomy), 1916; mem.: Phi Eta Kappa; m. Eliz. Schwartz, May 19, 1929; ch.: James Cheney. 1916 sales, Nitrate Agencies Co. (W.R. Grace & Co.) N.Y.C.; 1917-19, 107th U. S. Inf. W.W. I; served overseas; 1919-22 mgr. Balt. Off., Nitrate Agencies Co.; 1922 to date pres. Summers Fert. Co. and Assoc. Co's. Res. on effect of MgO on Grains (thesis), use of minor elements in mixed fert. Pres. Sagadahoe Fert. Co., Inc.; pres. Northern Chem. Industries; pres. Maine Food Processors; pres. Penobscot Warehouse Corp.; pres. Totman Bldg. Corp.; chmn. of bd. and dir. Nat. Fertilizer Assoc. Rec. W.W. I citation. Chmn. of bd. of Natl. Fert. Assoc., 1950; pres. Md. Country Club, secy.-treas. (5 yrs.) Assoc. Fert. Mfrs. Amer. Clubs: Balt. Country, Merchants, Maine. Hobbies: golf, fishing.

TOULOUSE, Julian Harrison, chf. engr., quality & specifications dept., Owens-Illinois Glass Co., Toledo, Ohio; res. 1817 Potomac Dr., Toledo 7. Chem. & prof. engr.; b. Marne, Ia., Nov. 12, 1899; s. of Guy Orville and Alice S. (Colby) Toulouse; ed. Ia. State Coll., B.S. in Ch.E., 1926, Ph.D. in food chem., 1929, Ch.E., 1930; Phi Kappa Tau, Phi Kappa Phi, Sigma Xi, Phi Lambda Upsilon, Tau Beta Pi, Sigma Upsilon; m. Ethel Evelyn Tyer, Feb. 6, 1921. With U.S.N., 1918-19; machinist, Ia. State Hwy. Commis. 1922-23; lab. asst., Ia. Agr. Exp. Sta., chem. dept., Ames, Ia., 1923-26; F., Am. Bottlers of Carbonated Beverage Fellowship, Ia. State Coll., 1926-30; dir., serv. lab., Am. Bot. Carb. Bev., Wash., D.C., 1931-34; res. engr., Packaging Res. Div., Owens Ill. Glass Co., Toledo, Ohio, 1934-38, tech. sales repres., gen. sales div., Jan.-Sept., 1939, chf. engr. quality & specifications dept., 1940 to date. Also with O.P.M. & W.P.B. ($1 a yr.) as chf. of glass container sec. of containers div., 1941-43, & expert conslt., Military Planning Div. O.Q.M.G., 1943-45. Chf. W.P.B. wk. was wartime standardization of glass containers. Military wk. was review of testing results, mech. equip. Spec. wk. in caustic test (for laymen's use) Am. Bot. Carb. Bev., Alkali Recovery Process (pat.); desr. numerous glass containers incl. "Steinie" & "Handiquart"; spec. in processing of glass containers, their des., strength & handling. Author of num. arts. pub. in tech. jls. Mem.: A.I.Ch.E., A.C.S. (chmn. Toledo sec. mem. exec. bd. Natl. Food & Agr. Sec.), Engrg. Soc. of Detroit, A.S.T.M. (chmn. subcomm. IV of Comm. D-10 on shipping containers), Reg. Prof. Engr., Ohio, Ind., N.J., Texas, Pa., W.Va. & Ill., O.S.P.E. (dir. Toledo chap.), Industrial Packaging Engrs., A.S.Q.C., A.S.A., Inst. of Mathematical Statistics; A.I.C., I.F.T. Natl. Res. Council (com. on quartermaster problems); Fellow, Am. Soc. for Quality Control (chmn. Toledo Sec., 1950-51, gen. chmn. natl. com. on relation with other tech. socs.); Assn. Military Engrs. Am. Ceramic Soc. Clubs: Torch. Mem., chmn. Health & Safety Com., Toledo Area B.S.A.

TOUR, Reuben S., prof. chem. engrg., dept. hd., U. of Cincinnati, Cincinnati, Ohio. Prof. chem. engrg.; b. Troy, N.Y., Aug. 20, 1889; ed. U. of Mich., B.S. 1910, M.S.E. 1915, Ch.E. 1927; m. Marguerite Meyer, May 24, 1914; ch.: 1 son. Consol. Gas Co., supt. asst., 1911-13; U. of Calif., asst. prof. gas eng., 1913-17; U.S.A., Ordn. Dept., chem. engr. nitrate div. 1919-21; Univ. Cincinnati, prof. chem. engrg., 1921 to date; dept. head; conslt. chem. engr. Author: papers related to chem. engrg. U.S.A., Ordn. Dept. Capt., 1917-19, chf. tech. dept., U.S. Nitrate Plant No. 1, Muscle Shoals, Ala.; 1919, mem. U.S. Fixed Nitrogen Commis. in Europe; at present Lt. Col., retired, Ordn. Res. Mem.: Sigma Xi, Tau Beta Pi, Phi Lambda Upsilon, A.I.Ch.E., A.A.A.S. (fellow); A.S.E.E., A.A.U.P., Masons, Cuvier Press Club (Cincinnati).

TOUR, Sam, chmn. of bd., Sam Tour & Co., Inc., 44 Trinity Pl., New York 6, N.Y.; res. 435 W. 23rd St., New York 11. Prof. engr.; metallurgist; conslt. exec.; b. July 27, 1895, Colorado Springs, Colo.; s. of J.J. and Sophia (Simkin) Tour; ed. U. of Colo., B.S. (Ch. E. cum laude); U. of Mich., M.Sc. (The Mich. Gas Assoc. Fellowship in Gas Engrg.); mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Tau Beta Pi; m. Pearl Campbell; ch.: Charles Washburne. 1916-17, tchg. asst. chem. engrg., U. of Mich.; 1917-19, metallurg sec., inspect. div., Ordn. Dept., U.S.A.; 1919-21, metallurg. sec., tech. staff, Off. of the Chf. of Ordn., U.S.A. (Wash., D.C.); 1921-28, metallurg. and engr. Doehler Die Casting Co. (Bklyn. and Batavia, N.Y.); 1928-29, conslt. metallurg. and engr. (Batavia); 1929-43, v.p., chem. and metallurg. engr. Lucius Pitkin, Inc. (N.Y.C.); conslt. since 1932 hot wking. die steels; conslt. 1937-44 open hearth melting practice; 1940-43, dir. Frankford Arsenal Ordn. Lab. (Phila.); 1943 to date chmn. of bd. Sam Tour & Co., Inc., engrs., metallurgs., conslts.; 1947 to date, pres. Amer. Stds. Testing Bur. Inc. (N.Y.C.). Res. in metallurg. engrg., physical metallurg., chem. engrg., metal finishing, corrosion and wear testing, mech. engrg.; conslt. on prod. problems, applications, processes, res. and devel., investigations and reports; expert testimony in legal cases. Extensive contribs. to sc. and tech. jls. in specialties. Mem.: Amer Foundrymen's Society (comm. on centrifugal casting, comm. on precision casting); A.I.Ch.E., A.I.M.M.E. (former division chmn.); A.S.M. (former chapter chmn.); A.S.T.M. (advisory comm. on corrosion, comm. E-1 on methods of testing, comms. B-3, B-6 and B-7 on metals and metal prods.); American Ordn. Assoc.; Assoc. of Consult. Chems. and Chem. Engrs., Natl. Assoc. of Corrosion Engrs., Soc. of Automotive Engrs., Metallurgical Advisory Bd., Natl. Bur. of Standards; Amer. Welding Soc., N.Y. Acdy. of Sc.

TOUSSAINT, Norbert F., dir. of chem. research, Ditto, Inc., 2243 W. Harrison St., Chicago 12, Ill.; res. 8516 Springfield Ave., Skokie, Ill. Chem.; b. Utica, N.Y., Dec. 2, 1912; s. of William J. (dec.) and Mary E. (Wiebel) Toussaint; ed. U. of Notre Dame, 1931-35, B.S. Ch. Engrg.; Pa. State Coll., 1935-36, M.S. Ch. Engrg.; U. of Notre Dame, 1938-40, Ph.D. Org. Chem.; m. Mary L. Malley, Aug. 17, 1940; ch.: Mary Diane, Patricia Ellen, Jeanne Elizabeth, Norbert F., Jr. 1936-37, Gulf Res. and Devel. Corp., Pittsburgh, Pa.; 1937-38, Rohm & Haas Co., Phila., Pa.; 1938-40, U. of Notre Dame, Notre Dame, Ind.; 1940-46, du Pont de Nemours, Deepwater, N.J., Louisville, Ky.; to date, with Ditto, Inc. Hobby: photography.

TOWE, Kenneth Crawford, v.p., dir., American Cyanamid Co., 30 Rockefeller Plaza, N.Y. 20, N.Y.; res. Greenwich, Conn. Corp. exec.; b. Elizabeth City, N.C.; s. of William and Katharine (Crawford) Towe; ed. Trinity Coll. (now Duke U.); mem.: Kappa Alpha; m. Betty McCarn, Apr. 28, 1934; ch.: Kenneth M., Rolf H., Teri N. Clubs: Union League (N.Y.), Blind Brook (Portchester, N.Y.), Greenwich Country (Greenwich, Conn.). The Beach (Greenwich, Conn.). Hobby: golf.

TOWLE, Louis Wallace, tech. serv. supvr., Apache Powder Co., Benson, Ariz.; res. Box 282, Benson. Chem.; b. Ala., Nov. 21, 1908; s. of Stewart W. and Cora D. (Mauldin) Towle; ed. U. of Ariz., M.S., 1932; m. Mildred M. Maeys 1931; ch.: Stewart W., Robert J. Fellow, dept. of chem., U. of Ariz., 1930-33; instr., Northern Ariz. State Teachers Coll., 1933-34; teacher, Benson H.S., 1934-36; chem., Apache Powder Co., 1937 to date. Tech. serv. in fld. of heavy chem. & explosives. Mem.: Phi Lambda Upsilon, Sigma Xi, A.C.S., A.I.C., A.I.M.E.

TOWLE, Warren L., dir. of res., Franklin Process Co., Providence, R.I.; res. 17 Surrey Rd., Barrington, R.I. Chem. engr.; b. Glenside, Pa., Apr. 14, 1913; s. of Herbert L. and Edith F. Towle; ed. M.I.T., S.B. 1934, S.M. 1935, Sc.D. 1937; mem.: Lambda Chi Alpha; m. Lois E. Pudvin 1938; ch.: Christie. 1937-40, E.I. du Pont de Nemours & Co., rayon dept., tech. div.; 1940-49, Columbia Chem. Div., Pitts. Plate Glass Co., chf. res. engr.; 1949-50, M.I.T., asst. prof., chem. engrg. dept.; 1950 to date, dir. of res., Franklin Process Co. Fundamental data on Eddy diffusion in gases; chlorination of ores; mfr. of phosgene & derived org. carbonates & chloro carbonates; application of chem. engrg. background to dyeing of textile yarns. Mem.: Sigma Xi, A.C.S., A.I.Ch.E., A.A.T.C.C., Providence Engrg. Soc. Club: Turk's Head (Providence, R.I.). Hobby: ornithology.

TOWN, George G., chmn., dept. of chem., U. of Wis. Ext. Div., 623 W. State St., Milwaukee, Wis.; res. E. Broadway Hts., Waukesha, Wis. Prof. of chem.; b. Detroit, Mich., Feb. 11, 1891; s. of Henry and Belinda Town; ed. U. of Wis., B.S., M.S., Ph.D.; m. Yvonne, June 17, 1918; ch.: George, Yvonne. Chem., Forest Prod. Lab., 1918-19; chem., Thompson Malted Food Co., 1922-23; prof. of chem., U. of Wis. Ext. Div., 1923 to date. Author: "Quantitative Chem. Anal." Mem.: Sigma Xi, A.C.S. Hobby: chem. of the earth's crust.

TOWNSEND, Richard E., assoc. prof. chem. & metallurg. engrg., U. of Mich., Ann Arbor, Mich.; res. 1010 Forest Ave., Ann Arbor. Chem. engr.; b. Saginaw, Mich., Aug. 8, 1897; s. of Emory and Annie F. Townsend; ed. Pratt Inst., Bklyn., cert.; U. of Mich., B.S. in Ch.E., M.S. in Ch.E.; m. Edna Wiers, June 16, 1927; ch.: Nancy Joan, Barbara, Deborah. Consumers Power Co., cadet engr. 1925, engr. 1926-29, frmn. 1930-35; U. of Mich., instr. 1935-42, asst. prof. 1942-47, assoc. prof. 1947 to date. Low temp. carbonization of coal, wood pyrolysis, melting power of salt, iron ore reduction. Author: "Fuels & Their Anal.," 1939, revised 1942, 1948; "Chem. Engrg. Measurements," 1949. Mem.: Sigma Xi, Phi Lambda Upsilon, Mich. Soc. of Prof. Engrs., Sc. Res. Club, A.I.Ch.E., A.A.A.S., A.C.S., Am. Soc. for Engrg. Ed. Club: Exchange (Ann Arbor). Hobbies: sailing, wood & metal work.

TRACY, Osgood Vose, mgr. Chem. Prods. Dept., Esso Standard Oil Co., 15 W. 51st St., New York 19, N.Y.; res. 25 Knollwood Rd., Short Hills, N.J. Chem. engr.; b. Syracuse, N.Y., Oct. 27, 1903; s. of James G. and Florida B. Seay Tracy; ed. B.S., U.S. Naval Acdy., Annapolis, 1924; m. Pauline Crawford, Oct. 2, 1926; ch.: Sally, Mary, Susan. Asst. supt., Macmillan Book Co., Syracuse, Jan., 1925 to Mar., 1926; gen. foreman, Calcium Chloride Section, The Solvay Process Co., Syracuse, Mar., 1926 to Aug., 1930; asst. dir., Standard Oil Co. of Louisiana, Jasco, Aug., 1930 to July, 1937; mgr. chem. prods. div., July, 1939 to July, 1939; mfg. coordinator Standard Oil Dev. Co., July, 1939 to Dec., 1940; Chem. Prods. Dept. Standard Oil Co. of N.J. Held following positions with Standard Oil Co. of N.J. (now Esso Standard Oil Co.); Chem. Prods. Dept. mgr Operations & Planning Div. Jan., 1941 to Apr., 1948; asst. mgr., Apr., 1948 to Dec., 1948; mgr. Jan. 1, 1949 to date. Enjay Company, Inc., dir. Res. in dev. of processes for manuf. of chemicals from pet. Mem.: A.C.S., U.S. Naval Inst. Clubs: Cornell (N.Y.), Canoe Brook Country.

TRAUB, Adam J., v.p., Brown-Swan Chem. Inc., 68-70 Chapel St., Newark 5, N.J.; res. 825 Kilsydtr Rd., Elizabeth 3, N.J. Chem.; b. Elizabeth, N.J., July 27, 1885; s. of Peter J. and Emma A. (Sauer) Traub; ed. U. of Pa., 1905; Dept. of Phar., Columbia U., 1913-14, phar. chem. Dr. of Pharmacy; mem.: Phi Delta Chi; m. Nan McLain, Oct. 18, 1910. Chas. Cooper Co., 1914-42, plant chem.; S.B. Penick & Co., 1943-44, supvr.; Wallace & Tiernan Prod. Co., 1944-46, supvr.; Lotte Chem. Co., 1946-49, supvr.; Brown Swan Chem. Inc., 1949 to date, v.p. West Jersey Water Co. (v.p.); Atco Chem. Labs. (pres.). Prod. of estrogenic chem.; prod. of rare chem. Mem.: A.C.S. Hobbies: motoring, gardening.

TRAVIS, Ellis Granberry, sr. technologist, Shell Oil Co., 50 W. 50 St., N.Y. 20, N.Y.; res. 35-25 77th St., Jackson Heights, N.Y. Chem.; b. Heidelberg, Miss., Mar. 23, 1907; s. of Madison G. and Nellie (Ellis) Travis; ed. 1927, B.A. with special distinction, Miss. Coll., Clinton, Miss.; 1927-28, grad. wk., Northwestern U., Evanston, Ill.; mem.: Alpha Chi Sigma; m. Frances Roglis, Jan. 2, 1932; ch.: Roger. Shell Oil Co.: 1928-31, res. chem., Wood River Refinery, Wood River, Ill., 1931-33, asst. chf. chem., 1933-42, chf. chem.; 1942-43, asst. mgr., prods. mfr. dept., hd. office N.Y., 1943-46 mgr., light oils & fuel dept., 1946 to date, sr. technologist, mfg.-operations dept. Mem.: A.C.S. Hobby: sports.

TRAXLER, Ralph Newton, dir. of asphalt res., Texas Co., Pt. Neches., Texas; res. Pt. Neches. Res. dir.; b. Lamar, Colo., Dec. 20, 1897; s. of James B. and Cora Belle (Syp) Traxler; ed. U. of Colo., A.B., 1920, M.A., 1922; U. of Wis., Ph.D., 1926; mem.: Beta Theta Pi, Acacia, Alpha Chi Sigma, Sigma Xi; m. Mable May Barnett, Sept. 2, 1922; ch.: Ralph N., Jr., Richard W. 1920-21, asst. to res. chem., Great Western Sugar Co., Denver, Colo.; 1921-22, grad. asst., U. of Colo.; 1922-23, sc. teacher, Garfield Co. H.S., Glenwood Springs, Colo.; 1923-24, prof. of chem., Highland Coll., Highland, Kans.; 1924-26, grad. asst., U. of Wis.; 1926-27, assoc. prof. of chem., Macalester Coll., St. Paul, Minn.; 1927-29, res. chem., Cuban Am. Sugar Co., Gramercy, La.; 1929-38, in chg. of res., Barber Asphalt Co., Barber N.J.; 1938 to date, dir. of asphalt res., Texas Co., Pt. Neches, Texas. Studies on absorption; prep. of iodides of phosphorus; barium desugaring of discard molasses; osmosis & dialysis; properties of mineral powders; asphalt emulsions; viscosity & plasticity; asphalts & bituminous matls. Author or co-author of 55 sc. papers. Mem.: A.A.A.S., A.C.S., Soc. of Rheol. (pres. 1950-51). Bd. of the Jefferson Co., Texas, Chapter of the Natl. Foundation for Infantile Paralysis. Hobbies: philately, wood carving.

TRENHOLME, Lawrence Barrett, dept. hd., Carbide & Carbon Chems. Div., Texas City, Tex.; res. 2605 Houston Dr. So., LaMarque, Tex. Chem. engr.; b. N.Y.C., Oct. 23, 1917; s. of George A. and Gertrude C. Trenholme; ed. U. of Penn., B.S. in chem. engrg., 1941; mem.: Alpha Chi Sigma; m. Mary Macon, May 17, 1947; ch.: Barbara Ann. 1941-43, E.I. du Pont Co., acid plant supvr.; 1943 to date with Carbide & Carbon Chems. Div., 1943, tech. asst., Inst. Plant, 1943-47, asst. dept. hd., South Charleston Plant; 1947 to date, major dept. hd., Texas City Plant. Mem.: A.I.Ch.E. Club: Galco Country. Hobbies: golf, bridge.

TRENNER, Nelson Richard, hd., Physical Chem. Lab., Merck & Co. Inc., Rahway, N.J.; res. 840 Tice Pl., Westfield, N.J. Phys. chem.; b. N.Y.C., Dec. 2, 1908; s. of George Louis and Ida (Richards) Trenner; ed. B.S. in Ch.E., 1929, M.S., 1930, Ph.D., 1932, all at N.Y.U.; Inman Fellow, U. Fellow, 1930, 1932; Natl. Research Fellow, 1934-35, Research Assoc., instr., all at Princeton U.; m. Kathryn Farrell, June, 1939; ch.: Idamae, Kathryn, Georganna, Robert, Nelson, Jr. Tchg. fellow, 1931, N.Y. U.; instr. in phys. chem., 1936-37, Princeton U.; Merck & Co. Inc., res. phys. chemist, 1937-41; hd., Phys. Chem. Lab., same co., to date; res. in photochemistry, reaction kinetics, structure of penicillin—O.S.R.D., catalysis, isotopes in anal., phase rule, infrared spectra and structure of org. substances, physico-chem. measurements and structure anal. of org. substances. Mem.: A.C.S., Phi Lambda Upsilon, Tau Beta Pi, Sigma Xi, A.S.T.M. (Comm. E-13). Hobbies: photography, flower culture, mechanics.

TREPP, Samuel G., chf. chem., res. div., Bird & Son, E. Walpole, Mass.; res. 135 Court St., Dedham, Mass.

Chem.; b. Glengarry, Mont.; s. of Fred Jenni and Emma (Fleuckinger) Trepp; ed. U. of Mich., B.S. chem. 1929; M.S. chem. 1930; Ph.D. 1932; mem.: Beta Sigma Psi; m. Alice Potts, June 16, 1932; ch.: Katharine, Mary, Robert, Elizabeth. 1927-29 lab. asst. U. of Mich.; 1929-32 tchg. fellow, same U.; 1932-37 res. chem. Natl. Aniline; 1937-44 res. chem. U.G.I.; 1944-50 chf. chem. Bird & Son; res. in hydrocarb. resins, floor coverings. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S., A.I.C. (fellow). Hobbies: music, painting.

TRESSLER, Donald K(iteley), conslt., North Compo Rd., Westport, Conn.; res. same.

Consltg. chem., food technologist; b. Cincinnati, Ohio, Nov. 7, 1894; s. of Martin L. and Florence M. Tressler; ed. U. of Mich., A.B., 1913; Cornell U., Ph.D., 1918; mem.: Alpha Chi Sigma; m. Ella B. Watkins, Apr. 19, 1919; ch.: Eleanor Marjorie (Tressler) Freisem, Wilfred Watkins. 1913-14, instr. in chem., Flint, Mich. H.S.; 1917-18, instr. in agr. & food chem., Ore. State Coll., Corvallis, Ore.; 1918-19, special asst., U.S. Bur. of Fisheries, Wash., D.C.; 1920-22, ind. fellow, Mellon Inst., Pitts., Pa.; 1922-23, special rep., Brazilian Centennial Exposition, Rio de Janeiro, Brazil; 1923-29, sr. fellow, Mellon Inst., Pitts., Pa.; 1929-33, chf. chem., Birdseye Labs., Gloucester, Mass.; 1933-43, hd. chem. div., chf. in res., N.Y. State Agr. Expt. Station, also prof. of agr. & food chem., Cornell U.; 1944-45, mgr., Gen. Elec. Consumers Inst., Bridgeport, Conn.; 1945 to date, conslt.; adjunct prof. of food tech., N.Y.U., 1947 to date, on foods & food by-prods., 1943 to date. Author of more than 100 papers (reports of res.) in fld. of food by-prods., food freezing, nutritive value of foods, dehydration of fruits & vegetables. Author: "Marine Prods. of Com." 1923, "Wealth of the Sea" 1927; "Freezing Preservation of Fruits, Fruit Juices & Vegetables," 1936; co-author: "Fruit & Vegetable Juices" with M. Joslyn & G. Marsh, 1939; "Freezing Preservation of Foods" with C.F. Evers 1943, 1947; "Into the Freezer & Out" with C.F. Evers & L. Long, 1946. Mem.: A.C.S. (former v.p.), A.P.H.A. (fellow, former councilor), Am. Soc. of Refrigerating Engrs. (fellow, councilor), I.F.T. (former councilor), Natl. Assn. of Refrigerated Warehouses (res. advisory bd.), Q.M. Corps U.S.A. (res. advisory bd. subsistence & res. branch), asst. editor "Food Res." Hobbies: gardening, photography.

TREUHAFT, William Columbus, pres., Tremco Mfg. Co., 8701 Kinsman Rd., Cleveland 4, Ohio; res. 19200 Shaker Blvd., Shaker Heights 22, Ohio.

Bus. exec.; b. Cleveland, Ohio, Oct. 21, 1892; s. of Morris and Bertha (Goodman) Treuhaft; ed. completed 4 yrs. of 5 yr. combination course at Western Reserve U. & Case Inst. of Tech., no degree, 1914; m. Elizabeth Marting, May, 1934. Pres., Sterling Prods. Co., 1916-26; pres., Tremco Mfg. Co., 1928 to date; pres., Tremco Mfg. Co. (Canada) Ltd.; pres., Treuhaft Mfg. Ltd. Trustee, Cleveland Community Fund, Jewish Welfare Federation, Jewish Childrens Bur., Camp Wise Assn., Cleveland Inst. of Music. Clubs: Mentor Harbor Yachting, Oakwood Country. Hobbies: gardening, sailing.

TREUMANN, William Borgen, prof., Schl. of Chem. Tech., N.D. Agr. Coll., Fargo, N.D.; res. 1014 7th St. N., Fargo.

Chem.; b. Grafton, N.D., Feb. 26, 1916; s. of William King and Dagny Helen (Borgen) Treumann; ed. U. of N.D., B.S., 1942; U. of Ill., M.S. 1944, Ph.D. 1947; m. Genevieve O. Kennelly, June 2, 1945; Mildred E. Jenkins, Aug. 14, 1948; ch.: Richard Roy (by 2nd wife). U. of Ill., asst. in chem., 1942-46, asst. in math. 1946; N.D. Agr. Coll., asst. prof. 1946, assoc. prof. 1947, prof. 1948 to date; U. of Ill., summer teaching, 1948, 1949, 1950. Mem.: A.C.S., Sigma Xi, N.D. Acdy. of Sc.

TREYBAL, Robert E(wald), prof. of chem. engrg., N.Y.U., University Heights, N.Y. 53, N.Y.; res. 145 W. Hartsdale Ave., Hartsdale, N.Y.

Chem. engr.; b. N.Y., Mar. 31, 1915; s. of John L. and Amelia (Heppner) Treybal; ed. B.S. in Ch.E., cum laude, 1935, N.Y.U., M.S. 1936; Ph.D., 1942, Columbia; m. Gertrude Kapp, June 28, 1941; ch.: Peter. 1936-37, chem. engr., Atlantic Ref. Co., Phila., Pa.; 1937-42, instr. 1942-44, asst. prof. chem. engrg., N.Y.U.; 1944-46, chem. engr., M.W. Kellogg Co., N.Y.; 1946-49, assoc. prof. chem. engrg., N.Y.U., 1947-49 actg. chmn. dept. of chem. engrg., 1949 to date prof. chem. engrg.; conslt. to Foster Wheeler Corp., Fire Control Res. Div. Frankford Arsenal, M.A. Knight Co. Many pubs. in "Ind. & Engrg. Chem." & "Transactions of A.I.Ch.E." all in solvent extraction. Author: "Liquid Extraction" (McGraw-Hill Book Co.) 1951, in press. Mem.: A.I.Ch.E., A.C.S., Am. Soc. Engrg. Ed., Tau Beta Pi, Sigma Xi, Phi Lambda Upsilon. Hobbies: music (opera), water color sketching.

TREYZ, Laura E., pres., Geo. I. Treyz Co. Inc., Cooks Falls, N.Y.; res. same.

Exec.; b. Cooks Falls, N.Y., Jan. 25, 1903; d. of George I. and Amanda (Menckler) Treyz; ed. B.S., Teachers Coll., Columbia U., 1923. 1923-48, worked for father & succeeding family bus.; 1948 to date, owner of bus. which happens to be the last wood chem. bus. in N.Y. State. V.p. Cooks Falls Dye Wks., Inc.

TRIBBLE, Jack Herschel, Jr., v.p., Taylor Chem. Co., Aberdeen, N.C.; res. Aberdeen.

Chem. engr.; b. Atlanta, Ga., Oct. 7, 1913; s. of J.H. and Annie (Clark) Tribble; ed. Ga. Schl. of Tech., 1935, B.S. chem. engrg.; m. Helen Wright, Nov. 3, 1939; ch.: John, 3rd, Virginia. 1937-39, routine chem., Southern Kraft Paper Co., Panama City, Fla.; 1939-41, asst. plant mgr., Woolfolk Chem. Co., Ft. Valley, Ga.; 1941-45, U.S.A. European Theater, left Army with rank of Lt. Col.; 1945, to date, v.p., Taylor Chem. Co. in chg. of prod. Decorated in army with Bronze Star. Hobby: gardening.

TRIEBOLD, Howard O(ltas), prof. of agr. & biolog. chem., Pa. State Coll., 104 Frear Labs., State Coll., Pa.; res. 216 S. Patterson St., State College, Pa.

Instr., res. worker; b. Washington Co., Minn., Feb. 15, 1902; s. of August and Mary (Stutzman) Triebold; ed. 1919-21, Hamline U., St. Paul, Minn.; B.S., 1923, U. of Minn., M.S. 1926, Ph.D. 1929; mem.: Phi Lambda Upsilon, Alpha Zeta, Alpha Gamma Rho; m. Louise Korphage, June 30, 1924; ch.: Marjorie Jeanne, Howard O., Jr. Jan.-June, 1924, part time instr., Dunwoody Inst.; Sept., 1924-Dec., 1926, Strietman Fellow, U. of Minn.; Dec., 1926 to date, instr., asst. prof., assoc. prof., prof. agr. & biolog. chem., Pa. State Coll. Res. on fat deterioration in baked goods. Author: "Quantitative Anal. with Applications to Agr. & Food Prods." (D. Van Nostrand, Inc.) June, 1946. Mem.: A.C.S., A.A.C.C., A.O.C.S., Sigma Xi, Internatl. Mark Twain Soc. (hon. mem.). Schl. dir. for State Coll. Boro Schls. Hobbies: hunting, fishing, color photography.

TRIMBLE, Gilbert K., exec. v.p., Midwest Rubber Reclaiming Co., East St. Louis, Ill.; res. 5315 Waterman Blvd., St. Louis 12, Mo.
Chem. engr.; b. Phila., Pa., Mar. 11, 1898; s. of William McClelland and Anna Frances (Quillman) Trimble; ed. Penn. State Coll., B.S., 1920; mem.: Sigma Pi; m. Florence Nadine Immler, 1931; ch.: Nancy Ann, Judith Ellen. 1920-23, Ohio Insulator Co., chem. engr.; 1923-25, B.F. Goodrich Co., res. chem.; 1925-28, Seiberling Rubber Co., tire compdr., factory chem.; 1928 to date, Midwest Rubber Reclaiming Co., started as chf. chem., progressed to exec. v.p.; mem. Baruch Rubber Survey Comm., 1942; mgr. Scrap and Reclaimed Rubber, Rubber Director's Off., W.P.B., 1943-45; mem. U.S. State Dept. Rubber Adv. Panel; delegate to Internatl. Rubber Study Grp.; contrib. arts. on reclaimed rubber to sc. jl. Akron Rubber Reclaiming Co. (mem. bd. dirs.). Mem.: A.C.S. Club: Mo. Athletic (St. Louis). Hobbies: golf, moving picture taking, singing.

TRISTER, Saul Michael, chem. dir., Otto B. May, Inc., 198 Niagara St., Newark 5, N.J.; res. 506 Irvington Ave., Elizabeth 3, N.J.
Chem.; b. Montreal, Canada, Oct. 21, 1907; s. of Harry and Clara Trister; ed. B.Sc., McGill U., 1929, Ph.D., 1934; m. Sonetta Selvin, Dec. 27, 1936; ch.: Michael Bernard, Marc Joel. Res. asst., McGill U., 1934-36; Rockefeller Res. Fellow, Dept. of Pharmacology, McGill U., 1936-38; Rockefeller Res. Fellow, Chemistry Dept., Princeton U., 1938-41; chf. chem. since 1941, and appointed chem. dir. in 1949, Otto B. May, Inc. Received college honors; National Res. Council Scholarship, 1930; H. Bronfman Ind. Res. Scholarship, 1933. Pub. many sc. arts. in chem. and allied jls. Mem.: A.C.S., Sigma Xi. V.p. and dir. of the Elizabeth Y.M. and Y.W.H.A., Dir., Temple B'nai Israel. Club: chmn. "Club Committee" Y.M.H.A. Hobby: child welfare.

TROMBLY, Arthur James, hd. process dev. dept., Am. Metal Co., Ltd., Carteret, N.J.; res. 20 W. Holly St., Cranford, N.J.
Chem. engrg.; b. Detroit, Mich., Feb. 11, 1915; s. of Arthur and Mary (Hafeli) Trombly; ed. U. of Detroit, B.Ch.E., 1938; mem.: Alpha Gamma Upsilon; m. Agnes Dorothy Ferguson, Mar. 3, 1942. Asst. chf. chem., Aluminum Co. of Am., Detroit, Mich. 1939-41; U.S.A. 1941-46; chem. engr., Manhattan Project, N.Y., 1944-46; hd. process dev. dept., Am. Metal Co., N.Y., 1946 to date. Mem.: A.C.S., A.I.Ch.E. Award: Legion of Merit, Manhattan Project, 1946. Hobbies: railroads, nature study.

TRONSON, John Laurence, tech. salesman, R.T. Vanderbilt Co., 230 Park Ave., N.Y., N.Y.; res. Newtown Ave., Norwalk, Conn.
Chem. engr.; b. Staples, Minn., Nov. 15, 1903; s. of John L. and Lena (Mayer) Tronson; ed. B.S. in chem. engrg., U. of Minn., 1926, M.S. in chem. engrg., 1928; mem.: Alpha Chi Sigma; m. Gladys Joerren, June 10, 1945. 1926-27, Bradley-Fitch Co., Minneapolis, Minn., chem.; 1928-35, B.F. Goodrich Co., Akron, Ohio, dev. engr.; 1935-37, British Rubber Co. of Canada, chf. chem.; 1937-40, Gen. Cable Corp., chem.; 1940 to date, R.T. Vanderbilt Co., tech. sales. Abrasion testing of rubber, trans. A.S.T.M., 1931. Mem.: A.C.S., A.I.Ch.E., Sigma Xi. Hobby: fishing.

TROSTEL, Louis Jacob, mgr. of Res. Lab., Gen. Refractories Co., Baltimore, Md.; res. 4302 Miami Pl.
Chem. engr.; b. Galion, Ohio, Dec. 31, 1893; s. of Jacob M. and Mary A. (Lenhart) Trostel; ed. Ohio State U., B.Ch.E., 1918, Ch.E. 1936, Cer. Engrg. 1937; O. State U., Alpha Chi Sigma; m. Katharine Fisher, June 2, 1925; ch.: Louis J., Jr., Michael F. Steel examiner, Brit. Ministry of Munitions, June-Nov., 1918; jr. engr., Stand. Chem. Co., Pitts., Pa., 1918-19; jr. chem., U.S. Bur. of Mines, Exp. Sta., 1920-21; asst. engr., U.S. Bur. of Chem., Wash., D.C., 1921-23; chf. chem., Gen. Refractories Co., Baltimore, Md., 1923 to date. Pres. Am. Ceramic Soc. 1942-43. Chmn. of Tech. Advisory Comm. of Am. Refractories Inst., 1945 to date. Mem: A.C.S., A.S.T.M., Am. Refractories Inst., Inst. Ceramic Engrs., A.I.Ch.E., Am. Ceramic Soc., Jt. Com. on Fdry. Refractories of Am. Fdrymen's Assn. & Am. Ceramic Soc., Spl. Res. Com. on Boiler Furnace Refractories of A.S.M.E. Co-author: "Distribution of Carbon Monoxide in Tunnel Atmosphere"; author: "Efficiency of Palmer Apparatus for Explosive Carbonaceous Dusts," "Collection & Examination of Explosive Dusts in Air," "Notes on a Comparative Test of Quicklimes for Silica Brick Mfr.," "Lab. for the Tech. Control of the Mfr. of Refractories," "Maker & User of Refractories Gain Through Tech. Control," "Testing of Fired Brick from Viewpoint of A.S.T.M. Meths.," "Applying Petrographic Meths. to Refractories Res.," "New Dev. & Trends in Refractories Processes & Matls.," "Quartz as a Devitrification Prod. of Vitreous Silica," "Modern Refractories in the Steel Indus.," pat. refractory composition & process of making refractory articles therefrom. Absorption of Magnesia by Chromite Spinel, Determination of Quartz (Free Silica) in Refractory Clays; Factors Influencing the Staining of Silica Brick; Carbon Disintegration Test for Blast Furnace Brick.

TROTTER, John Beryl, gen. branch mgr., Monsanto Chem. Co., 924 Brown Marx Bldg., Birmingham, Ala.; res. 1630 F Valley Ave.
Chems.; b. Warrior, Ala., May 4, 1907; s. of Wilburn Burton and Mattie E. Trotter; ed. Birmingham publ., high schls., 6 yrs. night schls.; m. Josephine Jeter, July 24, 1928; ch.: John William, Joanne. 1923-31, clerk, salesman, Grasselli Div., du Pont Co., Birmingham; 1931-39 Monsanto Chem. Co., salesman; 1939-49 asst. branch mgr., Monsanto Chem. Co., Charlotte, N.C.; May 1, 1949-July 1, 1950 asst. gen. branch mgr., Monsanto Chem. Co., Birmingham, Ala.; July 1, 1950 to date, gen. branch mgr., in chg. of E. sales distr. Mem.: A.C.S. Clubs: Vestovia Country (Birmingham, Ala.), Civitan. Hobbies: golf, fishing, hunting.

TROUT, William Edgar, Jr., prof. of chem., U. of Richmond, Box 168, Richmond, Va.; res. 7 Bostwick Lane, Box 168, U. of Richmond, Va.
Prof. of chem.; b. Clifton Forge, Va., July 30, 1903; s. of William E., Sr. and Nora (Lightner) Trout; ed. Johns Hopkins U., A.B., 1925, Ph.D., 1935; mem.: Kappa Alpha, Southern Order; m. Harriet Creighton McCurley, June 21, 1934; ch.: William Edgar, III, Stran Lippincott. Civilian instr. in biology, Va. Military Inst., 1926; prof. of natural sc. & math., Maryland Coll. for Women, 1927-29; asst. in chem., Johns Hopkins U., 1929-32, jr. instr. in chem., 1932-35; prof. of chem., Mary Baldwin Coll., 1935-46; prof. of chem., U. of Richmond, 1946 to date; summers, instr. in chem., Johns Hopkins U., 1932-35, U. of Richmond, 1942 to date. Flds. of study. inorg. chem., metal car-

bonyls, org. anal. reagents, catalysis & adsorption. Co-author: "Introductory Coll. Chem.," jr. author with Neil E. Gordon (John Wiley & Sons), 1940. Mem.: A.C.S., A.A.A.S. (fellow), A.I.C. (fellow), Va. Acdy. of Sc., Soc. of Chem. Ind. (London), Sigma Xi. Club: Chemists' (N.Y.). Hobbies: biography, camping, gardening.

TROXEL, Shirley Monroe, assoc. prof. of sc., N.J. State Teachers Coll., Trenton, N.J.; res. 39 Klein Ave., Trenton 9, N.J.
Coll. teaching; b. DeLand, Ill., 1902; s. of David B. and Effie Troxel; ed. DeLand, Ill. public schls.; Ill. Wesleyan U., B.S., 1926; U. of Ill., M.S., 1927, Ph.D., 1930; m. E. Ruth Marvel, June 21, 1928; ch.: Marvin, Donald, Betty Ruth. Teaching, Ill. high schls. 1922-26, 1927-28; res. assoc., Natl. Bur. of Stands., 1931; teaching, N.J. State Teachers Coll., Trenton, 1931 to date; lecturer in electronics, Temple U. Tech. Inst., 1946 to date. Author: "Experimental Coll. Chem." 1940. Mem.: A.C.S., A.A.A.S. (fellow), Sigma Xi, Phi Kappa Phi. Hobby: electronics.

TROYAN, James E., dir. exp. engr., Mathieson Chem. Corp., Niagara Falls, N.Y.; res. 71 Callan Dr., Lewiston, N.Y.
Chem. engr.; b. Cleveland, Ohio; s. of J.M. and Albina Troyan; ed. Case Inst. Tech., B.S. Ch.E., Rutgers U., N.Y.U.; mem.: Alpha Chi Sigma, Tau Beta Pi; m. Janet Estill, Nov. 20, 1941; ch.: James T., William L., Susan E. Chem. engr., Calco Chem. Div., Amer. Cyanamid 1937-38; frmn., coal tar div., 1938-40; proj. engr., Gulf Res. & Dev. Co. 1940-42; chem. engr., Off. Rubber Dir., W.P.B. 1942-43; asst. chf., Copolymer Dev. Branch, Rubber Res. Co. 1943-44; pilot plant supvr., Phillips Pet. Co. 1944-49; dir. exp. engr., Mathieson Chem. Corp., 1949 to date. Res. in orig. pilot plant dev. of low temperat. synth. rubber (cold rubber) at Phillips Pet. Co.; mem. T.I.I.C., rubber subcommittee, Dept. of Commerce, investigated German Synth. rubber plants in 1945. Mem.: A.C.S., A.I.Ch.E., Alpha Chi Sigma. Hobbies: gardening, fishing, Cub Scouting.

TRUCANO, Peter Joseph, tech. dir., Morris Paper Mills, Morris, Ill.; res. 822 East St., Morris.
Paper chem.; b. May 26, 1918; s. of John B. and Olive Trucano; ed. Northwestern U., Evanston, Ill., B.S. 1940; Inst. of Paper Chem., Appleton, Wis., M.S., Ph.D. 1947; mem.: Evans Scholars, Northwestern U.; m. Fern Bauer, Sept. 16, 1943; ch.: Peter, Michael, John. 1940, supt., Highwood Water Wks., Highwood, Ill.; Jan., 1943-Dec.-1943, chem., Thilmany Pulp & Paper Co., Kaukauna, Wis.; Dec., 1943-Apr., 1946, radio engr. (radar), U.S.N., Lt. j.g.; Mar., 1947 to date, tech. dir., Morris Paper Mills. Mem.: T.A.P.P.I., Chicago Prof. Paper Group. Clubs: Lions Internatl., Morris Country, Am. Legion, Fraternal Order of Eagles. Hobby: sports.

TRUEBE, Carl Ernest, asst. to pres., export mgr., Ernst Bischoff Co. Inc., Old Saybrook, Conn.; res. Old Saybrook.
Chem.; b. Aken-Elbe, Germany, Sept. 21, 1896; s. of Albert and Friederike (Bischoff) Truebe; ed. Polytechnicum Goethen, U. of Leipzig, Inst. of Tech. Stuttgart, U. Tuebingin, grad. 1923, deg. Doctorandum; m. Lillian A. Borgstedt, Oct. 15, 1927; ch.: Carl William. Ernst Bischoff Co. Inc., Ivoryton, Conn., 1923 chem., 1924 mgr. & chf. chem., 1935 gen. mgr., purch. agt., 1940 v.p., gen. mgr., 1946 1st v.p., gen. mgr., 1948 conslt., asst. to pres., 1949 to date asst. to pres., export mgr. Mem.: A.Ph.A., A.C.S. Clubs: Chemists', Triple-E-Club, Int. Lions. Hobbies: gardening, philatelist.

TRUESDAIL, Roger W(illiams), pres., Truesdail Labs., Inc., 4101 N. Figueroa St., Los Angeles 65, Calif.; res. 1414 Vine St., Apt. B, Alhambra, Calif.
Conslt. chem.; b. Burlingame, Kans., Feb. 6, 1899; s. of Ernest L. and Ruth Williams Truesdail; ed. U. Redlands (Calif.) B.S. 1921; U. Ore. M.S., 1922; U. of Wash., Ph.D., 1926; mem.: Kappa Sigma Sigma; m. Dorothy Painter, June 27, 1923; ch.: Betty Jordan, Katherine Charley, Audrey. 1922-23, chmn., sc. div., Mt. Angel Coll., Ore.; 1923-24, act. chmn., dept. chem., U. Redlands; 1927-31, asst. prof., dept. chem., Pomona Coll.; 1931 to date, pres. Truesdail Labs., Inc. Res. in study of ionization of alcohol, number of res. projs., fields of vitamins, biolog. feeding tests, nutritional anemias. Mem.: A.A.A.S. (fellow), A.I.C. (fellow), Am. Council of Comm. Labs. (charter mem.), I.F.T. (charter mem.), A.C.S., Assn. Official Racing Chemists (fellow), A.P.H.A., Assn. Cons. Chem. & Chem. Engrs. Trustee U. Redlands. Am. Council of Comm. Labs., Inc., pres. Clubs: Rotary (Los Angeles), Univ. (Los Angeles), Pasadena Athletic. Hobbies: private flying, fishing, photography.

TRUMBULL, Harlan L(eo), asst. to v.p.-res., B.F. Goodrich Co., Res. Center, Brecksville, Ohio; res. 45 Division St., Hudson, Ohio.
Exec.; b. Adair, Iowa, May 29, 1886; s. of Ira Frank and Frances J. (Harlan) Trumbull; ed. A.B., U. of Wash., 1907, M.S. 1908; Ph.D., U. of Chicago, 1911; mem.: Gamma Alpha, Sigma Xi, Phi Beta Kappa, Phi Lambda Upsilon. Instr. of chem., U. of Wash., 1911-16, asst. prof. 1916-18; fellow, Mellon Inst., 1917-18; Capt., C.W.S., 1918-19; res. chem., B.F. Goodrich Co., 1919-22, dept. mgr. 1922-42, asst. to dir. of res. 1942-47, asst. to v.p.-res. 1947 to date. Expert, War Trade Bd. 1919; tech. expert, T.I.I.C. 1945; res. & dev. advisor for Office of Rubber Reserve, R.F.C. 1946-47; designated as one of the ten ablest chemists in the Am. rubber ind. by A.C.S. 1947. Mem.: A.C.S., A.I.Ch.E., A.A.A.S,. Cosmos Club, Linnean Soc. (Sweden), Hudson Library & Historical Soc. Hobby: forestry.

TRUMPER, Max, consultant, Bala-Cynwyd, Pa.; res. same.
Biochem. & toxicol.; b. Phila., Pa., Feb. 15, 1892; s. of Jacob Joseph and Hannah (Rugowitz) Trumper; ed. Pa. State Coll., B.S., 1915; U. of Pa., M.A., 1916; Ph.D., 1928; mem.: Phi Epsilon Pi; m. Jeannette Keim, Aug. 16, 1926; ch.: David Keim, Ruth, John Yewdall. Instr. physiolog. chem., Jefferson Med. Coll.; lectr., toxicol.; resident in chem. & toxicol., Jefferson Med. Coll. Hosp.; consult., biochem. & toxicol., St. Lukes & Children's Hosps.; in chg., indus. hygiene facility, U.S.N. Med. Res. Inst.; lectr., clin. biochem., U.S.N. Med. Schl.; Comdr., M.S.C., U.S.N.R. (inactive); civilian consult., U.S.N. Med. Schl.; visiting lectr., toxicol., U.S.A. Chem. Center. 50 sc. articles biochem. & toxicol.; "Clinical Biochem.," 1932 to date, 4th edition (co-author); "Compend. Med. Chem.," 7th edition, out of print (co-author); "Lead Poisoning," Monograph, 1st edition, 1944 (co-author); "Memoranda of Toxicol.," 3d. edition, 1926 (author). Mem.: A.I.C. (life), A.A.A.S. (fellow), Franklin Inst., Govt. Indus. Hyg. Assn., Am. Indus. Hyg. Assn. Trustee, Natl. Agric. Coll. Clubs: Officers (Bethesda, Md.), Neighborhood (Bala-Cynwyd). Hobbies: boating, photography, science.

TRUSTY, Aubrey Wayne, chf. chem., Ark. Fuel Oil Co., Box 1117, Shreveport, La.; res. 659 Huron St., Shreveport.
Chem.; b. Pine Valley, Miss., Dec. 31, 1904; s. of W.T. and Nettie Trusty; ed. B.A., 1925, Miss. Coll.; m. Corinne Edrington, Aug. 11, 1925; ch.: Nettie Nell (Trusty) Richmond, William E. Asst.

chem., La. Oil Refg. Corp. (later acquired by Ark. Fuel Oil Co.) Shreveport, La., 1925-28, chf. chem. 1928-33; chf. chem., Ark. Fuel Oil Co., Bossier Refinery, Shreveport, La., 1933-44; process supt., Premier Oil Ref. Co., Defense Plant 592, Cotton Valley, La., 1944-45; asst. supt., Ark. Fuel Oil Co., Bossier Refinery, Shreveport, La., 1945, chf. chem. 1945 to date. Approx. 30 tech. arts. on pet. refin. subjects. Mem.: A.C.S. (chmn. Ark.-La.-Tex. Sec. 1950). Steward, First Meth. Ch., Shreveport, La. Hobby: tinkering.

TSAO, Utah, process engr., Lummus Co., 385 Madison Ave., N.Y.C.; res. 216 Bidwell Ave., Jersey City 5, N.J.
Chem. engr.; b. Shanghai, China, June 6, 1913; s. of Hui-Chung and Chiao-Pi (Chiang) Tsao; ed. Tatung U., Shanghai, B.Sc. 1933; U. of Mich., Ann Arbor, D.Sc., 1940; mem.: F.F. Fraternity; m. Hazel A.C. Lin, Aug. 17, 1941; ch.: Thomas, Preston. 1940, plant engr., Audubon Sugar Factory, Baton Rouge, La.; 1941, pet. engr., Chinese Natl. Resources Commis.; 1942 to date, process engr., Lummus Co., N.Y.C. Mem.: A.I.Ch.E., Chinese Inst. of Engrg.

TUCKER, Carl W(illiam), asst. dir. tech. div., electrochem. dept., E.I. du Pont de Nemours & Co., Wilmington, Del.; res. 301 Swarthmore Ave., Swarthmore, Pa.
Chem.; b. Jamaica, Iowa, Mar. 1, 1901; s. of Frew A. and Mary (Gringer) Tucker; ed. B.S. 1923, M.S. 1924, U. of Iowa; Ph.D. 1927, Cornell U.; mem.: Alpha Chi Sigma; m. Phyllis Giles, Aug. 4, 1928; ch.: Diana, Vance, Julia. 1927, res. chem., Roessler-Hasslacher Chem. Co., Niagara Falls, N.Y.; 1930, mgr. electrolytic hydrogen peroxide processes; E.I. du Pont de Nemours & Co., 1936 process dev. supvr., Niagara Falls, N.Y., 1937 mgr. peroxygen prods., Wilmington, Del., 1945 dir. chem. res., Wilmington, Del., 1948 to date asst. dir. tech. div., Wilmington, Del. Served on War Prod. Advisory Bd. for Peroxygen prods. during W.W. II. Mem.: Sigma Xi, Phi Kappa Phi, A.C.S. Club: Niagara.

TUCKER, F. Curtis, purch. mgr., chem. dept., Gen. Elec. Co., 1 Plastics Ave., Pittsfield, Mass.; res. 30 Lexington Parkway, Pittsfield.
Purch.; b. Boston, Mass., Feb. 28, 1909; s. of Frederick W. and Carrie (Morse) Tucker; ed. M.I.T. 1932 B.S. in chem.; mem.: Phi Gamma Delta; m. Ruth Hopkins, July 13, 1935; ch.: Emily H., Carolyn P., F. Curtis, Jr. Ridbo Labs. Inc., secy.; Rohm & Haas Co., asst. purch. agent; Gen. Elec. Co., purch. mgr. chem. dept. Mem.: A.C.S., Natl. Assn. of Purch. Agents. Club: Chemists'. Hobbies: antiques, public speaking.

TUCKER, N. Beverley, assoc. dir., chem. div. in chg. of res., Procter & Gamble Co., Cincinnati 17, Ohio; res. 175 E. Fountain Ave., Glendale, Ohio.
Chem.; b. Lexington, Va., May 28, 1909; s. of N. Beverley and Mary P. (Graham) Tucker; ed. Va. Military Inst., B.S., 1929; Johns Hopkins U., M.A. 1931, Ph.D. 1932; mem.: Kappa Alpha, Gamma Alpha; m. Eleanor Warner Marshall, Sept. 15, 1931; ch.: N. Beverley, Jr., Eleanor Marshall. 1932-35, assoc. prof. chem., Va. Military Inst.; 1935-42, res. chem., Procter & Gamble Chem. Div.; 1942-45, tech. advisor, Devoe & Raynolds Co., Louisville, Ky.; 1945 to date, assoc. dir. chem. div. in chg. of res., Procter & Gamble Co. Mem.: A.C.S., Sigma Xi, A.A.A.S., A.O.C.S. Club: Glendale Lyceum. Hobbies: sailing, tennis, riding.

TULEY, William Feagan, asst. dev. mgr., Naugatuck Chem. Div., U.S. Rubber Co., Naugatuck, Conn.; res. Naugatuck, Conn.
Chem.; b. Palmyra, Mo.; s. of John Louis and Russela Feagan Tuley; ed. B.S., chem. engrg., Ore. State Coll., 1922, M.S., U. of Ill., 1924, Ph.D., 1926; major, org. chem., minor, physical chem.; mem.: Phi Kappa Tau, Alpha Chi Sigma, Sigma Xi; m. Lois Gibson in 1931; ch.: John, Ruth, Richard. Res. chem., Celotex Corp., 1926-28; U.S. Rubber Co., 1928 to date; General Labs., 1928-34; Naugatuck Chemical Div., 1934 to date. Pats., rubber accelerators, antioxidants. Mem.: A.C.S.

TURER, Jack, mgr. chem. & text. labs., Va.-Carolina Chem. Corp., Fiber Div., Taftville, Conn.; res. 4 Spring Garden Ave., Norwich, Conn.
Chem.; b. N.Y., Mar. 18, 1912; s. of Herman and Mary Menken Turer; ed. C.C.N.Y., 1934, B.S. Chem.; 60 hrs. grad. wk. at U. Md., U. Pa., U.S. Dept. of Agr., Bur. of Stands. in Chem.; M.S. thesis compl., accepted at U. Md.; m. Gladys B. Buchsbaum, Dec. 25, 1938; ch.: Richard Bruce, Robert David. Va.-Carolina Chem. Corp., 1948 to date, mgr. chem. & text. labs.; 1945-48 chg. fundamental & org. res. of synth. protein fibers; U.S. Dept. Agr., Eastern Regional Res. Labs., Phila., Pa., 1941-45; (res. chem., oils, fats); U.S. Dept. Agr., 1940-41, carbohydrates & sugars, hides & leather, res. chem.; U.S. Dept. Agr. 1939-40 electrochem., res. chem.; U.S. Dept. of Agr. 1936-39 soils chem., res. chem.; U.S. Dept. Agr. 1936 soils survey, soils sc. Num. patents, contrib. extens. to sc. and tech. jls. Mem.: A.C.S., A.O.C.S., A.A.T.C., on bd. dirs., Religious Inst.; Parent Teachers Assn. Hobbies: antique collecting, mineralogy (collecting of minerals), gardening.

TURK, Amos, dir. of res. & dev., W.B. Connor Engrg. Corp., Danbury, Conn.; res. Prospect Pl., New Milford, Conn.
Chem.; b. N.Y.C., Feb. 28, 1918; s. of Bernard and Jeannette Turk; ed. Ohio State U., Ph.D., 1940; m. Regina Wallace, Feb. 21, 1941; ch.: Janet, Jonathan. 1938-42, Am. Pet. Inst. Project, Ohio State U. res. fellow-hydrocarbon res.; 1942-45, Explosives Res. Lab., Bruceton, Pa., res. assoc.; 1945-46, Allegany Ballistics Lab., Cumberland, Md., res. assoc.; 1946-49, C.C.N.Y., chem. dept., instr.; 1949 to date, W.B. Connor Engrg. Corp., N.Y., dir. of res. & dev. Res. in hydrocarbons, explosives, rocket fuels, air purification. Mem.: Phi Beta Kappa, Phi Lambda Upsilon, Sigma Xi. Award: Cert. of Serv., Office of Sc. Res. & Dev., Mar. 1, 1945, James Conant chmn. Hobby: sports.

TURNBULL, Edward D., chem. engr., Euston Lead Co., Div. of the Glidden Co., 500 Penn Ave., Scranton 3, Pa.; res. 312 Fairview Ave., Clarks Summit, Pa.
Chem. engr.; b. Pomeroy, Ohio, Mar. 8, 1900; s. of Thomas and Helen (Reed) Turnbull; ed. Ohio State U., B.Ch.E. 1923, Ch.E. 1942; m. Susan Roof, July 30, 1926. 1923-24, Buckeye Steel Castings Co., Columbus, Ohio, chem.; 1924-26, U.S. Gypsum Co., Gypsum, Ohio, Genoa, Ohio, Staten Is., N.Y., chem. engr.; 1926 to date, Euston Lead Co., Div. of the Glidden Co., Scranton, Pa., chem. engr. 3 U.S. pats. on white lead processing. Mem.: A.I.Ch.E., A.C.S., Am. Ceramic Soc., A.S.T.M., Natl. Soc. of Prof. Engrs. Schl. dir., Clarks Summit, Pa., public schls.; Troop Committeeman, Boy Scouts of Am. Club: Abington Men's. Hobbies: hunting, fishing, bird study.

TURNER, Francis Mills, v.p., Reinhold Pub. Corp., 330 W. 42nd St., New York 18, N.Y.; res. 63 Browers Lane, Roslyn Heights, L.I., N.Y.
Tech. pub.; b. Brockville, Ont., Canada; s. of

Francis M., Sr. and Estelle (Jones) Turner; ed. U. of Toronto, B.A. (Chem. & Min. honors), 1914; (prep. education Brockville Collegiate Inst.), Brockville, Ont., Prov. Normal Schl., Regina, Sask.; mem.: Psi Upsilon; m. Matilda Elizabeth Senior (dec. 1940), June 23, 1917; ch.: Francis M., III, Edward Llewellyn, Matilda Elizabeth (Mrs. John E. Storey). Technologist, Econ. and Dev. Com., Canada, 1914; res. chem., Vanadium Corp. Amer., Bridgeville, Pa., 1914-16; Tech. Editor, Chemical Catalog Co. Inc., 1916-25; v.p. same co., 1925-27; pres. same co., 1927-30; v.p., Rheinhold Pub. Corp., New York, 1930 to date. Prepared report which eventually lead to estab. of Natl. Research Labs. of Canada, 1914; founded Condensed Chemical Dict. 1919; founded jl. "Metals & Alloys" 1927; visiting lecturer in Industrial Chem., U. of Toronto, 1923; was apptd. Special Master by U.S. Court for Western District of Penn. 1947, to preside over liquidation of assets of Alloys Devel. Co., Pittsburgh, Pa. Author: "Condensed Chemical Dictionary," 1919, 1930, 1942, 1950; "Chemical Resistance of Engrg. Materials" (with M.L. Hamlin), 1920; "Chemistry in the Home" (with H.E. Howe), 1924. Mem.: A.C.S., S.C.I., E.S., A.S.T.M., A.S.E.E., Am. Ord. Assoc., Maine Soc. of N.Y., Am. Museum of Natural History, A.A.A.S., N.Y. Acdy. Scs., Collectors of Am. Arts, Inc., Natl. Ind. Advertisers Assoc. secy. and dir. (1946-49) and dir. (1949 to date) Associates of the U. of Toronto, New York. Clubs: Chemists' (N.Y.), University (Pittsburgh), U. of Toronto Club (N.Y.), Swans Island Yacht (Atlantic, Maine), University (Los Angeles). Hobbies: collecting contemporary American arts, water-color painting, gardening, boating.

TURNER, Howard Elliott, hd. group supvr., engrg. serv. div., engrg. dept., E.I. du Pont de Nemours & Co., E. Chicago, Ind.; res. 18322 Wildwood Ave., Lansing, Illinois.
Chem. engr.; b. Evanston, Ill., Apr. 16, 1916; s. of Leslie E. and June (Howard) Turner; ed. U. of Minn., B.Ch.Engrg. 1938, M.S. in Ch.Engrg. 1940; mem.: Alpha Chi Sigma, Tau Beta Pi, Sigma Xi; m. Mable F. Hartman, Dec. 24, 1940; ch.: Leslie Ann, David H. Jan. 1, 1939-June 1, 1940, teaching asst. in chem. engrg., U. of Minn.; E.I. du Pont de Nemours & Co.: July 1, 1940-Oct. 25, 1943, fld. engr., Baltimore, Md.; Oct. 26, 1943-May 22, 1949, fld. group supvr., Edge Moor, Del.; May 22, 1949 to date, fld. group supvr., E. Chicago, Ill. Mem.: A.I.Ch.E. (active), A.S.M.E., Reg. Prof. Engr. Del.

TURNER, Rodolphus Kibbe, asst. wks. mgr., Carbide & Carbon Chem. Div., Union Carbide & Carbon Corp., 30 E. 42nd St., N.Y., N.Y.; res. 6 Oak Bluff Ave., Larchmont, N.Y.
Chem. engr.; b. Newton, Mass., Apr. 10, 1902; s. of Horace K. and Lilla Latimer Turner; ed. M.I.T., B.S., M.S. Chem. Engrg.; m. Elinor Merrill, Nov. 4, 1924; ch.: George, Mary, Ellen, Janice, Lois. Carbide & Carbon Chems. Div., res. dept., Clendenin, W. Va. 1924; Carbide & Carbon Chems. Div., engr. dept. South Charleston, W. Va. 1925; prod. dept. 1925-45; wks. mgrs. dept., N.Y. off., asst. wks. mgr., 1946 to date. Mem.: A.I.Ch.E. Club: Larchmont Yacht.

TURNOCK, Lawrence C., consltg. chem. engr., Union Com. Bldg., Cleveland 14, Ohio; res. 1886 E. 97th St., Cleveland 6.
Consltg. chem. engr.; b. Chicago, Ill., Mar. 9, 1886; s. of E. Hill and Mathilda M. (Tourville) Turnock; ed. U. of Ill., B.S. in chem. engrg. 1910; U. of Wis., Ch.E. chem. engrg., 1911; mem.: Zeta Psi; m. Mary Thomas Rucker, Sept. 4, 1912; ch.: Mary Thomas, II (Mrs. John T. Jaeger), Lawrence C., Jr. Hd., Div. of Electrochem. Engrg., Pa. State Coll., 1911-14; tech. adviser on res. & dev. to Thomas A. Edison, 1914-15; chf. metall., Willys-Overland Co., Elyria, Ohio, 1915-16; dir., phys. chem., electrochem. & chem. engrg. divs., Carnegie Inst. of Tech. & consltg. chem. engr., Pitts., Pa., 1916-26; pres., Turnock Engrg. Co., Cleveland, Ohio, 1926-34; consltg. chem. engr. to date; cons. expert, War Dept., Office Chf. of Chem. Corps., Wash., D.C. & U.S. Armed Forces, European Theatre of Operations, 1942-46; adviser on chem. industries, U.S. Army Military Govt. in Korea, Seoul, Korea, 1946-47; chem. engrg. cons., Am. Miss. Aid to Greece, Athens,, Greece, 1947-48, in chg. of chem. industries. Res. on Edison storage battery; War Dept. citation for patriotic serv. & outstanding contribs. to chem. warfare res. & dev. in U.S. & foreign theatres; 7 U.S. pats. Author: 'Electrochem. for Engrs." 1920. Former mem.: A.I.Ch.E., A.C.S., Am. Electrochem. Soc., Am. Elect. Platers Soc., Armed Forces Chem. Assn. Clubs: Amateur Trapshooting Assn. of Am. (life mem.), Dover Bay Gun, Boston Hills. Hobbies: golf, trap & skeet shooting, travel, hunting dogs.

TURRELL, Franklin M(arion), assoc. plant physiol., U. of Calif. Citrus Exp. Sta., Berkeley, Calif.; res. 3574 Bandini Ave., Riverside, Calif.
Plant physiol., chem. anal.; b. Pittsburgh, Pa., Mar. 21, 1905; s. of Marion Charles and Sarah Amy (Waddell) Turrell; ed. East Ill. State Coll., B.E. 1929; U. of Ia., M.S. 1932, Ph.D. 1935 (scholastic honors 1928); mem.: Theta Upsilon Omega, Gamma Alpha, Sigma Xi; m. Margaret Mary Eastabrooks, June 4, 1929; ch.: Vincent Eastabrooks. U. of Ia., grad. asst. 1931-32, scholar 1932-33, res. asst. 1933-35; U. of Cincinnati, instr. plant physiol. 1935-36; U. of Calif., jr. plant physiol. 1936-42, asst. plant physiol. 1942-48, assoc. plant physiol. 1948 to date. Res. in metabolism of sulfur in plants, composition of struct. constituents of plants, physiol. diseases, radioactive tracers; active surface mensuration, anal. instruments. Author: "Tables of Surfaces & Vols. of Spheres & of Oblate & Prolate Spheroids & Spheroidal Coefficients" (U. of Calif. Press. 1946). Mem.: A.A.A.S. (fellow 1938), A.C.S., Amer. Soc. Plant Physiol., Scand. Soc. Plant Physiol., Bot. Soc., Amer. Soc. Horticul. Sc., Sigma Xi. Riverside Optimist Internatl. (v.p. 1948, bd. dirs. 1948), Rochdale Mercantile Assn. (bd. dirs. 1937), Sons of Amer. Rev. (v.p. 1950). Clubs: U. of Calif. Faculty Club, Riveside, Inc. (treas. 1948-50), San Moritz, San Gorgonio Sect., A.C.S. (mem. found. comm., bd. dirs.). Hobbies: swimming, golf, tennis, travel.

TURRENTINE, John William, pres. emeritus, conslt., Am. Potash Inst., 1155-16th St. N.W., Wash. 6, D.C.; res. 4439 Cathedral Ave. N.W., Wash. 16, D.C.
Conslt.; b. Burlington, N.C., July 5, 1880; s. of William Holt and Ella (Rea) Turrentine; ed. U. of N.C., Ph.B., 1901; M.S. 1902; Ph.D., Cornell U., 1908; mem.: Gamma Alpha, Sigma Xi; m. Katharine Whiting Bacon, July 2, 1926. Teacher of chem., Lafayette Coll., Easton, Pa., 1902-05; Cornell U., 1905-08; Wesleyan U., Middletown, Conn., 1908-11; potash res., U.S. Dept. of Agr., 1911-17; in chg. kelp prods. plant, Summerland, Calif., 1917-22; in chg. potash res. U.S.D.A., 1922-35; pres., chmn. bd. of dir., Am. Potash Inst., 1935-47. Invented quick cooling vacuum process for crystallization of potash salts; blowing out process for recovery of iodine & bromine from dilute solutions; nitric oxide process for prod. of calcium nitro-phosphate & nitrosyl chloride processs for prod. of calcium chloro-phosphate; ammonium carbonate process for extraction of potasium sulphate

from polyhalite; activated silica from greensand; continuous counter-current lixiviator. Author: "Potash" 1926; "Potash in North America" 1943; co-author: "Potash Deficiency Symptoms" with Eckstein & Bruno, 1937. Mem.: A.A.A.S. (fellow), A.C.S., A.I.Ch.E., Am. Soc. of Agronomy, Am. Planning & Civic Assn. Award: Gold M. Academie D'Agriculture de France. Clubs: Cosmos, Chevy Chase (Wash., D.C.), Chemists' (N.Y.).

TUTHILL, Harlan Lloyd, plant tech. dir., Smith, Kline & French Labs., 1530 Spring Garden St., Phila., Pa.; res. 1621 Ferndale Ave., Willow Grove, Pa.
Pharmaceutical mfg.; b. Fillmore, N.Y., Nov. 24, 1917; s. of Frank L. and Edna (Cartwright) Tuthill; ed. Houghton Coll., Houghton, N.Y., 1935-39 B.S. in chem. summa cum laude; Cornell U., Ithaca, N.Y., 1939-43 Ph.D. in Physical Chem. Sage Fellowship; m. Hilda Jane Giles, July 19, 1941; ch.: Sharon Mary, Nancy Caroline. 1943-46, Rohm & Haas Co., resinous prods. div., res. chem.; 1946-48, Smith, Kline & French Labs., hd. of physical chem. sec., 1948 to date, plant tech. dir. Contrib. arts. to tech. & sc. jls. Mem.: A.C.S., A.Phar.A., Am. Drug Mfrs. Assn. (res. & dev. sec.), Sigma Xi, A.D.M.A.-A.P.M.A. (combined contact com.). Award: Ebert Cert. of Merit, Am. Phar. Assn. 1950. Houghton Coll. Dev. Com. Hobby: music.

TUTTLE, Malcolm Harley, v.p. and res. dir., Max B. Miller & Co., 501 5th Ave., N.Y.C. 17, N.Y.; res. 56 Avon Rd., New Rochelle, N.Y.
Pet. refining-res. & dev.; b. Pasadena, Calif., Mar. 20, 1896; s. of Guy H. and Margy Parr Tuttle; ed. Cornell U., 1914-17, 1918-19, degree M.E.; mem.: Pi Kappa Alpha, Sphinx Head; m. Aurilla Douglas Brigham, July 29, 1923; ch.: Mrs. Arthur L. Snyder nee Ellen Grant Tuttle, Mrs. Donald D. Geary, nee Ann Harley Tuttle. Engr., Diamond T. Motor Car Co., 1919-20; engr., Cosden & Co., 1920-22; engr., F.W. Freeborn Engrg. Co., 1922-23; chf. engr., Producers & Refiners Corp., 1923-25; refinery mgr., Pan American Pet. Corp., 1926-29; v.p. and res. dir., Max B. Miller & Co., Inc., 1929 to present. Granted 24 U.S. pats. and num. foreign pats. on oil refining processes, chf. process being the Duo Sol process for solvent refining with propane and phenols. Mem.: Cornell Soc. of Engineers, A.C.S., Am. Pet. Inst. Clubs: Larchmont Yacht, Larchmont Univ., Cornell, St. Anton am Arlberg Ski Club. Hobbies: skiing, sailing, photography, painting.

TWISS, J. Hayden, pres., The House of J. Hayden Twiss, 225 Park Ave., N.Y.C.; res. 38 Archer Dr., Bronxville 8, N.Y.
Chem. adv. agcy.; b. Scranton, Pa., Nov. 7, 1899; s. of Thomas and Elizabeth Twiss; ed. U.S. Naval Acdy., U. Pa., N.Y.U.; m. Marian E. Lippoth, Sept. 21, 1923; ch.: Marilyn E. Weston, Jacquelyn. Apr. 12, 1917 comm. U.S. Navy to Oct. 31, 1921; 1922-28, publisher of bks. on archit. & landsc. architecture; adv. agency, 1928 to date.

TWOMBLY, William Fletcher, v.p., Witco Chem. Co., 295 Madison Ave., N.Y. 17, N.Y.
Chem.; b. Reading, Mass., June 29, 1891; s. of William E. and Grace L. (Fletcher) Twombly; ed. A.B., Bowdoin Coll., 1913; mem.: Delta Kappa Epsilon; m. Esther Dallett, Sept. 11, 1920; ch.: Linda. 1913-29, E.I. du Pont de Nemours & Co., res. chem., dir. of Semi Wks. plant; 1929-42, Reading Chronicle Press, Inc., treas.; 1942-45, War Prod. Bd., asst. dir. of chem. branch; 1945 to date, Witco Chem. Co., v.p. Mem.: A.C.S., A.I.Ch.E., Chem. Market Res. Assn. Club: Chemists' (N.Y.). Hobbies: photography, music.

TYLEE, Schuyler E., v.p., treas., Jacques Wolf & Co., 356 Lexington Ave., Passaic, N.J.; res. 151 E. Palisade Ave., Englewood, N.J.
Exec.; b. Paterson, N.J., Oct. 27, 1893; s. of Schuyler and Minnie Tylee. With Jacques Wolf & Co. for 38 yrs. Club: Arcola Country (Arcola, N.J.). Hobby: golf.

TYLER, John E(dward), res. physicist, Interchem. Corp., 432 W. 45th St., N.Y. 19, N.Y.; res. 63 Summit Rd., Riverside, Conn.
Physicist; b. Boston, Mass., Nov. 11, 1911; s. of Lucius S. and Florence E. (Edwards) Tyler; ed. scholar, M.I.T., 1939, B.S. 1940; Stevens Inst. of Tech., 1947-49; m. Frances C. Blackwood, Aug. 10, 1940; ch.: Jean C., Elizabeth E., Florence E., Marguerite L. Asst. physics, M.I.T., 1940-41, res. assoc. 1941-42; res. physicist, Natl. Res. Corp., Boston, 1942-44; Interchem. Corp., 1944 to date, res. physicist, Natl. Defense Res. Comm. 1944-46; civilian with U.S.N., Bur. Ships. Mem.: Am. Inst. of Physics, Opt.S.A. Dir. of Larned Johnson Fnd., N.Y.

TYLER, Stephen Leslie, secy. and exec. secy., Amer. Inst. of Chem. Engrs., 120 E. 41st St., New York 17, N.Y.; res. 130 Brook St., Garden City, N.Y.
Exec., chem. engr.; b. New Haven, Conn., Sept. 25, 1889; s. of Frank P. and Stella M. Tyler; ed. Yale U., Ph.B., 1911; m. 1st., Adele DuCret, July 23, 1921; dec.; m. 2nd., Hazel C. Sack, Jan. 28, 1928; ch.: Stephen L., Jr., William F. Asst. in Test Dept., N.Y., N.H. & H. R.R., 1912-13; asst., later engr., The Thermal Syndicate, Ltd., New York, N.Y., 1913-37; secy. and exec. secy., Amer. Inst. of Ch. Engrs., April, 1937, to date. Holds U.S. pat. entitled "Absorption and Condensing Apparatus." Author: "A New Vessel for the Absorption of Hydrochloric Acid," Trans. A.I.Ch.E., Vol. XIV, 1922; "Fused Silica, Its Properties and a Few of Its Uses," Trans. A.I.Ch.E., Vol. XI, 1918; "Non-Metals Head List of H.C.I. Resistance," Chem. & Met. Engrg. Vol. 39, 1932. Mem.: A.I.Ch.E., A.C.S. Club: Chemists' (N.Y.), Tau Beta Pi.

TYSON, Floyd T., prof. of chem., Temple U., Phila. 22, Pa.; res. Wyncote, Pa.
Coll. prof.; b. York, Pa., Nov. 10, 1898; s. of Thaddeus and Anna Tyson; ed. grammar & high schl., York, Pa.; B.S., Pa. State Coll., 1920; Ph.D., Yale U., 1923; m. Verna Summerhill, 1930; ch.: Elizabeth, John. Temple U., 1924 to date. Var. publs. in J.A.C.S. Mem.: A.C.S., A.A.A.S., Sigma Xi. Hobbies: gardening, swimming, camping, apiarist.

U

UHLIG, Herbert H., assoc. prof. of metallurgy, M.I.T., Cambridge, Mass.; res. 2118 Mass. Ave., Lexington, Mass.
Metallurgist, chem.; b. Haledon, N.J., Mar. 3, 1907; s. of Henry C. and Ida (Schuster) Uhlig; ed. B.S., Brown U., 1929, Providence, R.I.; Ph.D., M.I.T., 1932, Cambridge, Mass.; m. Greta D. Johnson, Mar. 8, 1941; ch.: Karin I., Maida R. Physical chem., Rockefeller Inst., 1932-33; res. chem., Lever Bros. Co., 1934-36, asst. chf. chem. 1936-37; res. assoc., Corrosion Lab., M.I.T., 1936-40; Gen. Elec. Co., 1940-46; assoc. prof. of metallurgy, M.I.T., 1946 to date, dir. Corrosion Lab. William F. Clapp Labs. Inc., Duxbury, Mass. (dir.). Author of many tech. papers; editor of Journal of the Electrochem. Soc. Author: "Corrosion Handbook" 1948. Mem.: Electrochem. Soc. (mem. bd. of dir., chmn. Theoretical Div.), Prevention of Deterioration Center, N.R.C. (mem. advisory bd.), A.C.S., A.I.M.M.E., A.S.M., Natl.

Assn. of Corrosion Engrs. Clubs: Adirondack Mt., Appalachian Mt. Hobbies: hiking, skiing.

ULICH, Lynne H., res. chem., E.I. du Pont de Nemours, Deepwater, N.J.; res. 176 East Ave., Woodstown, N.J.
Res. chem.; b. Creston, Iowa, Jan. 2, 1892; s. of John and Hattie (Maurer) Ulrich; ed. Grinnell Coll., Grinnell, Ia., B.S.; U. of Ill., M.S., Ph.D.; mem.: Gamma Alpha, Sigma Xi, Phi Lambda Upsilon; m. Helen Mogensen, June 30, 1920. From 1920 to 1932 Newport Chem. Co., which was absorbed into E.I. du Pont de Nemours, res. in vat dyes. Mem.: A.C.S. Clubs: Fellowship, Masonic Lodge. Hobbies: philately, horticulture, music.

ULLYOT, Glenn Edgar, dir. of org. chem. res., Smith, Kline & French Labs., 1530 Spring Garden St., Phila. 1, Pa.; res. 7253 Pittville Ave., Phila. 26, Pa.
Chem.; b. Garden City, S.D., Mar. 11, 1910; s. of Benjamin J. and Bessie B. Ullyot; ed. U. of S.D., 1927-29; U. of Minn., 1930-33; B.Chem., U. of Ill., 1934-37; M.S., 1935; Ph.D., 1938; honors, Phi Lambda Upsilon, Sigma Xi; mem.: Delta Tau Delta; m. Eleanor E., Aug. 7, 1935. Smith, Kline & French Labs. 1937 to date; res. chem. and hd. of Org. Chem. Sect., since 1945; dir. of Org. Chem. Res., 1950 to date. Contrib. num. arts. to sc. jls.; holds sev. U.S. pats. on: Cyclohexenylalkylamines; Cyclohexylalkylamines; Method for the Preparation of Aminophthalidylalkanes and Method for the Preparation of Aminophthalidylalkane Salts. Mem.: Phila. Sect., A.C.S. (chmn. of Entertainment Comm., 1944; councilor, 1946, 1947; chmn. of Legislative Comm., 1948-49; mem. of bd. of dirs., 1958 to date; chmn. of the Legislatie Comm., 1949-50; v.chmn. of Medicinal Chem. Div., 1947-48; secy.-treas. Medicinal Chem. Div., 1948-49; chmn. Program Comm. for the First Medicinal Chem. Symposium, 1948); mem. A.I.C. (v.chmn. and chmn. for the Penn. Chapt., 1942 and 1943); Phila. Organic Chemists' Club (v. chmn. 1947-48, chmn. 1948-49). Hobbies: hunting, fishing.

UMBDENSTOCK, Robert Rene, asst. supt., Bklyn. Plant, Chas. Pfizer Co. Inc., 11 Bartlett St., Bklyn. 6, N.Y.; res. 3 Mulberry Rd., Islip, N.Y.
Chem. engr.; b. N.Y.C., May 8, 1916; s. of Julius and Blanche (Periguet) Umbdenstock; ed. Cooper Union Inst. of Tech., B.S. in Ch.E. 1937; Polytech. Inst. of Bklyn., M.Ch.E., 1941, D.Ch.E., 1943; mem.: Omega Delta Phi; m. Mary Eileen Shallew, June 26, 1943; ch.: Robert Peter, Peter Alban. 1937-41, tech. serv. dept., Advance Solvents & Chem. Corp.; 1941, Princeton U., govt. res.; 1941-43, Chas. Pfizer Fellowship, Poly. Inst. of Bklyn.; 1943 to date, Chas. Pfizer & Co. Inc. Mem.: Phi Lambda Upsilon, Sigma Xi, A.C.S.

UNDERHILL, Henry L., retired engr.; res. Shelter Island Heights, New York.
Mech. engr. (retired); b. Croton-on-Hudson, N.Y., Oct. 11, 1875; s. of Henry H. and Phebe W. (Underhill) Underhill; ed. Stevens Inst. of Tech., M.E., 1900; mem.: Chi Psi; m. Ist, Dec. 20, 1904, Jane C. Bayne (dec.); m. 2nd, Sept. 10, 1945, Celeste H. Shiebler, widow; ch.: stepson, 12 yrs. old. 1900-02, inspector, Middle States Inspection Bur., N.Y.C. (Insurance of factories); 1902-17, Consolidated Gas Co. of N.Y., fld. engr., asst. supt. 21st St. Gas Wks., asst. engr. of mfr. of co.; 1917-40, Bartlett Hayward Co., Baltimore, Md., engr. and chf. engr., gas dept., gas plants and apparatus and chem. apparatus. Mem.: Soc. of Gas Lighting, N.Y.C., Am. Gas Institute (now Am. Gas Assoc.); also, when active, many other gas socs. and Am. S. of M.E. Club: Chemists' (N.Y.C.). Hobbies: work and sailing, fishing, golf, etc.

UNDERKOFLER, Leland Alfred, prof., chem. dept., Iowa State Coll., Ames, Iowa; res. 2004 Country Club Blvd., Ames.
Chem. prof.; b. Fairfield, Nebr., Apr. 24, 1906; s. of Wm. E. and Laona (Hobson) Underkofler; ed. Nebr. Wesleyan U., A.B. with high distinction, 1928; Iowa State Coll., Ph.D., 1934; mem.: Theta Chi, Alpha Chi Sigma; m. Mabel A. Horn, Sept. 1, 1932; ch.: William Leland, Leon Milton. Iowa State Coll., grad. asst., 1928-33; Westminster Coll., prof., 1933-35; Iowa State Coll., instr. 1935-40, asst. prof. 1940-44, assoc. prof. 1944-49, prof. 1949 to date; Atchison Agrol Co., Atchison, Kans., chem., summers 1936, 1937; consltg. biochem., Coordinator Inter-Am. Affairs, 1942-43; chf. chem., Defense Plant Corp., alcohol plant, Omaha, Nebr., 1944-45. Gateway Chemurgic Corp., Lincoln, Nebr. (dir.). Gen. fermentation res., fungal enzymes for alcoholic fermentation, prod. of rare sugars by fermentation, crystalline fungal enzymes. Mem.: A.A.A.S., A.C.S., A.A.C.C., I.F.T., Iowa Acdy. of Sc. Club: Kiwanis. Hobbies: athletic sports, golf, model airplanes.

UNDERWOOD, Julius E., consultant, Diamond Alkali Co., Painesville, Ohio; res. Wintergreen Hill, Painesville.
Chem.; b. Noblesville, Ind., May 11, 1889; s. of Otho and Elizabeth U. Underwood; ed. Wabash Coll., A.B. 1911, M.A. 1912; Ohio State U. 1912-13; U. of Mo. 1913-15; mem.: Alpha Chi Sigma; m. Jessie A. Dowdell, June 17, 1916; ch.: Julius, Jr., Caroline D. Mellon Inst., Hope Nat. Gas Fellowship, 1915-16; U.S. Bur. of Mines, Golden, Colo., phys. chem., 1916-18; Radium Co. of Colo., Denver, phys. chem. 1918-21 Radium Emanation Corp., Pittsburgh & N.Y., phys. chem., 1921-23; Natl. Lime Assn., Wash., D.C., dir. of res. 1923-28; Pa. Salt. Mfg. Co., Phila., Pa., mgr. of res. & dev., 1928-42; Office Prod. Res. & Dev., War Prod. Bd., 1942-44; Diamond Alkali Co., Painesville, Ohio, dir. of res. 1944-50; consultant 1950 to date. Radium; radioactivity; radium luminous preparations, lime & lime prods.; chem. pulp bleaching; org. & inorg. res. in heavy chem., inorg. silicates. Mem.: A.A.A.S., A.I.Ch.E., A.C.S., Soc. Chem. Ind. Gt. Britain, London Chem Soc, Rittenhouse Astronomical Soc. Hobbies: tennis, golf, fishing, woodworking, oils.

UNDERWOOD, William Murray; res. 309 E. 90th Pl., Chicago 19.
Chem. engr.; b. Lombard, Ill., Sept. 25, 1916; s. of William J. and Edith (Murray) Underwood; ed. B.S. in chem. engrg.; Armour Inst. of Tech., now Ill. Inst. of Tech.; m. Mary J. Andrews, 1946; ch.: Mary Anne, Alice Virginia, William Allen. Trainee, Seagram Distillery, Baltimore, Md., 1939-40; asst. chf. chem., General Chemical Co., Baltimore, Md., 1940-43 chf. chem. & acid supvr., Ill. Powder Mfg. Co., Grafton, Ill., 1943-44; chf. chem. engr., Hills-McCanna Co., Chicago, Ill., 1944-50. Mem.: A.C.S., A.I.Ch.E., Reg. Prof. Engr. (Illinois). Hobbies: photography, gardening.

UNGER, Earl Duane, hd. of engrg. res. div., Joseph E. Seagram & Sons, Inc., Louisville, Ky.; res. 1978 Trevilian Way, Louisville.
Chem. engr.; b. Fargo, N.D., Nov. 19, 1911; s. of Isaac and Marion Unger; ed. B.S. in chem. engrg., Case Inst. of Tech., 1933, prof. deg. of chem. engrg., 1941; m. Lois C., Dec. 24, 1942; ch.: Eleanor B., Earl M. 1934-38, Gen. Chem. Co., Cleveland, Ohio, control chem.; 1938 to date, Joseph E. Seagram & Sons Inc., Louisville, Ky., prod. operator, supvr., asst. supt., res. engr., dev. engr., process engr., hd. of engrg. res. div. Hy-

drates of alumina; butadiene prod. from grain; grain processing in fermentation ind.; distillation of ethyl alcohol. Mem.: Sigma Xi, A.C.S., A.A.A.S., A.I.Ch.E., Ky. Acdy. of Sc., secy. chem. div. K.A.S. 1947, chmn. chem. div. K.A.S. 1948, v-chmn., Louisville Sec. A.I.Ch.E. 1949, chmn. Louisville Sec., A.I.Ch.E., 1950, v.chmn. Louisville Engrg. & Sc. Societies Council, 1950.

UPJOHN, Lawrence Northcote, chmn. of bd., Upjohn Co., 301 Henrietta St., Kalamazoo, Mich.; res. 1556 Long Rd., Kalamazoo.
Physician, phar. mfr.; b. Dec. 16, 1873; s. of Henry Uriah, M.D. and Millie K. Upjohn, M.D.; ed. U. of Mich., M.D., 1900; m. Gratia Clough, June 26, 1900; ch.: Dr. E. Gifford, Rhoda (Upjohn) Cookson, Esther (Upjohn) Shipley. Clerk, Kalamazoo Savings Bank, 1892-96; M.D., Univ. of Mich., 1900; U. of Mich., instr., prof. of anatomy, Univ. of Okla., 1900-04; Upjohn Co., 1904, N.Y. branch mgr. 1906-30, pres. 1930, chmn. of bd. 1944 to date. Trustee, Bronson Meth. Hosp., Kalamazoo; Y.M.C.A. trustee; chmn. W.E. Upjohn Unemployment Trustee Corp.; trustee, W.E. Upjohn Inst. for Community Research. Club: Torch.

URANSON, Norman, dir. of res., Morticians Supply Co., 409 N. Zangs Blvd., Dallas, Texas; res. 2300 Rockcrest Dr., Dallas, Texas.
Chem.; b. Bryn Mawr, Pa., Nov. 13, 1912; s. of Louis and Ida Uranson; ed. Philadelphia Coll. of Pharmacy & Sc., B.Sc. Chem., Master of Sc., Chemistry, B.Sc. 1934, M.Sc. 1939; m. Clara M., Dec. 20, 1941; ch.: Norma Elizabeth, Beverly Ann. Instr., Phila. Coll. of Pharmacy & Science; instr. of chem., Pa. State Coll. of Optometry; chf. chem., H.S. Eckels Mfg. Co., Phila., Pa.; Lt. Col., Quartermaster Corps, during W.W. II; dir. of res., Morticians Supply Co., Dallas, Texas. Active in res. and dev. program, U.S. Army with the 4009th Res. and Dev. Unit. Mem.: A.C.S., A.A.A.S. Clubs: Mason, D.A.V., Reserve Officers Assoc. Hobbies: photography, golf, tennis.

URBAN, Stephen F., asst. dir. of purch., E.R. Squibb & Sons, 25 Columbia Hts. Brooklyn 2, N.Y.; res. 208-07 111th Ave., St. Albans 11, N.Y.
Exec.; b. Brooklyn, N.Y., Oct. 22, 1898; s. of Stephen and Marie A. Urban; ed. H.S., night coll. spec. subj.; m. Cecile E. Stachelroth, Sept. 12, 1922; ch.: Richard, Joan, Warren, Raymond, Dorothy. 1918-21, buyer, McKesson & Robbins; to date, purch. dept., E.R. Squibb & Sons. Hobbies: golf, fishing, hunting.

URDANG, George, prof., U. Wisconsin, & dir., Am. Inst. of the Hist. of Pharmacy, 457 Chem. Bldg., U. Wisconsin, Madison 6, Wis.; res. 1635 Monroe St., Madison 5.
Pharmaceut. hist.; b. Tilsit, Ger., June 13, 1882; s. of Isidor and Emma Maria (Alban) Urdang; ed. Apotheker, U. Leipzig; U. Berlin; D. Nat. Sc., U. Halle-Wittenberg; Ph.G., Bklyn. Coll. Phar.; mem.: Rho Chi; m. Gertrude Preuss, Mar. 30, 1909; ch.: Eva Maria, Alfredson, Johanna Ursula (Lewis). Owner & operator, pharmacy, Rosenberg, W. Prussia, 1910-19; editor, "Pharmazeutische Zeitung," Berlin, 1919-34 (unofficially, 1934-37); dir. Am. Inst. Hist. of Phar., 1941 to date; prof., Schl. of Phar., U. Wisconsin, 1947 to date. Scheele biog.; chems. in pharmacopoeias (hist.); hist. phar. indus., including med. chem. producers & contribs. of pharmacists to chem. Hon. doctorate, Phila. Coll. Phar. & Sc.; Urban Medal; Schelenz Plaque; Gunther Schmid Medal; J. Leon Lascoff Award. Author: "Der Apotheker im Spiegel der Literatur," Berlin, 1920; "Der Apotheker als Subjekt & Objekt der Literatur," Berlin, 1926; "Wesen & Bedeutung der Geschichte der Pharmazie," Berlin, 1927; "Kunst & Kulturgeschichtliches aus Alten Apothegen," Berlin, 1928; "Die Deutsche Apotheke als Keimzelle der Deutschen Pharmazeutischen Industrie," Mittenwald, 1931; "Sechzig Jahre Dr. Otto Krausse, Grossdrogenhandel in Magdeburg," Mittenwald, 1931; "Zur Geschichte der Metalle in den amtlichen Deutschen Arzneibuchern," Mittenwald, 1933; "Grundriss der Geschichte der Deutschen Pharmazie" (with Alfred Adlung), Berlin, 1935; "The Squibb Ancient Pharmacy," N.Y., 1940; "Hist. of Pharmacy" (with Edward Kremers), Phila., 1940; "Position of Pharmacy in Sickness Insurance" (with Jennings Murphy), Madison, Wis., 1942; Retail Pharmacy as Nucleus of the Phar. Indus. in "Essays in the Hist. of Medicine," Baltimore, 1944; "The London Pharmacopoeia of 1618," Madison, Wis., 1944; The Field of Pharmacy in "American Pharmacy," Phila., 1945; One Hundred & Twenty-five Yrs. of the U.S. Pharmacopoeia in "Victor Robinson Memorial Volume," N.Y., 1948; The Origin & Devel. of the Essential Oil Indus. in "The Essential Oils," Ernst Guenther, N.Y., 1948; The Origin of the Term "Calomel" in "Max Neuburger Festschrift," Wien, 1949; Dispensing Through the Ages in "Pharmaceutical Compounding & Dispensing," Phila., 1949. Hon. Consult. to the Army Med. Libr. Consult. editor: "Chymia"; "Jl. Hist. Med. & Allied Scs."; "Isis." Mem.: German Soc. Hist. of Phar. (founder & hon. mem.), Am. Phar. Assoc. (hon.), Austrian Phar. Soc. (corresp.), A.A.A.S. (fellow), Brazilian Soc. Hist. Med. (corresp.), Brazilian Natl. Acdy. Phar. (hon.), Peruvian Soc. Hist. Phar. (hon.), Am. Inst. Hist. Phar. (dir.), Hist. Sc. Soc., Am. Assoc. Hist. Med.

UREY, Harold C(layton), distinguished serv. prof. of chem., Inst. of Nuclear Studies, U. of Chicago, Chicago 37, Ill.; res. 4900 Greenwood Ave., Chicago 15.
Prof. of chem.; b. Walkerton, Ind., Apr. 29, 1893; s. of Samuel C. and Clara Rebecca (Reinohl) Urey; ed. U. of Mont., B.S., 1917; U. of Calif., Ph.D., 1923; D.Sc., Princeton U., 1935, U. of Mont. 1935, U. of Newark, 1939, Columbia U., 1946, Oxford U., 1946, Wash. & Lee, 1948; m. Frieda Daum, June 12, 1926; ch.: Gertrude Elizabeth, Frieda Rebecca, Mary Alice, John Clayton. Res. chem., Barrett Chem. Co., 1918-19; instr. in chem., U. of Mont., 1919-21; assoc. in chem., Johns Hopkins, 1924-29; assoc. prof. of chem., Columbia U., 1929-34 prof. of chem., 1934-45, exec. officer dept. of chem. 1939-42; editor, J. Chem. Phys., 1933-40; dir. of War. Res., S.A.M. Labs., Columbia U., 1940-45; distinguished serv. prof. of chem., Inst. of Nuclear Studies, U. of Chicago, 1945 to date. Discovery of heavy hydrogen; chem. meths. for the separation of isotopes; measurement of paleotemperatures. Co-author: "Atoms, Molecules & Quanta" with A.E. Ruark, 1930. Mem.: A.C.S., A.Phys.S., Am. Philosophical Soc., Natl. Acdy. of Sc., A.A.A.S., Am. Acdy. of Arts & Sc., Franklin Inst. (hon. mem.), Royal Swedish Acdy. (hon. mem.), Academie Royale des Sciences, des Lettres et des Beaux Arts de Belgique (hon.), French Chem. Soc. (hon.), Royal Soc. (London, foreign mem.), Christian Michelsen Inst. (Bergen, corresponding mem.), Royal Irish Acdy. (hon.), Natl. Inst. of Sc. of India (hon. fellow), Chem. Soc. (London, hon. fellow), Sigma Xi, Epsilon Chi, Phi Lambda Upsilon, Gamma Alpha, Phi Sigma. Awards: Willard Gibbs M., A.C.S. 1934; Nobel Prize in Chem. 1934; Davy M., Royal Soc. of London, 1940; Franklin M., Franklin Inst., 1943; Medal for Merit, 1945. Bd. of dir., v.p., Am.-Scandinavian Foundation. Clubs: Quadrangle, Tavern, Chicago.

URQUHART, George Gordon, conslt., 1 S. Heald St., Wilmington, Del.; res. Wynnewood, Pa.
Chem. engr.; b. Phila., Pa., Mar. 8 1894; s. of George W. and Julia Ann Morris Urquhart; ed.

B.S., U. of Pa., in chem. engrg., 1916; mem.: Sigma Alpha Epsilon, Sigma Xi; m. Mary F. Faust, Sept. 28, 1921; ch.: George Gordon, 2nd, Marilyn. Engr., United Gas Improvement Co., 1916-18; U.S. Army Ordnance, 1918; Engineer, I.P. Thomas & Son Co., 1921-40; v.p., American Foman Co., 1927 to date; v.p., Natl. Foam System, Inc., 1935 to 1945; conslt., 1945 to date. Inventor of foam chemicals and processes. American Foman Co., dir. Mem.: A.I.Ch.E., A.I.Ch., A.C.S. Clubs: Union League (Phila.), Philadelphia Country, Seaview Country.

URQUIZA, Manual Alvarez, chem. engr., Tenn. Eastman Corp., Kingsport, Tenn.; res. 1353 Pineola Ave., Kingsport.
Chem. engr.; b. Queretaro, Mexico, Jan. 16, 1909; s. of F.J. and Sara A. Urquiza; ed. B.S. in chem. engrg. N.C. State Coll.; m. Josephine Wyrick, Mar. 29, 1930; ch.: Dolores. To date, Tenn. Eastman Corp. Hobbies. photography, radio.

V

VAGTBORG, Harold, pres., Southwest Res. Inst., P.O. Box 2296, 8500 Culebra Rd., San Antonio, Texas; res. 8500 Culebra Rd., San Antonio.
Res. admin.; b. Copenhagen, Denmark, Sept. 17, 1904; s. of Christian Peter and Elaine Jacobsen Vagtborg; ed. U. of Ill., B.S., 1926; Armour Inst. of Tech., Chicago, Ill., M.S., 1934; Park Coll., Parkville, Mo., Hon. D.Sc., 1947; Mo. Valley Coll., Marshall, Mo., Hon. LL.D., 1950; mem.: Kappa Delta Rho; m. Lilla Maurine Jones, June 3, 1926; ch.: Harold, Jr., Phyllis Maurine. 1926-28 Civ. Engr., C.J. Carlson Co., Chicago, Ill.; 1928-30, engr., Vagtborg Constrn. Co. Chicago, Ill.; 1930-35 Civ. Engr., Allen & Vagtborg, Chicago, Ill.; 1931-37 Civ. Engr., Armour Inst. of Tech., Chicago, Ill.; 1937-45 dir., Armour Res. Foundation, Chicago, Ill.; 1945-48 pres., Midwest Res. Foundation, Kansas City, Mo.; 1948 to date pres., Southwest Res. Inst., San Antonio, Tex. Mem.: A.Phys.S., A.C.S., A.A.A.S., A.S.C.E. Trustee, San Antonio Library Bd., Ill. Inst. of Tech.; natl. counselor, U. of Okla. Res. Inst.; trustee, Midwest Res. Inst. Clubs: San Antonio, Oak Hills Country, University Chicago, Engrs. (N.Y., N.Y.).

VAHLTEICH, H(ans) W(alter), v.p. res. and qual. control, The Best Foods, Inc., 99 Ave. A, Bayonne, N.J.; res. 310 Walnut St., Englewood, N.J.
Exec. chem.; b. Chicago, Ill., Apr. 15, 1896; s. of Dr. J.R. and Mary (Boening) Vahlteich; ed. U. of Ill., 1915-18; U. of Mich., 1919-22, B.Sc. M.Sc., Stearns Fellow; Columbia U. 1922-23, Ph. D., Univ. Scholar; U. of Berlin (Germany) Physiol.-Chem. Inst. Post Grad. wk. 1927-28; mem.: Phi Delta Chi (U. of Mich.); m. Ella L. McCollum, Mar. 31, 1928; ch.: Beverly McC. 1923-24 instr. U. of Ill. Coll. Phar.; 1924-42 res. chem. The Best Foods, Inc.; 1943 to date v.p., res. & qual. control, same co. Many pub. papers and U.S. and foreign pats. in fld. of proteolytic enzymes, food tech., edible vegetable oils, emulsions, hydrogenation, edible prods. Mem.: A.C.S., A.O.C.S., A.A.A.S., Inst. of Food Techs., Sigma Xi, Phi Lambda Upsilon, Phi Sigma; mem. Brazilian-Amer. Vegetable Oil Mission, 1942. Hobby: photography.

VAIL, James Garrett, dir., Phila. Quartz Co., Pub. Ledger Bldg., Phila. 6, Penn.; res. Media, Penn.
Chem.; b. Nov. 16, 1886; ed. U. of Pa., Harvard, Technische Hochschule Darmstadt; D.Sc. (honor). Haverford; m. Ruth M. Russell, June 7, 1910; ch.: Benjamin, Philip. With Phila. Quartz Co., chem., 1905-12; chem. dir., 1912-40; v.p., 1934-49; res. in soluble silicates. Author: "Soluble Silicates in Indust." (an A.C.S. monograph); new volume now in prep. Mem.: A.C.S.; Am. Inst. Chemists (fellow), A. Cer. Soc. (fellow); A.I.Ch.E. (past pres.); Franklin Inst.; S.C.I.; Chemical Industry M., 1933. Trustee, Westtown Schl., Penn. State Teachers College, Cheyney, Pa., Pendle Hill Amer. Friends Serv. Comm. (Foreign Serv. Chmn.). Clubs: University (Phila.), Cosmos (Wash.), Chemists' (N.Y.). Hobbies: photography, microscopy.

VAIL, Walter Elwood, res. assoc., E.I. du Pont de Nemours & Co., Box 993, Charleston 24, W. Va.; res. 1541 Bridge Rd., Charleston 4.
Chem. res. & dev.; b. Forest Hill, Md., Sept. 23, 1891; s. of Charles Lindley and Cornelia (Hoskins) Vail; ed. Haverford Coll., B.S., 1915; Harvard U., A.M., 1917, Ph.D., 1924; mem.: Alpha Chi Sigma; m. Annie Calder Maxwell, Nov. 24, 1925; ch.: Phyllis. Manhattan Electrical Supply Co., 1923-26, res. on dry cells; E.I. du Pont de Nemours & Co., 1926 to date, res. on catalysts & high pressure syntheses. Water gas catalysts, methanol catalysts. Mem.: A.C.S., A.I.Ch.E. Club: Charleston Tennis. Hobbies: gardening, woodworking, audio amplifiers.

VALENTINE, Corbin Braxton, pres., Valentine's Meat-Juice Co., 1600 Chamberlayne Ave., Richmond, Va.; res. 4807 Pocahontas Ave., Richmond.
Exec.; b. Richmond, Va., Mar. 24, 1897; s. of Henry Lee and Kate (Braxton) Valentine; ed. 1907-11, Richmond Acdy.; 1911-15, Woodberry Forest Schl.; 1915-20, U. of Va., B.S. in chem.; grad. wk., Columbia U., N.Y., in food chem.; mem.: U. of Va. Chi Phi, Skull & Keys, Eli Banana; m. Ida Watkins Massie, Nov. 22, 1922; ch.: Corbin Braxton, Jr., Henry Lee, II, Eugene Massie. Sept., 1920, started wk. at Valentine's Meat-Juice Co.; Apr. 30, 1935, pres., Valentine Co. Inc.; June 15, 1943 to date, pres., Valentine's Meat-Juice Co. State-Planters Bank & Trust Co. (dir.); Stand. Paper Mfg. Co. (dir.); William Byrd Press (dir.); Mutual Assurance Soc. of Va. (mem. of standing comm.); R.F.C. (mem. of advisory comm.). Mem.: A.C.S. (past pres. of Va. Sec.), Va. Acdy. of Sc. Pres., Valentine Museum, Jr. Warden, St. James Epis. Ch., trustee, Invested Fund for Diocese of Va., trustee, Epis. Home for Ladies, Exec. Comm. Diocese Missionary Soc. Clubs: Country Club of Va., Commonwealth Club of Richmond, Richmond German. Hobby: golf.

VAN ANTWERPEN, Franklin John, editor, bus. mgr., Chem. Engrg. Progress, 120 E. 41st St., N.Y. 17, N.Y.; res. 44 Shepard Pl., Nutley 10, N.J.
Chem. engr.; b. Paterson, N.J., Nov. 28, 1912; s. of William and Frances Van Antwerpen; ed. Newark Coll. of Engrg., A.E.; B.S. in Ch.E., 1938, Columbia U.; m. Dorothy Hoedemaker, June 3, 1939; ch.: Franklin Stuart, Virginia Evelyn. Mgr., Munitex Corp., 1935-38; managing edit., Ind. & Engrg. Chem., A.C.S., 1938-46; edit., Chem. Engrg. Progress, A.I.Ch.E., 1946 to date. Var. arts. in chem. engrg. jls. Mem.: A.C.S., A.A.A.S., A.I.Ch.E., Chemists' Club.

VAN ARSDEL, Wallace B., asst. dir., Western Regional Res. Lab., 800 Buchanan St., Albany 6, Calif.; res. 250 Yale Ave., Berkeley 8, Calif.
Chem. engr.; b. Frankfort, Ind., Mar. 17, 1893; s. of Eddy C. and Bessie G. Van Arsdel; ed. Purdue U., B.S., 1913; mem.: Tau Beta Pi, Sigma Delta Chi, Alpha Chi Sigma; m. Lu A. Doxsee, Oct. 6, 1915; ch.: Mary A., Ruth E. Chem. engr., asst. dir. of res., Brown Co., Berlin, N.H., 1914-

37; chem. engr., Bur. Agr. & Ind. Chem., U.S. Dept. of Agr., 1937 to date (Champaign-Urbana, Ill., Wash., D.C., Albany, Calif.). Kinetics of gas absorption by liquids, theory of color measurement, theory of countercurrent extraction, theory of drying, numerical meths. for solution of diffusion equation, tech. of food dehydration. Mem.: A.C.S., A.I.Ch.E., I.F.T. Dir., Y.M.C.A., Berlin, N.H.; dir., Red Cross, Berlin, N.H.; dir., Boy Scouts, Berlin, N.H.; chmn. City Planning Bd., Berlin, N.H. Club: Rotary (Berlin, N.H., Champaign, Ill.). Hobbies: gardening, painting.

VAN CAMPEN, M(arcus) G(eorge), Jr., sc. advisor, hd. of org. res., prod., The Wm. S. Merrell Co., Lockland Station, Cincinnati 15, Ohio; res. 42 Fleming Rd., Cincinnati 15.
Chem.; b. Olean, N.Y., Dec. 31, 1908; s. of Marcus George and Alice Hamilton (Bennie) Van Campen; ed. U. of Ill., B.S., 1930; Cornell U., Ph.D., 1935; mem.: Alpha Chi Sigma; m. Anne Strong, Jan. 1, 1936; ch.: David Bennie, Stephen Strong, Elizabeth Anne. 1935-36, du Pont postdoctoral fellow, Cornell U., 1936-37, ind. fellow, Mellon Inst. of Ind. Res.; 1937 to date, res. chem., hd. of org. dept., asst. sc. dir., sc. advisor, The Wm. S. Merrell Co. Chem. of org. boron. cmpds., syn. estrogens, antispasmodics, histamine antagonists, cardiac drugs. Mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi, A.C.S. (v.chmn. medicinal div.). Club: Wyo. Civic. Hobbies: fishing, gardening, shop work.

VANCE, John E(dward), prof. chem., chmn. dept., Washington Square Coll., hd. dept., Grad. Schl. of Arts & Sc., N.Y.U., Washington Sq., N.Y. 3, N.Y.; res. 390 West End Ave., N.Y. 24, N.Y.
Chem.; b. Dayton, Ohio, May 21, 1905; s. of Edward D. and Kathleen P. Vance; ed. B.S. 1926 cum laude, Ph.D. 1929, Yale; mem.: Alpha Chi Sigma; m. Esther Christensen, July 3, 1931; ch.: Joan, Philip. Yale U., instr. 1929-30, Sterling fellow for study in Denmark 1930-31, instr. 1931-35, asst. prof. 1935-40, assoc. prof. 1940-42; Army Capt., July, 1942-Feb., 1943, Major, Feb., 1943-Nov., 1945, Lt. Col. Nov., 1945- Nov., 1946 Corps of Engrs.; Yale U., assoc. prof. 1946-48; N.Y.U., prof. chem., 1948 to date. Publ. in various sc. jls., anal. & physical chem. Mem.: A.C.S., N.Y. Acdy. Sc. (fellow), Sigma Xi. Clubs: Yale (N.Y.C.), Chemists' (N.Y.).

VANDENBELT, J(ohn) M(elvin), hd., res. in phys. chem., Parke, Davis & Co., Jos. Campau at River, Detroit 32, Mich.; res. 1330 Hampton Rd., Grosse Pointe Woods 30, Mich.
Phys. chem.; b. Holland, Mich., Aug. 9, 1912; s. of Wm. J. and Martha (Van Leeuwen) Vandenbelt; ed. A.B., Hope Coll., 1934 (cum laude); A.M., Boston U. 1936 (anal. chem.); Ph.D., Mich. State Coll., 1940 (phys. chem.); mem.: Phi Tau Nu; m. Gladys Bond, Sept. 14, 1940; ch.: Marcia Ann William John. Grad. asst. in chem., Boston U., 1934-36; grad. asst. in phys. chem., Mich. State Coll., 1936-38; Parke, Davis & Co., fellowship in phys. chem., Mich. State Coll., 1938-40; res. chem., Parke, Davis & Co., 1940 to date; hd. of res. in phys. chem., 1942 to date; notable wk.: phys. measurements of biologically active cmpds.; correlation of structure and ultraviolet absorption in benzenoid cmpds. Mem.: A.C.S., A. Optical Soc., chmn., Physico-Chem. Dev. Comm. (in Sc. Div. of A.D.M.A.). Hobbies: travel, reading.

VANDEN BOSCHE, Emil Gaston, prof. of biochem., Dental Schl. U. of Md., Baltimore 1, Md.; res. 7 Burnbrae Rd., Towson 4, Md.
Teaching; b. Mont-sur-Marchienne, Belgium, Sept. 17, 1901; s. of Henri and Louisa (Poulaert) Vanden Bosche; ed. Lebanon Valley Coll., A.B. 1922; Columbia U., summers 1922, 1923, 1924; U. of Md., M.S., 1924, Ph.D., 1927; mem.: Alpha Chi Sigma; m. Ruth F. Carr, June 1, 1931; ch.: Richard P., Raoul C. Ambridge, Pa., hd. sc. dept., 1922-23, Ambridge H.S.; U. of Md., grad. fellow 1923-24, instr. in chem. 1924-27, asst. prof. of chem. 1927-41, assoc. prof. 1941-47, prof. 1947 to date. Res. in fld. of electrolytes & electrochem. Mem.: A.C.S., Abstractor for Chem. Abstracts, Sigma Xi. Hobbies: gardening, photography.

VANDERBILT, Byron Michael, asst. dir. of res., chem. div., Std. Oil Dev. Co., Linden, N.J.; res. 244 Sylvania Pl., Westfield N.J.
Res. chem.; b. Brookston, Ind., Mar. 21, 1906; s. of Byron M. and Anna K. Vanderbilt; ed. Indiana U., A.B., 1929 (high distinction); M.S., Purdue, 1931; Ph.D., 1937; mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon; m. Elizabeth Hanawalt, Nov. 17, 1934; ch.: Dean H., Carol Belle. Tchg. asst., Purdue U., 1929-31; res. chem., Victor Chem. Wks., 1931-35; res. fellow, Purdue U., 1935-36; res. chem., Commercial Solvents Corp., 1936-38; res. chem., asst. dir., chem. div., Std. Oil Dev. Co., 1938 to date; res. in flds. of nitroparaffins, nitroalcohols, synthetic rubber, petroleum tech. Mem.: A.C.S. Hobbies: farming, sports.

VANDERHOEK, D. George, mgr. planning & allocations, Carborundum Co., Niagara Falls, N.Y.; res. 1322 Norwood Ave., Niagara Falls.
Exec.; b. Buffalo, N.Y., July 10, 1900; s. of Jacobus and Johanna (Vander Bent) Vanderhoek; ed. Syracuse U., grad. June, 1924, B.S. in chem. engrg.; mem.: Alpha Sigma Phi, Alpha Chi Sigma; m. Ethel M. Purcell, Sept. 17, 1925; ch.: David, Robert. Since 1924 entire experience has been with Carborundum Co., mfrs. of artificial abrasives: Jan. 1, 1927, gen. frmn. grain div.; Mar. 27, 1935, supt., grain & furnace div.; July 1, 1944, asst. wks. mgr., Niagara plant; Mar. 24, 1947, wks. prod. mgr.; Oct. 15, 1948 to date, mgr., planning & allocations, all plants. Mem.: A.I.Ch.E. (active), N.Y. State Soc. of Prof. Engrs. Clubs: Internatl. Torch of Niagara, Niagara Falls Camera, Niagara Chapter, Royal Arch Masons. Hobby: photography.

VANDERKLEED, Charles Edwin, retired, 200 Harvard Ave., Collingswood, N.J.; res. same.
Chem. & phar. conslt.; b. Lafayette, Ind., Apr. 24, 1878; s. of Charles and Elizabeth (Van Aalst) Vanderkleed; ed. Purdue U., Ph.G. 1895, Ph.C., 1896, B.Sc., 1899, A.C., 1901, D.Sc. hon. 1934; Medico-Chirurgical Coll. of Phila., Phar.D., hon. 1908; Phila. Coll. of Pharmacy & Sc., Ph.M. hon., 1929; mem.: Kappa Psi; m. 1st Edith Parks, Sept. 18, 1901; 2nd Carolyn G. Bailey, Jan. 20, 1939; ch.: Eugene Parks (dec. 1936), Lois Lee (Vanderkleed) Haws. Asst. instr. in chem., Purdue U., 1896-1901; anal. chem., Sharp & Dohme, Baltimore, Md., 1901-02; chf. chem., H.K. Mulford Co., Phila., Pa., 1902-17; res. chem., Hercules Powder Co. Wilmington, Del., 1918-19; supt., Robert McNeil, Phila., Pa., 1920-33; v.p., sc. dir., McNeil Labs. Inc., Phila., Pa., 1933-48 (retired); prof. of phar. chem., Medicochirurgical Coll. of Phila., 1908-14, prof. of anal. chem. 1914-16; lecturer on chem. control, Phila. Coll. of Pharmacy, 1916-28; lecturer on phar. jurisprudence, Phila. Coll. Phar. & Sc., 1948 to date; conslt., Natl. Security Resources Bd., Wash., D.C. 1948 to date; conslt., Phila. Drug Exchange, Phila., Pa., 1948 to date. Co-author: "Course in Quantitative Anal." with Julius W. Sturmer, 1898; "Course in Qualitative Inorg. Chem." with Arthur L. Green, 1903; sec. on strychnos alkaloids "Allens Com. Org. Anal." 1912; chapter on chem. & mech. control, "Remington's Practice of Pharmacy," 1936. Mem.: A.C.S., A.Phar.A., A.A.A.S., A.I.C. (fel-

low), Am. Drug Mfrs. Assn., Am. Phar. Man's Assn., Natl. Inst. Social Sc., Comm. of Revision of U.S. Pharmacopoeia 1910-20, Contact Comm. of A.D.M.A. & A.P.M.A. 1924 to date. Award: Procter M. Reward, Phila. 1948. Pres., Bd. of Ed., Collingswood, N.J., 1916-29; trustee, Phila. Coll. of Pharmacy & Sc., 1948 to date. Clubs: Tavistock Country, Collingswood Masonic. Hobby: golf.

VAN DER MEULEN, Peter Andrew, prof. of gen. & physical chem., dir. of schl. of chem., Rutgers U., New Brunswick, N.J.; res. 55 Harrison Ave., H.P., New Brunswick.
Prof. of chem.; b. Netherlands, Dec. 23, 1891; s. of Andrew and Pietje (Marinus) van der Meulen; ed. Cornell U. B.Chem., 1913, Ph.D., 1916; mem.: Alpha Chi Sigma; m. Dora L. Wicks, Dec. 28, 1915; ch.: William A., Dorthy A. Instr. mineral., Cornell, 1914-16; acting asst. prof. Cornell, 1916-17; ind. chem., Barrett Co., Phila., Pa., 1917-19; asst. prof. & assoc. prof. of chem., Rutgers, 1919-25; prof. gen. & phys. chem., Rutgers, 1925 to date; dir., Schl. of Chem., Rutgers, 1947 to date. Res. on rare earths, emulsions, complex cmpds., insecticides. Mem.: A.C.S., N.Y. Acdy. of Scs., Sigma Xi, Phi Beta Kappa, Phi Lambda Upsilon, Keramos. Trustee Middlesex Gen. Hospital. Club: Cornell of N.Y.

VANDEWATER, Ira, v.p., R.W. Greeff & Co., Inc., 10 Rockefeller Plaza, N.Y.C., N.Y.; res. 150 Greenway Terrace, Forest Hills, N.Y.
Sales; b. Bklyn., N.Y., June 8, 1893; s. of Garritt and Helen Vanderwater; ed. public schls., Bklyn., N.Y.; m. Anna Neumann, Mar. 3, 1919; ch.: John Ira. T.M. Curtius, 1906; Natl. Aniline & Chem. Co., 1907-18; R.W. Greeff & Co., Inc., 1918 to date. Eckford Chem. Co., treas.; Amboy Chem. Co., treas. Clubs: Chem. (treas.), Netherland, Garden City Country, Salesmen's Assn. Am. Chem. Ind. (past pres.). Hobby: golf.

VAN DOREN, Lloyd, chem. consit., pat. atty., Watson, Johnson, Leavenworth and Blair, 100 Park Ave., New York 17; res. 17 W. 10th St., New York 11.
Chem. consit., pat. atty.; b. Oldwick, N.J., Dec. 11, 1889; s. of Benjamin and Emma Louise (Miller) Van Doren; ed. student at Gettysburg Acdy., 1903-05; B.S., Gettysburg (Pa.) Coll., 1909; M.S. 1913; Ph.D. Johns Hopkins, 1912; m. Temperance A. Carpenter, Oct. 12, 1946; ch.: Cecil, Lloyd. Instr. chem., Lowell, Mass. Textile Schl., 1912-13; asst. prof., Akron, 1913-14; prof. and hd. of chem. dept., Earlham Coll., Richmond, Ind., 1914-19; chem. adv., Emery, Varney, Blair and Hoguet, N.Y., 1919-20; cons. chem. and pat. atty., Chem. Foundation, Inc., N.Y., 1920-22; chem. cons. pats. and pat. causes, Mayer, Warfield and Watson, N.Y., 1922-29; mem. pat. div., Allied Chem. and Dye Corp., N.Y., 1929-31; chem. cons. pats. and pat. causes, Watson, Johnson, Leavenworth, & Blair, N.Y. since 1931. Author of papers relating to chem. res. and chem. pat. causes pub. in var. sc. jls. Mem. Bd. of Educ., North Plainfield, N.J., 1938-45; mem. Common Council 1944-48; served as 1st Lt., C.W.S., U.S.A., 1918, W.W. I. Fellow, A.I.C. (v.p. 1923-29, chmn. N.Y. Chapt. 1928, secy. since 1945); fellow, A.A.A.S.; mem. (sr. grade) A.C.S., Phi Gamma Delta, Gamma Alpha, Phi Beta Kappa. Republican. Presbyterian. Mason. Club: Chemists' (N.Y.) (secy. since 1945). Hobbies: gardening, motoring.

VAN DUSEN, Charles Harry, Jr., mgr. chem. res. dept., Addressograph-Multigraph Corp., 1200 Babbitt Rd., Cleveland 17, Ohio; res. 10 Shawondasee Dr., Timberlake, Willoughby, Ohio.
Chem.; b. Cleveland, Ohio, Aug. 25, 1904; s. of Charles H., Sr. and May L. (Peseck) Van Dusen; ed. O.S.U., Western Reserve, A.B. chem. 1932; m. Florence V. Durfy, May 21, 1950. 1925-26, Beryllium Corp., chem.; 1926-33, Kemet Labs., chf. chem.; 1933, U.C.&C. Res. Lab., chem.; 1933-39, Cooper Prods., chf. chem.; 1939-40, Barium & Chems., chem.; 1940 to date, Addressograph-Multigraph Corp. About 12 pats. Mem.: A.C.S., A.A.A.S. Club: Rowfant.

van DYKE, Harry Benjamin, Hosack prof. of pharmacol., exec. off. dept., Coll. Phys. & Surgeons, Columbia U., 630 W. 168 St., N.Y. 32, N.Y.; res. 351 Lydecker St., Englewood, N.J.
Prof. phar.; b. Des Moines, Ia., Jan. 31, 1895; s. of Benjamin I. and Louise V. Boody van Dyke; ed. B.S., Ph.D., U. Chicago; M.D., Rush Med. Coll.; m. Elizabeth E. Allan, 1920; ch.: Jane Elizabeth, Arthur Cushny. Asst. physiol. chem., phar., Chicago 1919-21; asst. prof. phar., Chicago 1924; Natl. Res. Council fellow, 1924-26; assoc. prof. phar., Chicago, 1926-30; prof. 1930-32; prof. pharmacol., Peking Union Med. Coll., 1932-38; hd., div. phar., Squibb Inst. Med. Res., 1938-44; prof., exec. off., pharmacol., Coll. Phys. & Surg., Columbia U., 1944 to date. Res. in isolation of hormones of anterior, posterior pituitary; various aspects of phar. of chemotherap. drugs, autonomic drugs. Author: "The Physiol., Phar. of the Pituitary Body," Vol. 1, 1935; Vol. 2, 1939. Mem.: Am. Physiol. S., Am. Soc. Phar. & Exp. Therap., Biochem. Soc. (Gr. Britain), ed. of Jl. Phar. Exp. Therap., Comm. on growth of Natl. Res. Council; China Med. Bd. Hobby: photography.

VAN DYKE, H(enry) Lewis, chmn. dept. of sc., prof. of chem., Ala. State Coll., Montgomery 1, Ala.; res. same.
Teacher; b. Vandalia, Mich., June 7, 1903; s. of George Julius and Mary Ann (Smith) Van Dyke; ed. elementary schl., Vandalia, Mich., 1917; high schl., Three Rivers, Mich., 1921; A.B., Western Mich. Coll., Kalamazoo, Mich., 1927; M.S., U. of Mich., 1934; Ph.D., Mich. State Col., 1944; mem.: Omega Psi Phi; m. Bessie Charlotte Chandler, Aug. 20, 1927; ch.: Henry Lewis, Jr., Barbara Jean, Jacquelyn Elaine. Dir. academic dept., Southern Normal & Ind. Inst., Brewton, Ala., 1927-28; instr. of sc., Ala. State Coll., Montgomery, Ala., 1928-34, chmn. dept., assoc. prof. of chem., 1934-42, chmn. dept. of sc., prof. of chem., 1944 to date; pres., Ala. Assn. of Sc. Teachers, 1937-39; regional dir., Natl. Inst. of Sc. 1947 to date; natl. pres., Beta Kappa Chi Hon. Sc. Soc. 1948 to date. Paper, "Fragmentation of 2,2,3-Dimethyl-3-pentanol & 2,3,3-Dimethyl-2-pentanol When Condensed with Benzene in the Presence of Al. Chloride" given before the 114th Natl. Meeting of A.C.S. Author: "A Syllabus for an Orientation Course in the Physical Sciences" (Montgomery Brown Press) 1935. Mem.: Sigma Xi, Beta Kappa Chi, Alpha Kappa Mu, Sigma Pi Phi, A.C.S., A.A.A.S., Natl. Inst. of Sc., Am. Teachers Assn., Natl. Ed. Assn., Ala. State Teachers Assn., Ala. Assn. of Sc. Teachers. Hobbies: chess, fishing, billiards, cards.

VAN EVERA, Benjamin Douglass, prof. of chem., coordinator of scientific activities, George Washington U., Wash. 6, D.C.; res. 2124 I St. N.W., Wash., D.C.
Prof. of chem.; b. Davenport, Iowa, May 28, 1901; s. of Charles and Henrietta (Kepler) Van Evera; ed. B.S., Coe Coll., Cedar Rapids, Iowa, 1923; M.S., Iowa State Coll., Ames, 1925; Ph.D., State U. of Iowa, Iowa City, 1937; mem.: Alpha Chi Sigma; m. Margaret Lorimer, Sept. 12, 1925. George Washington U., instr. 1925-31, asst. prof. 1931-34, assoc. prof. 1934-38, prof. of chem. 1938 to date, exec. officer chem. dept. 1931-42, 1945-47, coordinator of scientific activities 1946 to date. Disposable Bottle Corp., pres. During war

official investigator on an O.S.R.D. contract. Mem.: A.C.S., A.I.C., Chem. Engrs. Club of Wash., Sigma Xi, A.A.A.S., A.A.U.P., Phi Lambda Upsilon. Club: Cosmos. Hobby: all outdoors.

VAN HOOK, Andrew, prof., dept. of chem., Coll. of the Holy Cross, Worcester, Mass.; res. Leicester, Mass.
Chem., prof.; b. Paterson, N.J., June 3, 1907; s. of Charles L. and Rosalie Van Hook; ed. B.S. chem., Bklyn. Polytech. Inst. 1931; Ph.D., N.Y.U., 1934; m. Leonora White 1934; ch.: William Alexander, Eliza Jane, Andrew Louis, Suzanne Amelia, Leonora Marie. Chem. engr., Westinghouse Lamp Co.; res. chem., Autoxygen Co., 1934-36; instr. chem. engrg., Lafayette Coll., 1936-38, 1942-44; asst. prof. in chg. chem. engrg., U. of Idaho, 1938-42; assoc. prof. chem., U. of Wyo., 1944-46; prof. physical chem., Coll. of the Holy Cross, 1946 to date. Sugar tech. & crystallization theory. Author: "Sugar" (Ronald Press) 1949. Mem.: A.C.S., Sigma Xi, Sugar Societies.

VAN LENTE, Kenneth Anthony, prof. of chem., Southern Ill. U., Carbondale, Ill.; res. 1307 S. Thompson, Carbondale.
Teacher; b. Holland, Mich., Mar. 29, 1903; s. of Frederick and Johanna Van Lente; ed. A.B., Hope Coll., 1925; M.S. 1926, Ph.D. 1931, U. of Mich.; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi; m. Cynthia Melpolder, June 18, 1929; ch.: Ann Cynthia Ruth, Johanna, Frederick. Scholarship, U. of Mich.; teaching assistantship, U. of Mich.; assoc. prof., prof. of chem., Southern Ill. U. Constant temp. baths, liquid junction potentials, indicators. Author: "Experimental Gen. Chem." 1940, 2nd edit., 1949. Mem.: A.C.S., Ill. State Acdy. of Sc.

VAN LOO, Maurice, dir. of paint res., Sherwin-Williams Co., 115th St. & Cottage Grove Ave., Chicago 28, Ill.; res. 5541 Everett Ave., Chicago 28.
Paint res. chem.; b. Zeeland, Mich., Feb. 13, 1901; s. of William Derk and Dena (Krokee) Van Loo; ed. 1917-21, Hope Coll., Holland, Mich., A.B. 1921, summa cum laude, M.A., 1923 honorary; 1921-27, U. of Mich., fellow, 1922-25, M.S., 1923; mem.: Sigma Xi, Alpha Chi Sigma, Gamma Alpha, Phi Lambda Upsilon. Sherwin-Williams Co., 1927 to date: 1922-33 res. chem.; 1933-35, supt. of Chicago tech. serv. dept.; 1935-42, asst. dir. of res.; 1942 to date, dir. of paint res. Pubs. in colloid chem. & surface chem., paint tech., metal protection, special attention to filiform corrosion, mem. of Tech. Coatings Ind. Advisory Comm. W.P.B. during W.W. II. Mem.: A.A.A.S., A.C.S., A.I.C. (fellow), A.S.T.M., Natl. Assn. of Corrosion Engrs., Federation of Paint & Varn. Prod. Clubs. Hobbies: hunting, fishing.

VAN METER, Clarence Taylor, dir. of res. and control, Reed and Carnrick, 155 Van Wagenen Ave., Jersey City 6, N.J.; res. 199 Argyle Pl., Arlington, N.J.
Pharmacist and chem.; b. Avalon, Pa., Sept. 1, 1905; s. of Clarence M. and Anna L. Taylor Van Meter; ed. Ph.G., 1926, B.S., 1932, Ph.D., 1941, U. of Pittsburgh; mem.: Phi Delta Chi, Phi Lambda Upsilon, Sigma Xi; m. Mary W. Overholt, Dec. 22, 1930; ch.: Claire Urilla, Lois Jean. Instr. in chem., U. of Pittsburgh, School of Pharmacy, 1926-33; asst. prof. in chem. and physics, 1933-44, dir. of res. and control, Reed and Carnrick, 1944 to date. United States Pharmacopeia revision work, XII, XIII and XIV revisions. Author: "Experiments in Physics," 1941, 1946, assoc. editor, "Remington's Practice of Pharmacy," 9th, and 10th editions, 1948 and 1950 respectively. Mem.: A.Phar.A., A.C.S., Acdy. of Sc. (New York), Am. Drug Manufacturers Assoc., and Am. Pharmaceutical Manufacturers Association. Club: Chemists' (New York City).

VAN NAME, Ralph Gibbs, res. assoc. emeritus in chem., Yale U.; res. 285 Prospect St., New Haven 11, Conn.
Chem.; b. New Haven, Conn., Oct. 22, 1877; s. of Addison and Julia (Gibbs) Van Name; ed. Yale, B.A. 1899, Ph.D. 1902; postdoctorate study Leipzig 2 semesters, Gottingen 1 semester; mem.: Phi Beta Kappa, Sigma Xi; m. Josephine Earl Porter, June 27, 1925; ch.: John Addison, Virginia. Instr. in chem., Yale U., 1904-09; asst. prof. chem., Yale U., 1909-18, 1919-24; 1918-19, C.W.S. assigned to gas defense res., Wash., D.C., Capt. C. W.S. Oct. 22, 1918-Apr. 26, 1919; assoc. prof. physical chem., Yale U., 1924-36, res. assoc. 1936-44. Civilian with Manhattan Distr., O.S.R.D., 1942-43 & 1943-45. Mem.: A.A.A.S., A.C.S., A. I.C. (fellow).

VANNOY, Wesley Gabriel, chem., E.I. du Pont de Nemours & Co., Inc., Pigments Dept., Newport, Del.; res. 1104 Woodlawn Ave., Wilmington, Del.
Tech. serv. on paints & pigments; b. Burlington, Pa., Feb. 28, 1900; s. of Jacob W. and Myrtie G. Vannoy; ed. Coe Coll., B.S. 1922; Cornell U., M.S. 1925, Ph.D. 1927; mem.: Phi Kappa Tau, Gamma Alpha; m. Margaret Dixon Bruce, Aug. 12, 1933; ch.: Ruth G., J. Robert, David B. Chem., E.I. du Pont de Nemours & Co., Inc., 1927 to date. Num. pubs. in sc. jls. Mem.: A.C.S. & A. S.T.M., chmn. subcomm. IV on traffic paints & secy. subcomm. XII on exterior testing of paints on wood. Independent Pres. Ch. of Wilmington, Del., deacon & trustee 1936-41, elder & trustee, 1941 to date.

VAN PATTEN, Nathan, prof. of bibliography, Stanford U., Stanford, Calif.; res. 579 Alvarado Row, Stanford.
Bibliographer; b. Watervliet, Albany Co., N.Y., Mar. 24, 1887; s. of John E. and Jennie (Boughton) Van Patten; ed. Union Classical Inst.; Litt. D., Dartmouth Coll.; mem.: Theta Chi, Phi Lambda Upsilon, Sigma Delta Pi; m. Mabel L. Waite, June 20, 1910; ch.: Dolores. 1907-17, bookseller; 1917-20, librarian, Wolcott Gibbs Library of Chem., C.C.N.Y.; 1920-21, reference librarian, M.I.T., 1921-23 asst. librarian; 1923-27, chf. librarian, Queen's U.; 1927-47, dir. of libraries, Stanford U., 1947 to date prof. of bibliography, 1928 to date lecturer chem. dept.; 1931 to date, lecturer, Medical Schl., U. of Calif.; counselor, Hoover Library on War, Revolution & Peace; adviser on War Collection, Yale U. Author: "Bibliography of Corrosion" 1923, 2nd ed. 1924; "Literature of Lubrication" 1926; "Cooperative Cataloging of Medical Literature" 1926; "Concerning 'Condensed Novels' By Bret Harte" 1929; "Index to Bibliographies & Bibliographical Contributions Relating to Am. & Brit. Authors" (1922-32) 1933; "Printing in Greenland" 1939. Mem.: Am. Library Assn., Special Libraries Assn., Music Library Assn., Calif. Library Assn., Oxford Bibliographical Soc., Bibliographical Soc. of Am., Bibliographical Soc. of Va., Library Assn. (London, fellow), Zoological Soc. (London, fellow), Inst. of Metals, Canadian Institution of Mining & Metallurgy. Clubs: Grolier (N.Y.C.), Rowfant (Cleveland, Ohio), Roxburghe (San Francisco). Hobby: book collecting.

VAN PELT, John Robert, Jr., supvr., res. education, Battelle Memorial Institute, 505 King Ave., Columbus 1, Ohio; res. Pine Hill Farm, Route 1, Worthington, O.
Geologist, geochemist; b. Denver, Col., Apr. 2, 1896; s. of J.R. and Ellen Russell Warren Van Pelt; ed. A.B. Cornell (Iowa), 1918, B.S. and

Engr. of Mines (E.M.), Mich. Coll. of Mining and Tech., 1922, grad. student, geol., U. of Chic., 1926-28, Sc.D., Cornell (Iowa), 1942; mem.: Phi Beta Kappa, (Cornell), Tau Beta Pi, Theta Tau (Mich. Coll. of M.&T.), Sigma Xi, Gamma Alpha (U. Chic.); m. Frances Church, Dec. 27, 1929; ch.: Peter, Richard Warren, Ellen Morgan. Instr., asst. prof., prof. geol., Cornell (Iowa), 1922-26; curator, geology, mining & metallurgy, 1928-30, asst. dir., tech. dir., in charge of education and exhibit planning, 1930-45 for Rosenwald Museum of Sc. & Ind., Chic; sup. res. educ., Battelle Inst., 1945 to date. Also spec. or temporary engagements in geol. fld. surveys and res., procurement of sc. personnel for War Dept., etc. Res. in geochem., directing design construction, and operation of chem. and other related sc. and ind. exhibits at Museum of Sc. and Ind., Chic. Contributed to tech. and edu. jls. Mem.: A.A.A.S. (fellow, member of Council), A.I.M.E. (life member, dir., 1941-47, v.p., 1944-47), trustee, Western Soc. of Engrs., 1934-40, v.p., 1935-36, pres. 1936-37), A.S.E.E. (chmn. Min. Tech. Div., 1942-43); Newcomen Soc. (secy. Chicago Com. 1940-45, mem. Ohio Com., 1945 to date). Trustee, Cornell Coll. (Iowa) since 1944; Bd. of Mgrs., Columbus Gallery of Fine Arts, 1946-49, vestryman, St. John's Epis. Ch., Worthington, O., 1946-49. Clubs: Crichton (Columbus) (bd. member since 1947), Review (Columbus) (v.p., 1950-51). Hobbies: swimming, tennis, raising German Shepherd dogs.

VAN REENEN, Willem Jan, v.p. in chg. of sales, Am. Norit Co., Inc., 707 Atlantic Natl. Bank Bldg., Jacksonville 2, Fla.; res. 4832 San Jose Lane, Jacksonville 7.
Chem. engr.; b. Koeala Simpang, Sumatra, Indonesia, Dec. 12, 1905; s. of D.J.C. and A.M. (Sillevis) van Reenen; ed. Holland, grad. of Polytech. Inst. of Delft; m. Elizabeth R. Ewouds, July 31, 1938; ch.: Willem J., Jr., Dirk A. Plant mgr., Am. Norit Co. Inc., 1934-37, sales mgr. 1937-40, v.p. in chg. of sales, 1940 to date. Mem.: A.W.W.A., A.O.C.S. Clubs: Chemists' (N.Y.), Netherlands (N.Y.).

VAN RYSSELBERGHE, Pierre, prof. of chem., dept. of chem., U. of Ore., Eugene, Ore.; res. 2223 Olive St., Eugene.
Prof. of physical chem., thermodynamics, electrochem. & dir. of res. in these flds.; b. Brussels, Belgium, May 18, 1905; s. of Francois and Jeanne (Alvin) Van Rysselberghe; ed. Candidat-Ingenieur, U. of Brussels, with great distinction, 1924, engr. (mech., elec., chem.), with great distinction, 1927; M.A., Stanford 1928, Ph.D., 1929 (both in physical chem.); m. Lily Laura Chloupek, Sept. 2, 1930; ch.: Jane Frances, Pierre Louis, Jacqueline Grace. Instr. in chem., Stanford U., 1929-31, asst. prof. of chem., 1931-41; asst. prof. of chem., U. of Ore., 1941-42, assoc. prof. of chem., 1942-45, prof. of chem. 1945 to date; visiting lecturer to Belgian Universities under Belgian Am. Ed. Foundation, 1935-36; Naval technician in Europe, summer 1948; supvr. of res. project on polarographic studies of corrosion under Office of Naval Res., 1946-50. Visiting Fulbright Lecturer, Politecnico of Milan, Italy, 1950-51. Thermodynamics & electrochem. of soluts. of electrolytes, polarographic studies, appl. of polarographic meth. to corrosion res., est. & appl. of potential-pH diagrams for various elements. Co-author: "L'Affinite" with Th. De Donder, Paris, Gauthier-Villars, 1936; "Thermodynamic Theory of Affinity" with Th. De Donder, Stanford U. Press, 1936. Mem.: A.C.S., A.A.A.S. (fellow), Sigma Xi, Phi Lambda Upsilon, Pi Delta Phi, History of Sc. Soc., Electrochem. Soc., Faraday Soc., Assn. of Engrs. from U. of Brussels, Alumni of U. Brussels, Alumni of Belgian Am. Ed. Foundation. Clubs: Faculty (U. of Ore.), Eugene Round Table, Club of Alumni of Belgian Am. Ed. Foundation (Brussels). Hobbies: piano playing, literature, foreign languages.

VAN SANT, Robert Hays, pres., Am. Chlorophyll, Inc., Box 969, Lake Worth, Fla.; res. Palm Beach.
Exec.; b. Trenton, N.J., June 13, 1885; s. of Robert Hays and Elizabeth (Yates) Van Sant; ed. U. of Calif., Berkeley, 1903-07-08, B.S. Com.; mem.: Delta Tau Delta, Phi Delta Phi, Winged Helmet, Skull & Keys, Golden Bear; m. Ruth Goodman, Oct. 6, 1912; ch.: Ruth Elizabeth (Van Sant) Dodge, Harvey Goodman. Pres., Van Ess Labs., 1920-30; pres., Anacin Co., 1924-30; pres., Am. Chlorophyll, Inc., 1933 to date. Mem.: Soc. of Chem. Ind. Club: Chemists'. Hobbies: fishing, golf.

VAN SLYKE, Donald D., asst. dir., biol. & med., Brookhaven Natl. Lab., Port Jefferson, N.Y.; res. High Path & Beach Rd., Belle Terre, Pt. Jefferson.
Chem.; b. Pike, N.Y., Mar. 29, 1883; s. of Lucius L. and Lucy (Dexter) Van Slyke; ed. U. Mich., 1905, B.S., Ph.D. (chem.), 1907, hon. Sc.D., 1935; hon. Sc.D., Yale, 1925, Northwestern, 1940, Chicago, 1941; hon. M.D., Oslo, 1938; mem.: Beta Theta Pi, Sigma Xi; m. Else Bardenfleth, Aug. 28, 1948; ch.: K. Keller, Elsa. Res. chem., N.Y. Exp. Sta., Geneva, 1906; fellow physiol. chem., Rockefeller Inst. 1907-08, asst. 1908-10, assoc. 1910-12, assoc. mem. 1912-21, mem. 1921-48, emer. mem. 1948 to date; chem. hosp., 1913-48; asst. dir. biol. & med., Brookhaven Natl. Lab. 1948 to date; visiting prof., Peiping Union Med. Coll., 1922; Mickel Fellow, Toronto, 1936. Chem. & physiol. of amino acids; kidney physiol.; blood electrolytes, gases & acid base bal.; meth. of microanal.; metabolic diseases. Co-author: "Cyanosis," with Lundsgard 1923; "Factors Affecting the Distribution of Electrolytes, Water, & Gases in the Animal Body," 1926; "The Course of Bright's Disease," with E. Stillman et al, 1930; "Quantitative Clinical Chem." with J.P. Peters, two vols.: (1) "Interpretations," 1931, 2nd. edit. 1946; (2) "Methods," 1932. Mem.: Philip A. Conne Gold M., Chemists' Club, 1935; Award Mickel fellowship, Univ. of Toronto, 1936; Willard Gibbs M., A.C.S. 1939; Order of Jade, China, 1941; George M. Kober M., Assn. Am. Physicians 1942; Natl. Acdy.; Chem. Soc.; Soc. Biol. Chem. (pres. 1922); Am. Physicians; Harvey Soc. (pres. 1928); hon. mem. British Physiol. Soc.; Soc. de Chimie Biol.; hon. mem. Swedish Royal Acdy.; hon. mem. Acdy. Sc. India; fellow, Royal Soc. Arts.

VAN VALKENBURGH, Horace B., prof. of chem., U. of Colo.; res. 947 University Ave., Boulder, Colo.
Teacher; b. Warren, Ark., Feb. 3, 1883; s. of H.B. and Sallie C. (Smith) Van Valkenburgh; ed. B.S., 1905, M.S., 1910, U. of Ark.; Ph.D., 1930, U. of Chicago; mem.: Kappa Alpha; m. Beulah Williams, June 28, 1907; ch.: Horace B., III, Dorothy (Van Valkenburgh) Maudru, Betty (Van Valkenburgh) Day. Teacher chem. & physics, Kashing H.S., Kashing, China, 1907-10; teacher chem. & physics, Daniel Baker Coll., Brownwood, Tex., 1911-17; instr.-prof. chem., U. of Colo., 1917 to date. Mem.: A.C.S. (chmn., Colo. sec. 1943; Councilor 1944-46), A.A.A.S., Sigma Xi, Alpha Chi Sigma, Colo.-Wyo. Acdy. of Sc. (pres. 1947-48), A.A.U.P. Trustee, Colo.-Wyo. Acdy. Res. Foundation. Club: Colo. Mt. Hobbies: fishing, hiking, hunting.

VAN WAZER, John Robert, hd. of physical res., res. lab., Great Lakes Carbon Corp., 8210 Austin

Ave., Morton Grove, Ill.; res. 2418 Blackhawk Ave., Highland Park, Ill.
Physical chem.; b. Chicago, Ill., Apr. 11, 1918; s. of John R. and Florence Van Wazer; ed. Northwestern U., B.S. 1940, Phi Beta Kappa, magna cum laude, class. hon.; Harvard U., M.A. 1941, Ph.D. 1942, university fellowship; mem.: Alpha Chi Sigma, Phi Beta Kappa, Delta Sigma; m. Betty Ballou, 1940; ch.: Beth. 1940-42, res. at Harvard U.; 1942-44, res. chem., Eastman Kodak Co., Rochester, N.Y.; 1944-45, res. supvr., Atomic Bomb Plant, Oak Ridge, Tenn.; 1946-49, physical chem. res., Rumford Chem. Wks., Rumford, R.I.; 1949 to date, hd. of physical res., Great Lakes Carbon Corp. Determined structure of vitreous phosphates of com. importance; contribs. to theory & practice of rheology. Num. pubs. in sc. jls., 1943 to date. Mem.: A.C.S., Rheolog. Soc., Am. Inst. of Physics. Clubs: Am. Assn. of Amateur Chamber Music Players, Harvard Soc. for Early Music. Hobby: chamber music.

VAN WINKLE, Matthew, assoc. prof. of chem. engrg., dept. of chem. engrg., U. of Texas, Austin 12, Texas; res. 2805 Clearview Dr., Austin.
Chem. engrg. teaching; b. Shelbyville, Ind., Nov. 18, 1910; s. of William Shelley and Edith Van Winkle; ed. Purdue U., B.S. in Ch.E.; U. of Mich., M.S. in Ch.E. & advanced wk.; m. Mary Louise Angel, June 18, 1933; ch.: Susan Louise, John Shelley. 1933-39, Cities Service Refining, res. & dev., res. chem.; 1940, Stand. Oil Co. (Ind.), res. & dev., res. chem.; 1941-43, Pa. State Coll., asst. prof. & supvr. of pet. & natural gas eng. extension; 1943-47, U. of Mich., instr., asst. prof. of chem. engrg.; 1947 to date, U. of Texas, assoc. prof. of chem. engrg. Author: "Aviation Gasoline Mfr." Mc-Graw-Hill Book Co., 1944. Mem.: A.I.Ch.E. (active), A.C.S. (active), Am. Soc. of Engrg. Ed. (active), Sigma Xi, Phi Lambda Upsilon, Omega Chi Epsilon, Reg. Prof. Engr. Texas 7441. Hobbies: photography, tennis, rose camelia azalea growing.

VAN WYCK, Peter, asst. dir., Hercules Expt. Station, Wilmington, Del.; res. 2912 N. Franklin St., Wilmington.
Chem.; b. Bklyn., N.Y., Sept. 25, 1905; s. of John H. and Coba W. Van Wyck; ed. Cooper Union Inst. of Tech., N.Y.C., 1927, B.S. chem. engrg.; Rensselaer Polytech. Inst., Troy, N.Y., 1930, M.S. & Ph.D. org. chem.; m. Marie Roney, Apr. 16, 1936; ch.: Carol Marie. Hercules Powder Co.: 1931-39, res. chem., Expt. Sta., Willmington, Del.; 1939-40, res. chem., Hopewell, Va.; 1940-45, chf. chem., Hopewell, Va.; 1945-48, div. mgr., Expt. Station, Wilmington, Del.; 1948-49, tech. asst. to dir. of res., home office, Wilmington, Del.; 1949 to date, asst. dir., Expt. Station, Wilmington, Del. Cellulose chem. Mem.: A.C.S., T.A.P.P.I., Sigma Xi.

VAN ZYL, Gerrit, hd., dept. of chem., Hope Coll., Holland, Mich.; res. Holland, Mich.
Prof. and hd. of chem. dept.; b. Sioux City, Iowa, July 29, 1894; s. of Cornelius and Helena (Van Ess) Van Zyl; ed. Hospers pub. schls., Hospers H.S., Northwestern Classical Acdy., Hope Coll., A.B., 1918; (State Coll. Scholarship, U. of Mich., 1919-20); M.S., U. of Mich., 1921; Ph.D. 1924; m. Bertha Brower, Aug. 31, 1921; ch.: Neil Herman, Allison Lynn, Gail Byron (sons); Verna Ruth (dau.). Tchg. fellow, U. of Mich., inorg., 1920-23; prof. chem. and hd. of Hope Coll. chem. dept., 1923 to date; 1933, Master's Thesis: (with John Mulder), "Prep. of Phenyl Ethyl Alcohol from Phenyl Acetic Acid by Electrolytic Reduction"; 1941-43, res. wk., Natl. Def. Problems (under dir. of Dr. Edward Mack, Jr., dir. of Battelle Memorial Inst., Columbus, Ohio); 1943-44, res. wk., "Methods of Prep. of the Barbituric Acids"; 1945, res. wk., "Condensations of 2-Nitropropane and Formaldehyde with Urea and Thiourea"; 1946-47, res. wk., "The Use of Epoxides in the Prep. of Unsaturated Gamma Lactones"; 1946-47, res. wk., "Prep. of Unsat. Barbaturic Acid Derivatives from Unsat. Gamma Lactones." Contrib. arts. also to sc. jls. Assumed active part in planning and construction of Hope Coll. Sc. Bldg.; Milestone (college annual) dedicated to Dr. Van Zyl in 1941. Mem.: A.C.S., A.A.A.S., Sigma Xi, Phi Lambda Upsilon, Gamma Alpha (U. of Mich. Chapt.), Jr. Research Club (while at U. of Mich.); Holland Professional Club, Chamber of Commerce, B.S. of A., Holland Busy Men's Volley Ball Club, Veteran W.W. I, 1918-19; Councilor, A.C.S., 1943; pres., Mich. Coll. Chem. Tchrs. Assoc., 1950.

VARGA, Frank B., chf., chem. project engrg. sec., engrg. & construction div., Koppers Co., Inc., Pittsburgh 19, Pa.; res. R.D. 1, Beaver, Pa.
Chem. engr., dessign & construction; b. N.Y.C., Aug. 22, 1913; s. of Frank and Mary Varga; ed. B.S. chem. engrg., Yale, 1934, M.E., chem. engrg., Yale 1937; m. Evelyn S. Varga, Aug. 3, 1941. 1934-35, cadet engr., Conn. Coke Co., New Haven, Conn.; 1935-37, grad. schl.; Koppers Co.: 1937-39, res. dept. chem. engr., 1939-41, operating dept., process engr., 1941-42, butadiene div., asst. supt. of butadiene prod.; 1942, Rubber Reserve Co., tech. conslt., styrene prod.; 1942-46, Koppers Co. Inc., asst. supt. chg. of process engrg., 1946 to date, chf. chem. project engrg. sec. chem. plant design & operation. Mem.: A.C.S., A.I.Ch.E., Prof. Engr. of Pa., A.A.A.S. Pres., bd. of trustees, Beaver Memorial Library. Hobbies: music, amateur violinist & violist.

VAUGHAN, Joseph Alvin, res. engr., Southern Wood Preserving Co., Station A., Atlanta, Ga.; res. 2781 Memorial Dr. S.E., Atlanta.
Chem. engr.; b. Hampton, Va., July 5, 1896; s. of J. Archer and Margaret (Whitfield) Vaughan; ed. Va. Polytech. Inst., B.S., Blacksburg, Va.; m. Bessanna Hottel, Oct. 9, 1920; ch.: Joseph Alvin, Jr. Chem., E.I. du Pont de Nemours, Parlin, N.J., June-Sept., 1918; chem., C.W.S., U.S.A., Sept.-Dec., 1918; chem., Leas & McVitty Co., Salem, Va., 1919-21; chem., Norfolk & Western Rwy., Radford, Va., 1921-24, supt. 1924-25; gen. supt., Am. Creosoting Wks., New Orleans, La., 1925-29; res. engr., Southern Wood Preserving Co., Atlanta, Ga., Jan., 1930 to date. Res. in wood preservation & wood preservatives; dev. of new meths. of drying wood & prod. of creosote from pet. Num. tech. papers pub. by or presented at Am. Wood Preservers Assn., Ga. Forestry Assn., Edison Elec. Inst., Chem. & Ind. Engrg. (A.C.S.). Mem.: Am. Wood Preservers Assn., A.C.S., A.S.T.M., Forest Prods. Res. Soc. Club: Atlanta Athletic. Hobbies: golf, photography.

VAUGHN, Raymond Thomas, prof. of chem., Southwestern at Memphis, Memphis, Tenn.; res. 932 Biggs, Memphis.
Coll. prof.; b. Ewing, Mo., Oct. 10, 1910; s. of Emmett and Bonnie Vaughn; ed. A.B., Culver-Stockton Coll., 1933; A.M., 1941, Ph.D., 1948, U. of Mo.; m. Frances Ruth Ferguson, Sept. 5, 1940; ch.: Raymond Thomas, Jr., Richard Francis. 1933-39, supt. of schls., Northeast Mo.; 1939-42, grad. asst. in chem., U. of Mo.; 1942-44, asst. prof. of chem., Southwestern at Memphis; 1944-48, assoc. prof. of chem. and hd. of dept. of chem., same coll.; 1948 to date, prof. of chem. and hd. of dept., same coll.; summer, 1498, visiting prof. of chem., U. of Mo.; res. in kinetics of xylene rearrangements and thermodynamic properties; ultra-violet absorption spectrophotometry;

rearrangement and disproportionation of the methyl benzenes; heat capacity measurements at low temps. Mem.: A.C.S., A.A.A.S., Tenn. Acdy. of Sc., Sigma Xi, Chi Beta Phi. Hobbies: photography, farming.

VAUGHN, Thomas Hunt, v.p., res. & dev., Wyandotte Chem. Corp., Wyandotte, Mich.; res. 22120 Balmoral Dr., Grosse Ile, Mich.
Res. chem.; b. Clay, Ky., Nov. 11, 1909; s. of George Leamon and Beulah May Vaughn; ed. 1927-29, Evansville Coll.; 1930, Ind. U.; 1930-34, U. of Notre Dame, B.S., 1931, M.S., 1932 maxima cum laude, Ph.D., 1934 maxima cum laude; du Pont fellowship in chem. 1931-34, Notre Dame Acdy. of Sc. Mem.: Sigma Xi, Pi Epsilon Phi; m. Ruby Wentworth, Sept. 13, 1930; ch.: Jolan, Vicki, Trudy. 1933-34, Vitox Labs., S. Bend, Ind., v.p.; 1934-39, Union Carbide & Carbon Res. Labs., Niagara Falls, N.Y., hd. dept. of org. res.; Wyandotte Chem. Corp., Wyandotte, Mich.: 1939-45, asst. dir. of res., 1945-48, dir. of res., 1948 to date, v.p., res. & dev. Some 50 pubs. in various flds. of chem. Mem.: A.C.S. (chmn. Detroit Sec. 1950), Ind. Acdy. of Sc., A.A.A.S., A.A.T.C.C., A.I.Ch.E. (chmn. Detroit Sec. 1950), A.I.C., A. P.H.A., A.S.T.M., Com. Chem. Dev. Assn., Electrochem. Soc., Engrg. Soc. of Detroit, Ind. Res. Inst., I.F.T., Soc. of Am. Bacteriologists, Soc. of Chem. Ind. (Am. Sec.), Textile Inst. (England), Textile Res. Inst. Dir., Kresge-Hooker Sc. Library. Hobbies: gardening, shop work, electronics, radio.

VEAZEY, William Reed, chmn. exec. res. comm., The Dow Chem. Co., Midland, Mich.; res. 530 N. Saginaw Rd., Midland.
Exec.; b. Chase City, Mecklenburg, Va., Dec. 29, 1883; s. of John Harrison and Martha (Armour) Veazey; ed. 1899-1903, Westminster Coll., New Wilmington, Pa., B.A.; 1903-04, Johns Hopkins U., Baltimore Md., 1905-07 Ph.D.; 1936, hon. D.Engrg., Case School of Applied Science; 1948, Westminster Coll., hon. D.S.; mem.: Tau Beta Pi, Gamma Alpha, Zeta Xi, Sigma Xi, Alpha Chi Sigma; m. Sara Edith Mercer, Aug. 16, 1905; ch.: Sara Elizabeth (Veazey) Turnquist, Martha Jane (Veazey) Wardle, Dorothy Armour (Veazey) Way. 1904-05, instr. gen. & anal. chem., U. of Ore., Eugene City, Ore.; 1907-36, instr. quantitative anal. & phys. chem., hd. dept. chem. & chem. engrg., Case Schl. Applied Sc., Cleveland, Ohio; 1936 to date. The Dow Chem. Co., Midland, Mich. Dow Corning Corp. (mem. bd. of dirs.); Dowell, Inc. (v.p., mem. bd. of dirs.). Dev. of meths. for producing magnesium metal & alloys. Mem.: A.C.S., Electrochem. Soc. (pres. 1946), A.I.Ch.E. Mem. bd. trustees, Westminster Coll., New Wilmington, Pa.; mem. bd. of trustees, Alma Coll., Alma, Mich.; mem. bd. of trustees, Midland Community Center. Clubs: Midland Country (Midland, Mich.), Sportsman's.

VENABLE, Emerson, res. dir., Freedom-Valvoline Oil Co., Freedom, Pa.; res. 6111 Fifth Ave., Pittsburgh 32, Pa.
Physical chem., registered prof. engr.; b. Cincinnati, Ohio, Dec. 3, 1911; s. of Capt. Wm. Mayo and Jessie G. (Tuckerman) Venable; ed. Cornell U., 1929-32; U. of Pittsburgh, 1932-33, B.S. in chem.; Harvard & Carnegie Tech. summer sessions; mem.: Phi Kappa Tau; m. Regis A. Illston, May 18, 1935; ch.: Wallace S., Gilbert T., Alan H., Thomas C. 1933-35, Agfa Ansco Corp., chem.; 1935-36, 1944-46, Mine Safety Appliances Co., res. chem.; 1936-42, Westinghouse Res. Labs., res. engr.; 1942-44, Engrg. Labs. Westinghouse Sharon Wks., engr. in chg.; 1946 to date, dir. res., Freedom-Valvoline Oil Co.; 1937-46, lecturer, U. of Pittsburgh. Inventions & pats. in elec. insulation; gas detection; gas masks; hydrocarbon chem. Mem.: A.A.A.S., A.P.H.A. (fellow), A.C.S., Pa. Chem. Soc., Am. Ind. Hyg. Assn. (charter mem.), Natl. Soc. of Prof. Engrs. Clubs: Pittsburgh Chemists', Mason. Hobby: Boy Scouts.

VENEMA, Maynard Peter, v.p., Universal Oil Prods. Co., 310 S. Michigan Ave., Chicago, Ill.; res. 4107 Howard Ave., Western Springs, Ill.
Pat. attorney; b. Chicago, Ill., Sept. 16, 1910; s. of Maynard and Grace (Wolters) Venema; ed. Armour Inst. of Tech., B.S.; De Paul U.; Georgetown U., LL.B.; mem.: Triangle; m. Hazel Kasten, Sept. 14, 1935; ch.: Maynard Peter, Jr., Carol Ann. Universal Oil Prods. Co.: engr., pat. attorney, mgr. of pat. dept., v.p. Mem.: A.C.S., Am. Bar Assn., A.I.Ch.E., Am. Pat. Lawyers Assn., Chicago Bar Assn., Chicago Pat. Lawyers Assn.

VENTRE, Emil Karl, sr. res. chem., U.S. Dept. Agr. Fld. Station, Houma, La.; res. 215 Wood St., Houma.
Chem., sugar technologist; b. Opelousas, La., Oct. 22, 1899; s. of Eugene and Lena (Bodemuller) Ventre; ed. B.Sc. sugar engrg., La. State U., 1922; m. Tillie Amrhein, Dec. 28, 1921; ch.: Emil K., Jr. M.D., Eugenie (Ventre) Bartmess. 1921-25, chem., technologist, chf. technologist, sugar companies, La. & Cuba; 1925-31, bacteriologist, Public Health, City, chem., supt. water purification, consltg. chem. water purification; 1931 to date, res. prod. of cane, sorgo, maple & beet sugars & by-prods. Coagulation of water with lime & chlorine; extraction of sucrose, starch & aconitic acid from sorgo; extraction of aconitic acid from sugarcane. Mem.: A.C.S., A.A.Cl.C., Am. Soc. Sugar Technologists, A.I.C. (fellow). Hobby: construction of houses.

VENUTO, Louis Joseph, res. dir., Binney & Smith Co., 41 E. 42nd St., N.Y. 17, N.Y.; res. 3808 222nd St., Bayside, L.I., N.Y.
Chem.; b. Phila., Pa., Jan. 5, 1900; s. of Paul Venuto; ed. B.S. U. of Pa.; m. Helen Baker, Aug. 24, 1929; ch.: Paul, Peter. Lee Tire & Rubber Co. 1923; Solodon Co. 1923-24; Binney & Smith Co. 1924 to date. Carbon blk., invention of carbon blk. beads, test meths., colloidal dispersions of carbon blk., etc. Mem.: A.C.S., A.S.T.M., Paint Prod. Club, N.Y. Ink Prod. Club, Tech. Com. of N.Y. Paint Prod. Club. Club: Chemists'. Hobbies: scout work, photography.

VERHAGEN, Dirk, chf. chem., Lyle Branchflower Co., 15th N.W. at Shilshole, Seattle 7, Wash.; res. 1816 E. 82nd St., Seattle 5.
Biochem.; b. Seattle, Wash., Mar. 8, 1919; s. of George and Fay Verhagen; ed. B.S., chem. from U. of Wash., 1941; M.S., chem. from U. of Ky., 1943; mem.: Alpha Chi Sigma, Delta Chi; m. Anita June Hammond, June 16, 1946; ch.: Diane Marie. Teaching Fellowship, U. of Ky., 1941-43; res. chem., Lyle Branchflower Co., 1943-45; chf. chem., Lyle Branchflower Co., 1945 to date. Res. and pubs. in fld. of Vitamin A. anal. Mem.: A.C.S., A.O.C.S. Hobby: photography.

VERITY, Ben, tech. adv., 68 Pine St., Providence, R.I. (Carbic Color & Chem. Co.); res. 128 Shawomet Ave., Apt. No. 3, Somerset Centre, Mass.
Tech. adv.; b. Jan. 14, 1871, Bramley, Yorkshire, England; s. of John Kirk and Sarah (Young) Verity; m. Sara Rawston, Jan. 7, 1907; ch.: Edith, Martha. 2 yrs. Yorkshire Coll.; 7 yrs. Walpole Dye & Chem. Wks., Walpole, Mass., chem.; 15 yrs. chem., asst. supvr., Magog Print Wks., Magog, P.Q., Canada; 23 yrs. asst. supvr., night

supt., Am. Printing Co., Fall River, Mass.; 15 yrs. tech. adv., Carbic Color & Chem. Co., 451 Wash. St., N.Y.C. Hobby: kitchen garden.

VERMILYA, James Noah, asst. chf. engr., Buffalo Electro-Chem. Co. Inc., Buffalo 7, N.Y.; res. 53 Lehn Springs Dr., Williamsville 21, N.Y. Chem. engr.; b. Halcottsville, N.Y., Sept. 30, 1893; s. of William B. and Emma J. Vermilya; ed. Syracuse U., B.S. in chem., 1915; mem.: Lambda Chi Alpha, Alpha Chi Sigma; m. Gladys Beddoe, Oct. 29, 1919; ch.: Lt. Daniel B. (killed at Okinawa), Mrs. Patricia V. Johnston. Chem., Peyton-Hunt, Inc., N.Y., 1915; supervising chem., Marden Orth & Hastings, N.Y., 1916; serv. chem., Thomas A. Edison, Inc., Orange, N.J., 1917; chem. engr., John Johnson Co., Bklyn., N.Y., 1919; chem. engr., Am. Laundry Mach. Co., Cincinnati, Ohio, 1920-35; tech. dir., Brit. Laundry Mach. Co., London, Eng., 1935-39; chf. chem. engr., Am. Laundry Mach. Co., Cincinnati, Ohio, 1939-42; conslt., C.W.S., U.S.A., 1942-45; asst. chf. engr., Buffalo Electro-Chem. Co., Buffalo, N.Y., 1945 to date. Mem.: A.C.S., A.I.Ch.E., Chem. Corps Assn. Club: Brookfield Country. Hobbies: gardening, photography.

VERNON, Arthur A., chmn. dept. of chem., Northeastern U., Boston 15, Mass.; res. 14 Standish St., Newton Highlands 61, Mass.
Tchr., conslt.; b. Schenectady, N.Y., Sept. 9, 1902; s. of Samuel and Minnie (Chase) Vernon; ed. Union Coll., B.S., 1924; M.S., 1927; Princeton U., Ph.D., 1930; mem.: Lambda Chi Alpha; m. Hope Jillson, Aug. 14, 1934; ch.: Eleanor Forsyth. 1924-27 res. chem. Gen. Electric Co.; 1930-31, res. chem. E.I. du Pont de Nemours Co.; 1931-38 instr., asst. prof. R.I. State Coll.; 1938 to date prof. and chmn. of chem. dept., Northeastern U. On A.C.S. Convention Comm., 1939, 1951; councillor, Northeastern Sect. A.C.S. Author: "Lab. Manual of Phys. Chem." Mem.: A.C.S., A.I.Ch.E., N.E. Assn. of Chem. Tchrs., Sigma Xi, Phi Kappa Phi.

VERNON, Janet, chem. librarian, U. of Notre Dame, Notre Dame, Ind.; res. R.R. No. 5, Jennings Rd., So. Bend, Ind.
Tech. librarian; b. Chicago, Ill.; d. of Willett Blayney Vernon and Mrs. Helen H. Wilson; ed. B.S., 1938, M.S., 1939, U. of Ill.; mem.: Iota Sigma Pi, Sigma Delta Epsilon, Alpha Lambda Delta. Lab. asst., part time, U. of Ill., 1938-39, dept. agronomy; tech. librarian, Corning Glass Wks., Corning N.Y., 1940-42; pat. dept., Hercules Powder Co., Wilmington, Del., 1942-44; instr. in chem., U. of Ill., summer term 1944; Am. Natl. Red Cross, hospital recreation worker, 1944-46; chem. librarian, U. of Notre Dame, Notre Dame, Ind., Apr., 1946 to date; lecturer in inorg. chem., Ind. U. Extension, So. Bend, 1947-49, nite program. Mem.: A.C.S., A.A.A.S., A.C.S., St. Joe Valley Sec., 1947 to date, secy.; Notre Dame Federal Credit Union, 1948 to date, secy. Club: Audubon Soc. Hobbies: collect ceramic art objects, conservation of wild life & natural resources.

VESPER, Howard Gockley, pres., California Research Corp., 200 Bush St., San Francisco 4, Calif.; res. 6160 Acacia Ave., Oakland 18, Calif. Chem. engr. and exec.; b. Pasadena, Calif., June 13, 1902; s. of Arthur E. and Sadie (Gockley) Vesper; ed. Calif. Inst. of Tech., Pasadena, Calif., 1922, B.S. in Ch.E.; grad. at hd. of class; won Junior Travel Prize, 1921; elected to Tau Beta Pi, natl. honorary engrg. frat.; mem. also of Alpha Chi Sigma; m. Ruth Harriett Cawthorne, July 17, 1923. 1922, chem. engr., Standard Oil Co. of Calif., El Segundo, Calif.; 1931, tech. staff, asst. to mgr., Res. and Devel. Dept., Standard Oil Co. of Calif., San Francisco; 1933, asst. to mgr., Standard Oil Co. of Calif., R.C.A. Bldg., N.Y.C.; 1938, marketing exec., Standard Oil Co. of Calif., San Francisco; 1946 to date, pres., Calif. Research Corp., San Francisco, also dir.; dir. of Oronite Chem. Co. and of Calif. Res. & Devel. Co. Application of sev. new or improved process methods to petroleum refining. Mem.: A.C.S., A.I.Ch.E., Soc. of Automotive Engrs., A.P.I., Indust. Research Inst., The Newcomen Soc. of England (Amer. Branch), Coordinating Research Council (dir.). Clubs: Bohemian (San Francisco), Fraternity (San Francisco), Commonwealth of Calif. (San Francisco), Engineers' (San Francisco), San Francisco Business Men's Garden Club. Hobbies: music, choral singing (Bohemian Club Chorus), gardening, golf.

VETTER, Joseph James, conslt. (private), 140 Howland Ave., River Edge, N.J.; res. same.
Consulting chem.; b. Union City, N.J., Nov. 30, 1895; s. of Joseph J. and Theresa Vetter; ed. Ch.E., M.S., Ph.D., Brooklyn Polytechnic Inst.; mem.: Phi Lambda Upsilon, Sigma Xi. V.p. and dir. of res., Natural Products Refining Co., 1916-45 conslt. to Diamond Alkali Co., 1945-50; private conslt. 1950 to date. Many pats. on chromium chems. and alloys. "Chromium Compounds and Alloys" in Kirk & Othmer's Encyclopedia of Chemical Technology (1949). Mem.: A.C.S., Electrochem. Soc., A.I.Ch.E. Hobby: astronomy. Officer: Tichrome Corp., dir.

VICKERY, Hubert Bradford, biochem. in chg., Biochem. Lab., Conn. Agr. Expt. Station, 153 Huntington St., New Haven, Conn.; res. 415 Whitney Ave., New Haven 11.
Biochem.; b. Yarmouth, Nova Scotia, Feb. 28, 1893 (nat. 1935); s. of Edgar Jenkins and Mary Katherine (Dudman) Vickery; ed. Yarmouth Acdy., B.S., Dalhousie U. 1915, M.S. 1918, Ph. D., Yale, 1922, hon. D.Sc., 1948; m. Mildred Hobbs Morgan in 1936. Taught sc. in secondary schls. in Halifax, 1915-17; chem., Imperial Oil, Ltd., Halifax 1917-19; sc. teacher at Normal Schl., Truro, N.S., 1919-20; asst. biochem., Conn. Agr. Exp. Station 1922-28; biochem. in chg. since 1928; lecturer, Yale, 1924 to date; res. assoc. Carnegie Inst., Washington, 1928-38. Mem.: J. Biol. Chem. (ed. bd. 1941 to date), J. Am. Chem. Soc. (assoc. ed. 1939-48), Plant Physiology (ed. bd. 1948 to date), Natl. Acdy. of Scs., Am. Soc. Biol. Chem. (councilor 1937, pres. 1950), A.C.S., Soc. for Exp. Biol., Am. Soc. Plant Physiologists, Sigma Xi, Stephen Hales prize of Am. Soc. Plant Physiologists 1933, Observer, Bikini 1946. Club: Yale Faculty. Hobbies: carpentry, music.

VICTOREEN, John Austin, chmn. of bd. of dirs., The Victoreen Instrument Co., 3800 Perkins Ave., Cleveland 14, Ohio; res. 15 Foothill Drive, Colorado Springs, Colo.
Physicist; b. Johnstown, Pa., July 4, 1902; s. of Ernest V. and Ann Victoreen; ed. John Carrol U., (hon. LL.D.) 1949; m. Frances Shima, Nov. 3, 1928; ch.: Jacqueline A. and Robert R. With The Victoreen Radio Co., 1920-30, v.p., engr.; The Victoreen Instrument Co., 1925-50, pres., engr.; design, dev., mfr. of radiation measuring instruments; owner and dir., Colorado Victoreen Laboratory, Colorado Springs, Colo. Pubs. on X-ray mass absorption coefficients and electronics. Author of sev. chaps. in "Medical Physics" (Year Book Pub. Co.). Mem.: A.Phys.S., Inst. of Radio Engrs. Mem. Advis. Panel on Export Control, U.S. Atomic Energy Commis.

VIERTEL, William Kirke, sr. instr., act. hd., chem. tech. dept., N.Y. St. Agr. & Tech. Inst., Canton, N.Y.; res. 18 Buck St.
Instr., chem. engr.; b. N.Y.C., July 17, 1905;

s. of Samuel and Jennie Abramavice Viertel; ed. B.S. Chem. Engrg., N.Y.U., 1925; M.S., 1926; mem.: Iota Alpha (hon. engr.) now replaced by Tau Beta Pi; winner Wm. H. Inman Teach. Fellowship; m. Ethel Armstrong, Oct. 8, 1932; ch.: Bruce A., Richard K. 1925-26 teach. fellow, chem. dept., N.Y.U., U. Hts.; 1926-38 Atmospheric Nitro. Corp., later Solvay Proc. Co., nitro. div., Syracuse, N.Y. and Hopewell, Va. (now Solvay Proc. Div., Allied Chem. & Dye Corp.) dev. chem., chem. chg. catalyst mfgr.; 1939-40 instr. math., Va. Poly. Inst., Blacksburg, Va.; 1940 chem., mfgr. synth. plant hormones, Am. Chem. Paint Co., Ambler, Pa.; 1940-42 chem. engr., catalyst dev. & am. plant operations, Chem. Constr. Corp., N.Y.C., Niagara Falls, Ont., Stamford, Conn.; 1943-46 instr., math., Stevens Inst. Tech., Hoboken, N.J.; 1946-50 instr., chem. tech., N.Y. St. Agr. & Tech. Inst.; 1950 to date, sr. instr., act. hd. chem. tech. dept. Res. in curriculum dev. for chem. tech. in tech. inst. div. of N.Y. St. U. Mem.: A.C.S., N.E. Assn. Chem. Tchr.; N.Y. St. Vocat. & Pract. Arts Assn., Am. Vocat. Assn., trustee, treas., First Univer. Ch. (Canton, N.Y.). Clubs: Chem. (Northern N.Y.), Torch. Hobbies: photography, carpentry, stamp collecting, collecting topical, humorous cartoons, pieces from magazines.

VIEWEG, Hermann Frederick, asst. to tech. dir., tire mfg., U.S. Rubber Co., 6600 E. Jefferson, Detroit 32, Mich.; res. 647 Lincoln Rd., Grosse Pointe 30, Mich.
Chem. engr.; b. Buffalo, N.Y., Sept. 12, 1900; s. of Rudolf and Emma K. Vieweg; ed. Cornell U., B.Chem., 1921; Ph.D., 1924; m. Dr. Alice M. Vieweg, Sept. 1, 1925; ch.: Robert A. Asst., instr., asst. prof., Mineralogy, Cornell U., 1919-25; prof. chem., Muhlenberg Coll. 1925-27; instr. physics, Cornell U., 1927-29; metal., Aluminum Res. Labs., 1929-30; assoc. prof., prof. Ceramics, Rutgers U. 1930-35; sr. res. engr., Johns-Manville Corp., 1935-41; Lt. Col. Field Artillery, A.U.S., 1941-46; asst. to tech. dir., tire mfg., U.S. Rubber Co., 1946 to date. Res. in dev. of rock wool prods., dev. light weight magnesia insulation, statistical quality contr. appl. to rubber; Legion of Merit, U.S.A., 1945. Col., Field Artillery, U.S.A. Reserve. Mem.: A.C.S., Inst. Chem., Sigma Xi, Am. Soc. Military Engrs. Club: Torch. Hobbies: photograhy, cryptography, woodworking.

VIGNOS, James C., v.p. sales, Ohio Ferro-Alloys Corp.; res. 1541 Logan Ave. N.W., Canton, Ohio.
Sales; b. Canton, Ohio, Mar. 5, 1901; ed. St. Edwards U., Austin, Texas, A.B., M.S. 1925; Notre Dame U., du Pont fellowship 1926; m. Miriam J. Broda, Aug. 23, 1935; ch.: Miriam Clair. 1925-26, United Alloy Steel Co.; 1926-27, du Pont fellowship Notre Dame U.; 1927-28, Rubber Serv. Labs., Nitro, W.Va.; 1929-31, Ohio Ferro-Alloys Corp.; 1931-33, Kingston Prods. Co.; 1933-34, Phoenix Oil Co.; 1934 to date, Ohio Ferro-Alloys Corp. Mem.: A.C.S., A.I.M.E., A. I.S.I. Clubs: Duquesne (Pitts., Pa.), Buffalo Athletic (Buffalo, N.Y.). Hobbies: collecting old technical books, antiques.

VINCENT, George Paul, dir. of prod. dev., Mathieson Chem. Corp., 10 Light St., Baltimore 3, Md.; res. 33 Murray Hill Road, Baltimore, Md.
Chem. exec.; b. Cleveland, Ohio, Oct. 20, 1901; s. of Harry G. and Mildred S. Vincent; ed. Hiram Coll. A.B. 1923; Cornell U. M.S. 1924, Ph.D. 1927; mem.: Gamma Alpha; m. Mabel Slattery, 1928; ch.: Thomas M. Cornell U., asst. chem., 1923-25; Eastman Kodak Co., res. chem. 1927-30 Mathieson Alkali Wks. Inc., res. chem. 1930-33, mgr. res. lab. Niagara Falls 1933-34; asst. to dir. of res. New York 1935-38; mgr. of sales dev. 1938-40, mgr. of sales dev. & tech. service 1940-45, tech. dir. 1945-49; Mathieson Chemical Corp., dir. of prod. dev. 1949 to date. Dev. of use of sodium chlorite in pulp, textile, oils & fat, potable water, flour & other industries. Mem.: A.C.S., A.I.Ch.E. Club: Chemists'. Hobby: tennis.

VINCENT, Gregory Alan, asst. chf. project engr., Kellex Corp., 120 Wall St., N.Y. 4, N.Y.; res. 619 Westbrook Rd., Ridgewood, N.J.
Chem. engr.; b. St. Louis, Mo., Aug. 20, 1905; s. of Edward F. and Myrtie G. Vincent; ed. E. Denver H.S., Colo.; Mason City, Ia., Jr. Coll.; State U. of Iowa, B.S. in Ch.E., 1928; M.I.T., M.S. in Ch.E. Prac., 1930; mem.: Kappa Sigma, Alpha Chi Sigma; m. Bernice Rasmussen (dec.), Dec. 23, 1932; Florence E. Calder, Oct. 11, 1941; ch.: Edward O., Marian B. M.W. Kellogg Co., N.Y.C., 1930-49, in various capacities incl. pilot plant technician, fld. operator, tech. liaison, job engr., process engr., 9 yrs. as latter; 1949 to date, Kellex Corp., N.Y.C., assoc. dir. proc. dev. & proc. engrg., presently asst. chf. proj. engr. Mem.: Phi Lambda Upsilon, Sigma Xi, A.I.Ch.E.

VINCENT, Joseph Francis, hd. depts., chem. and physics, Georgia State Coll. for Women, Milledgeville, Ga.; res. 151 Baldwin St., Milledgeville, Ga.
Teacher; b. Garnsey, Ala., Dec. 12, 1912; s. of John N. and Mollie E. Vincent; ed. B.S. in chem. engrg., Ala. Poly. Inst., 1936, M.A., Physiol. Chem., 1938, Ohio State U., asst. in physiol. chem., Ph.D. Physiol. Chem., 1940, Ohio State U., asst. in physiol. chem.; mem.: Pi Kappa Alpha, Phi Lambda Upsilon, Tau Beta Pi, Gamma Alpha, Sigma Xi; m. Dorothy C. Broerman, Oct. 5, 1940; ch.: Joseph F., Jr., Richard A., Albert L. Hd. Biochem. Res., Goodyear Tire & Rubber Co., 1940-45; chem., Southern Research Institute, 1945-46; prof. physics & chem., Ga. State Coll., 1946-48; prof. & hd. depts. chem. & physics, 1948 to present. Res. in food technology and toxicity of commercial chems., protein chem. Mem.: A.C.S., Sigima Xi, Georgia Academy Sc. (fellow).

VINTINNER, Frederick James, dir., div. of ind. hygiene, N.H. State Dept. of Health, 17 School St., Concord, N.H.; res. R. 7, Dover Rd., Concord, N.H.
Public health; b. July 12, 1908; s. of Charles J. and Vina M. Vintinner; ed. U. of N.H., B.S. 1931; Johns Hopkins U., M.P.H., Sc.D.; mem.: Phi Mu Delta; m. Martha J. Roy, Aug. 8, 1931; ch.: Parker M., Martha A. N.H. State Dept. of Health, chem. 1931-35, ind. hygienist 1935-37, dir., div. ind. hygiene 1937-42; U.S.A. officer 1942-46; dir., div. ind. hygiene, N.H. State Health Dept., 1946 to date. Several arts. pub. on ind. health & hygiene. Mem.: A.C.S., Am. Pub. Health Assn., Natl. Conf. of Gov. Indus. Hygienists, Am. Ind. Hygiene Assn., N.H. Soc. Prof. Engrs. Hobbies: hunting, fishing, horticulture.

VIRTUE, George, pres., Commercial Chemical Co., Inc., 80 Boylston St., Boston 16, Mass.; res. 128 Chestnut St., Boston 8.
Exec.; b. Brookline, Mass., Sept. 19, 1899; s. of H.S. and Edith Virtue; ed. Lakefield, Ont., Canada; m. Beatrice Corry, 1943; ch.: Peter, Karl, Corry, Anne. Commercial Chem. Co. Inc., 1921 to date. Leather tanning res.

VISSER 't HOOFT, Franciscus, managing dir., Lucidol Div., Novadel-Agene Corp., 1740 Military Road, Buffalo 5, N.Y.; res. 64 Cleveland Ave., Buffalo 22, N.Y.

Managing dir.; b. Haarlem, Holland, Mar. 6, 1897; s. of H.Ph. and Jacoba Clasina (Lieftinck) Visser 't Hooft; ed. Ch. Engrg., Delft Univ., 1923; D.Sc., 1925; mem.: Delft Student Corps, Phoenix; m. Martha Hamlin, Sept. 15, 1928; ch.: Martje, Frans, Emily. Chem., Noury and van der Lande, 1925-26; chf. chem., Novadel Process Corp., 1926-28; v.p., Lucidol Corp., 1928-46; managing dir., Lucidol Div., Novadel-Agene Corp., 1946 to date; v.p., Novadel-Agene Limited, 1928 to date. Organic peroxides, flavor of bread, flour color, fermentations. Author: "Biochemical Researches on the Genus Acetobacter," 1925. Mem.: A.A.A.S., A.C.S., A.A.Cer.C., Manufacturing Chemists' Assoc., Nederlandse Chemische Vereniging, A.O.C.S., Officer in the Order of Orange Nassau, Buffalo Soc. of Natural Sciences, Albright Art Gallery, Internatl. Institute, NetherlandAmerica Foundation. Clubs: Chemists', Netherlands Club of N.Y., Buffalo Tennis and Squash. Hobbies: tennis, riding, music.

VIVIAN, Johnson Edward, assoc. prof. of chem. engrg., M.I.T., 77 Mass. Ave., Cambridge 39, Mass.; res. 103 Whitman Rd., Waltham, Mass.
Prof.; b. Montreal, Can., July 6, 1913; s. of Edgar John and Mary (McMahon) Vivian; ed. McGill U., Montreal, Can., Sept., 1931, to June, 1936, B.Eng. (chem.); M.I.T., Cambridge, Sept., 1936 to May, 1938, S.M. (chem. E. Pr. 1939); M.I.T., 1939-40, 1945, Sc.D. 1945; mem.: Sigma Xi; m. Florence Evelyn Frye, Feb. 10, 1940; ch.: John Edward, David James. Res. asst., Can. Pulp & Paper Assoc., 1934-36, Montreal, Can.; teaching asst., M.I.T. 1937-38; asst. dir., Bangor Pract. Schl. Station, M.I.T. 1938-41; dir., Buffalo Pract. Schl. Station, M.I.T. 1941-43; act. dir. Schl. of Chem. Engrg. Pract., M.I.T. 1943-44; adm. officer, M.I.T. Metallurgical Project 1944-45; res. group leader, M.I.T. Metallurgical Project 1945-46; dir. Schl. of Chem. Engrg. Practice and assoc. prof. of chem. engrg., M.I.T. 1946 to date; dir. Oak Ridge Engrg. Pract. Schl., M.I.T., 1948 to date. Mass. transfer, industrial chemistry. "Chemical Stack Losses & Their Recovery" with R.P. Whitney, Paper Trade Journal 1939; "Design of Gas Abs. Equip." with R.P. Whitney, Paper Trade Journal 1940; " Solubility of Chlorine in Water" Ind. Eng. Chem. 1941; "Absorption of Chlorine in Water" with R.P. Whitney, Chem. Eng. Progress 1947; "Absorption of Sulfur Dioxide in Water" with R.P. Whitney, Chem. Eng. Progress 1949. Mem.: A.I.Ch.E. (active mem. elected 1942); T.A.P.P.I. (mem. elected 1944); A.C.S. (mem. elected 1942); A.A.A.S. (mem. elected 1948); Junior Award, Chem. Engrs. 1948.

VIVIAN, Robert Evans, dean, Schl. of Engrg.; prof. of chem. engrg., U. of Southern Calif., Los Angeles 7, Calif.; res. 862 Victoria Ave., Los Angeles 5.
Educational adm., teacher; b. Melvin, Ill., Apr. 20, 1893; s. of Rev. Robert L. and Blanche (Weatherby) Vivian; ed. U. of Southern Calif., B.A., 1917, M.A. chem., 1922; Columbia U., Ph.D. chem. engrg., 1933; mem.: Alpha Chi Sigma, Acacia; m. Belle Doyle, Aug. 15, 1919; ch.: Robert Edmund (dec.), Richard Weatherby, Lawrence Doyle. 1918-28, hd. of chem. div., Kern Co. H.S. & Jr. Coll., Bakersfield, Calif.; 1929-30, asst. on process dev., chem. engrg. dept., Columbia U., 1930-31, res. asst. to prof. Colin Fink 1931-35, res. chem., dev. engr., Gen. Chem. Co., N.Y.; 1935-37, dir. of res., Metals Disintegrating Co., Elizabeth, N.J.; U. of So. Calif., 1937-40 prof. of chem. engrg., hd. of chem. engrg. dept., 1940-42 prof. of chem. engrg., acting dean of engrg., 1942 to date prof. of chem. engrg., dean Coll. of Engrg. Pats. in flds. of electro-chem. & mfr. of inorg. chem., also flotation of non-metallic ores. Mem.: A.C.S. (chmn. So. Calif. Sec., 1943-44), A.I.Ch.E. (chmn. So. Calif. Sec., 1944-45), Phi Beta Kappa, Tau Beta Pi, Sigma Xi, Phi Lambda Upsilon. Clubs: University (Los Angeles), Chemists' (N.Y.). Hobbies: prospecting, tennis, fishing.

VOET, Andries, dir. of res., ink div., J.M. Huber Corp., 620 62nd St., Bklyn., N.Y.; res. 28 S. Marion Pl., Rockville Centre, N.Y.
Chem.; b. Amsterdam, Netherlands, Nov. 21, 1907; s. of Herman I. and Maria (Boom) Voet; ed. U. of Amsterdam, Netherlands, B.Sc. cum laude, 1928, M.Sc., 1930, Ph.D. cum laude, 1935; mem.: Unitas, Amsterdam; m. Dr. Henriette H. Mogendorff, Jan. 5, 1932; ch.: Louise, Donald, Marion, Martin. 1931-35, instr. chem., U. of Amsterdam; 1935-40 chem., Van Son's Ink Wks., Hilversum, Holland; 1940-43 res. chem., Gen. Printing Ink Corp., New York; 1943 Neville Co., Pittsburgh, Pa.; 1943 J.M. Huber Corp., Bklyn., dir. of res.; 1948 instr., N.Y.U., graphic div. sc. conslt., Tech. Ind. Intelligence Agency, U.S.A. Mem.: A.C.S., A.Phys.S., Soc. of Rheology, Asst. Res. Dir., fellow, N.Y. Acdy. of Scs., N.Y. Printing Ink Prod. Club. Hobbies: photography, chess.

VOGEL, Max Raymond, chf. chem., Easton plant, Binney & Smith Co., P.O. Box 431, Easton, Pa.; res. Edgewood Ave., M.R. 35, Easton.
Chem.; b. Easton, Pa., Feb. 5, 1906; s. of Max Ernst and Clara (Hoffstadt) Vogel; ed. Lafayette Coll., B.S. in Ch.E., 1927; U. of Berlin, 1927-28; mem.: Alpha Chi Rho, Alpha Chi Sigma; m. Mildred Kauffmann, June 9, 1934; ch.: Peter E. Binney & Smith Co., 1928 asst. chem., 1930 chem., 1937 lab. dir., 1948 to date chf. chem. Easton Plant. Pats. on pigmented base for paints & the like, lacquer mfr., prep. of carbon black. Mem.: A.C.S., N.Y. Rubber Group, S.C.I., Am. Inst. of Physics. Clubs: Country of Northampton Co., Pomfret. Hobbies: golf, bowling, photography, horticulture.

VOGEL, Oliver George, assoc. engr., special dev., Hotpoint, Inc., 5600 Taylor St., Chicago, Ill.; res. 312 S. Maple Ave., Oak Park, Ill.
Physical chem.; b. Chicago, Ill., June 4, 1905; s. of Louis C. and Ida Vogel; ed. B.S., 1927, Ph.D., 1930, U. of Chicago; m. Evangeline M. Nasmith, Nov. 28, 1934. Hotpoint, Inc., 1930 to present. Res. and dev. in high temperature insulation, metals and related wk. in electrical appliances. Mem.: A.C.S., Am. Physical Soc., Phi Beta Kappa, Sigma Xi. Club: Badminton (Chicago). Hobby: sports.

VOGLER, Herman Arthur, chf. chem., Warner-Hudnut Inc., 404 S. 4th St., St. Louis, Mo.; res. 6223 Delor St., St. Louis.
Chem.; b. New Athens, Ill., Dec. 30, 1891; s. of George and Mary T. (Schmelzel) Vogler; ed. St. Louis Coll. of Phar. and Allied Scs., Ph.G., Ph.B., 1916, Ph.C. 1918; m. Hattie Mae Gahr, Dec. 4, 1919; ch.: James E., John A. U.S.A., 1918, C.W.S., Edgewood Arsenal; assoc. prof. pharmacognosy and microscopy, St. Louis Coll. of Phar. and Allied Scs., 1920-23; chf. control chem., Warner-Hudnut Inc., 1922-27; chf. chem. 1927 to date; res. off. U.S.A. Sanitary Corps, Med. Dept., 1923-38; lecturer C.W.S., Fort Snelling (1931) Sanitary Corps Officer, C.M.T.C. Mem.: A.Phar.A., A.C.S., A.A.A.S., Natl. Farm Chemurgic Council. Clubs: Masonic Lodge, Scottish Rite of Free Masonry, Natl. Sojourners. Hobbies: fishing, hunting.

VOGT, Richard Rockhill, prof. of chem., Chem. Hall, U. of Notre Dame, Notre Dame, Ind.; res. 222 S. William St., S. Bend, Ind.

Res. chem.; b. S. Bend, Ind., May 16, 1891; s. of Edward F. and Hannah E. Vogt; ed. B.S. 1915, M.S. 1916, Ph.D. 1921, U. of Notre Dame; m. Wilma Alice Cissne, Sept. 2, 1921; ch.: Josephine Anne Benassi, John Richard, Katherine Alma. Teacher of chem., U. of Notre Dame, 1930 to date. Co-author: "The Chem. of Acetylene," A.C.S. Monograph, also several arts. in tech. jls. on reactions of acetylene & related subjects.

VOIGTMAN, Edward Hugo, res. coordinator, Kimberly Clark Corp., Neenah, Wis.; res. 640 Grove St., Neenah.
Pulp & paper technologist; b. Hoboken, N.J., June 28, 1907; s. of Alben and Rose (Franke) Voigtman; ed. B.S. chem. engrg., U. of Wis., 1930; M.S., Inst. of Paper Chem., 1932, Ph.D., 1933; m. Cecille R. Michalkeivcz, June 26, 1937; ch.: Edward Walter. 1925-26, paper tester, M&M Paper Co., Marinette, Wis.; 1928, res., Thilmany Pulp & Paper Co., Kaukauna, Wis.; 1930, res., Mosinee Pulp & Paper Co., Mosinee, Wis.; 1931, res., Interlake Div., Consolidated Water Power & Paper Co., Appleton, Wis.; 1933 to date, res., dev. & control, Kimberly Clark Corp., Neenah, Wis. Mem.: T.A.P.P.I., A.C.S. Club: Neenah Kiwanis (past pres.). Hobbies: gardening, photography, woodworking.

VOLD, Robert D(onald), prof. of chem. and hd. of the dept., U. of Southern Calif., Los Angeles 7, Calif.; res. 280 Epinard St., Playa del Rey, Calif.
Res. chem. and tchr.; b. Boston, Mass., Dec. 11, 1910; s. of Lawrence and Margaret A. (Bryan) Vold; ed. A.B., M.S., U. of Nebr., 1931, 1932; Ph.D., U. of Calif. (Berkeley), 1935; mem.: Alpha Chi Sigma; m. Marjorie Jean Young, June 14, 1936; ch.: Mary Louise, Robert Lawrence, Wylda Bryan. Res. chem., Procter & Gamble Co., Cincinnati, 1935-37; res. assoc., Stanford U., 1937-41; asst., assoc. and full prof., U. of Southern Calif., 1941, 1944, 1947, hd. of dept., 1950; notable wk.: over fifty pub. papers in sc. jls., dealing largely with the phys. and colloid chem. of aqueous and non-aqueous systems of alkali and heavy metal soaps. Author of chapters in Vol. V of Alexander's "Colloid Chem.," 1944 and Weissberger's, "The Technique of Org. Chem.: Phys. Meths." 1945. Mem.: A.C.S., A.A.A.S., Am. Cryst. Soc., A.A. U.P. Hobbies: mountaineering, gardening.

VOLK, Garth William, chmn., prof., H. & F. Bldg., Ohio State U., Columbus, Ohio; res. 374 Loveman Ave., Worthington, Ohio.
Soil chem.; b. Oconto Falls, Wis., June 13, 1905; s. of James R. and Marietta (McKinney) Volk; ed. U. of Wis., B.S. 1933, M.S. 1934, Ph.D. 1936; mem.: Theta Chi, Gamma Sigma Delta, Gamma Alpha, Phi Lambda Upsilon; m. Alice Marie Peters, June 15, 1935; ch.: Veril Van, Bob Garth. Soil chem., United Fruit Co., Tela Honduras, C.A., 1928-33; asst. prof., Okla. A.&M. Coll., Stillwater, Okla., 1936-37; assoc. & full prof., Ala. Poly. Inst., Auburn, Ala., 1938-44; assoc. soil chem., Ohio Agric. Expt. Station, Wooster, Ohio, 1944-47; chmn. dept. of agronomy, Ohio Agric. Expt. Station & Ohio State U., 1947 to date. Potash fixation in soil; phosphate fixation & availability in soils. Mem.: Sigma Xi, A.S.A., Soil Sc. Soc. of Am.

VOLK, Norman James, assoc. dir., Office of the Dir., Agricultural Exp. Station, A.E.S. Bldg., Purdue U.; res. 865 N. Salisbury St., W. Lafayette, Ind.
Adm., res.; b. Oconto Falls, Wis., Jan. 16, 1901; s. of James R. and Marietta A. Volk; ed. B.S., 1923, M.S., 1924, Ph.D., 1932, U. of Wis., Madison, Wis.; mem.: Theta Chi; m. Lois N. Gaskell, Feb. 4, 1928; ch.: Richard James, Eugene Russell. 1924-26, asst. chem., Texas A.&M.; 1926-30, soil chem., United Fruit Co., Tela, Honduras; 1930-33, grad. fellow, U. of Wis.; 1933-36, hd., res. dept., Tela Railroad Co., Tela, Honduras; 1936-44, soil chem., hd. of dept. of agronomy & soils, Ala. Polytech. Inst.; 1944-48, hd., dept. of agronomy, Purdue U.; 1945 to date, assoc. dir. of Agr. Exp. Station, Purdue U. (held both positions, 1945-48). Fixation of potash in soils; oxidation reduction potentials of soils; minor element res. in soils; soil exploration in Central Am. Tropics; relation of Panama disease to soil conditions with reference to banana; gen. studies in soil fertility. Co-author chapter one of book "Hunger Signs in Crops" pub. 1949. Mem.: Soil Sc. Soc. of Am., Am. Soc. of Agronomy, Ind. Acdy. of Sc., Ind. Historical Soc., Sigma Xi, Phi Sigma, Internatl. Soil Sc. Soc. Clubs: Kiwanis, Elks. Hobbies: golf, fishing, travel.

VOLWILER, Ernest Henry, pres. & gen. mgr., Abbott Labs., 14 St. & Sheridan Rd., N. Chicago, Ill.; res. 2472 N. Deere Park Dr., Highland Park, Ill.
Exec.; b. Hamilton, O., Aug. 22, 1893; ed. Miami U. & U. Ill., Ph.D.; D.Sc. (hon.), Miami U. & Northwestern U.; m. Lillian F. Huggler, Feb. 23, 1920; ch.: 2 daus., 1 son. Mem.: A.C.S. (pres., 1950), A.I.Ch.E., A.I.C., A.Phar.A., A.A. A.S., Soc. Chem. Indus. Clubs: Chicago Chemists', Cosmos, Exmoor, Phi Kappa Tau, Phi Beta Kappa, Sigma Xi, Alpha Chi Sigma, Gamma Alpha, Beta Gamma Sigma, Phi Lambda Upsilon. Presbyterian; 32d deg. Mason. Hobbies: photography, travel.

VON BERGEN, Werner, dir. of res., Forstmann Woolen Co., Passaic, N.J.; res. 174 Luddington Ave., Clifton, N.J.
Textile chem.; b. Bern, Switzerland, May 24, 1897; s. of Walter and Elise von Bergen; ed. Tech. Coll., Burgdorf, Switzerland, chem. diploma, 1914-16; fellow, Textile Inst., England; m. Marie Diggelmann, 1923; ch.: Fritz, Marieanne, Werner, Jr. 1917, Textile Printing Mills, Suhr, Switzerland, chem.; 1918, Govt. Gas Lab., Zurich, Switzerland, chem.; 1919-22, Pfenninger & Co., Waedenswil, Switzerland, chem.; 1922-23, I.G. Farbwerke, Leverkusen, Germany, dye chem.; 1923-26, Pfenninger & Co., Waedenswil, Switzerland, chem.; 1926 to date, Forstmann Woolen Co., dir. of res. Photo chem. decomposition of wool during its growth & its effect on the dyeing properties of wool; continuous indigo dyeing of wool stock; mothproofing of wool. Co-author: "Am. Wool Handbook" 1st edit. 1938, 2nd edit. 1948; "Textile Fiber Atlas" 1st edit. 1942, 2nd edit. 1949; contrib. "Matthews' Textile Fibers," chapters 12, 13, 14, 15, 5th edit. rev., 6th edit. presently in wk. Mem.: Wool Advisory Comm., Agric. Res. Adm. of U.S.D.A.; Adv. Bd., Comm. on Textile Finishing, Q.M. Res. & Dev., N.R.C.; Advisory Comm., Textile Res. Inst., N.Y.; chmn. Subcomm. A-3 on Wool & Its Prods., D-13, A.S.T.M.; A.A.T.C.C., A.C. S.; Fiber Soc., Brookdale Baptist Church, Bloomfield, N.J. Clubs: Y.M.C.A. (Passaic, N.J.). Hobbies: photography, mountain climbing.

VON ELBE, Guenther, supervising chem., U.S. Bur. of Mines, 4800 Forbes St., Pitts., Pa.; res. 5863 Marlborough Ave., Pitts. 17, Pa.
Physical chem.; b. Germany, Nov. 27, 1903; s. of Kurt and Katharina von Elbe; ed. U. of Kiel, U. of Berlin, Germany; U. of Va. Res. fellow, Berlin, 1928-30; res. assoc., U. of Va., 1930-32; mem. of staff, Coal Res. Lab., Carnegie Inst. of Tech., Pitts., Pa., 1932-42; U.S. Bur. of Mines, Pitts., Pa., 1942 to date. Physics & chem. of combustion processes & other physical-chem. subjects, over 60 pubs. Co-author: "Combustion, Flames & Explosions of Gases" with Bernard Lewis, Cambridge University Press, 1938. Mem.: A.C.S., Sigma Xi.

VON FISCHER, William, prof. & hd. dept. of chem. & chem. engrg., Case Inst. of Tech.,

University Circle, Cleveland 6, Ohio; res. 1792 Maywood Rd., S. Euclid 21, Ohio.
Teacher, adm., conslt.; b. St. Paul, Minn., Mar. 3, 1910; s. of William, Sr. and Anna (Trantow) von Fischer; ed. B.Chem. 1932, M.S. 1933, Ph.D. 1937, Inst. of Tech., U. of Minn.; mem.: Triangle, Alpha Chi Sigma; m. Cordelia Thacker, Dec. 26, 1937; ch.: Elizabeth Ann, Patricia Louise, David William. Teaching asst., Inst. of Tech., U. of Minn., 1933-37; instr. 1937-40, asst. prof. 1940-45, assoc. prof. 1945-47, prof. 1947 to date, hd. dept. of chem. & chem. engrg. 1948 to date, Case Inst. of Tech., Cleveland, Ohio. Adsorption of wool violet (4BN) by lead sulfate & influence of adsorbed dye on speed of kinetic exchange; oxidation-reduction indicators I. diphenylbenzidine sulfonic acid; apparent effect of filtration upon aging of fresh lead sulfate; speed of solution of lead sulfate as an indication of progress of aging; report on study of adhesion of lacq. films on metals; adhesion of surface coatings on metals; dispersion studies of titanium dioxide pigment. Edtor, Paint & Varn. Tech., 1948. Mem.: A.C.S., Electrochem. Soc., S.C.I., Fed. of Paint & Varn. Prod. Clubs, A.A.A.S., A.A.U.P., A.S.E.E., Phi Lambda Upsilon, Sigma Xi.

VON GOEHDE, Heino Leopold, Dir. of Res., Bennett Inc., South Canal, St. Lawrence, Mass.
Chem.; b. Hanover, Germany, Mar. 5, 1885; s. of Dr. Richard and Elfriede (Bengen-Cranach) von Goehde; ed. Lyceum I, Hanover, Germany, Abiturium 1905; U. of Munich, Germany, Ph.D., M.C.L. 1912; mem.: Saxonia; m. Hilda C. Fraser, Sept., 1925; ch.: Irma Louise Bragg, Gretchen. Stand. Aircraft Corp., res., 1914-19; Geo. H. Bruce Assn., res. & prod., 1919-25; U.S.A., Judge Advocate General's Office, mem. of German-Austrian Pat. Claims Commis., 1929-30; Montgomery-von Goehde Corp., pres., mfg. chem., 1931-34; Palo Blanco Fruit Co., Arecebo, P.R., resident grower, res. 1934-35; R.T. Vanderbilt, Kaolin & Titanium res., 1935-37; von Goehde Labs. Inc., pres., dir., 1937 to date; Dir. of Res., Bennett Inc., Lawrence, Mass., 1950 to date. Volatization control of formaldehyde, non toxic soil sterilization, decay prevention of fruits & vegetables in storage, naphthenic acid & metal naphthanate deoderization & application, coffee extraction & concentration; contrib. to art of solubilizing copper 8—hydroxy quinolate, mildew proofing compound appearing on many govt. specifications. Author: "Fusarium Deseases of Spinach & Goosefoot Plants" Verlag Weber, Stuttgard, Germ., 1913; "Textbook on Disinfectants" 1936; "Process Losses in Food Industries" 1941; "Naphthenic Acids & Naphthanates" 1945; "Evolution of Coffee" 1945. Mem.: A.A.T.C.C., A.A.A.S., A.C.S., Mass. Horticultural Soc., Am. Vegetable Growers Assn., N.R.C. Clubs: Am. Horse Show Assn., Speakers, University, 400, Hanover Hunt & Riding. Hobbies: riding, travel, books, music. Officer: Cho-Co-Mo Corp. (pres.).

VON HOOVER, Carl Emmanuel, consltg. chem., pharmacologist, licensed physician, 838 Hot Wells Blvd., San Antonio 10, Texas; res. same.
Consltg. chem.; b. Mississippi, Aug. 25, 1897; s. of Carl Dank and Jenfier von Hoover; ed. Miss. H.S.; B.A., City Coll., B.Sc.; Kings Coll., cum laude, D.Sc.; Homeopathic Med. Coll., M.D.; Naturopathic Coll., N.D. Texas license; Ph.D., U. of Vienna; m. Winnie S. Strickland, Jan. 22, 1934. Consltg. since grad. practice limited to formulation, labeling & clinical test of foods, drug & cosmetics, pharmacodymanics; chem. formulery; former prof. pharmacology Mexico Homeopathic Med. Coll. Mem.: A.A.A.S. (fellow), A.C.S., Acdy. of Sc., Am. Assn. of Clinical Chem., Am. Homeopathic-Physician, Am. Naturopathic Physician Assn. Ex-Consul General of Republic of Haiti in San Antonio, Texas, duly accredited by Letter Patents of Presidents of U.S.A. & Haiti. Hobbies: flowers, study of common alley cats, reading, & writing German, Spanish, French & modern languages.

VON LOESECKE, Harry Willard, tech. adviser, Bur. Agr. & Ind. Chem., U.S. Dept. Agr., Wash., D.C.; res. 307 Windsor St., Silver Spring, Md.
Chem.; b. Lynn, Mass., Aug. 15, 1898; s. of Magnus F.S.S. and Louise (Spiegel) von Loesecke ed. B.S., Harvard U.; m. Bertha Lester Thayer, June 16, 1928; ch.: June Thayer. Chem., I.B. Williams Co., Dover, N.H. 1922; res. chem., Gen. Elec. Co., Lynn, Mass., 1922-25; res. chem., Am. Protein Corp., Boston, Mass., 1925-27; res. chem., United Fruit Co., Boston, Mass., 1927-31; sr. chem., Bur. Agr. Ind. Chem., U.S.D.A. 1931-42; ind. specialist, Food Prod., Admin., U.S.D.A. 1942-47; tech. adviser, Bur. Agr. Ind. Chem., U.S. D.A. 1947 to date. Chem. of bananas & citrus fruits, food processing, prod. of proteins from beef blood. Author: "Outlines of Food Technol." 1942 (2nd edit. 1949); "Drying & Dehydration of Foods" 1943; "Bananas—Chem., Physiol., Technol." 1949. Mem.: A.C.S., I.F.T., Am. Public Health Assn. (fellow). Club: Cosmos. Hobbies: drawing & oil painting.

VON WETTBERG, E(duard) F(eltberg), Jr., acting section supvr., chem. engrg. sec., engrg. res. lab., E.I. du Pont de Nemours & Co., Wilmington 98, Del.; res. 210 North Rd., Wilmington 274.
Chem. engr.; b. N.Y.C., Nov. 24, 1905; s. of Eduard Feltberg and Olive (Fairchild) White von Wettberg; ed. Williams Coll., 1923-24; Yale U., 1924-27, B.S. in chem. engrg., magna cum laude, 1927-30, Ph.D. in chem. engrg.; m. Agnes A. Brodie, July 15, 1934; ch.: Janet Crawford, Eduard F., III, Laura A. 1930 to date, E.I. du Pont de Nemours & Co. or wholly owned subsidiaries. Mem.: Tau Beta Pi, Sigma Xi, A.I.Ch.E. Hobbies: naval history, strategy.

VOORHIES, Alexis Joseph, Jr., dir., Esso Labs., Esso Stand. Oil Co., P.O. Box 551, Baton Rouge, La.; res. 2569 E. Lakeshore Dr., Baton Rouge.
Chem. engr.; b. New Iberia, La., Sept. 8, 1899; s. of Alexis and Louise (Charbonnet) Voorhies; ed. A.B., St. Charles Coll., Grand Coteau, La., 1917; A.B., St. Charle sColl., Grand Coteau, La., 1917; B.S. chem. engrg., La. State U., Baton Rouge, La., 1922; M.S. chem., Loyola U., New Orleans, 1926; mem.: Alpha Chi Sigma; m. Marguerite Browne, Dec. 20, 1924; ch.: Marguerite Aline, Patricia Ann, Dorothy Marie. Teacher of physics, chem., math., La. State Normal Coll., Natchitoches, La., 1922-24; teacher of physics, chem., Loyola U., New Orleans, La., 1924-30; chem. engr., Esso Labs., Esso Stand. Oil Co., Baton Rouge, La., 1930-35, asst. dir., 1935-41, assoc. dir., 1941-47, dir., 1947 to date. Contrib. arts. on catalytic cracking & on hydrogenation of pet. hydrocarbons in Ind. & Engrg. Chem. Mem.: A.C.S., A.I.Ch.E. Hobbies: tennis, handball.

VOPICKA, Edward, chem., Van Ameringen-Haebler, Inc., 417 Rosehill Pl., Elizabeth, N.J.; res. 6 Oak Wood Lane, Rumson, N.J.
Chem., chem. engr.; b. Cleveland, Ohio, Oct. 15, 1911; s. of Alois and Frances Vopicka; ed. Case Inst. Tech., B.S., 1931; M.S., 1932 (chem. engrg.); Western Res. U., Ph.D. (chem.), 1935; Chas. U., Prague, Czechoslovakia 1935-36 (fellow); m. Carolina L. Vandersee, Aug. 17, 1935; ch.: Ronald Vandersee, Ellen Vandersee. June-Sept., 1934, Stand. Oil Co., Cleveland, chem.; Jan.-Sept., 1935, E.I. du Pont de Nemours & Co., res. chem.;

1937-44, Givaudan-Delawanna, Inc., Delawanna, N.J., res. chem.; 1944-50, S.B. Penick & Co., Jersey City, asst. dir. res., plant supt., May, 1950 to date, Van Ameringen-Haebler, Inc., chem.; res. in quinazoline derivat.; polarographic stud. with dropping merc. cathode; essent. oils; aromatics. Mem.: A.C.S., Sigma Xi. Hobbies: photography, bowling, carpentry.

VORCE, LaFayette Denton, Westvaco Chlorine Products Co., Chrysler Bldg., N.Y.C.; res. 20 Norman Rd., Montclair, N.J.
Chem. engr.; b. Euclid, Ohio, Jan. 1, 1865; s. of Rufus P. and Phoebe Ann Vorce; ed. Case Schl. Appl. Sc., Cleveland, Ohio, Bc.S., 1889; Dr. Engrg., 1931; m. Agnes Haskell, June 20, 1894; ch.: Cara Haskell, Phoebe Cora. Standard Oil Co., Pa. Salt Mfg. Co., Westvaco Chlorine Prods. Co. Tenn. Copper Co., v.p.; Canadian Salt, mgr.; Precision Inst. Co., v.p. Res. in atomic weight of org., dev. of Vorce Cl-Karff cell. Mem.: E.S., Monclair Engr. Soc. Club: Chem. (N.Y.C.).

VOSBURGH, Warren Chase, prof. of chem., chem. dept., Duke Univ., Durham, N.C.; res. 2319 Englewood Ave., Durham, N.C.
Prof. of chem.; b. Voorheesville, N.Y., June 14, 1894; ed. Union, B.S., 1914, M.S. 1916; Columbia, Ph.D. 1919; m. Marguerite Jones, June 5, 1927; ch.: Mary Elizabeth, James Richard, Eleanor Rachel. Natl. Res. fellow, 1919-21; Eppley Lab., dir. res., 1921-25; Iowa State, instr. chem. 1925-28; Duke Univ., asst. prof., assoc. prof., prof. 1928 to date. Author: 'Intro. Qualit. Anal." with Jacob Cornog, 1928; "Elementary Chem.," with D.G. Hill, J.H. Saylor, and R.N. Wilson, 1937; "Quantitative Chem. Anal.," 1941. Mem.: A.C.S., E.S., Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma, Lambda Chi Alpha. Hobby: gardening.

VOSE, Gardner W., project engr., Fraser, Brace & Co., 10 E. 40th St., N.Y. 16, N.Y.; res. 80 Coralyn Ave., White Plains, N.Y.
Chem. engr.; b. Calais, Me., May 19, 1907; s. of Fred H. and Nellie G. Vose; ed. B.S. in Ch.E., Case Inst. of Tech., Cleveland, Ohio, 1929, M.S. in Ch.E. 1932; mem.: Beta Theta Pi; m. Marguerite W. Durham, Dec. 2, 1933; ch.: Linda R. 1929-31, Lever Bros. Co., chem. engr.; 1933-34, Columbia Alkali Co., chem. engr.; 1934-44, Diamond Alkali Co., chem. engr., tech. asst. to supt.; 1944-45, Staufer Chem. Co., chem. engr.; 1945-46, Socony-Vacuum Oil Co., chem. engr.; 1946-47, Deutsch & Loonam, consltg. chem. engr. at alkali plant in France; 1947 to date, Fraser, Bruce & Co., project engr. Mem.: Sigma Xi, A.I.Ch.E. (active).

VOSE, Richard Shepard, res. engr., bus. & res. 225 Princeton Ave., Swarthmore, Pa.
Registered prof. engr.; b. Somerville, Mass., Jan. 16, 1898; s. of Rev. Riley A. and Florence (Davis) Vose; ed. B.Sc., Rutgers, 1920; Ph.D. (chem. & physics) Cornell 1923; ind. fellow, Mellon Inst. 1924; res. assoc. Chicago 1924-26; mem.: Delta Kappa Epsilon, Al-Djebar; m. Helen Delap, June 6, 1925; ch.: James Quentin, Richard S., Jr. Org. res. chem., Mallinckrodt Chem. Wks. 1926-28; res. engr., electrochem. dept., E.I. du Pont de Nemours & Co., 1928-31; from chem. engr. to chf. dev. sect., Sun Oil Co., 1931-44; res. engr., Bendix Aviation Corp., Phila., 1944-47; res. engr. dev. own pats. 1947 to date. Owner, firm of Richard S. Vose, consltg. & res. engr. Org. medicinal, chem. & biolog. prods.; pet. & chem. process dev. Mem.: A.I.Ch.E., A.S.M.E., A.I.E.E., Natl. Soc. of Prof. Engrs., Am. Rocket Soc.

VOSKUYL, Roger John, prof. of chem., president, Westmont Coll., Santa Barbara, Calif.; res. 40 Cedar Lane, Santa Barbara.
Adm.; b. Cedar Grove, Wis., May 16, 1910; s. of Dr. Anthony and Jennie (Baden) Voskuyl; ed. Hope Coll., Michigan, B.A., 1932; Harvard U., Mass., M.A. 1934, Ph.D. 1938; m. Gertrude Schaap, Aug. 13, 1935; ch.: Ruth, Nancy, Jane, Howard. Instr. in chem., 1938-42, asst. prof. of chem. 1942-44, assoc. prof. of chem., 1943-46, Wheaton Coll.; res. chem., Manhattan Project, 1943-45; prof. of chem. 1946-50, academic asst. to pres. 1946-47, acting pres. 1947-48, dean 1948-50, Wheaton Coll.; president, Westmont College, 1950 to date. Deuterium anal., Manhattan project. Mem.: A.C.S., Ill. Acdy. of Sc., Natl. Ed. Assn. Dir., Wheaton Christian Grammar Schl.; dir., Am. Scientific Affiliation. Hobby: music.

VOTER, P(erley) Conant, prof. of chem., chmn. chem. dept., chmn. div. of natural scs., Middlebury Coll., Middlebury, Vt.; res. Middlebury, Vt.
Prof. of chem. (anal.); b. Farmington, Maine, Apr. 30, 1889; s. of Warren Tyler and Ella Eliza (Conant) Voter; ed. Bowdoin Coll., B.A., 1909; Harvard U., M.A., 1911; Charles Carroll Everett Fellow, Bowdoin; mem.: Delta Upsilon, Alpha Chi Sigma; m. Anne Mabel Crossland, Aug. 13, 1913; ch.: Muriel Anne (Voter) Williams; Roger Conant. 1909-12; 1919-20, Harvard Grad. Schl. of Arts & Scs.; 1910-12 Austin Tchg. Fellow (Harvard); 1912-13 instr. chem., 1913-19 asst. prof., 1919 to date prof. and chmn. of dept., 1947 to date chmn. div. of natural scs.; 1921-30 dean, Schl. of Chem. (summers); all Middlebury Coll. Mem.: A.C.S., Soc. Chem. Indus., Soc. Suisse de Chimie. Trustee, Battell Park Trust; trustee, Green Mt. Club. Clubs: Green Mt., Mason (York and Scottish Rites), 33rd degree. Hobbies: Mountain Club, genealogy.

VUILLEUMIER, Ernest Albert, prof. of chem., Dickinson Coll., Carlisle, Pa.; res. same.
Prof. of chem.; b. New City, Rockland Co., N.Y., Mar. 1, 1894; s. of Charles and Matilda (Barny) Vuilleumier; ed. B.S. in chem. U. of P., 1914; Ph.D. magna cum laude, U. of Berne, Switzerland; 1918; m. Frances E. Smith, Dec. 27, 1924. Anal. & control chem., Powers-Weightman-Rosengarten Co., Phila., 1914-15; instr. in chem., Drexel Inst., 1915-16; res. chem., P.W.R. Co., 1919-20; hd. of dept. of chem., Dickinson Coll. 1920 to date. Peeling of nickel plating, alcoholometry. Mem.: Phi Beta Kappa, A.C.S., Electrochem. Soc., A.A.A.S. (fellow), A.I.C. (fellow), Penn. Acdy. of Sc. (past pres.).

W

WADDELL, James, dir., biolog. lab., E.I. du Pont de Nemours & Co., New Brunswick, N.J.; res. 84 Clive St., Metuchen, N.J.
Biochem.; b. Hamilton, Scotland, Aug. 29, 1898; s. of Thomas and Betsy (Clarkson) Waddell; ed. U. of Saskatchewan, B.S.A., 1920; Iowa State Coll., M.S., 1922; U. of Wis., Ph.D., 1926; mem.: Sigma Phi Epsilon; m. Irene Boehm, Sept. 1, 1926; ch.: James Graham, Betsy J., S. Jane. Extension specialist, U. of Sask., 1920-21; instr. dairy husbandry, asst. chf. dairy farm sec., Iowa State Coll., 1922-23; university fellow, U. of Wis., 1924-26, res. assoc., 1926-30; dir., biol. lab., Acetol Prods. Inc., later du Pont Co., 1930 to date. Copper as an essential anti-anemic nutrient in rats; differentiation between vitamin D2 and D3, com. process for mfg. of vitamin D3; investigation of unidentified nutritional factors. Mem.: A.S.Biol. C., Am. Inst. of Nutrition, A.A.A.S., A.C.S., N.Y. Acdy. Sc., Sigma Xi, Phi Kappa Phi. Hobbies: gardening, golf.

WADDINGTON, Guy, principal physical chem., Pet. & Natural Gas Div., U.S. Bur. of Mines, Pet. Expt. Station, Bartlesville, Okla.; res. 1533 Hillcrest Dr., Bartlesville.
Physical chem.; b. Victoria, B.C., Canada, May 22, 1904; s. of Frederick and Eleanor (Naylor) Waddington; ed. B.A., 1928, M.A., 1929, U. of Brit. Columbia; Ph.D., 1932, Calif. Inst. of Tech.; m. Martha Winifred Tervo, Aug. 21, 1930; ch.: Elizabeth Anne. Warren Fellow, Calif. Inst., 1932-33; res. fellow, 1933-35; instr. chem., Rollins Coll., 1935-36; asst. prof., 1936-38; assoc. prof. & hd. of dept., 1938-41; prof. & chmn. sc. div., 1941-43; physical chem., U.S. Bur. of Mines, 1943-46; sr. physical chem., 1946-48; prin. physical chem., 1948 to date; chf., thermodynamics br., 1950 to date; assoc. dir., Am. Pet. Inst. Res. Project 48A, 1950. Kinetics of homogeneous gas reactions, heat capacities of vapors, heats of vaporization, thermodynamics of hydrocarbons & sulfur cmpds. Mem.: A.C.S. (chmn., Northeast Okla. sec., 1950), A.A.A.S., Sigma Xi. Hobbies: garden, fishing, tennis.

WADDLE, Howard M., hd., chem. dept., res. div., West Point Mfg. Co., West Point, Ga.; res. 406 E. 6th, West Point.
Res. chem.; b. Americus, Kans., Sept. 13, 1905; s. of Addison G. and F. Ada Waddle; ed. A.B., Baker U., Baldwin, Kans., 1928; A.M., U. of Colo., 1930; Ph.D., U. of Wis., 1940; m. Nelle Ledbetter, June 16, 1934; ch.: Robert Howard, Ellen Jane. 1930-44, instr., asst. prof., assoc. prof., Ga. Tech.; 1944 to date, hd. chem. dept., res. div., West Point Mfg. Co. Chlorination of esters; natural prods. abietic acid; cellulose chem. related to textiles. Mem.: A.C.S., Sigma Xi, Ga. Acdy. of Sc., A.A.T.C.C. Chmn. of local schl. bd. Club: Rotary.

WADE, Warren B., plant mgr., Gen. Mills Res. Labs., 2010 E. Hennepin Ave., Minneapolis 13, Minn.; res. 5625 13th Ave. S., Minneapolis 17.
Chem.; b. Rogers, Ark., Oct. 16, 1903; s. of Jasper and Ida Wade; ed. U. of Ark., B.A., 1924; Yale Grad. Schl., 1925-26; Emory U., M.S., 1925; U. of Minn. Grad. Schl., 1931-33; m. Helen Freyschlag, June 19, 1928; ch.: Warren F., E. Martin, David W., Gordon S. Teaching asst., Yale U., 1925-26; instr., U. of Del., 1926-29; res. chem., Pilot Labs., 1929-30; res. chem., Gen. Mills, Inc., 1930-42, bus. mgr., res. dept. 1942-47, plant mgr., res. dept., 1947 to date. Org. peroxides as flour bleaching agents, rancidity of fats & oils, prod. of syn. vitamin D, anal. meths. for cereal prods. Mem.: Lake Nokomis Presby. Church (trustee). Hobbies: woodworking, gardening, scouting.

WADEWITZ, W. Martin, tech. v.p., Am. Enka Corp., Enka, N.C.; res. Asheville, N.C.
Chem.; b. Leipzig, Germany, Feb. 3, 1895; s. of F. Wilhelm and E. Marie Wadewitz; ed. grammar & high schl., Leipzig, Germany; U. of Leipzig, Ph.D., 1923; m. W. Bertha Schaefer, Apr. 14, 1925; ch.: Guenter, Martina, Susanne, Peter. 1923-24, asst., U. of Leipzig, Germany; 1924, res. chem., Vereinigte Glanzstoff Fabriken, Oberbruch, Germany; 1925-28, chem., prod. mgr., Vereinigte Glanzstoff Fabriken, Kelsterbach, Germany; 1928-49, prod. mgr., supt., plant mgr., North Am. Rayon Corp., Elizabethton, Tenn.; 1949-50, tech. dir., Am. Enka Corp., Enka, N.C., 1950 to date, tech. v.p. Wk. on cellulose chem., especially viscose reactions. Mem.: A.C.S. Club: Chemists' (N.Y.C.). Hobbies: hiking, botany.

WAGGONER, Jack Holmes, tech. asst. to exec. v.p. mfg. & sales, Owens-Corning Fiberglas Corp., Toledo, Ohio; res. 240 Quentin Rd., Newark, Ohio.
Chem. engr., glass technologist; b. St. Joseph, Mo., Jan. 13, 1895; s. of Albert Tenny and Margaret Grace (Price) Waggoner; ed. U. of Kansas, B.S. chem. engrg., 1919; mem.: U. of Kans., M.I.T., U. of Pitts. Sigma Tau, Alpha Chi Sigma; m. Marion Florena Chutter, Oct. 30, 1923; ch.: Jack Holmes, Jr., Margaret Blodgett, Chandler Chutter. 1914-15, blacksmith & machinist, A.T.&S.F.R.R., Topeka, Kans.; 1916-17, asst. custodian, chemist & liquid air plant operator chem. dept., U. of Kans., Lawrence, Kans.; 1917-18, Ordnance Sergeant U.S.A.; 1919-20, res. chem., dept. chem., U. of Kans., Lawrence, Kans.; 1920-21, instr., M.I.T., Cambridge, Mass.; 1921-22, mgr. experimental plant, Stand. Oil Co. (Ind.), Sugar Creek, Mo.; 1922-26, chem. engr., res. chem., Libbey Owens Sheet Glass Co., Charleston, W. Va. & Hamilton, Ontario; 1926-35, Ind. Fellow (glass tech.) Mellon Inst. of Ind. Res., Pitts., Pa.; 1936-38, res. engr., gen. factories chem., Owens-Illinois Glass Co., Muncie, Ind.; 1938 to date, gen. process control mgr., tech. asst. to exec. v.p., Owens Corning Fiberglas Corp., Newark & Toledo, Ohio. Dev. flat glass mfg. processes; glasses for high frequency communication lines; ceramic printing on glass; glass building blocks; glass fiber compositions, processes & prods. for thermal insulation, textiles, elec. insulation, air filters & mats. Many manuals & process publ. for private ind. use. Mem.: A.C.S., Am. Ceramic Soc., English Soc. of Glass Tech. (fellow), A.S.T.M., A.S.H.&V.E., A.S.R.E., A.I.Ch.E., A.Phys.S., Opt. S.A., Acoustical Soc. of Am., Franklin Inst., T.A.P.P.I., Textile Inst. England, Textile Rea. Inst., U.S.A. Hobbies: shopwork all kinds, photography, mineralogy.

WAGNER, Cary R., v.p. in chg. of operations, Gen. Aniline & Film Corp., 230 Park Ave., N.Y. 17, N.Y.; res. South Lane Farm, Utica, Ohio.
Chem.; b. Utica, Ohio, Jan. 3, 1894; s. of Daniel H. and Ella (Blue) Wagner; ed. Coll. of Wooster, B.S., 1915; D.Sc., 1945; Purdue U., 1915-16; m. Elizabeth Sidwell, Feb. 25, 1927. 1930-42, Pure Oil Co., chf. chem.; 1942, Office of Pet. Coordinator for War, sec. chf.; 1942-47, consltg. chem. to pet. & chem. companies; 1947 to date, Gen. Aniline & Film Corp., v.p.; Chem. Dev. of Canada, Ltd. (v.p.); Gen. Dyestuff Corp. (dir. of bd.), Generale Anilina & Saronio, S.P.A., Milan, Italy (pres.). Several pats. Mem.: A.C.S., A.S.T.M., A.P.I., A.A.A.S., Inst. of Pet. (London), A.I.Ch.E., A.I.C., Soc. of Chem. Ind. (London). Trustee, Coll. of Wooster. Clubs: Chemists' (N.Y.), Canadian (N.Y.), Wood River Lodge 1062, A.F.&A.M. Hobby: hunting.

WAGNER, Charles A., pres., treas., Charles A. Wagner Co. Inc., 813-15 Callowhill St., Phila. 23, Pa.; res. 3203 Huey Ave., Drexel Hill, Pa.
Exec.; b. Phila., Pa., Mar. 31, 1884; s. of Charles and Anna Marie Wagner; ed. Phila. public schls.; m. Marie E. Santus, Oct. 9, 1907; ch.: Alfred W., M.D., Helen (Wagner) Johnson. Began career with late Samuel Nevins (talc-minerals-chems.) 1898; est. Charles A. Wagner Co. Inc., Sept. 26, 1910. Mem.: Phila. Chem. Club, Phila. Rubber Group, Acdy. Natural Sc., Franklin Inst. (Phila.). Clubs: Poor Richard, University Lodge 610 F.&A.M., Consistory, Shrine.

WAGNER, L. Frank, chf. chem., Glidden Co., Reading, Pa.; res. 1 Oxford Ave., Lincoln Park, Pa.
Chem.; b. Pikeville, Pa., Mar. 1, 1900; ed. U.S. Naval Acdy., 1918; U. of Ala., 1927; Temple U., 1931, B.S.; mem.: Tau Kappa Alpha; m. Margaret Sollenberger; ch.: Kenneth, Mary Lou, Richard. Glidden Co., 1921 to date. Mem.: A.C.S., A.S.T.M., Am. Ordnance Assn., Natl. Security Ind. Assn., Natl. Assn. Adv. of Sc., Paint Prod. Clubs,

Sea Horse Inst. Trustee, Lincoln Park Community Church (E.U.B.). Hobbies: history of paint & paint materials.

WAITT, Alden Harry, Maj. Gen., U.S.A., Ret., v.p., R.S. Aries & Assoc., 400 Madison Ave., New York, N.Y.; res. 3133 Conn. Ave., Wash. 8, D.C.
Chem. admin., conslt.; b. Orlando, Fla., Dec. 22, 1892; s. of Alfred F. and Emma (Hutchinson) Waitt; ed. M.I.T., S.B., 1915, S.M., 1926; mem.: Beta Theta Pi, Pi Delta Epsilon; m. Kathryn Trapp, Nov. 11, 1917; ch.: (Mrs.) Elizabeth Alden White; 1st Lieut. Thomas Meredith, U.S.A. 1915-17, instr., U. of Kentucky, gen. and synth. inorg. chem.; 1917-18, 1st Lieut., Capt., U.S. Natl. Army, Gas Off. 29th Div., A.E.F., France; 1919, salesman, Avery Chem. Co., Boston, Mass.; 1920, salesman, E.M. Hamlin Co., Boston, Mass.; 1920-49, U.S. Army, commis. grades to Maj. Gen., Chf. of Chem. Corps, (retired). Chf. Chem. Corps, U.S.A., 1945-49; res. asst., Res. Lab. of Applied Chem., Mass. Inst. of Tech., 1924-27; mem. Comm. Chem. and Chem. Tech. Natl. Res. Council, 1945-49; U.S. Delegate Internatl. Congress Pure & Applied Chem., London, 1947; Congress Indust. Chem., Brussels, 1948. Author: "Gas Warfare," Duell Sloan & Pearce, 1942-44, 4 editions. Mem.: A.C.S., Armed Forces Chem. Assoc.; Distinguished Service M., Legion of Merit, Army Commendation Ribbon (2), Commander, Order of the British Empire. Club: Army and Navy (Wash., D.C.). Hobbies: first editions, symphonic music.

WAKEFIELD, Harold F., dev. engr., Bakelite Div., Union Carbide & Carbon Corp., N.Y.C.; res. 77 Beverly Rd., Upper Montclair, N.J.
Chem.; b. Wellington, Kans., Sept. 6, 1896; s. of George Clinton and Roxanna (MacManis) Wakefield; ed. Southwestern (Kans.), 1918, A.B.; U. of Wis., 1923, M.S.; mem.: Alpha Chi Sigma; m. Nancy Kennedy, Nov. 7, 1936; ch.: William K., Roxanne. With Solvay Proc. Co., asst. chf. chem., Hutchinson, Kans., 1918-20; Reynolds Spring Co., Jackson, Mich., chem., 1923; Bakelite Corp., res. chem., 1924-45; dev. engr., 1945 to date. Mem.: Sigma Xi, Gamma Alpha, A.C.S., A.A.A.S. (fellow), A.I.C. (fellow), T.A.P.P.I., Soc. of Rheology. Club: Chemists' (N.Y.). Hobbies: fishing, cooking.

WAKEFIELD, Ray B., dir. of res., Gerber Prods. Co., Fremont, Mich.; res. 33 E. Pine St., Fremont.
Chem. engr.; b. Walhalla, N.D.; s. of Arthur and Emma Wakefield; ed. B.Ch.E., 1931, M.S., 1932, Ch.E., 1937, U. of Minn.; m. Kathryn Vene Klasen, Dec. 24, 1937; ch.: Barbara, Ray, Mary. Held the following positions with the Gerber Products Co.: chem., lab. mgr. tech. dir., dir. of res., 1932 to present. Res. in food tech. Mem.: Sigma Xi, A.C.S., I.F.T., A.I.Ch.E. Club: Chamber of Commerce. Hobbies: hunting and fishing.

WAKEHAM, Glen Raymond, assoc. prof. of chem., U. of Colo., Boulder, Colo.; res. Hotel Boulderado, Boulder, Colo.
Chem. teacher; b. Council Bluffs, Ia., Nov. 4, 1884; s. of William Henry and Emma Laura (Rea) Wakeham; ed. honors in chem., U. of London; B.Sc., Ph.D., U. of Colo.; m. Helene Behrendt, Sept. 7, 1906 (deceased); ch.: Albert Raymond, Henry le Clare, Siegfried Waldemar (deceased), Irmgard Helene. Fachlehrer, Friedensau Industrielle Schule, 1903-06; sc. teacher, Stanborough Coll., London, Eng., 1907-21; chem. teacher U. of Colorado, 1922-50. Res. on the basal metabolic rates, the alkaline tide, the effect of the menstrual periods upon basal metabolic rate, mineral nutrition. Contrib. extens. to sc. and tech. journals. Mem.: F.C.S., A.C.S., Sigma Xi, Acdy. of Sc. (Colorado-Wyoming), Alpha Chi Sigma, A.A.A.S., A.A.U.P. Club: Artists and Authors (London). Hobbies: formerly mountain climbing, winter sports, music—piano and organ.

WAKEHAM, Helmut (Richard Rea), sec. hd. in chg. of cotton res., Textile Res. Inst., Princeton, N.J.; res. Lawrenceville, N.J.
Physical chem.; b. Hamburg, Germany, Apr. 15, 1916; s. of Rea and Augusta (Beiss) Wakeham; ed. Union Coll., Lincoln, Nebr.; U. of Nebr., B.A., 1936, M.A., 1937; U. of Calif., Berkeley, Ph.D., 1939; m. Kathleen Ferguson, June 22, 1939; ch.: Stuart Glenwood. 1939-41, res. chem., Stand. Oil Co. of Calif., Richmond, Calif.; 1941-47, res. chem., Southern Regional Res. Lab., U.S.D.A., New Orleans, La.; 1947-49, physical chem., Inst. of Textile Tech., Charlottesville, Va.; 1949 to date, Textile Res. Inst., Princeton, N.J. Surface chem., liquid structure, physical properties of pet. fractions & vegetable oils, mech. & moisture properties of textile fibers, structure of textile fibers, both chem. & physical. Co-author: "Technique of Org. Chem., Physical Meths.," Part I, Intersc., 1949. Mem.: A.C.S., A.A.A.S., Am. Crystallographic Assn., Fiber Soc., Textile Inst. (Great Britain), Textile Res. Inst., Sigma Xi. Hobbies: tennis, gardening, color photography.

WALCH, Frederick E., Jr., European sales mgr., Dewalco S.A.R.L., 14, Avenue Hoche, Paris (8); res. 15, Rue Du Conseiller Collignon, Paris (16).
Exec.; b. Syracuse, N.Y., Jan. 13, 1904; s. of Frederick and Clara Tucker Walch; ed. B.S., M.I.T.; mem.: Delta Kappa Epsilon; m. Irmgard Habets-Inden, Aug. 2, 1929. With Dewey & Almy since 1927 in various positions, ranging up to present; Darex S.A.R.L., Paris, dir.; International Machinery Grp., Belgium, dir. Mem.: Cercle Interallie, University Club of Paris, St. Cloud Golf.

WALDE, Arthur William, hd. of org. chem. dept. of res. div., Dr. Salsbury's Labs., Charles City, Iowa; res. 902 Gilbert St., Charles City.
Org. chem.; b. Dent, Minn., Aug. 29, 1901; s. of William and Bertha (Schmmelpfennig) Walde; ed. B.S., N.D. State, 1929; Ph.D., Iowa State Coll., 1933; mem.: Kappa Sigma Xi, Alpha Chi Sigma; m. Eunice Maxine Chamberlin, Dec. 24, 1930; ch.: William Allen, James Arthur. 1933-34, res. fellow, Iowa State Coll.; 1934-36, asst. chem., Texas Agr. Exp. Sta.; 1937-44, asst. chf. org. chem., Dr. Salsbury's Labs.; 1944-45, chf. chem., lab. dir., U.S. Foreign Economic Adm. Cinchona Lab., Finca El Porvenir, Guatemala; 1946 to date, project leader in org. chem., Dr. Salsbury's Labs. since Feb., 1950, hd. of org. chem. Lignin chem., theoretical wk. on physical constants of org. cmpds., phar. Mem.: Phi Kappa Phi, Phi Lambda Upsilon, Pi Mu Epsilon, Sigma Xi, A.A.A.S., A.C.S., A.I.C., Iowa Acdy. of Sc., N.Y. Acdy. of Sc. Hobby: fishing.

WALDE, Eunice (Maxine) Chamberlin, res. librarian, Dr. Salsbury's Labs., Charles City, Iowa; res. 902 Gilbert St., Charles City.
Chem., chem. librarian; b. Sykeston, N.D., Apr. 11, 1908; d. of James Allen and Olive May (Pratt) Chamberlin; ed. B.A., Ohio Wesleyan U., 1929; M.S., Iowa State Coll., 1934, Ph.D., 1935; m. Arthur William Walde, Dec. 24, 1930; ch.: William Allen, James Arthur. 1944-45, instr. in chem., Iowa State Coll.; 1946 to date, res. librarian, Dr. Salsbury's Labs. Chem. of silk. Mem.: Sigma Xi, Iota Sigma Pi, Sigma Delta Epsilon, Am. Assn. of University Women. Hobby: handicrafts.

WALDIE, William Allshire, tech. dir., New Wrinkle, Inc., 1771 Springfield St., Dayton 3, Ohio; res. 67 Corona Ave., Dayton 9.

Chem. engr.; b. Bklyn., N.Y., Apr. 14, 1886; s. of George Clark and Mary (Allshire) Waldie; ed. Boys H.S., Bklyn., N.Y., 1900-04; Lawrence Sc. Schl., 1904-07; Harvard Coll., 1907-08, S.B.; m. Gladys Williams Farwell, Feb. 12, 1913; ch.: George Allshire (project supvr. at Battelle Memorial Inst., Columbus, Ohio). 1908-09, Billings, Clapp Co., Dorchester, Mass., chem.; 1909, Farrington Co., Jamaica Plain, Mass., varn. engr.; 1909-13, Glidden Varn. Co., Cleveland, Ohio, asst. chem. 1909-10, thereafter chf. chem. in chg. of control meths. & expt. varn. res.; 1913-17, Thibaut & Walker Co., varn. mfrs., L.I.C., N.Y., chem., supt.; 1917-20, Glidden Co., varn. mfrs., Cleveland, Ohio, chf. chem., res. chem., lab. dir., chmn. of res. comm.; 1920-30, Ohio Varn. Co., Cleveland, Ohio, dir. of res. in chg. of lab. & all new varn. dev., organized, installed lacq. dept., also became supt. of both varn. & lacq. depts.; 1930-39, independent consltg. practice in paint & varn. flds., dev. wk. on syn. resins & whiting with Diamond Alkali, Lilly Varn. Co., Glidden Co., Sherwin Williams Co. & others, during this period also was supt. of Indianapolis Varn. Co., Indianapolis, Ind., the Carlsen Co., Chicago, Ill. & ind. serv. engr. for Empire Varn. Co., Cleveland, Ohio; in beginning of 1939, acted as conslt. on wrinkle finishes to Egyptian Lacq. Co., S. Kearney, N.J.; 1939 to date, tech. dir., New Wrinkle, Inc., Dayton, Ohio, licensors of ind. finishes, gen. supvr. of all wk. pertaining to wrinkle coatings & their mfr., acts as conslt. to numerous licensees of New Winkle, Inc. Granted over 50 U.S. & foreign pats. on Wrinkle Finishes, crystallizing lacq., pigmented gels, & pigmented syn. resins, several others still pending in this fld. Specialized in paint & varn. type coatings; consltg. wk. in conection with crystallizing lacq., pigmented gels. Author: "The Sc. of Wrinkle Finishing," Res. Press., Dayton, Ohio, 1950; several articles in trade magazines on wrinkle finishes, meths. of application. Mem.: A.I.C. (fellow), Assn. of Harvard Chem., Reg. Chem. Engr. Ohio. Club: Engineers (Dayton, Ohio). Hobby: home workshop.

WALDMAN, Harvey N., pres., Polymer Chem. Co., 5920 Carthage Ave., Cincinnati 12, Ohio; res. 7709 Greenland Pl., Cincinnati 37.
Chem., exec.; b. Cincinnati, Ohio, Dec. 6, 1917; s. of William and Nettie Waldman; ed. elementary & high schls. in Cincinnati, Ohio; A.B., U. of Cincinnati 1938, M.S., 1939; studied rubber chem. at U. of Akron, 1940; m. Mildred Swillinger, Nov., 1941; ch.: William Roger, Andrea Joyce. 1940-42, chem., Jos. E. Seagram Co., Lawrenceburg, Ind.; 1942-45, chf. chem., So-Lo Wks. Inc., Loveland, Ohio; 1945 to date, pres., Polymer Chem. Co., Cincinnati, Ohio. M.S. thesis: some sulfonic acid derivatives of resorcinol; worked jointly with Armed Forces during the period 1943-44 in dev. rubber cmpds. from syn. high polymers. Mem.: Phi Lambda Upsilon, A.A.A.S., A.C.S., Rubber Div. Club: Southern Ohio Rubber Group. Hobbies: photography, electronics.

WALIGORA, John Martin, chf. engr., Sharp & Dohme, 640 N. Broad St., Phila. 30, Pa.; res. Box 96, R.D. No. 1, Lansdale, Pa.
Engr.; b. Owatonna, Minn., Aug. 1, 1910; s. of John C. and Angela Waligora; ed. B.B.E., M.S. in E.E., U. of Minn.; m. Regina I. Wines, Aug. 1, 1936; ch.: John Joseph. Asst. engr., Northern States Power Co., Minneapolis, Minn., 1933-37; junior engr. (substation assignment) Phila. Electric Co., Phila., Pa., 1937-38; electrical design, Newport News Shipbuilding and Dry Dock Co., Newport News, Va., 1938-41; asst. marine engr., United States Navy, Newport News, 1941-42; maintenance engr., Sharp & Dohme, Inc., Phila., Pa., 1942-45; asst. dir.-pharmaceutical production, Sharp & Dohme, Inc., Phila., Pa., chf. engr., Sharp & Dohme, Inc., Phila., 1947 to present. Mem.: Soc. for Advancement of Management, Pa. Sewage and Industrial Waste Assoc., Lansdale Chamber of Commerce. Club: Lions.

WALK, Joe Decker, asst. tech. dir., Pan-Am. Southern Corp., El Dorado, Ark.; res. 506 E. Fourth St., El Dorado.
Chem. engr.; b. Del Rio, Texas, July 17, 1920; s. of Joseph A. and Jewel (Decker) Walk; ed. U. of Texas, Austin, Texas, B.S. in Ch.E., 1942; m. Corinne Lowe, June 24, 1944; ch.: Susan Elaine. 1942-44, Lion Chem. Corp., El Dorado, Ark., shift frmn.; 1944-45, Houdaille-Hershey (Manhattan Project), Decatur, Ill., area frmn.; 1945-50, Pan Am. Refining Corp., Texas City, Texas, sec. hd. in res. & dev.; 1950 to date, Pan-Am. Southern Corp., El Dorado, Ark., asst. tech. dir. Mem.: Tau Beta Pi, Phi Lambda Upsilon, Omega Chi Epsilon, A.I.Ch.E., Am. Pet. Inst. (pet. prods. comm.). Club: Jr. Chamber of Com. Hobbies: photography, golf.

WALKER, Albert Charles, chem. engr., Crystal Chem., Bell Telephone Labs., Murray Hill, N.J.; res. 77 Oakview Terrace, Short Hills, N.J.
Chem. engr.; b. Denver, Colo., July 26, 1893; s. of Charle M. and Iva (Banks) Walker; ed. U. of Colo., 1914-16; M.I.T., B.S., 1918; Yale U., 1921-23, Ph.D. in chem. mem.: Alpha Chi Sigma, Gamma Alpha, Sigma Xi, Sigma Phi Epsilon; m. Helen G. Martin, Apr. 5, 1919; ch.: Charles Martin. C.W.S. 1918; electrochem. res., Clinton Wire Cloth Co., Clinton, Mass., 1919; sulfite pulp & waste sulfite liquor res., Eastern Mfg. Co., Bangor, Me., 1919; res. chem., Winchester Repeating Arms Co., New Haven, Conn., 1920; grad. student, Yale U., 1921-23; mem. tech. staff, Western Elec. Co., engrg. dept., 1923-25; mem. tech. staff, Bell Telephone Labs., 1925 to date. Chem. equilibrium carbonate solutions; electrical & moisture properties textiles (12 papers) polarographic studies; cancer in blood sera tests, lead in urine, elect. storage battery acid, vanadium in sulfuric acid catalyst; drying of textiles (4 papers); operated pilot plant producing ADP piezoelectric crystals; designed & operated plant for growing EDT crystals for communication purposes; dev. meth. for growing large, useful quartz crystals; crystal publ. (3); prepared colored motion picture depicting crystal growth procedures, titled "Crystal Clear" an official A.T.& T. film. Mem.: A.C.S., A.A.A.S., dir. Textile Inst. & mem. Res. Advisory Comm., chmn. Adm. Comm. for Textile Drying Res., N.Y. State Soc. Prof. Engrs., Amateur Cinema League, A.I.C. (fellow). Hobbies: polarographic studies, golf, motion pictures.

WALKER, Alfred Orpheus, dir., Service Laboratory, National Aluminate Corp., 6221 W. 66th Pl., Chicago, Ill.; res. 1427 Suffolk Ave., Westchester, Ill.
Chem.; b. Mt. Pleasant, Iowa, Mar. 29, 1908; s. of Charles Clarence and Alice Pitcher Walker; ed. Ph.D., U. of Chicago, 1935; mem.: Phi Delta Theta; m. Mary Brennan, Sept. 8, 1945; ch.: Sandra Alice. Mem.: A.C.S., A.S.T.M. Hobbies: fishing, optics, golf.

WALKER, Burnham Sarle, prof. of biochem., Boston U. Schl. of Med., 80 E. Concord St., Boston 18, Mass.; res. 1 Gray St., Cambridge, Mass.
Biochem., physician; b. Hamilton, N.Y., Oct. 22, 1901; s. of Louis Abel and Edna (Sarle) Walker; ed. student Colgate U., 1919-21; A.B., Boston U., 1923, A.M., 1924, Ph.D., 1926, M.D., 1934; student Harvard Med. Schl., 1924; M.I.T., fall 1924. (M.D., summa cum laude); mem.: Phi Chi; m. Elisabeth Wellington French, July 23, 1927; ch.:

Ann Elisabeth. Teaching fellow in biochem., Boston U., 1924; instr., 1926; asst. prof., 1927-30; assoc. prof., 1930-35; prof., since 1935; registrar, 1943-46; chmn. div. med. sc. Boston U. Grad. Schl., since 1946. Assoc., Evans Memorial for Clinical Res., Preventive Med. 1928-36, mem. 1936-45; formerly staff out-patient dept., Mass. Memorial Hosp., jr. phys. Mt. Auburn Hosp. Mem.: A.C.S., A.A.A.S., Mass. Med. Soc., A.M.A., A.S.Biol.C., Boston Med. Library.

WALKER, Charles P., Jr., gen. sales mgr., Chas. Pfizer & Co., 11 Bartlett St., Brooklyn 6, N.Y.; res. 443 Hunt Lane, Manhasset, L.I., N.Y.
Gen. sales mgr.; b. New Haven, Conn., Nov. 28, 1907; s. of Charles P. and Carolyn M. (Booth) Walker; ed. B.S. in Econ., U. of Pa., Wharton Schl. of Business and Finance, 1930; mem.: Phi Gamma Delta, Sphinx Senior Soc.; m. Elizabeth A. Watkins, Oct. 4, 1930; ch.: Charles P., III, Robert Edward. New York dist. sales and branch mgr., Merck & Co. Inc., 1930-45; Jan. 1, 1946, assumed presidency of Citro Chem. Co. of America, wholly owned subsidiary of The Emerson Drug Co., Baltimore, Md.; member of bd., and acted as chmn. at all bd. meetings of Citro; Chas. Pfizer & Co., Inc., purchased Citro Chem. Co. on Oct. 1, 1947; 1949 appointed mgr. of medicinal sales div. of Chas. Pfizer; in June, 1949, appointed gen. sales mgr.; is also dir.; continues to hold presidency of Citro Chem. Co. Clubs: Drug (New York City), Sales Executives (N.Y.C.).

WALKER, George, chem. indus. engr., General Services Administration, Washington, D.C.; res. 3548 S. Stafford St., Arlington, Va.
Chem. engr.; b. Newton Center, Mass., Sept. 10, 1893; s. of Joseph A. and Mary Beecher Walker; ed. Dartmouth, 1915, M.I.T., Columbia, George Washington U.; mem.: Sigma Phi Epsilon; m. Elizabeth Ely, Aug. 1, 1925; ch.: George Ely, Richard Royce. Night supt., New England Mfg. Co., 1915-16; plant supt., Merrimac Chem. Co., 1916-17; Lt. Ordnance Dept. Explosives Br., 1917-19; chem. engr. Dorr Co., 1919-22; supt. Dev. Grasselli Chem. Co., 1922-23; wks. mgr., North Hudson Chem. Co., 1923-28; pres. Albany Air Service, 1927-30; mgr. So. Mineral Prods. Co., 1930-35; mgr. Soyo Dev. Glidden Co., 1935-39; mgr. chem. engrg. div., Warner Co., 1929-44; dir. chem. engrg. sect., R.F.C. and W.A.A., 1944-49; chf. chem. engr., General Services Administration, Washington, D.C., 1949 to date. Pats. and processes for prod. of phosphates, magnesia prods. from dolomite. Contrib. extensively to sc. and tech. journals. Mem.: A.I.Ch.E., A.A.A.S., Am. Institute of Appraisal. Clubs: Engineers (Phila.), Washington Flying Club Assoc., Airplane Owners and Pilots Assoc., Potomac River Sailing Assoc., Chem. Engineers Club (Washington), Chemists' (New York). Hobbies: aviation, sailing, tennis.

WALKER, Henry B(ertram), mgr. of prod. dev., E.F. Houghton & Co., 303 W. Lehigh Ave., Phila. 33, Pa.; res. "Allermuir," Frog Hollow Rd., Rydal, Pa.
Physical chem., exec.; b. Stranraer, Scotland, Feb. 7, 1904; s. of Henry and Robina Bertram (Picken) Walker; ed. U. of Edinburgh, B.Sc., summa cum laude, 1926, D.Sc., 1945; m. Margaret C., Nov. 1, 1927; ch.: Ian Gordon, Donald Stuart. Rohm & Haas Co., Phila., Pa.: res. chem. 1926-28, mgr. leather finishes dept. 1928-43, mgr. textile res. 1943-47, res. supvr. physics & physico chem. labs. 1946-47; E.F. Houghton & Co., Phila., Pa., asst. to v.p. oprns., 1947-49; asst. dir. of plants, 1948-49; mgr. of prod. dev., 1949 to date. Dev. of leather coatings based on lacquers & syn. resins; study of mechanism of emulsion polymerization; dev. of textile processing chem. Mem.: A.A.A.S., A.C.S., A.A.T.C.C., Am. Leather Chem. Assn., A.S.T.M. (D-12, D-13). Clubs: Royal Scots, St. Andrews Soc. of Phila. Hobbies: gardening, photography, model railroading.

WALKER, Howard G., retired engr.; res. 744 Crescent Pkwy., Westfield, N.J.
Engr. chem. & devel.; b. Madrid, N.Y., Mar. 10, 1884; s. of Andrew S. and Margaret J. (Thompson) Walker; ed. U. of Mich., A.B., 1908; mem.: Sigma Xi, Phi Lambda Upsilon; m. Donna E. Cretcher, Aug. 15, 1916; ch.: William C., Howard G., Jr. 1909-46, Western Electric Co., Inc., res. chem., devel. engr., supvr. Devel. of paper pulp insulation for exchange area cables, in the telephone industry. Mem.: A.C.S., A.A.A.S. Hobbies: photography, woodworking, fishing.

WALKER, James C., v.p. & secy., Sandoz Chemical Works, Inc., 61 Van Dam St., New York 13, N.Y.; res. 200 E. 66th St., New York, N.Y.
Exec.; b. Amesbury, Mass., July 1, 1894; s. of George T. and Harriet M. Walker; ed. B.S., Worcester Polytechnic Institute, 1916; mem.: Sigma Alpha Epsilon; m. Evelyn E. Gonder, Sept. 3, 1918; ch.: James M., M. Alison. Chem., American Woolen Co., 1916 to 1929; joined Sandoz Chemical Works, Inc. in 1929; secy., 1939; v.p. & secy. in 1941.

WALKER, James W., sr. process engr., A.G. McKee & Co., 1080 Morris Ave., Union, N.J.; res. 17 Nelson Pl., Maplewood, N.J.
Chem. engr.; b. Jasonville, Ind., Jan. 21, 1916; s. of Hugh W. and Susan A. Walker; ed. Purdue U., B.S.Ch.E., 1938; Drexel Inst., Phila., post grad. courses, pet. tech., 1938-39; m. Rita Belliveau, Jan., 1944; ch.: Richard James. Atlantic Refin. Co., Phila., res. & dev. dept., jr. engr., 1938-40; M.W. Kellogg Co., N.Y.C., engrg., dept., asst. proj. engr., 1940-43; Lummus Co., N.Y.C., engrg. dept., proj. engr., 1943-46; du Pont de Nemours & Co., Wilmington, engrg. dept., sr. proc. engr., 1946-48; A.G. McKee & Co., Cleveland, engrg. dept., sr. process engr., 1948 to date. Mem.: A.I.Ch.E. (active mem.). Hobbies: golf, photography.

WALKER, J(oseph) Frederic, chem. res. supvr., E.I. du Pont de Nemours & Co., Inc., Niagara Falls, N.Y.
Chem.; b. Perth Amboy, N.J., Dec. 7, 1903; s. of Joseph F. and Mary (Hall) Walker; ed. M.I.T., B.S., 1925, du Pont fellow 1926-27, M.S., 1928, Ph.D., 1929; mem.: Alpha Chi Sigma; m. Lois E. Lefler, Aug. 22, 1929; ch.: Lois Mary, Frederic Rockwell, Alan Hart. 1927-30, res. chem., Roessler & Hasslacher Chem. Co., Perth Amboy, N.J.; 1930-32, res. chem., electrochem. dept., Perth Amboy, N.J.; 1932-38, res. chem., electrochem. dept., Niagara Falls, N.Y., 1938-45, res. group leader, Niagara Falls, 1945-50, res. supvr., Perth Amboy, N.J., E.I. du Pont de Nemours & Co., Inc.; 1950 to date, res. supvr., Niagara Falls, N.Y. Formaldehyde chem., org. chem. of sodium, oxidation of phenols, ceramics. Author: "Formaldehyde," A.C.S. Monogaph No. 98, Reinhold Pub. Corp., 1944. Mem.: A.C.S. (Western N.Y. Sec., ed. of Local Sec. Journal, 1933-36; secy. 1938-40; chmn., 1943-44, Natl. Councilor, 1945; North Jersey Sec., Natl. Councilor, 1950-52), A.A.A.S., Soc. of Chem. Ind. Club: Niagara (Niagara Falls, N. Y.). Hobbies: history of chemistry, oil painting.

WALKER, Lewell Seth, chem., Regulatory Serv., 489 Main St., Burlington, Vt.; res. 395 College St., Burlington.
Chem.; b. Natick, Mass., Jan. 7, 1881; s. of Oscar Seth and Carolyn Eva Walker; ed. U. of Mass., 1905, B.S.; mem.: Alpha Sigma Phi; m. Lillian I. Bates, Apr. 24, 1907; ch.: Lewell Seth, Jr. 1905-06, subprincipal, Me. Central Inst., Pittsfield, Me.; 1906-27, asst. chem., Agric. Expt. Station, Amherst, Mass.; 1927 to date, chem. in chg., Regulatory Serv., Vt. Agric. Expt. Station, Burlington, Vt. State inspection of com. feeding

stuffs, com. fertilizers, & agric. & vegetable seeds. Reports publ. each yr. in connection with above 3 subjects. Clubs: Masonic Organiations, Ethan Allen, Green Mountain. Hobbies: restoring antique furniture, hiking on long trails.

WALKER, Robert Dixon, Jr., prof., res. engr., dept. of chem. engrg., U. of Fla.; res. 411 N.E. 9th St., Gainesville, Fla.
Teaching & res.; b. Atlanta, Ga., Mar. 6, 1912; s. of Robert Dixon and Agnes (Kelley) Walker; ed. Ga. Schl. of Tech., B.S. in chem., with hon., 1935; U. of Rochester, Rochester, N.Y.; U. of Fla.; m. Virginia Wier, June 9, 1935; ch.: Robert Dixon, III, Nancy Page, Mary Anne. Eastman Kodak Co., res. chem., 1935-44; U. of Fla., prof., res. engr., 1944 to date. Res. on various adsorption processes, utilization of citrus waste & sulfite waste liquor. Mem.: A.C.S., Sigma Xi, A.A.U.P., Phi Kappa Phi. Hobbies: gardening, swimming, photography.

WALKER, Walter Hamilton, prof. of chem. & physics, Morris Harvey Coll., Charleston, W. Va.; res. 5406 Noyes Ave. S.E., Charleston.
Coll. teacher; b. Hominy Falls, W.Va., Nov. 28, 1896; s. of Rev. P.G. and Bettie G. (Amick) Walker; ed. Morris Harvey Coll., A.B., B.S., 1921; M.A., W.Va. U., 1929, Ph.D., 1932; mem.: Chi Beta Phi, Phi Lambda Upsilon, Sigma Xi; m. Ruby Mae King, Feb. 4, 1922; ch.: Bonnie Lee. Prin. Amherstdale Grades 1922; teacher, Morris Harvey Acdy., 1922-23; prin., Hamlin H.S., 1923-24; prin., Oak Hill H.S., 1924-30; athletic dir. & coach, Morris Harvey Coll., 1932-36; prof. chem. & physics, 1936 to date. Res. solubility relations of the isomeric dihydroxy benzenes; oxidation of propane at high temp. & low pressure in glass & iron vessels. Mem.: W.Va. Acdy. of Sc., A.A.A.S., A.C.S., W.Va. & Natl. Educational Assns. Clubs: Charleston Lions (secy.), Mason, Scottish Rite, Shrine. Hobbies: athletics, gardening.

WALKER, Walter Owen, res. dir., Ansul Chem. Co., Marinette, Wis.; res. 91 N. Raymond, Marinette.
Res. chem.; b. Maywood, Nebr., Mar. 25, 1896; s. of James and Helen Walker; ed. William Jewell, A.B., 1919; D.Sc. (hon.), U. of Chicago; S.M., 1925; Ph.D., 1931; mem.: Lambda Chi Alpha; m. Mildred Williams, Oct. 2, 1918; ch.: Roger. Carthage, Mo., H.S., sc. teacher. 1919-23; Wm. Jewell Coll., prof. of chem., 1923-29; U. of Chicago, fellow, 1929-30; A.O. Smith, Milwaukee, res. chem., 1930-32; U. of Miami, asst. prof., prof., hd. of dept. of chem., 1933-36; Ansul Chem. Co., res. dir., 1936 to date. Author several articles on chem. ed.; thermal decomposition of Cobalt ammines, ferrous sulfate; reactions of platinous chloride dicarbonyl; soil anal.; ore reduction; acetic acid; refrigerants, colloidal sulfur, chloropicrin; dry chem. fire extinguishing compositions; methyl chloride; sulfur dioxide; fluorine cmpds.; frequent contr. to journals in refrigeration fld.; chmn. of chem., Physics Comm. A.S.R.E., chmn. Desiccants Stands. Comm. A.S.R.E., mem. of Ed. Comm. R.S.E.S.; holder of a number of pats. Mem.: A.C.S., A.A.A.S. (fellow), A.S.R.E., R.S.E.S. Mem. of Schl. Bd., Marinette, Wis. Clubs: Rotary, Riverside Country. Hobby: golf.

WALL, Florence E(meline), chem., 210 E. 68th St., New York 21, N.Y.
Conslt., spec. in cosmetics, tech. writing; b. Paterson, N.J., Jan. 4, 1893; d. of Stephen Augustine and Florence Therese (Corley) Wall; ed. Coll. of St. Elizabeth, 1913, B.A., B.Ed.; N.Y.U., 1938, M.A. H.S. tchr. sc., 1913-17; Radium Luminous Mtl. Corp., Seydel Mfg. Co., and Fellows Med. Mfg. Co., asst. chem., 1917-19; Ricketts & Co., asst. then deputy chf. chem., 1919; U.S. Motor Fuel Corp., res. chem. (pats., pl. mgmt.) 1919-21; travel, study, tchg. (Europe, 1 yr.; Cuba, 1 yr. 6 mos.; S. Amer., 6 mos.), 1921-24; Inecto, Inc., asst. chem. then dir. tr. educa. & tech. pub., 1924-28; Marinello Schls., lect. & mem. tech. advis. bd., 1927-28; conslt., pat. res., tech. writing, spec. in cosmetics, 1928-43; tech. editor: Gen. Aniline and Film Corp., Easton, Pa., 1943-45; R.L. Evans Cos., N.Y., 1945-47; conslt. since 1947. Editor "The Chemist," 1929-31; lecturer on cosmetology: N.Y.U. Schl. of Educ., 1936-43; Coll. of Med., 1948; Clemson Coll. (S.C.), 1940, 1950; Stout Inst., (Wis.), 1938. Author: "Canitics," 1926; "Sc. of Beautistry," 1932; "Basic Sc. of Hair Treats.," 1935; "Principles and Practice of Beauty Culture," 1941; many arts.: encyclopedias, periodicals, on cosmetology, prof. chem., occupations for women, tech. writing. Mem.: A.A.A.S., A.C.S., A.I.C. (N.Y. coun. 1928-34, Natl. Coun., 1933-36, 1949-51), Authors' League, Soc. Med. Jurisprudence, Soc. Cosmetic Chemists. Hobbies: piano, foreign languages, old books.

WALL, Frederick Theodore, prof. of chem., dept. of chem., U. of Ill., Urbana, Ill.; res. 101 W. Pennsylvania Ave., Urbana.
Chem.; b. Chisholm, Minn., Dec. 14, 1912; s. of Peter (dec.) and Fanny M. Wall; ed. B. chem., U. of Minn., 1933, Ph.D., 1937; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi, Phi Kappa Phi; m. Clara E. Vivian, June 5, 1940; ch.: Elizabeth A., Jane V. U. of Ill., instr. in chem., 1937-39; assoc., 1939-41; asst. prof., 1941-43; assoc. prof., 1943-46; prof., 1946 to date. Res. in physical chem. of polymeric matls., molecular structure, vapor pressure theory, statistical mechanics. Mem.: A.C.S., A.Phys.S., Faraday Soc., A.A.A.S. Award: A.C.S. in Pure Chem. 1945. Club: Chaos.

WALLACE, Curtis Clayton, chf. chem., Elec. Storage Battery Co., 19th St. & Allegheny Ave., Phila. 32, Pa.; res. 7223 Emlen St., Phila. 19, Pa.
Res. engr.; b. Rawdon, Hants Co., N.S., Canada, Sept. 5, 1886; s. of James and Esther Wallace; ed. Dalhousie U., B.Sc. with hon., 1909; Royal Exhibition of 1851 scholar to Harvard Grad. Schl., 1910-12; m. Margaret Lillian Hindman 1918; ch.: Curtis Clayton, Jr. Gen. Elec. Co., 1913-16, res. engr.; Artillery Fuse Co., 1916-18, chf. chem.; Stenotype Co., 1918-19, mgr. of loading plant; Powdered Coal Engrg. & Equipt. Co., 1919-23, dir. of dev. & service; Elec. Storage Battery Co., 1924-38 res. engr., 1938 to date, chf. chem. Mem.: A.C.S., A.I.Ch.E., A.I.M.E., A.S.T.M., Franklin Inst., Am. Ceramic Soc., Soc. of Chem. Ind. (London). Club: Germantown Cricket (Phila., Pa.).

WALLACE, George Hugh, mgr., Anal. Lab., The Firestone Tire & Rubber Co., Akron, Ohio; res. 1623 Delia Ave., Akron 20, O.
Chem.; b. Port Jefferson, N.Y., Dec. 9, 1894; s. of Hugh and Elizabeth Wallace; ed. 1913-17, Union Coll., B.S.; Columbia U., B.A., 1921; Ph.D., 1925; m. Ethel May Waterbury, Apr. 3, 1926. Celluloid Co., chem. 1920; Firestone Tire & Rubber Co., res. chem. compounder, 1925-47; since then mgr., Anal. Lab., U.S.N., 1917-19. Res. in dissociation press. acid phosphates. Mem.: Sigma Xi, Phi Lambda Upsilon, Mason. Hobby: golf.

WALLACE, John H., Jr., pres., Decyl Pharmacal Co., Princeton, N.J.; res. North Rd., Princeton.
Chem., exec.; b. Greenville, Ky., Aug. 3, 1906; s. of John H. and Grace (Roll) Wallace; ed. Princeton U., A.B., 1928 highest hon., M.A., 1929, Ph.D., 1932; m. Margaret Cook; ch.: John D., William C. 1932-34, assoc., Bank Labs. Conslts., N.Y.C.; 1934-42, owner, dir., Wallace Labs., N.Y.C., Jersey City & New Brunswick, N.J.; 1942-47, v.p., res. dir., Carter Prods. Inc., New Brunswick, N.J.; 1942-48, pres., Wallace Labs. Inc., New Brunswick & Princeton; 1948 to date, owner, dir., Wallace Res. Labs., Princeton, N.J.; 1949 to date, pres. & dir., Decyl Pharmacal Co.,

Princeton, N.J.; 1950 to date, v.p. & dir., Stand. Insulation Co., Rutherford, N.J. Cosmetics: antiperspirants & deodorants; drugs: tyrothricin, fungicides, antiseptics, fatty acids. Mem.: A.C.S., A.A.A.S. Trustee & treas., Princeton Hosp., Princeton, N.J.; trustee, Princeton Country Day Schl., Princeton, N.J. Clubs: Princeton (N.Y.), Pretty Brook (Princeton), Springdale Golf (Princeton), Nassau (Princeton).

WALLACE, John Lewis, chem. engr., Glidden Co., 1396 Union Commerce Bldg., Cleveland, Ohio; res. 21983 Eaton Rd., Fairview Park 26, Ohio.
Chem. engrg.; b. N.Y.C., Apr. 27, 1915; s. of Lewis and Dora Wallace; ed. Polytech. Inst. of Bklyn., 1936, B.Ch.E., valedictorian; Rennselaer Polytech. Inst., 1937, M.Ch.E.; Yale U., 1941, D.Eng.; mem.: Theta Kappa Nu; m. Janet Marie Abeel, Apr. 18, 1940; ch.: Barbara Anne, John L., Jr. 1939-45, E.I. du Pont de Nemours & Co., group hd., ind. engrg. div.; 1945-46, Master Chrome, chf. engr.; 1946 to date, Glidden Co., chem. engr. on staff of gen. engrg. dept. Author: "Condensation of Mixed Vapors" publ. in tech. jl. Mem.: A.I.Ch.E. Club: Exchange. Hobby: sports.

WALLACE, William J.L., prof. of chem. and adm. asst. to pres., West Virginia State Coll.. Institute, W.Va.; res. Cottage G., West Va. State Coll., Institute, W.Va.
Tchg.; b. Salisbury, N.C., Jan. 13, 1908; s. of Rev. Thomas W. and Lauretta J. Wallace; ed. U. of Pittsburgh, B.S., 1927; Columbia U., A.M., 1931; Cornell U., Ph.D., 1937; study, Tchrs. Coll., Columbia U., summer, 1947; mem.: Alpha Phi Alpha; m. Louise Eleanor, Dec. 7, 1929; ch.: Louise Eleanor. Instr. in sc., Livingstone Coll., 1927; instr. in chem., same coll., 1928-32; prof. of chem., Lincoln U. (Mo.), 1932-33; instr. in chem., W.Va. State Coll., 1933-34; asst. prof. of chem., 1934-37; assoc. prof. of chem., 1937-43; prof. of chem., 1943 to date; acting admin. asst. to pres., 1944-45; admin. asst. to pres., 1945 to date. Contrib. num. arts. to sc. jls.; author also of "The Freezing Points of Aqueous Solutions of Alpha Amino Acids," Abstracts of Theses, Cornell U., 1937; "Chemistry in Negro Colleges," W.Va. State Coll. Bulletin, Apr., 1940; co-author (with Paul J. Moore), "Study Questions and Problems in Gen. Chem.," pub. by Authors, Sept., 1943; Editorial Assistance with others, "Cooperative Chem. Test in Qualitative Anal.," Form T, 1943; Collaborator, A.C.S. Cooperative Gen. Test for Coll. Students, Form 1946; co-author, A.C.S. Cooperative Physical Chem. Test Form W, 1946; co-author, A.C.S. Cooperative Gen. Chem. Test for Coll. Students, Form 1948; contributor, "Educating for Community Participation," W.Va. State Coll. Bulletin, Ser. 35, No. 4, June, 1948, W.Va. State Coll. Press; "Objective Type Tests for Courses in Coll. Chem.," Beta Kappa Chi Bulletin, Vol. VI, No. 3, 1948. Mem.: A.C.S., Sigma Xi, Beta Kappa Chi Soc., Div. of Phys. and Inorg. Chem. of A.C.S., Div. of Chem. Educ. of A.C.S., Kanawha Valley Sect. of A.C.S., W.Va. State Tchrs. Assoc., Amer. Tchrs. Assoc., A.A.U.P., Natl. Sc. Inst., W.Va. Acdy. of Sc. Dir., A.M.E. Zion Mission of Charleston, W.Va. Hobbies: gardening, chess, hunting.

WALLINGFORD, Vernon Howard, dir. of org. res., Mallinckrodt Chem. Wks., 3600 N. Second St., St. Louis, Mo.; res. 400 Royal Ave., Ferguson 21, Mo.
Chem.; b. Auburn, Me., Sept. 26, 1897; s. of John and Emma (Gowell) Wallingford; ed. B.S., chem. engrg., U. of Me., 1919; A.M., org. chem., Harvard, 1920, Ph.D., org. chem., 1922; U. of Brussels, 1922-23; mem.: Phi Eta Kappa; m. Jessie Prince, 1922; ch.: Harlan Prince, David Gowell. Res. chem., dir. of org. res., Mallinckrodt Chem. Wks., St. Louis, Mo., 1923 to date. Alkaloids, alkyl carbonates in org. chem., phar. chem., X-ray media. Mem.: Alpha Chi Sigma, Tau Beta Pi, Phi Kappa Phi, Phi Beta Kappa, C.R.B. (fellow 1922-23), A.C.S., A.A.A.S. (fellow). Hobbies: golf, photography.

WALLIS, Everett Stanley, A. Barton Hepburn, prof. of org. chem., Princeton U., Princeton, N. J.; res. 115 Broadmead, Princeton.
Univ. res. and univ. prof.; b. Waitsfield, Vt., Dec. 17, 1899; s. of George Wilbur and Adelle (Bragg) Wallis; ed. U. of Vermont, B.S., 1921; M.S., 1922; Princeton U., M.A., 1924; Ph.D., 1925; D.Sc. (honoris causa), Middlebury Coll., 1948: mem.: Phi Beta Kappa, Sigma Xi, Alpha Tau Omega; m. Mary Fletcher Northrop, June 26, 1926; ch.: Peter Bent Brigham Northrop. 1925-26, asst. prof., St. Johns Coll.; 1926-28, assoc. prof., hd. of dept.; 1929-30, res. assoc., Princeton U.; 1930-34, asst. prof.; 1934-40, assoc. prof.; 1940 to date, A. Barton Hepburn prof. Res. prof. in org. chem.; authority in fld. of mol. rearrangements, stereochem. and steroids. Author of approx. 90 pubs., chapters in books, etc. in fld. of molecular rearrangements, stereochem., and steroids and hormones. Mem.: A.C.S., A.A.A.S. (fellow), A.I.C. (fellow), N.Y. Acdy. Sc., awarded cert. from U.S. Govt. in appreciation of service to the U.S. W.W. II. Trustee, William Alexander Procter Found., warden and vestryman, Trinity Ch. (Episcopal). Hobbies: 18th century period furniture, and rugs.

WALLS, William Sparks, sr. reserves engr., Phillips Pet. Co., Bartlesville, Okla.; res. 1348 Jennings, Bartlesville.
Chem.; b. Ingleside, Md., Feb. 17, 1908; s. of Elwood Tyson and Mary Bertha (Sparks) Walls; ed. St. John's Coll., Annapolis, Md., A.B. (cum honore et cum laude), 1929; Princeton U., Princeton, N.J., A.M., 1931; Ph.D., 1933 mem.: Theta Psi; m. Genevieve Dorothy Price, 1933; ch.: Hugh Alan, Patricia Ann, Gregg Price, Dona Mae, Ronald Wayne, Philip Lee, William Larry, Richard Grant, Linda Jean. Res. asst., Frick Chem. Lab., Princeton U., 1929-30, 1932-33; teaching asst., 1930-32; res. fellowship, Mineral Industries Dept., Pa. State Coll., 1933-34; res. chem., core anal., Sloan & Zook Companies, Bradford, Pa., 1934-36; chf. prod. res. sec., Phillips Pet. Co., Bartlesville, Okla., 1936-47; res. conslt., tech. asst., physics div., 1947-49; sr. reserves engr., reservoir economics div., 1949 to date. Phase relation studies of hydrocarbons; pet. reservoir engrg.; anal. of cores from pet. bearing reservoir rocks; studies of recovery of oil from reservoir rocks; dielectric constants & molecular structure. Mem.: A.C.S., A.P.I., A.I.M.E., A.A.A.S. Hobbies: gardening, fishing.

WALMSLEY, Haines Preston, gen. branch mgr., Monsanto Chem. Co., 827 Fisher Bldg., Detroit 2, Mich.; res. 308 Waddington Rd., Birmingham, Mich.
Chem. sales; b. Pomeroy, O., Aug. 6, 1900; s. of Walter N. and Harriet Hoskins (Preston) Walmsley; ed. Lehigh U., Colorado Schl. of Mines, 1923; mem.: Beta Theta Pi; m. Virginia Des Jardins, Apr. 15, 1922; ch.: Haines P., Jr., Harriet. 1922-27, oper., Swann Chem.; 1927-34, sales; 1934-38, Cleveland br. mgr.; 1938 to date, gen. br. mgr., Monsanto Chem. (Detroit). Mem.: Detroit Paint & Varnish Assoc.; Mich. Chem. & Allied Indus. Assoc. Clubs: Detroit Athletic, Oakland Hills Country. Hobby: golf.

WALSH, Edward R., conslt. chem., 605 E. Chestnut St., Louisville, Ky.
Chem.; b. Louisville, Ky., Nov. 27, 1903; s. of John and Emma Hoffmann Walsh; ed. U. Louisville, June, 1924, B.S. Chem., N.C. St. Coll., 1926-27, Ceramic Engrg.; mem.: Delta Sigma. Louisville Fire Brick Wks., chem.; Laclede Christy Fire Brick Co., St. Louis, Mo., ceramic engr.;

Grasselli Chem. Co., Grasselli, N.J., chem.; Frankfort Dist., Inc., Louisville, Ky., cer. chem.; Mengel Co., Louisville, res. chem.; dir., secy. Kentuckiana Motors, Louisville, Ky. Mem.: A.C.S. (Louisville sect. secy.), A.I.C., A.A.A.S. Clubs: Am. Bridge Leag. Hobbies: bridge, reading.

WALSH, James F., res. conslt., Minute Maid Corp., Plymouth, Fla.; res. 1126 Edgewater Dr., Orlando, Fla.
Chem. engr. and chem.; b. Yonkers, N.Y., June 8, 1893; s. of Thomas A. and Mary E. Walsh; ed. non-degree courses at Columbia and Bklyn. Polytech. Inst.; m. Jane Irene Bowne, May 5, 1917; ch.: James B., Thomas B. 1916-17, chf. chem., Bosch Magneto Co.; 1917-19, U.S.A., C. W.S.; (enlisted private, dischg., Capt.); 1919-21, chem., Wheeler & Woodruff Chem. Conslts.; 1921-31, tech. dir., v.p. res. & asst. secy., Celluloid Corp., Newark, N.J.; 1931-33, res. assoc., A.D. Little, Cambridge, Mass.; 1933-42, dir. res., Amer. Maize Prods. Co.; 1942-47, dir. res., carbohydrate div., Doughnut Corp. of Amer.; 1947-50, chem. & chem. engr. conslt., James F. Walsh and Assoc. Holds as inventor and co-inventor over 100 U.S. and foreign pats. in plastics and carbohydrates; dev. and managed proc. of prod. of dextrose, protein and syrups from wheat. Author of Chapt. 36, "Starch, Its Sources, Mfr. and Prods.," Rodgers' Manual of Industrial Chem., VI edit. Mem.: A. C.S., Inst. of Food Techs. Clubs: Chemists', Amer. Legion, Rotary. Hobbies: golf, boating, fishing.

WALTER, Allan Wylie, finan. v.p., The Liquid Carbonic Corp., 3100 So. Kedzie Ave., Chicago 23, Ill.; res. 115 Robsart Rd., Kenilworth, Ill.
Exec.; b. Princeton, Ill., Jan. 23, 1903; s. of Hart Edgar and Edith (Wylie) Walter; ed. Culver Military Acdy., grad. 1920; U. of Wis., Ph.B., 1924; Harvard Grad. Schl. of Business Admin., M.B.A., 1927; mem.: Delta Kappa Epsilon, Phi Kappa Phi; m. Elisabeth Walker, June 27, 1936; ch.: Alexander, Donald, Alison. Dir., Stuart Oxygen Co.; dir., Paschall Oxygen Co. Mem.: Controllers Inst. Clubs: Harvard (N.Y.), University (Chicago).

WALTER, Henry G., Jr., partner, Fulton, Walter & Halley, 30 Rockefeller Plaza, N.Y. 20, N.Y.; res. 124 E. 62 St.
Lawyer; b. N.Y.C., Sept. 24, 1910; s. of Henry G. and T.G. Waring Walter; ed. Columbia Coll., B.A., 1931; Columbia Law Schl., LL.B., 1934; mem.: Phi Beta Kappa; m. Madeline Thayer Kudner, May 4, 1949. 1934-42, Carvath, Swaine & Moore, lawyer; 1943-45, v.p., dir., Heyden Chem. Corp.; 1946-50, sec., dir., Am. Potash & Chem. Corp.; 1945 to date, partner, law firm of Fulton, Walter & Halley, spec. in serving chem. indust. Mem.: Am. Bar Assn., Assn. of Bar of C. of N. Y.; N.Y. Bd. of Trade, Drug, Chem. & Allied Trades Sect. Club: Univ. (N.Y.C.).

WALTER, Lewis A., res. dir., Maltbie Labs., Inc., 250 High St., Newark, N.J.; res. 540 Park Ave., E. Orange, N.J.
Chem.; b. Bloomfield, Wis., Mar. 27, 1908; s. of L.A. and Mary E. Walter; ed. B.A., Ripon Coll., Ripon, Wis., 1930 (magna cum laude); Ph.D., U. of Wis., 1934; mem.: Alpha Chi Sigma; m. Carrol M. Velte, Feb., 1937; ch.: Thomas J., Mary A., Alice C. Res. chem., Maltbie Labs., Inc., 1935-49; res. dir., 1949 to date. Synth. org. medicinals in fld. of anesthetics, hypnotics, sulfa drugs, etc. Mem.: Sigma Xi, A.C.S., Swiss Chem. Soc.

WALTERS, Roy H., tech. asst. to dir., res. & dev., Gen. Foods Corp., 250 Park Ave., N.Y.C.; res. 551 Fairway Rd., Ridgewood, N.J.
Res.; b. Rutledge, Minn., Sept. 9, 1911; s. of John Arthur and Margaret (Buus) Walters; ed. U. of Wis., B.S. ch. engrg., 1933, M.S., 1934; mem.: Tau Beta Pi, Phi Lambda Upsilon; m. Irma Barkhausen, June 22, 1935; ch.: Sandra Jean, Patricia Ann. 1934, res. chem. engr., Post Prods. Div., Battle Creek, Mich.; 1939, chem. engr.; 1942, sect. hd., chem. engrg. div.; 1943, engr. res., all Central Labs., Hoboken, N.J.; 1950, tech. asst. to dir., res. & dev., Gen. Foods Corp., N.Y. C. Mem.: Inst. of Food Tech., A.C.S., A.I.Ch.E.

WALTHALL, John Henry, chf. chem. res. & engrg., Tenn. Valley Authority, Wilson Dam, Ala.; res. Route One, Sheffield, Ala.
Chem. engr.; b. Roanoke, Va., Oct. 21, 1900; s. of Silas H. and Cora (Bryan) Walthall; ed. 1920-24, M.I.T., B.S. electrochem. engrg.; m. Jennie Mae Dixon, 1927 (first wife); m. 2nd., 1941, Eva Virginia Askin; ch.: Patricia, Richard I. 1924-27, Carolina Aluminum Co., Badin, N.C., tech. asst.; 1927-28, Aluminum Espanol, Sabiñanigo, Spain, conslt.; 1928-33, Aluminum Co. of Amer., Alcoa, Tenn., operations supvr.; 1934 to date, T.V.A., Sheffield, Ala., successive positions: proj. ldr., sect. chf., asst. chf. of branch, chf. of res. and engrg. Author of numerous pub. arts. and pats. Mem.: A.I.Ch.E., William H. Walker award for 1946 (A.I.Ch.E.).

WALTON, Charles William, mgr., New Prods. Div., Minn. Mining & Mfg. Co., 900 Fauquier Ave., St. Paul, Minn.; res. R.F.D. No. 1, New Brighton, Minn.
Exec., chem.; b. Carlinville, Ill., Apr. 3, 1908; s. of William and Leona (Stadler) Walton; ed. Carlinville H.S.; Blackburn Jr. Coll. (Jr. B.S.); U. of Ill., B.S. chem.; U. of Mich., M.S. chem. and Ph.D.; mem.: Phi Lambda Upsilon, Sigma Xi; m. Genevieve Marion Zeeb, Oct. 21, 1933; ch.: Barbara Jean, Alan Hale, Douglas Charles. Res. chem. with Goodyear after completing coll. training, assigned to study of synth. rubber; during W.W. II, off. liaison man for Goodyear with the Govt. synth. rubber program; 1942, org. synth. rubber tech. coord. dept. at Goodyear to facilitate flow of tech. information to the Govt. and coop. companies on synth. rubber problems; 1944, org. new Goodyear div. of Chem. Prods. Dev.; 1947, joined staff Minn. Min. & Mfg. Co. as asst. to exec. v.p. in chg. of mfg.; Jan. 1, 1948 apptd. hd. of newly created, New Prods. Div. Joint design and operation of the Govt. synth. rubber plants dur. W.W. II, under supvn. of the Rubber Reserve Co. and the Rubber Director's Office. Mem.: A.C. S., Rubber Div. of A.C.S., Chem. Marketing Res., Natl. treas. of the Commercial Chem. Dev. Assoc. On bd. of stewards, First Meth. Ch., St. Paul. Hobbies: outdoor sports, fishing, hunting.

WALTON, Norton Hall, sr. process engr., Atlantic Refining Co., Cracking Div., P.O. Box 8138, Phila. 1, Pa.; res. 57 S. Britton Rd., Springfield, Delaware County, Pa.
Chem. engr., pet. refining; b. Phila., Pa., Nov. 26, 1910; s. of William B. and Emma J. Walton; ed. B.S. in Ch.E., U. of Pa., 1932; mem.: Sigma Zeta (now Tau Kappa Epsilon) and Alpha Chi Sigma; m. Ruth Anne Bowen, Oct. 12, 1934; ch.: William Alfred. Atlantic Refining Co., 1933 to present; 1933, pet. tester; 1933-34, still fireman; 1934-35, asst. stillman; 1935-36, process operator res. & dev. dept.; 1936-42, jr. chem. engr. res. & dev. dept.; 1942-43, asst. chem. engr. res. & dev. dept.; 1943-47, process engr. refinery dept., 1947 to date, sr. process engr. refinery dept.; dir. of Atlantic Employees Federal Credit Union. Liaison wk. with the Pet. Administration for War as expert on Cumene manufacture and related problems on Aviation Gasoline Production. Mem.: A.I.Ch.E. (active member), Alpha Chi Sigma. Secy. of the Vestry, Church of the Redeemer, Springfield, Pa.

WALTON, Robert Petrie, prof. of phar., Med. Coll. of S.C., Charleston, S.C.; res. 17 Bull St., Charleston, S.C.
M.D., pharmacologist; b. Guthrie, Ky., Jan. 18, 1905; s. of Rev. R.S. and Claudia (Harris) Wal-

ton; ed. Centenary Coll., B.S., 1924; Columbia U., M.A. (chem.), 1925; Ph.D. (chem.), 1929; U. of Chicago, Schl. of Med., M.D., 1941; m. Mary Drinkard, Sept. 2, 1930; ch.: Robert P., Jr., William Nash, Mary Harris. 1929-37, instr. and asst. prof. of phar., Tulane U.; 1937-42, prof. of phar., U. of Miss.; 1942 to date, prof. of phar., Med. Coll. of S.C. Edited & compiled "A Comprehensive Survey of Starch Chem.," Reinhold Co., N.Y., 1929; translated & revised "Enzyme Actions and Properties" by Waldschmidt-Leitz, John Wiley, 1929. Author: "Marihuana, America's New Drug Problem," J.B. Lippincott Co., Phila., 1938. Chmn., La. Sec., A.C.S., 1935.

WALTON, Samuel Forman, Sr., tech. dir., The Exolon Co., Tonawanda, N.Y.; res. 97 McKinley Ave., Kenmore, N.Y.
Ceramic engr. and tech. dir.; b. Germantown (Phila.), Pa., July 30, 1888; s. of Charles J. and Mary R. (Norton) Walton; ed. Iowa State Coll., 1912, B.S. in Ceram. Engrg.; prof. degree N.Y.S. Coll. of Ceramics, 1942; m. Alice Dunnel Osann, June 26, 1920; ch.: Samuel Forman, Jr. Various clay and refractory concerns, 1912-16; The Carborundum Co., 1916-19; Kalmus, Comstock & Westcott, 1919-23; N.Y. & Penn. Clay Co., 1923-25; self employed, 1925-27; The Exolon Co., 1927 to date. Authority on silicon carbide as an abrasive or refractory. Author or co-author of numerous arts. in sc. jls.; also "Silicon Carbide—Its Mfr. and Uses," thesis for prof. degree at Alfred U. Fellow, A.Cer.S., charter mem. of Inst. of Ceramic Engrs. Mem.: A.C.S., E.S., hon. mem. Keramos. Hobbies: reading, amateur carpentering.

WAMBLE, Albert Cecil, mgr., Cottonseed Prods. Res. Lab., College Station, Tex.; res. Bryan, Tex.
Chem. engr.; b. Aberdeen, Miss., Feb. 7, 1909; s. of Albert French and Katy (Morgan) Wamble; ed. A. and M. Coll. of Tex., B.S., 1933; m. Hallie McElroy, Mar. 26, 1932. 1933-35, chem., Planters Oil Mill, Greenwood, Miss.; 1935-42, chf. engr., Miss. Cottonseed Prods. Co., Jackson; 1942-43, engr., conslt. engr., Greenwood, Miss.; 1943-45, dir. of cottonseed res., Cotton Res. Comm. of Texas; 1945 to date, mgr. of Cottonseed Prods. Res. Lab., Tex. Engrg. Exper. Station. Contrib. numerous arts. to sc. jls. Author: "Cottonseed," Interscience Publishers, Inc., 1948. Mem.: A.C.S., A.O.C.S., registered prof. engr., Texas. Club: Rotary. Hobby: dogs.

WAMPNER, Herbert L., dir. tech. serv., Pacific Coast Div., Reichhold Chems., Inc., South San Francisco, Calif.; res. 1373 Vancouver Ave., Burlingame, Calif.
Chem.; b. Indianapolis, Ind., June 7, 1905; s. of John H. and Caroline (Blase) Wampner; ed. Emmerich Manual Training H.S., Indianapolis, 1920-24, (John Hampden Holliday Scholarship and Bruce P. Robinson Post Am. Leg. Scholarship); Butler U. (Indianapolis), 1924-26; M.I.T., 1927-30; B.S., 1930; mem.: Alpha Chi Sigma; m. Grace Marie Driftmeyer, May 28, 1933; ch.: Paul Edward, Barbara Louise. 1926-27, asst. chem., Acme-Evans Co., Indianapolis; 1930-42, res. chem., Commercial Solvents Corp., Terre Haute; 1943 to date, dir. of tech. serv., Pacific Coast Div., Reichhold Chems., Inc. Holds numerous pats.; has written many tech. arts. Mem.: A.C.S., Alpha Chi Sigma, Fed. of Paint & Varnish Prod. Clubs, Western Chem. Market Res. Grp. Hobbies: fishing, bowling.

WANNAMAKER, T(homas) E(lliott), pres., Wannamaker Chem. Co., Inc., Orangeburg, S.C.; res. 196 Elliott St., S.E., Orangeburg, S.C.
Chem. engr.; b. Orangeburg, S.C., Aug. 10, 1909; s. of William W. and Lyall (Matheson) Wannamaker; ed. The Citadel, B.S., 1930; Cornell, Ph.D., 1935; mem.: S.A.E.; m. Angie Ray Bryant, 1932; ch.: Thomas Elliott, Jr., Robert Boyd, Lyall Matheson, Braxton Bryant. 1931-35, instr., Cornell; 1935-37, chem. engr., Eastman Kodak Co.; 1937 to date, pres. & dir., Wannamaker Chem. Co., Inc.; 1942-45 Capt., U.S.A. Mem.: A.C.S.

WANNER, Henry Eckert, prof. of chem., Drexel Inst., Phila. 4, Penn.; res. 820 Delancey Pl., Ocean City, N.J.
Tchr.; b. York, Pa., May 28, 1885; s. of A. and Clara J. Wanner; ed. U. of Penn., B.S., 1909; M.S., 1918; Ph.D., 1925; m. Martha Henry, Aug., 1918. 1910-18, prof. of chem., Lebanon Valley Coll.; 1918-50, prof. of chem., Drexel Inst. Author: "Some Faunal Remains from Trias of York Co., Penn." Fellow, A.A.A.S., mem.: A.C.S. Hobbies: golf, fishing.

WARD, Alger Luman, dir. of res., Penn. Indust. Chem. Corp., Delaware & Jeffrey Aves., Chester, Pa.; res. 108 Colwyn Lane, Bala-Cynwyd, Pa.
Chem. exec.; b. Easthampton, Mass., May 4, 1890; s. of Oscar and Ella (Alexander) Ward; ed. Syracuse U., B.S. in chem., 1914; M.S., 1915; Sc.D. (hon.), 1941; mem.: Sigma Beta, Alpha Chi Sigma; m. Emma Undritz, June 5, 1915. 1915-20, org. res. chem., du Pont Co.; 1920-34, org. res. chem., United Gas Improvement Co.; 1934-45, mgr., Chem. Labs.; 1945 to date, dir. of res. Penn. Indust. Chem. Corp. Discoverer of procs. for synth. acetic acid, acetone, ethylene glycol, glycerin (basic Amer. and foreign pats.); co-discoverer causes and meths. of prevention of liquid-phase and vapor phase gums in gas distrib. systems (basic Amer. and foreign pats.); many pats. on separation and polymerization of hydrocarbs.; orig. wk. on physical properties of hydrocarbs.; discoverer (with S.S. Kurtz, Jr.) and exponent, the refractivity intercept. Many pubs. in tech. jls.; hon. assoc. edit. and contrib. "The Sc. of Petroleum," 1938; awarded the Louis E. Levy M., Franklin Inst., 1938. Mem.: A.C.S., S.C.I., Franklin Inst. Vestryman, St. Clement's Church, Phila. Hobbies: gardening, books.

WARD, Arthur Thomas, pres. & treas., Colloid Equipment Co., Inc., 50 Church St., N.Y. 7, N.Y.; res. Engineers Club, 32 W. 40th St., N.Y. 18.
Exec.; b. Bellefonte, Pa., Dec. 29, 1890; s. of Joseph Edward and Belle (Stiver) Ward; ed. Lehigh U., Metall. Engr., 1913. Test engr., U.S. Metal Refg. Co., Carteret, N.J., 1913-14; metall. engr., Braden Copper Co., Rancagua, Chile, 1914-18; U.S. Army, 1918-19; sales exec., Union Carbide & Carbon Corp., N.Y.C., S. Am., Cuba, 1919-23; pres., treas. & dir., Colloid Equipt. Co., Inc., 1923 to date. Sponsor of Frank Bettger's book, "How I Raised Myself from Failure to Success in Selling." Dir., Lightner Foundation, Chicago. Mem.: A.I.M.E. Clubs: Engineers' (N.Y.), Mining (N.Y.).

WARD, Cecil C(layton), sr. chem. engr., Bur. of Mines, Bartlesville, Okla.; res. 2005 Johnstone Ave., Bartlesville.
Chem. engr.; b. Krebs, Okla., Oct. 15, 1910; s. of Frank and Mary Ann (McMurdo) Ward; ed. Okla. A.&M. Coll., B.S. (chem. engrg.), 1934; M.S., 1946; mem.: Phi Lambda Upsilon; m. Margye Pryor, Dec. 25, 1935. 1934-35, lab. instr., Okla. A.&M. Coll., Stillwater, Okla.; Bur. of Mines: 1935-41, jr. chem. engr., Bartlesville, Okla., 1941-42, asst. chem. engr., Bartlesville; 1942-44, assoc. chem. engr., Wash., D.C.; 1944-46, pet. chem., Bartlesville; 1946 to date, sr. chem. engr., Bartlesville. Composition of pet., superfractionation studies & pilot-scale pet. refining. Bur. of Mines & trade journal publ. on subjects listed above. Mem.: A.C.S., A.I.Ch.E. Club: Hillcrest Country. Hobbies: golf, bowling.

WARD, George Edward, conslt. chem. & microbiol., 119 E. Holland St., Washington, Ill.; res. same.

Conslt. on indus. fermentations & antibiotics; b. Los Angeles, Calif., June 5, 1908; s. of Charles J. and Anne Lynde (Hill) Ward; ed. B.S. 1930, State Coll. of Wash., Pullman, Wash.; M.A. 1933, George Washington U., Wash., D.C.; Ph.D. 1940, Georgetown U., Wash., D.C.; mem.: Phi Kappa Phi, Phi Lambda Upsilon; m. Dorothy E. Henry, June 7, 1930; ch.: Donald Edward, Richard Frederick, Mary Ellen. 1930-40, res. chem., Bur. of Indus. & Agric. Chem., U.S.D.A., Wash., D.C.; 1940-45, hd. Survey & Dev. Sec., Fermentation Div., Northern Regional Res. Lab., Peoria, Ill.; 1945-50, dir. of res. & dev., Schenley Labs., Inc., Lawrenceburg, Ind.; 1950 to date, conslt. indus. fermentations & antibiotics. Pioneered prod. of penicillin by submerged fermentation techniques. Mem.: A.C.S., S.A.B., A.A.A.S. Hobbies: music, photography, hiking.

WARD, Gilbert J(ames), technol. and secy., Cheesman-Elliot Co., Inc., 639 Kent Ave., Bklyn., N.Y.; res. 91-56 195th St., Hollis, N.Y.

Chem. engr.; b. Bklyn., N.Y., May 9, 1903; s. of Gilbert D. and Johanna A. Ward; ed. Pratt Inst., Bklyn., 1922, Ind. Ch.E.; m. Ruth M. Eastland, May 29, 1926; ch.: Gilbert John. 1922 to date, with Cheesman-Elliot Co., 1922, chem.; 1925, tech. and plant mgr.; 1927, tech., plant mgr. & dir.; 1938, secy. and dir.; since 1947 treas. & dir., Four-Square Paint Corp. Pioneered in fld. of acid, alkali and fume resisting, and var. other, tech. protective coatings for indust. use; responsible for the first pract. and commercially successful paint for the protection of exterior metal surfaces where operating temps. exceed 600 degrees F., which revolutionized painting pract. in many heat proc. industs.; also other contribs. in the design of spec. protective coatings for the chem. indust. Mem.: A.C.S., Natl. Paint, Varnish & Lacquer Assoc., N.Y. Paint and Varnish Prod. Club.

WARD, Leon Stevens, prof. of chem., hd. dept., Colo. Schl. of Mines, Golden, Colo.; res. 1808 19th St., Golden.

Tchr.; b. Iowa, Jan. 31, 1890; s. of Clarence M. and Mary C. Ward; ed. A.B., Park Coll., 1912; M.A., U. of Colo., 1921; Ph.D. (chem.), U. of Wis., 1926; m. Elizabeth M. Smith, Aug. 5, 1914. Teacher of sc., Colo. High Schls., 1912-18; Hercules Powder Co., Nitro, W.Va. & Eastman Kodak Co., 1918-19; prof. chem., Iowa Wesleyan Coll., 1919-20; asst. prof. chem., Colo. Agric. Coll., 1920-24; assoc. prof. chem., Mich. Coll. of Mines, 1926-27; prof. & hd., Colo. Schl. of Mines, 1927 to date. Mem.: A.C.S., A.A.A.S., A.A.U.P. Club: Teknik. Hobby: fishing.

WARD, Nell Marguerite, prof. of chem., hd. chem. dept., U. of Omaha, Omaha, Nebr.; res. 5404 Nicholas St., Omaha.

Teaching; b. Lincoln, Nebr., Jan. 28, 1890; d. of Arthur Wm. and Mary Jane (Kelly) Ward; ed. B.Sc., M.A., U. of Nebr.; Iowa State Coll.; Columbia U.; Ph.D., State U. of Iowa. Principal of high schl., 1 yr.; hd. of sc. dept., Central Coll., Lexington, Mo.; assoc. prof., prof. of chem., hd. chem. dept., U. of Omaha. Res. in anal. chem.; photometric determination of small amounts of cobalt & manganese. Mem.: Sigma Xi, A.C.S., Nebr. Acdy. for Advancement of Sc., A.A.U.P. Hobbies: music, travel.

WARD, Roland, prof. of chem., U. of Conn., Storrs, Conn.; res. Storrs.

Chem. tchr.; b. Bishopton, Scotland, Aug. 22, 1902; s. of Samuel and Jean (Barclay) Ward; ed. London, B.Sc., 1926; Western Reserve U., Cleveland, O., Ph.D., 1931; m. Irene Thurston, Apr. 1, 1933; ch.: Barclay. 1927-29, chem. Willard Storage Battery Co., Cleveland; 1929-31, student Jeavons Fellow, Western Reserve; 1931-32, instr., U. of Ill., Urbana, Ill.; 1932-37, instr., Polytech. Inst. of Bklyn.; 1937-43, asst. prof.; 1943-45, supvr. of res. proj., O.S.R.D.; 1945-46, assoc. prof., Polytech. Inst. of Bklyn.; 1947-49, prof.; 1949 to date, prof. U. of Conn. Res. in chem. of solids; infrared-sensitive phosphors. Contributor to "Inorganic Synth.," 1950, and to "Prep. and Properties of Luminiscent Matls.," Fonda and Seitz, 1948. Author of 21 arts. in sc. jls. 1932-50. Mem.: A.C.S., A.I.C., A.A.A.S., A.A.U.P., N.Y. Acdy. of Scs., Sigma Xi, Phi Lambda Upsilon. Hobbies: gardening, golf, fishing.

WARD, (Wesley) Keyle, Jr., hd. cotton fiber div., Southern Regional Res. Lab., U.S. Dept. of Agric., 2100 Robert E. Lee Blvd., New Orleans 19, La.; res. 937 Wilson Dr., New Orleans.

Chem.; b. Beaumont, Tex., Sept. 2, 1902; s. of Kyle and Josephine (Mow) Ward; ed. U. of Tex., B.S. Ch.E. & B.A., 1923; Geo. Washington U., M.S. in chem., 1926; Friedrich Wilhelms U., Berlin, Germany, Ph.D., 1932; mem.: Phi Lambda Upsilon, Sigma Xi; m. Anna Frank, Aug. 21, 1929. 1923-24, instr., U. of Tex.; Wash., D.C., 1924, jr. chem., Bur. of Chem. & Soils, U.S. Dept. Agric., carrying on res. and regulatory wk. in fld. of naval stores; 1928, Hercules Powder Co., res. chem., Kenvil, N.J.; carried out res. for this Co. both in this country and abroad on naval stores and on cellulose prods.; accepted Res. Fellowship with Chem. Found. on the utiliz. of sweet-potato starch in 1936 for 2 yrs.; returned to U.S. D.A., 1938, with formation of the four Regional Res. Labs. in Bur. of Agricl. & Industl. Chem.; at Southern Regional Res. Lab. since 1938; at present hd. of cotton fiber div. of that Lab. Res. on derivatives, reactions, and structure of cellulose and starch; dir. res. on phys. and chem. properties of cotton fiber; oxidation of terpenes and resin acids; disc. of first "nitrogen mustard" and of vesicant action of these substances. Author of Chapts. 1 and 6-D of "Cellulose & Cellulose Derivatives," edit. by Emil Ott, 1943. Mem.: A.C.S., A.A.A.S., A.Geog.Soc., New Orleans Acdy. of Scs., La. Engrg. Soc., A.Phys.S., A.A.T.C.C., A.O.C.S., Sigma Xi, Inst. of Physics, T.R.I., Assoc. Edit. of Textile Res. Jl., v.p. La. Sect. A.C.S., 1945, pres. 1946. Clubs: City Park Golf, La. Bridge Assoc. Hobbies: reading, bridge, golf, bowling.

WARD, William Hilles, v.p., E.I. du Pont de Nemours & Co., Wilmington, Del.; res. 630 Strath Haven Ave., Swarthmore, Pa.

Admin.; b. Barnesville, O., Dec. 27, 1892; s. of John Edgar and Emma (Hilles) Ward; ed. Swarthmore Coll., 1915, A.B. in chem.; mem.: Kappa Sigma; m. Helene Hodges, May 17, 1920; ch.: Shirley (Ward) Cox. All positions with du Pont Co.: explosives dept., Eastern Lab., res. chem., secy. hd., 1915-23; Wilmington off., asst. to chem. dir., 1923-28; asst. to sales dir., 1928-29; St. Louis, Mo., mgr., br. sales off., 1929-30; Wilmington off., asst. dir. sales, 1930-33; dir. sales 1933-35; asst. gen. mgr., 1935-44; gen. mgr., 1944-48; v.p., mem. exec. comm., dir., 1948 to date. Dir., Mfg. Chemists Assoc. Mem.: A.Ord. A., Sigma Psi, Bd. of Mgrs., Swarthmore Coll. Clubs: Wilmington Country, du Pont Country, Hickory Mt. Club, Roxborough Gun, Delaware Country Sportsman's Assoc., Aurora Gun. Hobbies: golf, hunting.

WARDENBURG, F(rederic) A., dir., E.I. du Pont de Nemours & Co., Wilmington, Del.; res. 2406 W. 17th St., Wilmington, Del.

Exec.; b. Atchison, Kans., Nov. 22, 1881; s. of Frederic A. and Annie (Pullen) Wardenburg; ed. B.S., U. of Col., 1900; m. Effie B. Seely, Oct. 3, 1903; ch.: Fred A.C., Paul L., Mrs. Laurance H. Cooper (dec.). With Colo. Dept., Am. Smelting & Refin. Co., power engr., 1900-06; dir. engr., light, heat and power dept., E.I. du Pont de Nemours & Co., Wilmington, Del., 1907-16; asst. chf. engr., 1917-20; gen. mgr., ammonia dept., 1926-46; retired from active serv. 1946; dir. since 1939. Pres.

Grp. Hosp. Serv. (Blue Cross), since 1935; pres., Arnold Fish & Game Preserve, since 1917; mem. exec. comm., Memorial Hosp. Clubs: Wilmington Country, Wilmington Whist. Hobbies: photography, sailing, golf.

WARE, John, gen. mgr., v.p., Holloway Corp., 120 Wall St., N.Y.C.; res. 46 Wright St., Westport, Conn.
Engr.; b. New York City, Mar. 9, 1905; s. of Dr. Martin and Elsie Ware; ed. A.B., 1925; B. S., 1926; M.E., 1927; all Columbia U.; mem.: Tau Beta Pi; m. Margaret S. Hatch, May 28, 1948; ch.: John Albert, Ellen Jane. Student engr., Westinghouse Electric, 1927-29; sales engr., R.W. Cramer & Co., 1929-31; tech. sales, Amer. Molasses Co., 1931-35; mgr. special prods. dept., Natl. Sugar Ref. Co., 1935-43; v.p., General Mills, Inc., Brasil, 1943-46; pres. & gen. mgr., Sugars, Inc., 1946-47 to present; treas. Kenrich Corp. Mem.: A. C.S., A.S.M.E., I.F.T., prof. engr. license, N.Y., No. 12841. Hobbies: sculpture, photography, violin.

WARE, Louis, pres., dir., Internatl. Minerals & Chem. Corp., 20 N. Wacker Dr., Chicago 6, Ill.; res. 10 Woodley Rd., Winnetka, Ill.
Mining engr.; b. Somerset, Ky., July 13, 1894; s. of Chas. P. and Nora (Lynn) Ware; ed. U. of Ky., Coll. of Mining Engrg., E.M., 1917; mem.: Delta Chi; m. Virginia Boyd Morrow, Nov. 29, 1916; ch.: Thomas Morrow, Louis. 1917-19, miner, Old Dominion Copper Mining Co., Globe, Ariz.; 1919-20, transitman, Ariz. Com. Min. Co., Copper Hill, Ariz.; 1921-23, chf. engr., Iron Cap Copper Co., Copper Hill; 1923-26, frmn., gen frmn., supt., Miami Copper Co., Miami, Ariz.; 1926-29, gen. mine supt., Chile nitrate properties, Guggenheim Bros., Chile, S.A.; 1929-30, consltg. engr., N.Y.C.; 1930-35, engr., N.Y. Trust Co., N.Y.C.; 1935-39, pres., dir., United Elec. Coals Companies & Coal Sales Corp., Chicago; 1939 to date, pres., dir., Internatl. Minerals & Chem. Corp., Chicago; First Natl. Bank of Chicago (dir.), Ill. Central R.R. (dir.), Air Reduction Co., N.Y. (dir.). Dev. of the mines for the Guggenheim process for the prod. of sodium nitrate; appl. of modern mining meths to the prod. of potash, phosphate & coal. Mem.: A.I.M.E., Mining & Metallurg. Soc. of Am. Clubs: Bankers (N.Y.C.), Mining (N.Y. C.), University Club of Chicago, Commercial Club (Chicago), Electric Club (Chicago), Chicago Club (Chicago), Indian Hill (Winnetka, Ill.), Old Elm Golf (Ft. Sheridan, Ill.), Seminole Golf (Palm Beach, Fla.), Everglades (Palm Beach, Fla.). Hobbies: golf, fishing.

WARF, James Curren, asst. prof. of chem., U. of Southern Calif., Los Angeles 7, Calif.; res. 9304 Glasgow Pl., Los Angeles 45.
Tchg. and res. in chem.; b. Nashville, Tenn., Sept. 1, 1917; s. of Mrs. Susie (McCord) Warf; ed. U. of Tulsa, Tulsa, Okla., B.S. in chem., 1939; Iowa State Coll., Ames, Iowa, Ph.D. in inorg. chem., 1946; U. of Berne, Berne, Switzerland, 1947-48; m. Lee Walker, Apr. 14, 1940; ch.: Sandra Louis, Curren Walter. 1940-41, res. dept., Phillips Petroleum Co., Bartlesville, Okla.; 1941-42, instr. chem., U. of Tulsa; 1942-47, grp. ldr., inorg. and anal. chem., Manhattan Proj., Iowa State Coll., Chicago, Oak Ridge, Tenn.; 1947-48, chem. res., Guggenheim Fellow, U. of Berne, chem., U. of Southern Calif. Res. in chem. of Berne, Switzerland; 1948 to date, asst. prof. of metal hydrides (uranium, copper, etc.); chem. of fission prods., uranium and transuranium elements; anal. chem. of fissionable matls.; alkoxides of metals. Asst. edit., "Anal. Chem. of the Manhattan Project," Natl. Nuclear Energy Series, McGraw-Hill, 1950. Mem.: A.C.S., Fed. of Amer. Scientists, Fellow of The John Simon Guggenheim Memorial Foundation. Hobbies: chess, political affairs, languages.

WARING, Charles E., prof. & hd. of dept., Dept. of Chem., U. of Conn.; res. Faculty Apt. House, Storrs, Conn.
Chem. prof.; b. Phila., Pa., Jan. 24, 1909; s. of Charles W. and Elizabeth Waring; ed. B.S., Muskingum Coll., 1931; M.Sc., Ohio State, 1934; Ph.D., 1936; post Ph.D., Oxford U., 1940, Lalor Foundation Fellow; mem.: Sigma Alpha Epsilon. Gamma Alpha; m. Geraldine Howald, Dec. 19, 1936. Instr., Polytech. Inst. of Bklyn., 1936-38; asst. prof., 1938-45; Sc. Liaison Officer, O.S.R.D., London, 1943-45; Sc. Advisor, First Allied Airborne Army, 1944-45; prof. & hd. dept. of chem., U. of Conn., 1946 to date. Res. in chem. kinetics; magneto-chemistry. Mem.: A.C.S., Sigma Xi, Phi Lambda Upsilon, Soc. for Visiting Sc. (London); Presidential Citation for Merit, W.W.II.

WARING, Charles Edward, v.p., res. & dev., The Davison Chemical Corp., Baltimore 3, Md.; res. 5002 St. Albans Way, Baltimore 12.
Res. chem.; b. Cincinnati, O., July 10, 1903; s. of Edward T. and Etta Dell (Smith) Waring; ed. Ohio public schls.; A.B., Ohio Wesleyan U., Delaware, O., 1924; M.S., Ohio State U., Columbus, 1926; Ph.D., 1927; mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, Delta Alpha Pi; m. Cornelia Brownell Douglass, Sept. 1, 1926; ch.: Charles Douglass. Res. chem., investigation and synthesis of cellulose esters, Eastman Kodak Co., Rochester, N.Y., 1927-30; res. chem., Frigidaire Div. of Gen. Motors Corp., Dayton, O., synthesis of fluorinated refrigerants—study of properties, method of manufacture, 1930-45; tech. asst. to the pres., The Davison Chem., Corp., Baltimore, Md., 1945-47; v.p., res. & dev., 1947 to present. Wartime conslt. to Office of Scientific Res. & Dev.; office of chf. of ordnance, Air Service Command. Mem.: A.C.S., A.I.Ch.E., Am. Management Assoc. (planning council, packaging div.), Natl. Res. Council Advisory Bd. on Quartermaster Res. & Dev., Committee on Packing, Packaging & Preservation; Munitions Board Packaging Industry Advisory Committee. Club: Baltimore Yacht Club.

WARNER, Charles L., owner, Warner Labs., 617 First St., Cresson, Pa.; res. 502 Keystone Ave., Cresson, Pa.
Chem.; b. Winterset, Iowa, Aug. 23, 1896; s. of Herman A. and Ellen M. (Law) Warner; ed. U. of Wis., B.S., 1918; mem.: Alpha Chi Sigma; m. Rosa F. Briggs, Sept. 8, 1923; ch.: Rosa B. 1918, U.S.A., C.W.S.; 1919, instr. chem. dept., U. of Wis.; 1920, chem., Commercial Res. Co., Flushing, N.Y.; 1921-23, chem., Penn. Coal & Coke Corp., N.Y.; 1923 to date, owner, Warner Labs., Cresson, Pa. 1937 arbitrator of bituminous coal prices under N.R.A. Mem.: Am. Council of Commercial Labs., Inc.; A.C.S., Penn. Waterworks Operators Assoc. Trustee, Presbyterian Ch., Cresson, Pa.; dir., First National Bank, Cresson, Pa. Clubs: Rotary Internatl., Summit Country, Shriners. Hobby: golf.

WARNER, Harry Bernard, plant mgr., B. F. Goodrich Chemical Co., P.O. Box 122, Avon Lake, Ohio; res. 333 Saddler Rd., Bay Village, Ohio.
Chem. engr.; b. Columbus, O., July 7, 1916; ed. B.Ch.E., Ohio State, 1938; M.S., 1939; Ch.E., 1947; m. Vesta Marie, 1940; ch.: Wendy Ann, Thomas, Timothy. Chem., B.F. Goodrich Co., Ohio, 1939; jr. devel. engr., 1939-40; tech. shift foreman, 1940; N.Y., 1940-41; plant mgr., London, Eng., 1947-48; conslt. chem. engr., B.F. Goodrich Chem. Co., Ohio, 1948; asst. to v.p., 1948; plant mgr., 1948 to date. Res. in organic monomers; resins. Mem.: A.C.S., A.I.Ch.E.

WARNER, John Christian, pres., Carnegie Inst. of Tech., Pittsburgh 13, Pa.; res. 650 Morewood Ave., Pittsburgh 13, Pa.
Chem., educ. admin.; b. Goshen, Ind., May 28,

1897; s. of Elias and Addie (Plank) Warner; ed. Ind. U., A.B., 1919; M.A., 1920; Ph.D., 1923; post-doc. study, U. of Mich.; mem.: Delta Upsilon, Alpha Chi Sigma; m. Louise Hamer, June 17, 1925; ch.: William Hamer, Thomas Payton. Res. chem., The Barrett Co., Phila., 1918; Cosden Co., Okla., 1920-21; Wayne Chem. Corp., Ind., 1925-26; Indiana U., instr. in chem., 1919, 1921-24; Carnegie Inst. of Tech., instr. in chem., 1926-28; asst. prof., 1928-33; assoc. prof. theoret. chem., 1933-36; assoc. prof. met. engrg., 1936-38; prof. & hd. dept. chem., 1938-49; dean grad. studies, 1945-50; v.p. & pres.-elect, 1949-50; pres., 1950 to date; on leave to Manhattan Proj., 1943-45. Contrib. over 50 res. papers in flds. of phys. chem., electrochem. and metallurgy. Author: "Gen. Chem." (with McCutcheon and Seltz), 3rd edit., 1939, D. Van Nostrand Co.; "Chem. of Engrg. Matls.," (editor and co-author), 4th edit., McGraw-Hill Book Co. Mem.: Phi Beta Kappa, Sigma Xi, Tau Beta Pi, Phi Kappa Phi, A.C.S. (Pittsburgh Award 1945; councilor, dir.); E.S. (v.p. and dir.); A.I.M.E., N.Y. Acdy. Scs., Penn. Chem. Soc. Trustee, Carnegie Inst. (Pittsburgh); trustee, Carnegie Inst. of Tech. (Pittsburgh). Clubs: Plttsburgh Chemists', University Club of Pittsburgh, Cosmos (Wash., D.C.). Hobbies: bridge, music.

WARNER, John F., exec., Cluett, Peabody & Co., Inc., 10 E. 40th St., New York, N.Y.; res. Middlebrook Rd., Bound Brook, N.J.
Textile chem.; b. Poughkeepsie, N.Y., Aug. 27, 1899; s. of John F. and Jane L. Warner; ed. R.I. Schl. of Design; m. Helen Macaulay, Dec. 13, 1919; ch.: Donald A., Richard A. 1924-37, merchandise mgr., Pacific Mills, Boston, Mass.; 1937-44. v.p., Calco Chem. Co., Bound Brook, N.J.; 1944-49, pres., Riegel Dev. Labs., N.Y.C.; to date, Cluett, Peabody & Co.; v.p., dir., Textile Color Card Assoc. Mem.: A.A.T.C.C., A.A. A.S., T.R.I. Clubs: Raritan Valley Country, Chemists'. Hobby: photography.

WARNER, Roger S., Jr., engr.-admin., Arthur D. Little Inc., 30 Memorial Drive, Cambridge, Mass.; res. 81 Mt. Vernon St., Boston, Mass.
Engr.-admin.; b. Boston, Mass., June 12, 1907; s. of Roger and Mary H. Warner; ed. Harvard U., A.B., 1931; M.I.T. sp., 1934; mem.: Phi Club. B.F. Goodrich, 1937-42, chf. latex chem.; O.S.R.D.-N.D.R.C., Div. 12, in chg. Ord. Div., proj. mgr., 1942-44; Manhatttan Engrg. Dist., div. ldr., Los Alamos, N.M., 1944-46, in chg. Bikini Tests; Atomic Energy Commis., dir. of Sandia Lab., N.M., 1946-47; couslt. to gen. mgr., 1947; dir. of engrg., 1947-50; with Arthur D. Little Inc., to date.

WARREN, Thomas Edward, scientist, Dept. of Mines and Tech. Surveys, 560 Booth St., Ottawa, Canada; res. 189 Third Ave., Ottawa.
Chem. engr.; b. North Augusta, Ontario, June 20, 1904; s. of Albert Edward and Clara (Landon) Warren; ed. Queen's U., B.A., 1923; B.Sc., 1925; McGill U., M.Sc., 1926; M.I.T., Sc.D., 1930; m. Anne Elizabeth Morley, Oct. 15, 1932; ch.: Edward Morley, William John. 1926-27, Res. Lab. of Appl. Chem., M.I.T., res. asst. and assoc.; 1929, res. engr. Fed. Phosphorus Co., Anniston, Ala.; 1929-50, res. engr., sc. and supvg. sc., Dept. of Mines, Ottawa, Can. Pub. papers on synth. liquid fuels and other branches of fuel tech. Author: "Liquefaction of Canadian Coals by Hydrogenation," 1940. Mem.: Chem. Inst. of Canada (fellow), A.I.Ch.E. Club: Rideau Lawn Tennis. Hobbies: tennis, skiing.

WARREN, Walter Burgess, treas., Warren Soap Mfg. Co., P.O. Box 177, Brighton 35. Mass.; res. Concord Rd., Sudbury.
Soap manufacturer; b. Brookline, Mass., Aug. 17, 1907; s. of Walter B. and Catharine R. (Hooper) Warren; ed. U. of Pa., graduate of Lehigh U., 1931, Schl. of Business Admin.; mem.: Phi Gamma Delta; m. Elizabeth Holmes, Mar. 12, 1936; ch.: Kate, Jean, Barbara. Held the following positions with the Warren Soap Mfg. Co.: lab. employee, summers, 1930 & 1931; shipper, 1932; asst. supt., 1933; treas. & mgr., 1936 to present time; treas. & dir., The Willow Co. Mem.: A.A. T.C.C. Hobbies: music, gardening.

WARREN, William Homer, emeritus prof. of org. chem., Clark U., Worcester, Mass.; res. Moretown, R.D. 2, Vermont (summer), 1238 Emory Dr., N.E., Atlanta 6, Ga. (winter).
Emer. prof. org. chem.; b. Charleston, S.C., Nov. 4, 1866; s. of George William and Harriet (Strong) Warren; ed. A.B., 1889, Harvard; A.M., 1891; Ph.D., 1892; mem.: Pi Eta, Phi Beta Kappa; m. Lucy Ellen Sargeant, Dec. 20, 1894; ch.: Katharine Sargeant, Priscilla Sargeant, Juliet Sargeant. Chem., E.R. Squibb & Sons, 1892-96; chem., N.Y. Quinine & Chem. Co., 1896-98; prof. of chem., Washington U. Med. Schl., St. Louis, Mo., 1898-1911 (dean 1908-11); asst. prof. of chem., Clark U., Worcester, Mass., 1911-12; prof. of chem., Wheaton Coll., Norton, Mass., 1912-17; U.S.A., 1917-19; Peerless Color Co., Plainfield, N.J., 1919-22; Noil Color and Chem. Co., N.Y., 1922-25; prof. of org. chem., Clark U., 1925-37; emeritus prof. of org. chem., 1937 to date. Author of papers on chem. subjects pub. from time to time; pub. a translation of a German wk. on Toxicology entitled "Detection of Poisons," 1905, with 5 or 6 subsequent editions, the last pub. in 1928. Mem.: A.C.S., Deutsche Chemische Gesellschaft.

WARRICK, Earl Leathen, sr. fellow, Mellon Institute, Pittsburgh 13, Pa.; res. Sunset Dr., R.D. 4, Pittsburgh 9.
Chem.; b. Butler, Pa., Sept. 23, 1911; s. of Samuel Edward and Margaret B. Warrick; ed. B.S., Carnegie Institute of Tech., 1933; M.S., 1934; Sc.D., 1943 (Brown U. 1934-35); m. Jean Williams Davis, Sept. 28, 1940; ch.: Nancy Jean. Mellon Institute, 1935 to present; Carnegie Tech., tchg., 1944-45; U. of Pittsburgh, tchg., 1947-48. Res. in the field of silicone polymers—notably on silicone rubber "silastic." Mem.: Tau Beta Pi, Theta Tau, Sigma Xi. Club: Chemists' (Pittsburgh). Hobby: ceramics.

WARTTMAN, Paul, prof. of chem., Miss. State Coll., P.O. Box 604, State College, Miss. (mailing address); res. 111 Muldrow Ave., Starkville, Miss.
Tchr.; b. Cedar Falls, Iowa, July 5, 1895; s. of Samuel and Anna M. (Whitney) Warttman; ed. B.S., Iowa State Tchrs. Coll., 1918; M.S., U. of Wis., 1921; Ph.D., Cornell U., 1925; mem.: Alpha Chi Sigma, Kappa Kappa Psi; m. Vera V. Remington, June 25, 1921. 1918-19, U.S.A.; asst. chem., U. of Wis., 1919-21; prof. chem. & dir. band, Concordia Coll., Moorhead, Minn., 1921-23; Sage Fellow (chem)., Cornell U., 1923-24; Heckscher Res. Asst., summer 1924, Cornell U.; du Pont Fellow Chem., 1924-25, Cornell U.; assoc. prof. chem., Miss. A. & M. Coll., 1925-32 (name of coll. changed to Miss. State Coll., 1932); prof. chem., 1948 to date. Air oxidation of tellurium & sodium tellurite; reaction between sulphur trioxide & hydrogen cyanide; co-author of arts. in sc. jls. Mem.: A.C.S., Miss. Acdy. of Sc., Sigma Xi. Elder, Presbyterian Ch. Clubs: Masonic, O. E.S. (Past Worthy Patron). Hobbies: art metal work, woodworking, fishing, travel, music.

WASCHER, Richard Paul, asst. dir. engrg., Chem. Div., Corn Prods. Refin. Co., Argo, Ill.; res. 609 S. Stone Ave., La Grange, Ill.
Chem. engr.; b. Pekin, Ill., Aug. 10, 1915; s. of H.G. and Ida M. Wascher; ed. Lehigh U., 1938, B.S. in Ch.E.; mem.: Theta Xi; m. Gloria R.O. Rover, June 16, 1948. 1938-41, proc. student, Corn Prods. Ref. Co., Kans. City, Mo. & Argo,

Ill.; 1941-42, proc. supvr., Argo & Pekin, Ill.; 1942-43, instr., O.C.S., C.W.S., U.S.A.; 1943-46, mem., Chem. Warfare Bd., & Edgewood Proving Ground, U.S.A.; 1946-48, engr., Chem. Div., Corn Prods. Ref. Co., Argo; 1948 to date, asst. dir. engrg. Wartime wk. on C.W.S. equipment and materiel. Mem.: A.C.S., A.I.Ch.E., A.S. Mech.E.

WASHBURN, Edward Roger, prof. of chem., U. of Nebr., Lincoln 8, Nebr.; res. 1681 Smith St., Lincoln.
Tchr. & res. dir.; b. Big Rapids, Mich., Sept. 22, 1899; s. of Edward Rush and Myrtilla (Rogers) Washburn; ed. U. Mich., B.S., 1922; M.S., 1923; Ph.D., 1926; m. Dorothy May Adams, Aug. 23, 1926; ch.: Dorothy Elaine, Edward Roger, Jr., Robert Henry, Carolyn May. 1922-25, res. fellow, U. of Mich.; 1925-26, tchg. asst. same U.; 1926-29, instr., U. of Nebr.; 1929-34, asst. prof. same U.; 1934-41, assoc. prof. same U.; 1941 to date, prof. same U. Author of 38 papers pub. in sc. jls. dealing chfly. with surface tension, surface films, and solubility. Mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi, A.C.S., A.A.A.S., A.A.U.P., Nebr. Acdy. of Sc. Hobbies: travel, photography, woodworking.

WASHBURN, Frank Sherman, dir., Agr. Chem. Div., Am. Cyanamid Co., 30 Rockefeller Plaza, New York, N.Y.; res. 26 Pryer Lane, Larchmont, N.Y.
Bus. exec.; b. Somers, N.Y., Sept. 13, 1895; s. of Frank Sherman and Irene Russell Washburn; ed. Morristown Schl., Hill Schl., Cornell U.; mem.: Delta Phi; m. Evalyn Nesbitt, Apr. 30, 1919; ch.: Evalyn Nesbitt. Lt. (jg), U.S.N., 1917-18; joined Am. Cyanamid Co., 1918, at present, dir.; dir., Am. Plant Food Council, Inc., Wash., D.C.; dir., Goodman Mfg. Co., Chicago, Ill.; dir., Natl. Agr. Chem. Assn., Wash., D.C. Clubs: F. & A.M., University (Larchmont). Hobby: gardening.

WASSELLE, Leonard A., project mgr., Rust Process Design Co., Rust Bldg., 575 Sixth Ave., Pitts., Pa.; res. 489 Willow Dr., Mt. Lebanon, Pitts., Pa.
Chem. engr.; b. N.Y.C., Aug. 12, 1915; s. of Alexander and Anna Wasselle; ed. Columbia U. Engrg. Schl., B.S., 1937, Ch.E., 1938; mem.: Phi Lambda Upsilon; m. Catherine A. Ryan, June 9, 1945. 1938-47, Chas. Pfizer & Co., Inc., Bklyn., N.Y., chem. engr.; 1947, Publicker Industries, Phila., project engr.; 1947 to date, Rust Process Design Co., project mgr., dir., exec. comm. Work on fine chems., syn. vitamins, esters, antibiotics, fermentation processes & insecticides. Mem.: A.C.S., A.I.Ch.E., A.A.A.S. Club: Adirondack Mountain.

WASSERSCHEID, August A., retired v.p. and mgr., Mallinckrodt Chem. Wks.; res. 59 Euston Rd., Garden City, Long Island, N.Y.
Exec. (ret.); b. N.Y.C., Jan. 11, 1871; s. of Rudolph and Augusta Wasserscheid; ed. pub. schls., City Coll., Coll. of Pharmacy, Ph.G., Columbia U.; m. Florence A. McKown, Feb. 15, 1900. Worked in drug stores as a boy; phar., N.Y.C., 1886-92; Mallinckrodt Chem. Wks., asst. to H.T. Jarrett, 1893; mgr. N.Y. br., 1913-48. Trustee, Coll. of Pharmacy, Columbia U. Mem.: Masons (Chap., Comdry., Shrine), Salesmen's Assoc., A.C.S., A.Phar.A. Clubs: Drug & Chem., Downtown, Garden City Country. Hobbies: books, stamps.

WASUM, Ludwig W., v.p. & tech. dir., Kessler Chem. Co., Inc., State Rd. & Cottman Ave., Phila. 35, Pa.; res. 504 Highland Ave., Baederwood, Jenkintown, Pa.
Exec.; b. Halle a.S., Germany, Nov. 17, 1900; s. of Wilhelm and Luise Wasum; ed. U. Halle-Wittenberg, Germany, Ph.D., 1928; m. Meta Gritzki, Feb. 3, 1938; ch.: Sigrid C., I. Louise. 1928-29, chem., Dodge Bros., Detroit; 1929-30, res. chem., The Selden Co., Pittsburgh, Pa.; 1930-32, res. chem., A.O. Smith Corp., Milwaukee, Wis.; 1933 to date, Kessler Chem. Co., Inc. Mem.: A.C.S., A.O.C.S., S.C.I., A.A.A.S., Phila. Org. Chem. Club, Franklin Inst., The Zoological Soc., Phila. Club: Seaview Country (Absecon, N.J.). Hobbies: photography, gardening.

WATERFIELD, Donald A., prod. engr., Behr-Manning Corp., Troy, N.Y.; res. Rt. 57, Troy.
Chem. engr.; b. Newark, N.J., Apr. 7, 1910; s. of Walter and Eleanor Waterfield; ed. Newark Coll. of Engrg., 1932, B.S. in Ch.E., 1934, Ch.E.; mem.: Phi Sigma Omega; m. Elizabeth Vaughn, Nov. 11, 1933; ch.: Beverly, Carol, Doris, Donald, Jr. 1930-31, Triplex Safety Glass Co., res. asst.; 1932, Atlas Refinery, control chem.; 1932-33, Celluloid Corp., control and shift foreman; 1933-35, Sylvania Indust. Corp., res. and dev.; 1935-37, A.E. Staley Mfg. Co., res. and dev.; 1937 to date, Behr-Manning Corp., res. & dev., prod. engr. Mem.: A.I.Ch.E. Trustee, pub. schls.

WATERMAN, Robert E(dward), v.p., Schering Corp., 2 Broad St., Bloomfield, N.J.; res. Spring Valley Rd., Harding Township, N.J.; (mailing address) R.D. 2, Morristown, N.J.
Chem.; b. Orange, N.J., Sept. 23, 1899; s. of Albert P. and Clara B. Waterman; ed. Williams Coll., M.I.T., S.B.; N.Y.U. Grad. Schl. of Business Admin.; mem.: Phi Sigma Kappa; m. Elizabeth Alice Williams, Aug. 5, 1939; ch.: Mary Elizabeth, James Perry. 1922-26, engrg. dept., Western Electric; 1926-40, mem. tech. staff, Bell Telephone Labs.; 1940-44, asst. to pres., Research Corp.; 1942-44, spec. repres., Alien Property Custodian; 1944 to date, with Schering Corp., v.p. and dir. Specialist in chem. phases of wood preservation; isolation and synth. of vitamin B-1 (with R.R. Williams); management of sc. and tech. phases of phar. industry. Chmn. Preservatives Comm. of Amer. Wood Preservers Assoc. 1934-38; mem. A.C.S., (coun. North Jersey Sect. 1942-47, chmn. 1945); A.A.Bio.C., N.Y. Acdy. of sc.; mem. of Management Comm. of Williams-Waterman Fund for the Combat of Dietary Diseases; co-founder of Williams-Waterman Fund for the Combat of Dietary Diseases. Clubs: Williams, Glen Ridge Country. Hobby: gardening.

WATERMAN, Wendell Wilson, process engr., exec. comm. mem., Rust Process Design Co., 575 Sixth Ave., Pitts. 19, Pa.; res. 1186 Hillcrest Ave., Pitts. 20, Pa.
Chem. engr.; b. Clarinda, Iowa, June 29, 1913; s. of Donald Dee and Grace Ora (Hitchcock) Waterman; ed. Iowa State Coll., B.S. in chem. engrg., 1934; State U. of Iowa, M.S. in chem. engrg., 1935, Ph.D., chem. engrg. major, com. minor, 1937; m. Ruth Evelyn Coats, Dec. 27, 1934; ch.: Donald Arthur, Alice Diane, Ralph Franklin. Stand. Oil Dev. Co., dev. div., Linden, N.J., process engr., 1937-45; Publicker Industries, Inc., dev. div., Phila., Pa., assoc. dir. of dev., 1945-47; Rust Engrg. Co., Pitts., Pa., process engr., 1947-49; process engr., mem. exec. comm., bd. of dir., 1949 to date. Served on Syn. Rubber Tech. Comm. sponsored by Rubber Reserve Corp., during W.W.II; pats. in fld. of syn. rubber & other org. chem. processes. Mem.: A.I.Ch.E., A.C.S. Hobby: committee work, Boy Scouts of America.

WATERS, Campbell Easter, retired chemist, Natl. Bur. of Stds.; res. 5812 Chevy Chase Parkway, Washington 15, D.C.
Chem. (retired); b. Baltimore County, Md., Sept. 14, 1872; s. of Charles Emory and Annie Mary (Easter) Waters; ed. Johns Hopkins U., A.B., 1895; Ph.D., 1899; mem.: Phi Gamma Delta; m. Mary Snedeker, Apr. 16, 1907; ch.: Charles Emory, Elizabeth. Prof. of chem. and physics,

Conn. Agr. Coll. (Storrs), 1900-01; instr. in chem., The Johns Hopkins U., 1901-04; chem. (var. grades up to asst. chf. chem.), Natl. Bur. of Stds., Oct. 1, 1904 to Sept. 30, 1942. Author of "Ferns," Henry Holt & Co., 1903; and sev. circulars of the Natl. Bur. of Stds. Mem.: A.C.S., A.A.A.S. (fellow), Amer. Fern Soc. (charter mem., honorary mem.). Hobby: botany, especially ferns.

WATERS, Charles E(mory), chem., Barrett Div. Allied Chem. & Dye Corp., Edgewater, N.J.; res. 128 Howard Terrace, Leonia, N.J.
Chem.; b. Washington, D.C., Nov. 17, 1908; s. of Campbell Easter and Mary Snedeker Waters; ed. The Johns Hopkins U., 1925-31, Ph.D., 1931, Phi Beta Kappa, 1929, Sigma Xi, 1931; mem.: Beta Theta Pi; m. Edith Cairnduff Campbell, May 16, 1944; ch.: Douglas Campbell, Emory Wallace. Res. chem., Johns-Manville Res. Labs., 1931-37; res. and dev. dept., Tide Water Associated Oil Co., 1937-42; C.W.S. (Lt., 1942-43; Capt., 1943-46; Maj., 1946); res. and dev. dept., Barrett Division, Allied Chem. & Dye Corp., 1946 to date. Mem.: A.C.S., A.I.C. (fellow), Soc. of Rheology, Am. Inst. of Physics.

WATKINS, George Benson, dir. of res., Libbey-Owens-Ford Glass Co., Res. Dept., Tech. Div., 1701 E. Broadway, Toledo 5, Ohio; res. 4941 Rolandale Rd., Box 709, R.R. 9, Miner Park Sub-div., Toledo 13, Ohio.
Res. in flat glass & resulting prods.; b. Tunkhannock, Pa., Nov. 16, 1895; s. of Thomas E. and Mable (Mead) Watkins; ed. U. of Mich., 1915-17, 1919-21, B.S.; Kansas State Coll., 1921-24, M.S.; U. of Mich., 1924-26, Ph.D.; m. Rhea E. MacGlinch, 1928; ch.: Thomas Mead, Glenn Erlamond. Kansas State Coll., 1921-24, instr. in chem.; U. of Mich., 1924-26, part time instr. in chem. engrg.; 1926-27, full time instr.; Libbey-Owens-Ford Glass Co., 1927-29, chem. engr.; 1929 to date, dir. of res. Numerous publ. in sc. jls. Mem.: Am. Ceramic Soc. (rep. of the Am. Ceramic Soc. on the Sectional Comm. of the Am. Stands. Assn. Project Z-26, for specifications & meths. of test for safety glass), A.C.S., Am. Soc. of Heating & Vent. Engrs. (tech. advisory comm. on "Heat Flow Through Glass," Toledo Chapter), A.S.T.M. (comm. D-20 on plastics, Detroit District Council), Am. Stands. Assn. (subcomm. of Safety Glass Code Z-26), Illuminating Engrg. Soc. (Daylighting Comm. on "Daylight Engrg."), Natl. Farm Chemurgic Council; Natl. Soc. of Prof. Engrs. (Reg. Prof. Engr., br. of chem. engrs., State of Ohio), S.A.E. (Engrg. Subcomm. on window & door glass, Engrg. Matls. Activity Comm.), Phi Kappa Phi, Phi Lambda Upsilon, Sigma Xi, Iota Alpha, Pi Kappa Alpha, Alpha Chi Sigma. Mem. Sylvania, Ohio Schl. Bd. Clubs: Am. Legion, Sylvania Medusa Gun. Hobbies: gardening, hunting, fishing.

WATSON, John Wilbur, hd. dept. of chem. & prof. inorg. chem., Va. Polytech. Inst., P.O. Box 75, Blacksburg, Va.; res. Blacksburg.
Prof. of chem., hd. of dept.; b. Chatham, Va., June 18, 1888; s. of Fletcher B. and Pattie (Tredway) Watson; ed. U. of Va., B.A., 1910; M.A., 1910; Ph.D., 1913; m. Anna Cora Davidson, Jan. 1, 1916, (dec.); ch.: John Wilbur, Jr., Robert James, Marshall Tredway, Charles Neil; m. 2nd. June 2, 1948, Ida Brittain Greenlaw. 1909-10, asst. in chem., U. of Va.; 1910-13, instr. in chem.; 1913 to date, prof. of inorg. chem., Va. Polytech. Inst.; 1925 to date, hd., dept. of chem.; 1923-41 (summer quarter), dir., same Inst. "Abstraction of Potassium during Sedimentation"; special fields: inorg. and phys. chem. Mem.: A.C.S. (fellow); A.A.A.S. (fellow); Va. Acdy. of Sc., A.A.U.P., Science Club (Va. P.I.); Phi Beta Kappa, Phi Kappa Phi, Phi Lambda Upsilon, Ravens (U. of Va. honorary soc.). Chmn., bd. of dirs., Farmers and Merchants Natl. Bank of Blacksburg; secy. Y.M.C.A., adv. bd. (V.P.I.). Clubs: University (V.P.I.), Lions (pres. 1932-33). Hobbies: hiking, gardening.

WATSON, Kenneth M., conslt., 3501 Blackhawk Dr., Madison 5, Wis.; res. same.
Chem. engr.; b. Herman, Minn., Aug. 17, 1903; s. of J.E. and Blanche M. Watson; ed. U. of Wis., B.S., 1923, M.S., 1924, Ph.D., 1929; mem.: Alpha Chi Sigma, Phi Lambda Psi, Sigma Xi, Gamma Alpha, Phi Kappa Phi; m. Catherine Cramton, 1929; ch.: Mary C. Western Elec. Co., asst. engr., 1924-26; U. of Wis., 1926-30, asst. prof. of chem. engrg.; Universal Oil Prods. Co., dir. of engrg. res., 1930-41; Gulf Oil Corp., engr., 1941-42; U. of Wis., res. prof., 1942-48; conslt. 1948 to date. Author: "Chem. Process Principles" Vol. I Mat. & Energy Balances, Vol. II Thermodynamics, Vol. III Kinnetics & Catalysis, John Wiley 1946; co-author: "Industrial Chem. Calculations" with O.A. Hougen, John Wiley 1931, 2nd edit. 1936. Mem.: A.I.Ch.E., A.C.S., A.A.A.S., Am. Soc. Engrg. Ed. 1948 William H. Walker Award of A.I.Ch.E.

WATT, J. Russell, sales mgr., industrial laminated & insulating prods., Gen. Electric Co., 1 Plastics Ave., Coshocton, Ohio; res. 627 S. 6th St., Coshocton, Ohio.
Exec.; b. N.Y.C., Aug. 13, 1915; s. of James and Isabel H. Watt; ed. Colgate U., Hamilton, N.Y. class 1938, A.B.; mem.: Phi Delta Theta; m. Catherine Carroll, Nov. 16, 1940. 1938-39, store mgr., B.F. Goodrich, Albany, N.Y.; 1939-42, asst. div. mgr., Borden Co., Sales Co. Div., Syracuse, N.Y.; 1942-43, Gen. Electric Co., Chem. Dept., Production, Schenectady, N.Y.; 1943-45, U.S.N. Hosp. Corps.; 1946-49, Gen. Elec. Co., Chem. Dept., sales rep., Cleveland, Ohio; 1949 to date, sales mgr., indust. laminated and insulating prods., Gen. Elec. Co., Coshocton, Ohio.

WATT, Lynn Andre, dir., dev. dept., org. div., Monsanto Chem. Co. 1700 S. Second St., St. Louis, Mo.; res. 670 Scott Ave., Kirkwood 22, Mo.
Chem.; b. Pontiac, Ill., June 9, 1886; s. of William and May Huston (Boys) Watt; ed. U. of Ill., B.S. chem., 1910; mem.: Delta Phi, Alpha Chi Sigma; m. Ethel Morrison, June, 1913; ch.: James M. Armour Co., chem., 1910-12; asst. chf. chem., 1912-20; Monsanto Chem. Co., chg. anal. & control lab., 1920-22; tech. adv., sales dept., 1922-27; sales mgr., 1927-28; tech. serv. div., mgr., 1929-39; dir., div. dev. dept., 1939 to date. Mem.: A.C.S., Soc. of Chem. Ind. Clubs: University, Optimist, Kirkwood Garden.

WATTS, Cecil Edwin, asst. to v.p., res. & dev., Commercial Solvents Corp., Terre Haute, Ind.; res. 1015 S. 22nd St., Terre Haute.
Chem.; b. Thompsonville, N.Y., Dec. 15, 1886; s. of Theodore and Mary Caroline (Busher) Watts; ed. 1909, U. of Del., B.S.; mem.: Theta Chi, Phi Kappa Phi Honor Soc.; m. Adelaide Moran, June 11, 1924; ch.: Theodore, III, Mary Frances. Chem., Naval Powder Factory, Indian Head, Md., 1912-16; chf. chem. Imperial Munitions Bd., Renfrew (Ontario) Plant, 1916-18; 1st Lieut. Ord. Dept., U.S.A., 1918-20; assoc. chem. Edgewood Arsenal, Md., 1920-22; chem. Seydel Chem. Co., Nitro, W.Va., 1922-23; chf. chem., E.C. Klipstein & Sons, Charleston, W.Va., 1923-27; res. chem. Commercial Solvents Corp., Terre Haute, Ind.; 1927 to date, asst. to v.p.; on military leave as Lt. Col., Ord. Dept., U.S.A., 1941-46. Pub. papers: "Anal. of Lacquer Thinners," 1932; "Determ. of Nitrogen," 1938; "Determ. of Boiling Range of High Boiling Liquids at Reduced Pressure," 1942. Mem.: A.C.S., A. Ord. Assoc., Military Order of World Wars, Amer. Legion, Natl. Farm Chemurgic Council. Clubs: Army and Navy (Wash.), Fort Harrison Country (Terre Haute). Hobbies: golf, genealogy.

WATTS, Otto O(live), prof. of chem., chmn. of grad. council, Hardin-Simmons U.; res. 1442 Lowden Ave., Abilene, Texas.
U. prof.; b. Brentwood, Ark., Mar. 21, 1893; s. of John Clayton and Lillian Harriett (Olive) Watts; ed. A.B., Simmons Coll. 1913; A.B., Rice Inst. 1916; M.A., U. of Colo., 1923; Ph.D., Leland Stanford U. 1932; mem.: Sigma Xi, Phi Lambda Upsilon, Alpha Chi; m. Lela May Shaw, Sept. 12, 1919; ch.: Helen Florence (Watts) Campbell. Public schl., Westbrook, Texas, 1913-14; high schl. chem., Mart, Texas, 1914-15; high schl. principal, Groveton, Texas, 1916-17; radio sgt., 1st class, 90th Div., U.S.A., 1917-19; chem. instr., Austin H.S., 1919-20; prof. of chem., dept. hd., chmn. grad. council, Hardin-Simmons U., 1920 to date (on leave of absence 1922-24 & 1930-32); instr. of chem., U. of Colo., 1922-24; tchg. fellow, acting asst. prof. of chem., Stanford U., 1930-32; visiting prof. of chem., Texas Western Coll., El Paso, Texas, summers 1936, 1937, 1939; Stephen F. Austin State Coll., Nacogdoches, Texas 1938. Res. in thermo titration, elec. conductivity, lyotropic series, mesomorphic state in soap sols. Co-author: "Gen. Chem." (The Miner Series) joint authors 1926, 1929. Mem.: A.C.S., A.A.A.S. (fellow), Texas Acdy. of Sc. (v.p. 1937, treas. 1940-42), Texas Archeolog. & Paleontolog. Soc. (secy., treas. 16 yrs., v.p.). Deacon, First Baptist Church, Abilene, Texas. Clubs: Sigma Xi, Phi Lambda Upsilon, Alpha Xi (Regional Pres. 1950), Abilene Knife & Fork. Hobbies: philately, musician, flutist.

WAUGH, Roger Owen, process design engr., E.I. du Pont de Nemours & Co., Wilmington, Delaware; res. 10 Landers Lane, Swanwyck, New Castle, Del.
Chem. engr.; b. Rochester, N.Y.; s. of Percy A. and Bessie L. Waugh; ed. B.S., chem. engr., Syracuse U.; mem.: Phi Delta Theta; m. Alice Marie Cullins, July 24, 1937; ch.: Richard Allan, Virginia Cullins, Steven Frederick. Chem. engr., du Pont Co., 1935 to date; jr. engr., indus. engrg. div., pigments dept., Balt. plant, 1935-38; asst. group supvr., indus. engrg. div., Grasselli dept., Phila. plant, 1938-40; same, Cleveland plant, 1940-42; group supvr., fabrics & fin. dept., Parlin plant, 1942-46; group supvr., rayon dept., Buffalo plant, 1946-47; chem. engr. consulting, engrg. service div., Wilmington, 1947-49; design process engr., design div., Wilmington, 1949 to date. Mem.: A.I.Ch.E. Supt., New Castle Presbyterian Church School. Hobbies: photography, gardening, camping, boys clubs..

WAYNE, Truman Benjamin, owner, Truman B. Wayne & Assoc., P.O. Box 13086, Houston 19, Texas; res. 907 Kirby Dr., Houston, Texas.
Consltg. chem. engr.; b. Opelousas, La., July 17, 1898; s. of William Purnell and Stella (Truman) Wayne; ed. La. State U., B.S., 1921, M.S., 1922; m. Johanna V. Noonan, Nov. 23, 1932; ch.: Mary Helen. Res. chem. engr., Associated Rice Millers of Am., 1922-23; chem. engr., I.H. Morse & Co., conslts., 1923-24; chf. chem. engr., 1st asst. supt., Imperial Sugar Co., Sugar Land, Tex., 1924-29; cons. chem. engr., independent practice, 1930 to date; various exec., directorate connections in corporate structures of clients. Publ. & res. (unpublished) on raw & refined cane sugar mfg., pet. demulsifiers, oil well drilling muds, org. chem., surface active agents; 47 U.S. & foreign pats. in these flds.; designer of several chem. plants & sugar refineries. Various specialized pamphlets & reports. Mem.: Reg. professional engr. Texas; Assn. Cons. Chem. Engrs., Inc. (N.Y.); A.C.S., A.I.Ch.E., Am. Pet. Inst., A.S.T.M.

WEARN, Richard Benjamin, asst. dir. res. & dev. dept., Colgate-Palmolive-Peet Co., 105 Hudson St., Jersey City 2, N.J.; res. 30 Oakdale Ave., Maplewood, N.J.
Org. chem.; b. Newberry, S.C., Aug. 1, 1916; s. of George F. and Mary (Cannon) Wearn; ed. B.S., 1937, Clemson A.&M. Coll., Norris Medalist; M.S., 1939, U. of Ill.; Ph.D., 1941; mem.: Alpha Chi Sigma, Phi Kappa Phi, Phi Lambda Upsilon, Sigma Xi; m. Edith Belser, 1940; ch.: Mary Margaret, Richard B., Jr., Mabel Lee. 1937-38, Natl. Starch Prods., Inc., chem.; 1941-42, Eastman Kodak Co., org. res. chem.; 1942-45, Chem. Corps Tech. Command, res. chem.; 1945-49, Southern Res. Inst., hd. org. chem. div.; 1949 to date, Colgate-Palmolive-Peet Co., asst. dir. res. & dev. dept. Syn. & identification of natural prods.; terpene derivatives; detergent syn. & dev., chem. warfare agents. Mem.: Alpha Chi Sigma, A.C.S. Hobbies: photography, music.

WEATHERLY, Robert Stone, gen. mgr. sales, phosphate div., Monsanto Chem. Co., 1700 S. 2nd St., St Louis, Mo.; res. 6432 Cecil Ave., St. Louis.
Exec.; b. Anniston, Ala., Sept. 24, 1899; s. of W.H. and Alice S. Weatherly; ed. U. of Ala., B.A., 1920; mem.: Alpha Tau Omega; m. Gladys Manning, Oct. 25, 1925; ch.: Robert S., Jr., Michael M. 1925-35, with Swann Chem. Co.; 1935 to date, with Monsanto Chem. Co.

WEAVER, Elbert Cook, instr., Phillips Acdy., Andover, Mass.; res. Neck Rd., Madison, Conn.
Tchr., writer; b. Hartford, Conn., Feb. 7, 1900; s. of Elbert Lawton and Agnes Amelia (Cook) Weaver; ed. 1922 Wesleyan U., Middletown, Conn., A.B. (chem. honors); 1926 U. of Vermont, Burlington, Vt., M.A.; 1940 U. of S. Calif.; mem.: Beta Theta Pi; m. Grace Gavina Kelsey, Sept. 1, 1926; ch.: Andrew Dudley, Edwin Snell, Elbert Kelsey, Allan Cook. 1922-26, hd. sc. dept., Chapman Tech. H.S., New London, Conn.; 1926-43, chmn sc. dept., Bulkeley H.S., Hartford, Conn.; 1930-43, hd. sc. dept., Hillyer Jr. Coll., Evening Div., Hartford, Conn.; 1943 to date, instr., Phillips Acdy., Andover, Mass. Assoc. edit.: "Jl. of Chem. Educ."; dept. editor; sc. tchr.; editorial wk. on various chem. pubs.; Filmstrip Series in Chem. (with Laurence S. Foster), McGraw-Hill, 1949. Co-author (with N. Henry Black), "Lab. Experiments and Workbook in Physics," Macmillan, 1938; rev. 1949; "Chemistry for Our Times" (with Laurence S. Foster), McGraw-Hill, 1947, (Polish language edition); "Lab. Introd. to Chem.," McGraw-Hill, 1947. Mem.: N.E. Assoc. of Chem. Tchrs., (past pres.); Science Master's Assoc. (Gr. Britain); Fellow, A.I.C.; A.C.S. (chmn. Comm. on H.S. Chem., Div. of Chem. Educ.); Natl. Sc. Tchrs. Assoc. (treas.). Trustee of endowment fund, N.E. Assoc. of Chem. Tchrs. Hobby: stamps.

WEAVER, Harold E(shleman), sr. fellow, Mellon Inst., 4400 Fifth Ave., Pittsburgh 13, Pa.; res. 4628 Bayard St., Pittsburgh 13.
Res. chem.; b. Ronks, Pa., Mar. 21, 1911; s. of Charles M. and Anna (Eshleman) Weaver; ed. Franklin & Marshall Coll., B.S., 1934; Brown U., Ph.D., 1940; m. Carolyn Brown, Sept. 8, 1939; ch.: Robert Bruce, Barbara Lynne, Patricia Jane. 1940-41, res. chem., E.I. du Pont de Nemours & Co., Waynesboro, Va.; 1941-46, sr. fellow, Mellon Inst., Pittsburgh, Pa.; 1946-47, res. chem., supvr., Hercules Powder Co., Wilmington, Del.; 1947 to date, sr. fellow, Mellon Inst. Res. in electrical properties of dilute solutions, plastics and high polymers, detergents, emulsions, buoyant matls. for life preservers. Mem.: A.C.S., Sigma Xi, Phi Beta Kappa. Club: Pittsburgh Chemists'. Hobbies: bridge, sports.

WEAVER, James Bellamy, 2nd, techno-econ., res. chem. engr., res. dept., Olin Industries, Inc., E. Alton, Ill.; res. 117 S. Central Ave., Wood River, Ill.
Chem. engr., res. mgmt.; b. Jamaica Plain, Mass., Feb. 23, 1923; s. of Eastman Atkins and Marjorie

(Roberts) Weaver Kennedy; ed. Mass. Inst. Tech., B.S. in Ch. Engrg., 1944, M.S. in Ch. Engrg., 1947; mem.: Phi Gamma Delta, Alpha Chi Sigma, Sigma Xi; m. Judith Gardner, June 29, 1946; ch.: Theodore Gardner. 1944-45, teach. asst., chem. engrg., M.I.T.; 1945-50, asst. to dir. res. & dev., Godfrey L. Cabot, Inc., Boston, Mass. (including 1 yr. pilot plant supvr., Pampa, Tex.); 1950 to date, techno.-econ., commercial evaluation group, res. dept., Olin Industries, Inc. Co-author: "Effects of Carbon Black on the Properties of Soils: I. Effects on Soil Temps.," 1949, pub. in tech. jl., and II. "Effects on Humid Soils," 1950, pub. in sc. jl. Mem.: A.C.S., A.I.Ch.E., Chem. Market Res. Assn. Hobbies: natl. & world affairs, music, photography.

WEAVER, Joe Cline, Jr., proc. supvr., Stanolind Oil & Gas Co., P.O. Box 1712, Brownsville, Tex.; res. 1637 W. Elizabeth St., Brownsville. Chem. engr.; b. Cochrane, Ala., July 16, 1913; s. of Joe C. and Bessie (Hall) Weaver; ed. 1935, U. of Ala., B.S.; selected by faculty as outstanding sr. engr.; mem.: Sigma Chi, Tau Beta Pi, Omicron Delta Kappa, Gamma Sigma Epsilon; m. Mary Lou Money, Feb. 10, 1934; ch.: Barry C., Marcia J., Suzanne. 1935-39, jr. engr. & asst. to dir. of dev., Swann & Co.; 1939-47, grp. ldr., chem. prods. div., Sherwin-Williams Co.; 1947 to date, sr. chem. engr. & proc. supvr., Brownsville chem. plant, Stanolind Oil and Gas Co. Collaborated in dev. of commercial proc. for synth. menthol; chem. engr. in chg. of dev. of fluidized catalytic oxidation procs. for mfr. of phthalic anhydride and related prods.; proc. design of chem. plant for separation and refining of chems. prod. by the hydrocarbon synth. proc. Mem.: A.I.Ch.E. Club: Brownsville Golf. Hobbies: fishing, photography, youth activities.

WEAVER, Julian Mason, Jr., secy. & chf. chem., Froehling & Robertson, Inc., Richmond, Va.; res. Route 9, Box 344, Richmond. Anal. chem.; b. Rich Square, N.C., July 11, 1902; s. of Julian M. and Gertrude C. Weaver; ed. Va. Military Inst., 1921-23; B.S., Coll. of William & Mary, 1926; m. Judith Hill, June 12, 1931; ch.: Judith Bransford, Julian Mason, III. Adv. dept., General Motors Corp., R.F. Trant & Co., Norfolk, Va., 1926-27; sec., chf. chem. & dir. of bacteriol. lab., Froehling & Robertson, Inc., 1928 to date. Consultant: water & atmospheric pollution studies; cooperative wk. on anal. procedures, A.S.T.M., Bur. of Public Roads; industrial water treatment; industrial health hazards; cooperative studies, U.S. Dept. of Agric., production and marketing adm., marketing res. branch, Washington, D.C. Mem.: A.C.S., Am. Wood Preservers Assoc., A.W.W.A., Am. Public Health Assoc., Southern Assoc. Sc. & Ind., Acdy. of Sc. (Virginia). Clubs: V.M.I. (Richmond) Alumni Club, Southampton Cotillion, Wm. & Mary Club. Hobbies: horseback riding, gardening, golf, tennis, photography, music.

WEAVER, Willis K., asst. prof. physical sc., U. of Ill., Navy Pier, Chicago, Ill.; res. 911 Gaffield Pl., Evanston, Ill. Tchr.; b. Tahlequah, Okla., Mar. 8, 1883; s. of Willis and Anna R. (Kuhn) Weaver; ed. A.B., 1906, Tarkio Coll.; B.S. in ed., U. of Mo., 1913; M.S. in chem., U. of Chicago, 1922, Ph.D., 1928; mem.: Acacia, Phi Delta Kappa, Sigma Xi; m. Althea H. Weaver, Aug. 7, 1916; ch.: Eleanor (dec.), A. Elizabeth. H.S. teacher & principal for about ten yrs., then coll. teacher of chem., Stephens Coll., U. of Ill., Coll. of Phar., 1919-25; res. mostly in chem. in medicine, until 1932; chem., U.S.S. Prods. Co., Woodworth, Wis., 1932-36; chem., Baxter Lab., 1936-46; chem. tchr., U. of Ill., Navy Pier, 1946 to date. Phar., medical & clinical chem., pyrogens. Hobbies: chess, golf, barber shop singing.

WEBB, Byron Horton, dairy mfg. tech., Bur. Dairy Indust., U.S. Dept. Agric., Wash. 25, D.C.; res. 28 W. Baltimore St., Kensington, Md. Chem. b. N.Y.C., 1903; s. of Oliver and Eliza (Horton) Webb; ed. B.S., Univ. Calif., 1925; M.S., George Washington U., 1928; Ph.D., Cornell U., 1931; mem.: Alpha Gamma Rho, Alpha Zeta, Sigma Xi; m. Helen Smith, 1932; ch.: Byron, Jr., Alice G., Helen C., Marian W. 1926 to date, dairy mfg. tech., U.S. Bur. Dairy Ind., 1929-30, grad. fellow at Cornell. Res. on milk and milk prods., esp. condensed and evap. milk and utilization of byprods. in human food. Author: "Byproducts From Milk," (with E.O. Whittier), Reinhold Pub. Co., in press 1950. Mem.: Amer. Dairy Sc. Assoc., A.C.S., I.F.T., Wash. Acdy. Scs., Borden Award in Dairy Mfg., 1943.

WEBB, Carl Nathan, prof. of chem., Miami U., Oxford, O.; res. 326 W. Vine St., Oxford, Ohio. Tchr.; b. Montague, Mich., Sept. 11, 1900; s. of Nathan H. and Belle (Chase) Webb; ed. Northwestern U., B.S., 1925, M.S., 1926; Ph.D., 1935; Harvard U., A.M., 1928; mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon (all at Northwestern); Alpha Chi Sigma; m. Albertine Newton, Dec. 17, 1932; ch.: Beverly. 1928-29, instr., Miami U. dept. of Chem.; 1929-37, asst. prof.; 1937-47, assoc. prof.; 1947 to date, prof. Mem.: A.C.S., A.A.A.S., Ohio Acdy. of Sc.

WEBB, Hanor A., prof. of chem., hd. dept., George Peabody Coll. for Tchrs., Nashville 4, Tenn.; res. 3 Westminster Apts., Nashville 4. Chem. prof.; b. Nashville, Tenn., Apr. 1, 1888; s. of Alonzo C. and Ellen (Hanor) Webb; ed. U. of Nashville, A.B., 1908; U. of Chicago, M.S., 1911; George Peabody Coll. for Tchrs., Ph.D., 1920; mem.: Phi Delta Kappa, Kappa Delta Pi; m. Willard Holmes Cummings, Aug. 11, 1914; ch.: John H., Ruth C., Mary W., Martha K. Instr. in chem., U. of Nashville, 1906-08; sc. tchr. in Ga., Kentucky, 1908-10; instr. in chem. U. of Chicago, 1910-12; prof. chem. & biol., West Tenn. State Norm. Schl., Memphis, 1912-17; instr. in chem., Geo. Peabody Coll. for Tchrs., 1917-20; asst. prof., assoc. prof., prof. of chem. & sc. education, 1920 to date. Service chfly. in offering grad. courses in chem. on Masters Degree level, training chem. tchrs. for h.s. and jun. coll. positions. Author: "Early Steps in Science," 1925; "Science by Observation and Experiment," 1935; editor, "Current Science" (Columbus, O.), 1927-47; science edit., "Education," (Boston), 1935 to date. Pres., Dept. of Sc. Instruc., Natl. Educ. Association, 1926; pres., Natl. Assoc. for Res. in Sc. Tchg., 1937; pres., Tenn. Acdy. of Sc., 1946; secy., Natl. Sc. Tchrs. Assoc., 1946 to date; dir. First Federal Savings & Loan Assoc., Nashville, Tenn. Club: Freolac. Hobbies: touring and color photography, old science books.

WEBB, Hubert Judson, chf. chem., chmn. comm. on grad. studies, Clemson Coll., Clemson, S.C.; res. Clemson. Chem.; b. Aiken Co., S.C., June 8, 1911; s. of Gearge Robert and Carrie (McCrackan) Webb; ed. Clemson Coll., B.S.; Cornell U., Ph.D.; mem.: Alpha Zeta, Sigma Xi, Phi Kappa Phi, etc.; m. Emma McGregor, July 3, 1937; ch.: Linda Irene, George McGregor, Kenneth Edward. 1934-38, grad. asst., Cornell U.; 1938-39, asst. chf. chem., Clemson Coll.; 1939 to date, chf. chem.; 1949 to date, chmn. comm. on grad. studies, same coll. Res. in water tech. and purification, fertilizer chem., anal. chem. Mem.: A.C.S., A.A.A.S., S.C. Acdy. of Sc., Torch Club. Dir.: S.C. Wildlife Fed. Hobbies: wild life conservation, fishing.

WEBB, James Lewis Adrian, prof. of chem., Southwestern at Memphis, Memphis 12, Tenn.; res. Apt. 2, 669 University Pl., Memphis 7. Coll. prof.; b. Webb, Miss., Nov. 17, 1917; s. of Lewis Daniel and Margaret (Turner) Webb;

ed. Webb Schl., Bell Buckle, Tenn. (Prep.); Wash. & Lee Univ., B.S., 1939; Johns Hopkins U., Ph.D., 1943; m. Jeanne Dehoff, June 6, 1946; ch.: Lewis Daniel, III (dec.), Mary Josephine. 1943-45, instr. chem., Johns Hopkins U.; 1945-47, asst. prof. chem., Southwestern at Memphis; 1947-49, assoc. prof.; 1949 to date, prof. chem. Mechanism of heavy metal poisoning and antidotes for same; catalytic preparation of ketones, chemistry of pyrroles. Mem.: Phi Beta Kappa, Sigma Xi, A.C.S., Gamma Alpha, Chi Beta Phi, Phi Lambda Upsilon, Tenn. Acdy. of Sc. Club: Torch International. Hobbies: photography, weaving, golf.

WEBB, Thomas Jefferson, dir. of physical & inorg. chem. res., Merck & Co., Inc., Rahway, N.J.; res. Nassau Club, 6 Mercer St., Princeton, N.J. Chem. res.; b. Anderson, S.C., May 8, 1900; s. of William M. and Kate (Bewley) Webb; ed. B.S., Clemson Coll. (S.C.), 1921; A.M., Princeton U., 1923; Ph.D., 1924. 1926-28, instr. physical chem. Princeton U.; 1928-36, asst. prof.; 1936-38, res. chem. Merck & Co., Inc., Rahway, N.J.; 1936-45, asst. dir. of res.; 1945 to date, dir. of physical and inorg. chem. res. Author: "Elementary Principles in Physical Chem.," 1936. Mem.: A.C.S., N.Y. Acdy. Scs. (fellow). Clubs: Nassau, University, Pretty Brook Tennis. Hobby: tennis.

WEBB, William L., admin. dir. of Whiting Labs., Std. Oil Co. (Indiana), Box 431, Whiting, Ind.; res. 825 Argyle Ave., Flossmoor, Ill. Chem.; b. Lexington, Ky.; s. of William S. and Aleen L. Webb; ed. U. of Ky., B.S. in Ind. Chem., 1933; M.S., 1934; mem.: Sigma Alpha Epsilon; m. Drewsilla S., Sept. 17, 1935; ch.: William S., Andrew S. 1934-40, chem., Std. Oil Co., Whiting; 1940-46, asst. to dir. of res., Std. Oil Co., Chicago; 1946 to date, admin. dir. Whiting Labs. Res. on numerous petroleum procs. and prods. Mem.: Alpha Chi Sigma, Sigma Xi, A.C.S., A.A.A.S. Hobbies: radio, gardening.

WEBBER, Harold Haskell, dir. of expmt. station, Lowell Textile Inst., Lowell, Mass.; res. Rt. 1, Groton, Mass. Res. dir.; b. Springfield, Mass., Mar. 21, 1915; s. of Samuel H. and Celia Webber; ed. Trinity Coll. & U. of Texas, 1935-39; Grad. Schl., U. of Texas, 1939-41; m. Leta Henderson, Dec. 18, 1939; ch.: Ronald, Karen, Stephen, Susan, Peter. Anal., Clayton Foundation for Res., U. of Texas, Austin, Tex., 1937-39; fellow, 1939-41; instr. physiol. & genetics, U. of Vt., Burlington, Vt., 1941-42; dir. prod. res., Natl. Cotton Council, Memphis, Tenn., 1942-46; dir., Basic Res. Labs., Cotton Res. Comm. of Texas, Austin, 1946-48; dir. of expt. station, Lowell Textile Inst., 1948 to date. Res. in biochem., genetics, textile technol., cellulose chem. Mem.: Genetics Soc., Am. Assn. Geneticists, Fiber Soc., A.A.A.S., Sigma Xi, Am. Assn. Agronomists.

WEBER, Arthur G., lab. dir., du Pont Experimental Sta., Wilmington, Del.; res. 1514 Brandywine Blvd., Wilmington. Chem.; b. St. Joseph, Mo., Jan. 14, 1903; s. of George and Sarah (Schneider) Weber; ed. St. Joseph Central H.S.; U. of Kans., B.S. (honor roll, 1, 2 and 4th yrs.); mem.: Alpha Kappa Lambda, Alpha Chi Sigma; m. Ruth Martin, Dec. 27, 1930; ch.: Carolyn Ruth, Arthur Morgan, Margaret Martin. 1927-30, asst. instr. chem., U. of Wis.; 1930-34, res. chem., du Pont, ammonia dept.; 1934-39, proj. ldr., new processes-new prods.; 1939-44, grp. ldr.; 1944 to date, lab. dir. High pressure synth.; oxidation and hydrogenation reactions; proc. dev. wk. Mem.: Sigma Xi, A.C.S. Hobbies: fishing, sailing, automobile design.

WEBER, Frederick Clarence, conslt.; res. 178 Wilmont Rd., Scarsdale, N.Y. Res. chem., conslt.; b. Columbus, O., Oct. 1, 1878; s. of Herman P. and Medora I. Weber; ed. Ohio State U., B.Sc. in chem.; Geo. Washington U., M.D.; mem.: Delta Tau Delta; m. Alice L. Baker, June 20, 1908; ch.: Frederick C., Jr., Margaret Claire, Richard Rich. Asst. chem., Kans. Agric. Exp. Sta., Manhattan, Kans.; asst. chem. & chem., Bur. Chem., U.S. Dept. Agric.; chf., animal physiolog.; res. chem., Fleischmann Labs.; res. chem., Atlantic Coast Fisheries Co.; res. & conslt., Keratene Co. Mem.: A.A.A.S. (fellow), A.C.S., N.Y. Acdy. Sc., Sigma Xi.

WEBER, Harold Christian, prof. chem. engrg., M.I.T., Cambridge 39, Mass.; res. 67 Vose Hill Rd., Milton, Mass. Chem. engr.; b. Mar. 20, 1895; s. of Christian and Ellen (Arnold) Weber; ed. M.I.T., B.S., 1918; Swiss Federal Inst., Zurich, Switzerland, D.Sc., 1935; m. Madeleine Duffy, 1931. 1918-19, 2nd Lt., C.W.S., U.S.A.; 1919-20, conslt., Lewis, Green, McAdams & Knowland, Boston, Mass.; 1920 to date, prof., M.I.T., & conslt.; 1941-45, tech. advisor, C.W.S. Presidential Cert. of Merit. Res. on heat transfer, pet. refining, heavy chem., electronic devices, mech. devices. Author: "Thermodynamics for Chem. Engrs.," John Wiley & Sons, Inc., N.Y.; chapter on "Thermodynamics" in Marks' "Mech. Engrs. Handbook." Mem.: A.C.S., A.I.Ch.E., A.A.A.S., Sigma Xi. Club: Chemists'. Hobbies: radio, mechanical work.

WEBER, Matthew, Jr., chf. chem. engr., Redstone Div., Thiokol Corp., Huntsville, Ala. Exec.; b. Salamanca, N.Y., July 26, 1903; s. of Matthew and Julia B. (Morey) Weber; ed. Cornell U., B.Chem., 1925; mem.: Alpha Chi Sigma; m. Ruth C. Cole, June 17, 1939; ch.: Blanchard B., Charles C., Elizabeth C. Atlas Powder Co., res. chem. 1925-26; Napon Rayon Corp., asst. supvr., 1926-28; Mathieson Chem. Corp., 1928-50; Thiokol Corp., Redstone Div., ch. chem. engr., 1950 to date. Mem.: A.C.S., A.I.Ch.E., E.S., N.Y. State Soc. of Prof. Engrs. Club: Niagara. Hobby: fishing.

WEBER, Maximilian, Gustav, dir., owner, chem. res. lab., 551 Prospect St., Maplewood, N.J. Conslt. chem.; b. Chemnitz, Saxony, Germany, July 30, 1885; s. of Maximilian Gustav and Anna Louise Weber; ed. Technical U., Dresden, Germany, Dipl. Ing., 1909; Dr. Ing., 1910; mem.: Akadem. Sport Club (Tech. U., Dresden); m. Lucia C. Towle, Aug. 10, 1918; ch.: Maximilian Gustav, Anna Louise, Lucia Katharin. Roessler & Hasslacher Chem. Co., 1911-16, wks. mgr., plant No. 3; W. Beckers Aniline & Chem. Wks., dept. mgr., 1916-18; Bayer Co., Albany, N.Y., dept. mgr., 1918; R. Gilchrist & Co., N.Y.C., conslt., 1919-20; private conslt., 1921-22; Chas. Hardy, Inc., N.Y.C., conslt., 1923; N.Y. Color & Chem. Co., conslt., 1924; Philipp Wirth, Inc., N.Y.C., tech. adv., treas., 1925-29; Karl Stoll, N.Y., conslt., 1929-30; Tom Huston, Inc., Columbus, Ga., conslt., 1930-31; Weber Labs., Fla., N.J., conslt., owner, tech. dir., 1932 to date. Res. in original proc. mfgr. copper cyanide; first prod. anthracene blue WR, thioindigo red B, algol yellow R in U.S.A., orig. proc. preservation orange juice, orig. patented meth. preserving wood against insects, meth. preserv. of flavor in coffee beverage powder, meths. quick freezing fruits, fruit juices, orig. Mem.: A.C.S., A.I.C. Club: Chemists' (N.Y.C.). Hobbies: improving food-stuffs, political science.

WEBER, Paul John August, asst. treas., Hercules Powder Co., Wilmington, Del.; res. R.D. 3, Woodside Hills, Del. Exec.; b. Warren, Pa., Feb. 3, 1904; s. of August and Anna (Weibel) Weber; ed. A.B., Brown U., 1925; mem.: Phi Beta Kappa; m. Ada Farrant, Nov. 11, 1933 (divorced); ch.: Robert C. P., Allan P. J. Statist. dept., Western Elec. Co., 1925-27; econ. res. dept., Am. Telephone & Telegraph Co., 1927-29; mgr. statist. dept., Dyer, Hudson & Co., 1929-34; economist & mgr. econ. res. dept., Hercules Powder Co., 1934-43; asst. treas., gen. dir. econ. res., 1943 to date. Specialist in dev. new techniques for anal. commodities for price forecasting in naval stores ind., chem. ind.; sensitive commodities price movements as aid in forecasting bus. cyles. Author of extensive studies on econ. naval stores ind. & on naval stores statistics. Mem.: Am. Statist. Assn., Am. Economic Assn., Chem. Market Res. Assn. Hobbies: reading, badminton, swimming.

WEBRE, Alfred L., consltg. engr., U.S. Pipe & Foundry Co., Burlington, N.J.; res. 348 Merion Rd., Merion Station, Pa.
Sugar engrg.; b. St. James, La.; s. of J. Septime and Estelle (Mire) Webre; ed. Tulane U., B.E., (with distinction) 1904; M.E., 1906; m. Noemie Green, May 12, 1908; ch.: Noemie (Webre) Adamson, Adele Marguerite, Alfred L., Jr., Jared Starr. 1904-16, engr., J.H. Murphy, New Orleans; 1916-22, engr., E.B. Badger & Sons Co., Boston; 1922 to date, conslt. Heating & evaporation especially in sugar mfr.; investigations & dev. in crystallization of sugar. Co-author: "Evaporation" Webre & Robinson, 1926; many booklets, papers, & minor publ. principally on sugar mfr. Mem.: A.S.M.E., A.S.Ch.E., A.C.S., Cuban Sugar Tech., Internatl. Sugar Tech., Cuban Engrg. Soc. Club: Chemists' (N.Y.). Hobby: work.

WEBSTER, George Lewis, prof. of chem., hd. dept., U. of Ill., Coll. of Pharmacy, 808 S. Wood St., Chicago 12, Ill.; res. 1000 Forest Ave., Wilmette, Ill.
Chem. prof.; b. Maquoketa, Iowa, Nov. 30, 1900; s. of Charles O. and Sarah Frances (McComb) Webster; ed. U. of Ill., Ph.G., 1922; U. of Mich., B.S., 1927; M.S., 1931; Ph.D., 1937; mem.: Kappa Psi; m. Anna Bee Haller, July 17, 1928. U. of Ill., Coll. of Pharmacy, dept. of chem., asst., 1922-25; instr., 1925-26; assoc., 1927-36; asst. prof., 1937-39; assoc. prof., 1939-41; prof., 1941 to date; hd. of dept. 1947 to date. Mem. comm. of revision, U.S. Pharmacopeia, 1950-60. Org. arsenicals, local anesthetics, alkaloidal assays, vitamin assay. Mem.: A.C.S., A.Phar.A., A.A.A.S., Assn. of Vitamin Chems. (bd. of dirs., 1948 to date), Sigma Xi, Phi Lambda Upsilon, Rho Chi (pres., 1948-50), Phi Kappa Phi, Am. Assn. Colls. of Pharmacy (exec. comm., 1950-52), Assn. Coll. Hon. Societies (council, 1948-51).

WEBSTER, James Elias, assoc. prof., agric. chem. res. & chem., Okla. A.&M. Coll., Stillwater, Okla.; res. 321 Orchard Lane, Stillwater.
Tchg., res.; b. Quaker City, Ohio, Jan. 9, 1903; s. of Frank E. and Laura Webster; ed. B.S., Ohio State U., 1924; Ph.D., 1928; mem.: Alpha Zeta, Gamma Alpha; m. Verna Ringer, 1928; ch.: Phyllis Madge, James Lang. Biochem., Boyce Thompson Inst., 1924-25; asst., agric. chem., Ohio State, 1926-28; asst. prof., Okla. A.&M., 1928-29; assoc. prof., 1929 to date. Author: some 45 pubs. in fld. of plant biochem.; "Lab. Manual for Dairy Chem.," 1934 (rev., 1948); "Lab. Manual for Practical Org. Chem.," 1935 (6th ed., rev. & copyright, 1947); "Org. Chem. Outline and Syllabus," 1939 (revs. 1940, 1942, 1946, 1947). Mem.: Sigma Xi, Phi Lambda Upsilon, Phi Sigma, Phi Kappa Phi, Alpha Zeta, A.C.S., Plant Physiol., A.A.A.S. (fellow), Active in ch. wk., B.S. of A., city recreational grp. Hobbies: stamp collecting, collecting tobacco tins, sports.

WEBSTER, Thomas Ellwood, pres., Catalytic Construction Co., 1528 Walnut St., Phila. 2, Pa.; res. 352 Thornbrook Rd., Rosemont, Pa.
Exec.; b. Oct. 31, 1896; s. of Davis Jones and Lydia (Potts) Webster; ed. U. of Glasgow, Scotland; m. Emily Catlin McKittrick, May 16, 1935; ch.: Emily Wickham, Thomas McKittrick. V.p., Diamond State Fibre Co.; gen. partner, Cassatt & Co.; asst. gen. mgr., Edward G. Budd Mfg. Co.; asst. to pres., Sun Oil Co.; pres., dir., Catalytic Construction Co. Houdry Process Corp., v. p., dir.; Charter Bank of Phila., dir. Clubs: Racquet (Phila.), Merion Cricket, Merion Golf, Metropolitan (N.Y.). Hobby: golf.

WEBSTER, Victor S(tuart), prof. chem., hd. dept., S. Dak. State Coll., Brookings, S. Dak.; res. 1206 Second St., Brookings.
Prof.; b. Maquoketa, Ia., Nov. 4, 1908; s. of Charles Orange and Frances Louise (McComb) Webster; ed. State U. of Ia., B.A., 1930; M.S., 1931; Ph.D., 1933; m. Delia C. DeBoer, June 5, 1931; ch.: David Charles, Stuart John. U. of Ia., grad. asst, 1931-33; res. asst., 1934; Ia. State Planning Bd., chem., 1934-35; Moorhead (Minn.) State Teachers Coll., instr., 1935-36; S. Dak. State Coll., instr., 1936-38; asst. prof., 1938-42; assoc. prof., 1942-44; prof., hd. chem. dept., 1944 to date. Res. in fld. of oxidation of unsaturated acids; preparation of higher alcohols by Grignard; color test for amines; condensation of phenols with anhydrides. Mem.: Sigma Xi, Phi Lambda Upsilon, Phi Kappa Phi, A.C.S., A.A.A.S., Natl. Assn. Sc. Teachers, S. Dak. Acdy. of Sc., S. Dak. Edn. Assn. Club: Kiwanis. Hobbies: fishing, photography.

WECHTER, Eugene Jacob, dir. of res., Louisville Cement Co., Speed, Ind.; res. Speed.
Chem. res.; b. Berne, Ind., July 8, 1900; s. of Frank C. and Della (Foster) Wechter; ed. A.B., DePauw U., 1922 with high honors; M.S., U. of Wis. 1923, Ph.D. 1925; mem.: Delta Upsilon; m. Evalyn L. Macy, Apr. 12, 1925; ch.: Joanna Carleen. Asst. anal. chem., 1922-23, U. of Wis., res. asst. to hd. anal. dept. 1923-25; dir. of res., Louisville Cement Co., 1925 to date. Publ. res. on selenic acid & the selenates; 4 U.S. pats. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S., A.I.C., Highway Res. Bd. Exec. Bd., George Rogers Clark Area, Boy Scouts of Am.

WEDGE, Franklin, asst. to pres., Ansul Chem. Co., Marinette, Wis.; res. 712 Jackson St., Marinette & Paoli, Pa.
Bus. adm.; b. Bayonne, N.J., June 13, 1897; s. of Utley and Grace (Wright) Wedge; ed. Sheffield Sc. Schl., Yale U., 1918; m. Elinor Boyle; ch.: Franklin, Jr., Marjorie, Nancy Elinor. Electro-Chem. Supply & Engrg. Co., secy. & treas., 1920-49; Ansul Chem. Co., east. mgr., 1928-48; asst. to pres., 1948 to date. Mem.: Am. Soc. Refrig. Engr., A.C.S. Clubs: Yale (Phila.), M.&M. Yacht, Riverside Country (Menominee, Mich.), Rotary Internl. Hobby: yachting.

WEED, William Jennings, mgr. of sales, Niagara Alkali Co., 60 E. 42 St., N.Y. 17, N.Y.; res. Midland Gardens, Bronxville 8, N.Y.
Sales mgr.; b. Austin, Pa., Dec. 26, 1893; s. of Norvel E. and Martha E. Weed; m. Ruth Elizabeth Pidgeon, Nov. 21, 1917; ch.: William Francis, Elizabeth A. Niagara Alkali Co. (wk. in plant, less time for war) 1913-19; sales serv., 1919-27; asst. mgr. of sales, 1927-33; mgr. of sales, 1934 to date. Res. in dev. of liquid chlorine in pulp bleaching; dev. of liquid chlorine in shellac bleaching. Mem.: T.A.P.P.I., Sales Exec. Club of N.Y., Salesmen's Assn. of Am. Chem. Industry, N.Y. Bd. of Trade, (drug, chem. & allied trades sec.), Synthetic Organic Chem. Mfrs. Assn., Chem. Specialties Mfrs. Assn., Armed Forces Chem. Assn. Clubs: Chemists', Wykagyl Country, Seaview Country.

WEEK, Erling Finch, pres., Collett-Week-Nibecker, Inc., P.O. Box 309, Ossining, N.Y.; res. 510 Hayne Rd., Hillsborough, Calif.
Chem.; b. Spokane, Wash., Jan. 7, 1915; s. of Erling Finch, Sr. (dec.) and Maie Eleanor (Van Slyke) Week; ed. U. of Calif., Berkeley, Cal., A.B., 1936; mem.: Alpha Chi Sigma, Scabbard and Blade; m. Betty Bacon, June 28, 1936; ch.:

Thomas Lance, Gary Lawson. 1936-37, Santa Cruz Oil Corp., plant chem. and engr.; 1938-39, F.E. Booth Co., chem.; 1939-46, partner, Tech. Fisheries Co.; 1943-46, mem. Natl. O.P.A. and W.P.B., Vitamin A. Industry Comms.; 1943-47, mng. partner, Peninsula Packing Co.; 1944-47, partner, Keystone Fisheries; 1943-45, partner, Ocean Industries Lab.; 1946-48, pres., Collett-Week-Nibecker, Inc.; 1948 to date, pres. & dir. of res.; 1948 to date, pres. & dir., Keystone Fisheries, Inc.; dir., Australian Packers' Corp., Pty., Ltd. Chmn., Temporary Comm. for Study Vitamin A (1947-48); mem. Spec. Comm. for Vitamin A. Assay (U.S.P. XIV-1948-50); 1948 to date, v.p. and trustee, Clinical Studies Foundation (org. for non-profit med. res. and affiliated with Oregon State Coll., Schl. of Med.). Series of pubs. (Jl. of Nitrition), utilization various forms Vitamin A by chicks, rats, humans. Mem.: A.A.A.S., A.C.S., A.O.C.S., Animal Nutrition Res. Council, Alpha Chi Sigma. Clubs: The Bohemian (San Francisco), Peninsula Golf & Country (San Mateo, Cal.). Hobbies: deep sea and fly fishing, flying, mountaineering.

WEEKS, (Mary) Elvira, res. assoc. in sc. lit., Kresge-Hooker Scientific Library, Wayne U., Detroit 1, Mich.; res. 19339 Sussex Ave., Detroit 35.
Translation sc. & tech. lit.; b. Lyons, Wis., Apr. 10, 1892; d. of John M. and Mary Elizabeth (Richmond) Weeks; ed. Ripon Coll., A.B., 1913; U. of Wis., M.A., 1914; U. of Kan., Ph.D., 1927. 1915-21, H.S. teaching & wk. in anal. chem. labs.; 1921-44 tchg. chem., U. of Kan., finally assoc. prof.; 1944 to date, res. assoc. in sc. lit., Kresge-Hooker Sc. Library, Wayne U. Author: "Discovery of the Elements" (1st pub. 1932; now in 5th edition; Spanish translation, Manuel Marin, publisher, Barcelona, 1949, translator, Prof. A. Sanroma). Mem.: A.C.S., A.I.C. (fellow), Sigma Xi, Phi Beta Kappa, Hist. of Sc. Soc., Swedish Hist. of Sc. Soc., A.A.A.S. (fellow).

WEEKS, William Seward, retired, c/o Calco Chem. Div., Amer. Cyanamid Co., Bound Brook, N.J.; res. Middlebrook Rd., Bound Brook.
Lawyer; b. Lyons, N.Y.; s. of E.W. and Lucia Weeks; ed. U.S. Mil. Acdy., class 1905; W.Va. U. (law), 1912; mem.: Sigma Chi; m. Mary L. Sweeting, Sept. 12, 1905; ch.: Helen, Jane. 2nd lt., 1st lt. infantry, & capt., maj., lt. col., col., Judge Advocate General's Dept., 1905-20; secy.-counsel, Calco Chem. Co. & Calco Chem. Div., Jan. 1, 1949; retained on consltg. basis since. Amer. Cyanamid Co., 1920-49; retired for age Pres., N.J. Taxpayers Assn. Club: Army & Navy (Wash., D.C.).

WEHMER, Fred, staff engr., Minn. Mining & Mfg. Co., 900 Fauquier Ave., St. Paul 6, Minn.; res. 2185 Arcade St., St. Paul 6.
Chem. engr.; b. Sterling, Nebr., Feb. 6, 1903; s. of Frederick and Sophia (Bargmann) Wehmer; ed. U. of Nebr., B.S. Ch.E.; mem.: Alpha Chi Sigma; m. Thelma Weinhold, Jan. 2, 1930; ch.: Fred E., Gerald M. B.F. Goodrich Co., Akron, O., 1927-32; rubber compounder, Liquid Carbonic Corp., Chicago, Ill., 1932-36; dev. engr., Minn. Mining & Mfg. Co., 1936 to date; tech. dir., adhesive & coating div., 1938-47; staff engr., 1947 to present. Res. in fld. of synthetic rubber base adhesives. Mem.: A.C.S., A.I.Ch.E., A.A.A.S., Sigma Xi (assoc.). Club: St Paul Athletic.

WEHMHOFF, Byron Louis, dir., serv. engrg. dept., W.Va. Pulp & Paper Co., 230 Park Ave., N.Y. 17, N.Y.; res. 6506 Brennon Lane, Chevy Chase, Md.
Chem. engr.; b. Forest City, Ill., Oct. 2, 1892; s. of George A. and Effie Pemberton Wehmhoff; ed. U. of Wash., Seattle, Wash., B.Sc. (engrg.), 1914; m. Winifred Claire Brown, Aug. 4, 1915; ch.: Bruce Marvin, Mary Jean. Chem., du Pont Co., 1915-18; chem., Bennetts Labs., Tacoma, Wash., 1918-22; chem., Edgewood Arsenal, Md., 1922-25; asst. tech. dir., U.S. Govt. Printing Office, 1925-29; tech. dir., 1929-33; tech. dir., W.F. Hall Printing Co., Chicago, Ill., 1933-35; dir., serv. engrg. dept., W.Va. Pulp & Paper Co., 1936 to date. Contrib. extens. to sc. and tech. pubs. Mem.: A.C.S., T.A.P.P.I., T.A.L.I., Phi Lambda Upsilon. Clubs: Lake Shore (Chicago, Ill.), Chem. Engrs. (Wash., D.C.). Hobbies: gardening, color photography.

WEIDLEIN, Edward Ray, dir., Mellon Inst., v.p. Bd. of Trustees of the Inst., Mellon Inst., 4400 Fifth Ave., Pittsburgh 13, Pa.; res. 325 S. Dallas Ave., Pittsburgh 8.
Scientist, author, dir.; b. Augusta, Kans., July 14, 1887; s. of Edward and Nettie (Lemon) Weidlein; ed. pub. schls. Augusta, Kans.; U. of Kans. (Lawrence), B.A., 1909; M.A., 1910; rec. following hon. degrees: D.Sc., Tufts, 1924; LL.D., U. of Pittsburgh, 1930; D.Sc., Rutgers, 1937; D.Sc., Waynesburg, 1939; D.Sc., U. of Wichita, 1945; LL.D., Wash. & Jeff., 1947; D.Engr., Rensselaer Polytech. Inst., 1949; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Pi Upsilon, Sigma Gamma Epsilon, Sigma Tau, Sigma Xi, Tau Beta Pi; m. Hazel Butts, Apr. 24, 1915; ch.: Edward Ray, Jr., Robert Butts, John David. Apptd. Indust. Fellow, 1909-10, U. of Kans., broad study of camphor, under dir. of Dr. Robert Kennedy Duncan; 1910-12, comprehensive res. ductless glands; joined Dr. Duncan in Pittsburgh, subseq. to transfer of the indust. fellowship system from U. of Kans. to U. of Pittsburgh; 1912-16, sr. fellow of Mellon Inst., in chg. of all investigations in metallurgy and hydrometallurgy of copper, also supvn. of exper. plant at Thompson, Nev., for abt. 4 yrs.; dev. an economically important proc. for use of sulfur dioxide in hydrometallurgy; July 10, 1916, Mellon Inst., asst. dir.; apptd. assoc. dir., Oct. 1, 1916; acting dir.; throughout W.W.I; 1918, apptd. chem. expert to War Indust. Bd., rec. highest official commend.; dir., Mellon Inst., Oct. 8, 1921; Inst. incorp. 1927, since then v.p. Bd. of Trustees; trustee, U. of Pittsburgh, with which the Inst. is allied cooperatively; dur. W.W. II held many wartime and governmental positions: mem. Res. Comm. in Coop. with C.W.S. of the A.C.S., and of the Comm. on Coop. with N.D.R.C. of Off. S.R.D.; chf. chems. branch, W.P.B., 1940-42; sr. conslt. chem. div., W.P.B., 1942-46; apptd. hd. tech. conslt. W.P.B., Mar. 16, 1942 and held post to Feb., 1946; since Aug., 1941 has been tech. adv. of Rubber Res. Co., (now Off. of Rubber Res., R.F.C.); mem. of spec. comm. for exam. of enemy raw matls. & supplies War Metallurgy Comm., N.R.C. & Natl. Acdy. of Scs. (apptd. in Dec., 1942); Apr., 1943, apptd. tech. adv., Res. and Dev. Div., Q.M.C., U.S.A.; mem. of res. adv. comm., Comm. on Res. and Pats., N.A.M. (chmn., 1944); apptd. for yr. 1945, Studies, Reports and Seminars Comm., Army Ord. Assn.; Mar., 1945, mem. Natl. Engrs. Comm., Engrs. Joint Council. Author: "Science in Action," 1931; "Glances at Industrial Research," 1936. Awarded Chem. Indus. M., 1935, Amer. Sec., S.C.I.; State of Pa. Meritorious Award, 1939; Pittsburgh Sec., A.C.S., Pittsburgh Award, 1939; Jr. Ch. of Com., Pittsburgh, Man-of-the-Year Award, 1941; U. of Kans., cited for honor, 1942, disting. serv. in his fld.; 1947, Naval Ord. Dev. Award for accomplishments in Div. One, N.D.R.C., O.S.R.D.; 1948, awarded Priestley M., A.C.S.; Gold Key, City of Birmingham, 1948; 1948, "Cert. of Apprec.," Depts. of the Army and Navy for "excellent contrib. to the war effort in the fld. of sc. res. and dev."; 1938, delegate, U.S. & Natl. Acdy. of Scs., to Internatl. Union of Chem. & Tenth Internatl. Congress of Pure & Applied Chem. in Rome, Italy; mem. Comm. on Arrangements, 1951 Conf. of the Internatl. Union of Chem., Cong. of Pure & Applied Chem., & 75th anniversary meeting, A.C.S. Hon. mem.: Pittsburgh

Acdy. of Sc. & Art, A.I.C., Chem., Metallurgical & Mining Soc. of South Africa, Inst. of Chem. Engrs. of Great Britain. Mem.: Guild of Brackett Lecturers & Adv. Council of Dept. of Chem. Engrg., Princeton; A.C.S. (chmn, Pittsburgh sec., 1923; councilor, 1924-29; v.chmn., div. of indust. & engrg. chem., 1924; councilor-at-large, 1929-34; pres., 1937; dir., 1938-47; mem., edit. bd., Monograph Sers., since 1925); S.C.I. (mem. exec. comm., Amer. sec.); E.S.; N.R.C. (mem.-at-large, div. engrg. & indust. res.); A.I.Ch.E. (dir., 1924; pres., 1927-29; dir., 1929); Natl. Soc. Prof. Engrs.; Amer. Inst. (trustee); Societe de Chimie Industrielle, Societe Chimique de France; Faraday Soc.; Engrs. Soc. of Western Pa.; Newcomen Soc.; Franklin Inst.; Pa. Acdy. of Scs.; Wash. Acdy. of Scs.; Kans. Acdy. of Sc.; N.Y. Acdy. of Scs. (fellow); Am. Acdy. of Political and Social Scs.; A.A.A.S. (fellow, since 1925; mem. council, 1934-42); Sc. Res. Soc. of America (bd. of govs., 1948-49); Penn. Soc.; mem. of the Adv. Comm., Exposition of Chem. Industries (chmn., 1948 and 1949). Fellow of the Royal Soc. of Arts of London. Adviser, Steel Structures Paint Res. Council; mem. John Wesley Hyatt Award Committee; mem., Air Pollution and Smoke Prevention Assn. of Am. Reg. Prof. Engr. of Penn. Clubs: University (Pittsburgh; pres., 1931-33), Duquesne, Pittsburgh, Pittsburgh Golf, Rolling Rock (trustee), Oakmont Country, (bd. of govs.), Chemists' (N.Y., non-resident v.p., 1923-33), Chemists' (Pittsburgh), Faculty (U. of Pittsburgh, pres., 1923), Authors' (Pittsburgh), Pittsburgh Ch. of Com., Pittsburgh Convention and Tourist Bur. (bd. of govs.). Allegheny County Council West of B.S.A., & Natl. Council B.S.A. (mem.-at-large); advisory bd. of Salvation Army; 32nd degree Mason; trustee, East End Christian Ch. of Pittsburgh, of Shadyside Acdy., and of the Valley Schl. of Ligonier (chmn., exec. comm.); adv. comm., Oakland Off., Mellon Natl. Bank & Trust Co.; bd. of dirs., Western Penn. Hospital (1944-50); bd. of dirs., Ligonier Valley Child Health Center; adv. bd. of health, Dept. of Pub. Health, City of Pittsburgh; Citizens' Comm. of the Conference on Family Life. Hobbies: golf, hunting.

WEIDNER, John P., tech. dir., Container Corp. of America, Fountain & Nixon Sts., Phila. 27, Pa.; res. 7211 Emlen St., Phila., Pa.
Paper chem.; b. Paxton, Ill., Feb. 17, 1912; s. of Sam and Cora Weidner; ed. B.S. in chem., U. of Ill.; Ph.D., Lawrence Coll.; mem., Inst. of Paper Chem. (Lawrence College); m. Marjorie Lulloff, Dec. 4, 1939; ch.: Judith Ann, John P., Jr., Richard Alan. Training during ed., Michigan Carton Co., Battle Creek, Mich., & Mosinee Paper Mills Co., Mosinee, Wisc.; International Paper Co., Palmer, N.Y.; Hoberg Paper Mills Co., Inc., dir. of res., 1938-40; tech. dir., 1941-44; tech. dir., Container Corp. of America, 1945 to date. Mem.: T.A.P.P.I. (Lake States sec. chmn., 1943-45; Delaware Valley sec. chmn., 1948-50).

WEIGEL, Rothe, pres., Victor Chem. Wks., 141 W. Jackson Blvd., Chicago 4, Ill.; res. 709 Elmwood Ave., Wilmette, Ill.
Exec.; b. Mar. 16, 1894; s. of J.H. and Mary (Rothe) Weigel; ed. U. of Tenn., B.S.; m. Elma Morris, July 10, 1917; ch.: John, Georgialee, Robert, Edwin. Fulton Co., Knoxville, Tenn., 1915-16, engr.; Al. Co. of Am., 1916-17, engr.; La-Follette Coal & Iron Co., 1917-24, engr. to blast furnace supt.; Victor Chem. Wks., 1924 to date, operating supt., chf. engr., wks. mgr., v.p., exec. v.p., pres.

WEIKEL, Franklin H., tech. dir., Eagle Rubber Co., Inc., 710 Orange St., Ashland, Ohio; res. R. 3, Ashland.
Chem.; b. Nankin, Ohio, Dec. 14, 1916; s. of Harold J. and Idella (Kettering) Weikel; ed. 1937-40, Ashland Coll., B.A. (majors in chem., math. & physics); 1943, Carnegie Inst. of Tech. (courses in chem. engrg.); m. Audrey Clark, June 7, 1942; ch.: William P., Shirley M. 1941, Cosma Labs. Co., Cleveland, Ohio, anal. chem.; 1942-43, U.S.A., chem. in Med. Corps; 1944-45, S.K. Wellman Co., Cleveland, Ohio, res. chem.; 1945-46, Cleveland Graphite Bronze Co., chem. engr. in electroplating; 1946 to date, Eagle Rubber Co., Inc., rubber chem. Mem.: A.C.S.

WEIL, B(enjamin) H(enry), hd., tech. info. div. (res. prof.), Ga. Tech. Engrg. Exp. Sta., Atlanta, Ga.; res. 885 Plum St., N.W., Atlanta.
Chem. engrg. (info. tech.); b. St. Joseph, Mo., July 8, 1916; s. of Henry S. and Jeannette (Mayer) Weil; ed. St. Joseph, (Mo.) Jr. Coll., A.S., 1937 (valedictorian); U. of Mo., B.S. Ch.E., 1939 (class rank 1, Coll. of Engrg.); U. of Wis., M.S. Ch.E., 1940; Wis. Alumni Res. Foundation Scholar; m. Carolyn Loeb, Mar. 11, 1944; ch.: Lewis Henry, Jeanne Linda. Gulf Res. & Dev. Co., Pittsburgh, Pa., hd. of info. sec., chem. div., 1940-45; Ga. Tech. Engrg. Exp. Sta., hd. tech info. div., 1945 to date. Reg. Prof. Engr., Ga. Editor: "Chem. Lit.," 1949 to date; "The Filter Press," 1948, 1949. Co-author: "Plastic Horizons" (1944), "Synthetic Petroleum from the Synthine Process" (1948), "The Fundamentals of Patent Tech." (1948); and numerous other bks. and articles. Mem.: A.C.S., Tau Beta Pi. Club: Ga. Tech. Faculty. Hobbies: photography, philately, golf

WEIL, Eugene Stix, v.p., G.S. Robins & Co., 126 Chouteau Ave., St. Louis 2, Mo.; res. 20 Ridgemoor Dr., Clayton 5, Mo.
Chem. distributor; b. Chicago, Ill., Dec. 30, 1897; s. of Eugene and Carrie (Stix) Weil; ed. Wash. U., B.S. in Chem. Engrg.; M.I.T., M.S. in Chem. Engrg.; mem.: Alpha Chi Sigma; m. Marion Appel, Nov. 17, 1930; ch.: Nancy, Eugene S., Jr., David A. Salesman, Thompson-Munro-Robins Co., 1922-23; salesman, secy., then v.p., G.S. Robins & Co., 1923 to date. Mem.: A.C.S. (pres., 1946-48), Jewish Family Serv. Agency. Clubs: Mo. Athletic, Westwood Country.

WEILER, John E., sr. metallurgist, process div., Titanium Alloy Mfg. Div., Natl. Lead Co., Niagara Falls, N.Y.; res. 1104 Cayuga Dr., Niagara Falls.
Chem. engr. b. Barberton, Ohio, July 20, 1911; s. of Joseph A. and Anna M. (Werner) Weiler; ed. U. of Akron, Akron, O., B.S. (chem.), 1933; Ohio State U., M.S. (chem. engrg.), 1935; m. Pauline I. Minnick, Nov. 9, 1935; ch.: David W., Ann E., Margaret M. 1935, Mathieson Chem. Corp., Niagara Wks., operator, anal.; 1936, Niagara Res., res. asst.; 1939, Niagara Wks., asst. supt. chlorine dept.; 1941, Niagara Res., pilot plants; 1942-44, Lake Charles Mag. plant, dept. supt.; 1944-50, Niagara Res., project supvr.; 1950 to date, Titanium Alloy Mfg. Div., Natl. Lead Co., Niagara Falls. Mem.: A.I.Ch.E., Sigma Xi, Phi Lambda Epsilon. Hobbies: amateur astronomy & telescope making, gardening.

WEINERT, Carl R., tech. dir., Fed. Labs., Inc., P.O. Box 266, Pittsburgh 30, Pa.; res. 133 Bellevue Ave., Pittsburgh 29.
Chem.; b. Pittsburgh, Pa., Aug. 29, 1907; s. of Otto R. and Wilhelmina H. Weinert; ed. B.S. in chem., U. of Pittsburgh, 1930; mem.: Phi Lambda Upsilon (hon.); m. Margaret H. McKown, June 26, 1936; ch.: Carl R., Jr. 1930 to date, Federal Labs., Inc.; chem., 1930-32; chf. chem., 1932-42; tech. dir., 1942 to date. Lachrymators, explosives, pyrotechnics; dev. numerous classified devices for U.S.A. Citation, U.S.A. (Ord. Dept.). Mem.: A.C.S. Hobbies: music, golf, books, hunting and fishing.

WEINHOUSE, Sidney, hd., dept. metabolic chem., Lankenau Hosp. Res. Inst., Phila., Pa.; res. Phila.

Biochem.; b. Chicago, Ill., May 21, 1909; s. of Harry N. and Dora Cutler Weinhouse; ed. U. of Chicago, B.S., 1933; Ph.D., 1936; m. Sylvia Krawitt, 1935; ch.: Doris, James, Barbara. Eli Lilly & Seymour Coman fellowships, U. of Chicago, 1936-41; res. assoc., O.S.R.D., 1941-44; res. chem., Houdry Process Corp., 1944-47; dir., biochem. res., Temple U., 1947-49; hd., dept. metabolic chem., Lankenau Hosp. Res. Inst., 1950 to date; res. assoc., dept. of chem., Temple U., 1947 to date. Res. in fld. of intermediary metabolism. Mem.: A.C.S., A.S.Biol.C., A.A.A.S., Sigma Xi.

WEINKAUFF, Oliver J(acob), assoc. dir. res., Monsanto Chem. Co., 1700 S. Second St., St. Louis 4, Mo.; res. 10 Shaw Pl., St. Louis 10. Chem.; b. Peoria, Ill., June 10, 1904; s. of Jacob and Mary Louise Weinkauff; ed. U. of Mich., 1928, B.S.; M.S., 1929; Ph.D. (chem.), 1931; mem.: Phi Delta Chi; m. Ruth S. Thomure, Oct. 4, 1941; ch.: Ann, Karl, David Joseph. Monsanto Chem. Co., chem. 1931-43; asst. res. dir., 1943-47; assoc. res. dir., 1947 to date. Org. chem., phar., intermediates, syn. Mem.: A.C.S., A.A.A.S., N. Y. Acdy. of Sc., Rho Chi, Phi Lambda Upsilon, Phi Kappa Phi, Sigma Xi. Hobbies: photography, wood carving.

WEINLAND, Louis Albert, prof. of chem., N.Y. State Coll. of Ceramics, Alfred U., Alfred, N. Y.; res. Box 104, Alfred.
Tchg., res., consltg.; b. Lancaster, O., Jan. 8, 1908; s. of Louis Augustus and Lydia Mabel (Scott) Weinland; ed. Otterbein Coll., B.S., 1930; O. State U., M.Sc., 1935; mem.: Alpha Chi Sigma, Sigma Zeta, Zeta Phi; m. Hazel Schott, June 17, 1931; ch.: Scott Howard, Stuart Louis. Res. asst., O. State U., fundamental res. on colloids, 1930-31; Urbain Labs., Columbus, O., sewage, water purification, pats., 1935; instr., Otterbein Coll., Westerville, O., 1935-36; asst. dir. res., Master Builders Co., Cleveland, concrete admixtures, 1936-39; dir. res., Warren-Teed Co., Columbus, phar., 1939-40; sr. chem., Inland Div. Gen. Motors, Dayton, O., adhesives, 1940-42; res. conslt., Simonds, Worden White, Dayton, O., grinding wheels, 1942-44; res. assoc., O. State, Columbus, coated fabrics & vulcanization of rubber, 1944-46; prof. chem., res. hd. of chem., Champlain Coll., Plattsburg, N.Y., 1946-49; prof. chem., N.Y. State Coll. of Ceramics, Alfred U., 1949 to date. Res. in vulcanization of rubber by dithiols, concrete admixtures, polarographic methods for anal. of rubber, corrosion of metals, water purification, powdered stearic acid for concrete admixtures, impvt. of resinoid grinding wheels, ceramic-organic compositions. Mem.: A.A.A.S., A.C.S., A.S.T.M., Natl. Soc. Profnl. Engrs., O. Soc. Profnl, Engrs. Club: O. State U. Faculty. Hobbies: photography, learning under hypnosis (papers & arts. on the subj.).

WEINMANN, John Gottlieb, dir. of res. & dev., Reichhold Chems., Inc., 105 Bedford Ave., Bklyn., N.Y.; res. 512 Dorian Pl., Westfield, N.J.
Chem., chem. engr.; b. Newark, N.J., July 5, 1915; s. of John G. and Frances V. Weinmann; ed. Newark Coll. of Engrg., B.S. in Ch.E.; grad. study Bklyn. Polytech.; mem.: Phi Sigma Omega; m. Helen M. Spaeth, May 6, 1939; ch.: John H., Paula A., Judith H. 1937-39, United Color & Pigment Co., res. chem.; 1939-40, A. Wilhelm Co., res. chem.; 1940 to date, Reichhold Chems., Inc. Mem.: A.C.S., N.Y. Printing Ink Prod. Club. Hobbies: fishing, photography, woodworking.

WEINRICH, (William) Whitney, hd., chem. engrg. sec., dev. div., Houdry Process Corp., Box 427, Marcus Hook, Pa.; res. Wallingford, Pa.
Chem. engr.; b. Honolulu, Hawaii, Dec. 27, 1906; s. of William and Ada (Whitney) Weinrich; ed. M.I.T., B.S., 1930; M.S., 1931; mem.: Theta Delta Chi; m. Christine Newman, Dec. 28, 1934. Chem. engr., expt. sta., Hawaiian Sugar Planters' Assn., 1931-32; refinery tech. div., Gulf Oil Corp., 1933-34; indus. fellow, petroleum res., Mellon Inst., 1934-35; dev. chem. engrg., Gulf Res. & Dev. Co., 1935-39; asst. hd., chem. div., 1939-43; petroleum tech., refining div., Petroleum Admin. for War, 1943-44; hd., Bartlesville pilot plant sec., chem. engrg. dept., Phillips Petroleum Co., 1944-46; staff, chem. engrg. dept., U. of Pa., 1946-47; instr., engrg., sc. & mgmt., war training, U. of Pittsburgh, 1942; hd., chem. engrg. sec., dev. div., Houdry Process Corp., 1947, to date; spc. lecturer in chem. engrg., U. of Delaware, 1948 to date. Res. & dev. of petroleum refining processes & equip.; design & operation of process to produce alkylated phenols from petroleum-hydrocarbons. Mem.: A.I.Ch.E. (active), A.C.S. (secy.-treas., div. of indust. & engrg. chem., 1939-43). Hobbies: horticulture, sailing photography.

WEINSTEIN, Sidney Moses, dir. res., Apex Chemical Co., Inc., 200 S. First St., Elizabeth, N.J.; res. 478 Fabyan Pl., Newark 8, N.J.
Res. chem.; b. Portland, Me., Jan. 30, 1917; s. of Jacob M. and Kuna (Romanow) Weinstein; ed. A.B. (cum laude), Harvard Coll., 1939; M.S., N.Y.U., 1943; m. Ethel Blanck, Aug. 25, 1940; ch.: David J. and Daniel G., Michael T. 1940 to present, Apex Chemical Co., Inc.; dir. of res. 1944 to date. Res. and dev. in textile & leather chem. auxiliaries and finishes; some work in preparation of pharmaceuticals. Mem.: A.C.S., A.A.T.C.C., Phi Lambda Upsilon. Hobbies: photography, bridge, carpentry.

WEIR, Horace M., consltg. chem. engr., H.M. Weir Co., 2123 Land Title Bldg., Phila. 10, Pa.; res. York Lynne Manor, Phila. 31.
Consultant; b. Muncie, Ind., Nov. 19, 1894; s. of Daniel T. and Lulu M. Weir; ed. Purdue U., B.Ch.E., 1917; Imperial Coll., London, 1924, 1925; U. of Munich, Ger., Ph.D., 1926; mem.: Delta Upsilon, Phi Lambda Upsilon, Tau Beta Pi, Sigma Xi; m. Helen C. Gillette, Feb. 18, 1922; ch.: Robert M. Res. chem., Ault and Wiborg Co., Cincinnati, O., 1917; chem. engr., Prest-O-Lite Co., Indianapolis, Ind., 1919-20; U. S. Navy Aviation, 1917-18; chem. engr., dev. dept., Standard Oil Co. of N.J., 1920-24; chem. engr., process div., Atlantic Refining Co., Phila., Pa., 1927-34; The Lummus Co., Houdry Process Corp., 1934-36; chf. petroleum engr., Rheinmetall. Borsig A.G., Berlin, Ger., 1936-39; mgr. chem. engr. div., United Engrs. & Constructors, Phila., 1939-43; dir. res., The Davison Chem. Co., Baltimore, Md., 1943-44; consltg. chem. engr., 1944 to date, H.M. Weir Co., Phila. Civilian with fld. inform. serv., C.I.O.S., Germany, 1945; pvt. consultation, Ger., 1946; pvt. & U.S. gov. bur. conslt., War Assets Corp., Bur. of Mines. Res. in fld. of ionic adsorption on crystal lattices; process & equip. design, petroleum & chem. flds.; gen. and cracking petroleum chem. reaction; mfg. acetylene and derivatives, ethylene derivatives; gasification of coals, hydrogenation, synthetic fuels mfr.; special heater design. Contrib. to "Perry's Handbk. of Chem. Engrg."; "The Sc. of Petroleum." Mem.: A.C.S., A.I.Ch.E., A.A.A.S., A.P.I., Franklin Inst. Club: Chemists' (N.Y.). Hobby: photography.

WEISGERBER, William Edwin, prof. chem., hd. dept., Franklin & Marshall Coll., Lancaster, Pa.; res. 830 Buchanan Ave., Lancaster.
Prof. chem.; b. Luthersburg, Pa., Nov. 10, 1881; s. of Henry and Theresa (Schindele) Weisgerber; ed. B.S., 1912, F.&M. Coll.; M.S., 1913; M.S., 1928, U. of Pa.; Sc.D., 1944, F.&M. Coll.; mem.: Phi Kappa Tau; m. Margaret M. Kryder, June 10, 1914; ch.: W. Eloise (decd.), Wilma E. Instr., F.&M. Coll., 1912-25; asst. prof., 1925-29; prof. chem., 1929-46; hd. dept., 1946 to date; secy., faculty, 1927 to date; secy., Theta Chapt., Phi

Beta Kappa, 1917 to date; Bur. of Stands., W. W. I. Mem.: A.C.S., Pa. Acdy. Sc., A.A.A.S. Hobbies: trees, flowers, gardening.

WEISS, Clarence Bernard, supt., chem. pulp div., Buckeye Cotton Oil Co., 2899 Jackson Ave., Memphis, Tenn.; res. 785 Holly St., Memphis.
Chem. engr.; b. Cape Girardeau, Mo., Sept. 8, 1902; s. of Henry W. and Louise (Heuer) Weiss; ed. Mo. Schl. of Mines & Metall., Rolla, Mo., B.S., M.S.; U. of Mich., Ph.D.; mem.: Alpha Chi Sigma; m. Mae Keller, Sept. 1, 1934; ch.: Barbara Louise, Richard Clarence. Instr. chem., Ga. Schl. of Tech., 1928-30; chem. engr., Buckeye Cotton Oil Co., 1933-47; supt., 1947 to date. Mem.: A.C.S., A.I.Ch.E., A.O.C.S. Club: Engrs. of Memphis. Hobbies: fishing, photography.

WEISS, Elisabeth Adam, owner, Adam Lab., 341 E. 26 St., N.Y. 10, N.Y.; res. 346 E. 24th St., N.Y. 10.
Chem.; b. Budapest, Hungary, Apr. 23, 1916; d. of George G. and Margaret (Kohn) Adams; ed. Hungarian Royal Pazmany Peter U. of Sc., Budapest, Hungary, 1940 (chem., physics, math., foreign degree); m. Charles Weiss, Ch.E., Nov. 23, 1941; ch.: Marianne. Molnar Labs., N.Y., chem., 1942-45; Estro Chem. Co., N.Y., chf. chem., v.p., 1945-47; Adam Lab., owner, chf. chem., since 1947. Anal. and control wk. for food, drug & cosmetic industries, specialized in hormone res. Mem.: A.I.C., A.C.S., A.S.E.C., A.A.A.S. Hobbies: swimming, hiking, skiing.

WEISS, John M., partner, John M. Weiss & Co., 50 E. 41 St., N.Y. 17, N.Y.; res. 383 Park Ave., N.Y. 22.
Consltg. chem. engr.; b. Phila., Pa., Mar. 11, 1885; s. of Julius and Frances (Henlein) Weiss; ed. U. of Pa., B.S. 1905; m. (1st) Bertie Heine (d. Aug. 17, 1937), May 18, 1909; ch.: Robert Paul, Francis Benjamin; m. (2nd) Madeleine Kroeplin, May 11, 1938; Res. chem., Barrett Co., Frankford, Pa. 1905-06, chf. chem., 1907-11; chf. chem. (N.Y.), 1911-17; mgr. res. dept., 1917-21; dir. dev., 1921-22; pres., treas., Weiss & Downs, Inc., N.Y.C., 1923-44; 1st v.p., dir., The Calorider Corp., Stamford, Conn., since 1937; partner, John M. Weiss & Co., consltg. chem. engrs. N.Y.C., since 1943. Res. in flds. of coal tar prods., organic chems., catalytic processes, rayon, corn prods. and petroleum; economics and tech. of chem. prods. and processes; plant design for maleic anhydride, phthalic anhydride and phenol. Author: "The Tech. Organization-Its-Dev. and Admin.," 1924. Contrib. extens. to sc. and tech. jls. Inventor or coinventor 60 odd pats. Mem.: Acdy. Political Sc., Am. Gas Assn., A.I.C., A.A.A.S., A.C.S., A.I.Ch.E., A.S.T.M., Commercial Chem. Dev. Assn., E.S., Franklin Inst., Gen. Alumni Soc. U. of Pa., Natl. Res. Council, Natl. Soc. Profnl. Engrg., N.Y. State Soc. Profnl. Engrg., N.J. State Soc. Profnl. Engrg., Sigma Xi. Clubs: Chemists', U. of Pa. Hobbies: golf, bridge.

WEITH, Archie James, conslt., Union Carbide & Carbon Corp., 30 E. 42nd St., N.Y. 17, N.Y.; res. 51 Grover Lane, W. Caldwell, N.J.
Mfg. chem.; b. LaHarpe, Kan., Oct. 18, 1886; s. of Stephen Henry and Ellen Jane (Shanklin) Weith; ed. B.S., U. of Kan., 1908; M.S., 1910; grad. wk. & teaching, 1910-13, incl. Robert Kennedy Duncan Indus. Fellowship; mem.: Acacia, Alpha Chi Sigma, Omicron Delta Kappa; m. Mabel Grace Ulrich, June 30, 1913; ch.: Dr. Archie J., Jr., Marjorie Jane (Weith) Sattem, Kenneth Duncan, Evelyn Frances. Chem., U. of Kan., 1906-08, testing river waters; Robert Kennedy Duncan Indus. Fellowship, 1909-10; chem., Pfaudler Co., 1910-11; indus. fellowship, U. of Kan., 1911-14; asst. prof. chem., U. of Kan., 1911-14; secy., Redmanol Chem. Prods. Co., 1914-22; assoc. dir. res. & dev., Bakelite Corp., 1922-37; dir. res. & dev., 1938-44; asst. mgr. res. & dev. 1945-46; conslt., Union Carbide & Carbon Corp., 1947 to date; Advance Plastics, Inc., v.p., dir.; Hallmark Inst., Inc., v.p., dir.; Radmanol Chem. Prods. Co., formerly secy., dir.; Bakelite Dental Prods., formerly dir.; Bakelite Building Prods., formerly dir.; Indus. Prods. Co., formerly v.p., dir. Res. in plastics fld. Cert. of Appreciation War Dept. & Navy Dept.; Cert. of Appreciation Scientific Res. & Dev. H.S.A. & Manhattan Dist. Co-author: "Polymerization," A.C.S. monograph; "Handbook of Plastics"; "Modern Plastics—A New Old Indus."; "Extrusion of Plastics & Other Matls." in press; various articles & surveys on plastics. Mem.: Sigma Xi, A.C.S., S.C.I. (chmn., 1948-49), A.I.Ch.E. (v.chmn. admission comm.), Boy Scouts. Club: Chemists' (suburban v.p., 1943-44). Hobbies: gardening, touring.

WELCH, Harry Valentine, chf. chem., dir., West. Precipitation Corp., 1016 W. 9th St., Los Angeles 15, Calif.; res. 2649 N. Commonwealth Ave., Los Angeles 27.
Chem. engr. (admin.); b. Greeley, Colo.; s. of William P. and Theresa (Crittenden) Welch; ed. Colo. State Coll., B.Ped., 1901; U. of Colo., B. A., 1906; U. of Calif., M.S., 1911; grad. stu., German U., 1913-14; grad. stu., Princeton, 1914-15; m. Margaret E. Engle, 1915; ch.: Harry V., Jr., Graeme P., Theresa Clare. Asst. physical chem., U.S. Bur. of Mines, San Fran. Lab., 1911-12; metall., Anaconda Smoke Commis., 1913, 1915; res. chem., chf. chem. & dir., West. Precipitation Corp., 1915 to date. Res. in fld. of Cottrell elec. precipitation process application to chem. engrg. problems, in particular purification of indus. gases from suspended solids. Contrib. to "Colloid Chem." (Alexander), Vol. VI (1946); 2 Vols. "Rocky Mt. Fund" (vol. 106 & vol. 121), of A.I.M.E. Mem.: A.C.S. (past secy.; chmn. South Calif. sec.), A.I.M.E., A.I.Ch.E. (past chmn., South Calif. sec.). Hobbies: books, garden, travel.

WELCH, Medard William, pres., W.M. Welch Sc. Co., 1515 Sedgwick St., Chicago 10, Ill.; res. 888 Hill Rd., Winnetka, Ill.
Exec.; b. Chicago, Ill.; s. of William M. and Jeannette Dupuis Welch; ed. U. of Mich., B.S.; mem.: Phi Sigma Kappa; m. Elizabeth Price, 1921. W.M. Welch Sc. Co., 1917 to date. Res. in new method of making fused silica ware. Mem.: A.A.A.S., A.Phys.S., A.C.S.A., Instrument Soc. Tr., Olivet Inst. Clubs: University, Indian Hill, Rotary.

WELCH, Rodney Channing, supt., dir. of res., Wilbur-Suchard Choc. Co., Lititz, Pa.; res. 414 S. Cedar St., Lititz.
Mfg.; b. Ayrshire, Ia., Dec. 16, 1904; s. of Channing and Bernice Hough Welch; ed. Wash. State Coll., B.S., 1928; M.S., 1931; Pa. State Coll., Ph.D., 1935; mem.: Alpha Zeta, Sigma Xi, Phi Kappa Phi; m. Evelyn Hebron, July 14, 1937; ch.: Joan Bernice, Rodney Channing, Jr., Mary Lynne. Chg. of sanitation, Sylvan Seal Milk Co., 1934-43; supt., dir. res., Wilbur-Suchard Choc. Co., 1943 to date. Res. wk. with milk, milk prods., choc., choc. prods. Mem. Am. Dairy Sc. Assoc., I.F.T., A.C.S., Int. Assn. Milk & Food Sanitarians, Am. Assn. Candy Techs. Club: Rotary. Hobbies: hunting, fishing.

WELKER, Paul L., dir. sales service, Durkee Famous Foods, 82 Corona Ave., Elmhurst, L.I., N.Y.; res. 258-02 Pembroke Ave., Great Neck. L.I., N.Y.
Chem. engr.; b. Louisville, Ky., Sept. 11, 1913; s. of C. Irvin Welker and Jessie Welker; ed. 1935, Speed Scientific Schl., U. of Louisville, Ky., B.S. Ch.E.; mem.: Triangle; m. Virginia Rollins, 1941; ch.: Virginia Ann. Chem., U.S.P.H.S., 1935; office engr., 1936; asst. engr., 1937; Durkee Famous Foods, Louisville, chem., 1939; asst. chf. chem., 1942; tech. dir., Elmhurst branch, 1947; dir. sales service, 1950 to date. Mem.: A.O.C.,

A..C.S., A.C.C., Soc. Prof. Engineers, Am. Spice Trade Assn. Hobbies: boating, fishing, manual crafts.

WELLFORD, John Harrison, asst. to v.p. organization & personnel, E.I. du Pont de Nemours & Co., 9120 du Pont Bldg., Wilmington, Del.; res. Greenville, Del.
Exec.; b. Warsaw, Va., Oct. 15, 1888; s. of Robert Carter and Elizabeth C. (Harrison) Wellford; ed. 1907-12, U. of Va., in chem.; mem.: Phi Kappa Psi; m. Marion Hendrickson, Oct. 23, 1915; ch.: Landon Carter, III, John H., Jr., Daniel Hendrickson, Beverley Randolph, Mrs. H. Sumner Farwell, Mrs. Alfred H. Freeman. 1912 to date, E.I. du Pont de Nemours & Co.; explosives dept., chem. 1912 to dir. of mfg., 1926-44; asst. to v.p., 1944 to date.

WELLS, Franklin Burnham, dir. scientific labs., Bloomfield College, Bloomfield, N.J.; res. 543 Grove St., Upper Montclair, N.J.
Prof. of chem.; b. Chicago, Ill., June 9, 1907; s. of Albert J. and Mary N. (Barstow) Wells; ed. U. of Ill., B.S. Ch.E., 1930; McGill U., M.Sc. (org. chem.), 1931; Ph.D. (org. chem.), 1933; mem.: Alpha Chi Sigma; m. Mary L. Hartley, May 18, 1927; ch.: Julie Ann, Carolyn Joyce. Richard's Chem. Wks., Jersey City, N.J., anal., 1934-37; asst. dir., lubrication div., 1937-39; Swan Finch Oil Corp., Newark, N.J., dir. of dev., 1939-40; Richard's Chem. Wks., Jersey City, N.J., dir. of lubrication div., 1940-42; Ellis-Foster Co., Montclair, N.J., res. chem., 1942-46; Bloomfield Coll., Bloomfield, N.J., dir. of sc. labs., 1946 to date. Mem.: Sigma Xi, A.C.S., A.A.A.S. Hobbies: bowling, bee-keeping.

WELLS, Sidney D., res. associate, Inst. of Paper Chem., Appleton, Wis.; res. P.O. Box No. 1, Combined Locks, Wis.
Chem. engr.; b. Boston, Mass., Mar. 29, 1885; s. of Obadiah F. and Helen Marion (Deeds) Wells; ed. S.B., M.I.T., 1907; mem.: Alpha Chi Sigma, Sigma Xi; m. Hope Blanche Shank, June 3, 1916; ch.: Sidney Deeds, Jr., Hope De Mott, Helen Elizabeth, Martha Barron, Mary Beatrice, Eleanor Jean, Benjamin Edward. Asst. chem., Central Aguirre Co., P.R., 1908; chem. engr., Mead Pulp & Paper Co., Chillicothe, O., 1909-10; engr. in forest prods., Forest Prods. Lab., Madison, Wis., 1911-16, 1917-25; chem. & asst. supt., Chesapeake Pulp & Paper Co., West Point, Va., 1916-17; dir., Paper Mill Labs., Inc., Quincy, Ill., 1925-30; tech. dir., Nekoosa-Edwards Paper Co., Port Edwards, Wis., 1930-32; tech. advisor, Combined Locks Paper Co., Combined Locks, Wis., 1932-35; counselor, Paulson & Wells, Appleton, Wis., 1935-38; res. associate, Inst. of Paper Chem., 1938 to date. Counsel on problems in pulp & paper indus.; suitability of Am. woods for paper pulp; effect of the adhesive used in the fabrication of corrugated fiberboard on the strength & serviceability of corrugated fiber boxes. Govt. bull., reports, etc. & numerous papers in tech. & sc. periodicals on subjects dealing with pulp & paper tech. Mem.: A.I.Ch.E., Soc. of Am. Foresters, T.A.P.P.I., A.C.S., A.A.A.S., Am.P.&P.M.. Supt. Assn., Wis. Soc. Arts, Letters & Sc. Hobby: yachting.

WELSH, Mark (Frederick), dir., animal ind. sec., Lederle Labs. Div., Am. Cyanamid Co., Pearl River, N.Y.; res. 236 Beechwood Rd., Ridgewood, N.J.
Veterinarian; b. Saginaw, Mich., 1895; s. of Joseph and Anna (Stoddard) Welsh; ed. D.V.M., 1919, Mich. State Coll.; M.S., 1926, Md.; post grad. wk., Johns Hopkins, George Washington. & Am. U.; mem.: Omicron Tau Alpha, Alpha Psi; m. Claribel Pratt. Asst. prof. bacteriol. & pathol., Md., 1919-30; inspector in chg., 1930-35; state veterinarian Md., 1935-41; dir., State Livestock Sanitary Serv., 1941-43, State of Md.; dir., animal ind. sec., Lederle Labs. Div., Am. Cyanamid, 1943 to date. Immunol. & therapeutics of animal diseases. Author: "The Fate of ½ Gr./Lb. Body Weight of 7 Sulfonamides in 7 Animal Species" & several bull. & articles on control of animal diseases, incl. brucellosis, rabies & others.

WELZ, Christopher John, res. group leader, wood finishes, E.I. du Pont de Nemours & Co., Fabrics & Finishes Div., Parlin, N.Y.; res. 775 Oak Ave., Westfield, N.J.
Chem.; b. Buffalo, N.Y., Aug. 20, 1897; s. of Christoph and Minnie L. (Roock) Welz; ed. R.P.I., Troy, N.Y., Chem. Engrg., 1920; Cornell U., Ithaca, N.Y., M.Sc., 1924; Ph.D., 1926; m. Doris H. Hickman, Nov. 17, 1928; ch.: Louise Katharine. Chem., Roessler & Hasslacher Electrochem. Co., Niagara Falls, N.Y. 1920-23; res. chem. & group leader, automotive & wood finishes, fabrics & finishes div., E.I. du Pont de Nemours & Co., 1926 to date. Lic. Prof. Engr., State of N.J. Mem.: A.C.S., Sigma Xi. Hobbies: photography, fishing.

WEMPLE, Holland Russell, v.p. and sales mgr., Texas Gulf Sulphur Co., 75 E. 45th St., New York 17, N.Y.; res. 40 Fifth Ave., New York 11, N.Y.
Exec.; b. Waverly, Ill., Mar. 16, 1892; s. of Edward and Adeline (Carter) Wemple; ed. M.I.T., 1913, Chem. Engrg.; mem.: Sigma Chi; m. Margaret C. Rice, Nov. 1, 1915. 1st Lt., C.W.S., W.W. I, Aug., 1917-Jan., 1919; with Texas Gulf Sulphur Co. from 1919 to date; dir. of co., 1939 to present; v.p., Dec., 1944 to date.

WENDEL, William Bean, prof. and chmn., Dept. of Biochem., Tulane U., Tulane U. Dept. of Biochem., P.O. Sta. 20, New Orleans, La.; res. 2510 Adams St., New Orleans.
Prof. of biochem.; b. Manchester, Tenn.. Apr. 10, 1901; s. of Rev. William David and Emma (Bean) Wendel; ed. Emory U., Atlanta, Ga., 1919-23, B.S.; U. of Chicago, summers, 1924 and 1925; U. of Tenn., Memphis, Tenn., 1926-28; Washington U., St. Louis, Mo., 1928-32, Ph.D.; mem.: Phi Delta Theta; m. Nannette Laura Miller, Apr. 27, 1938; ch.: Emilie Barton, Nancy Jane. Instr. in chem., U. of Tenn. Schl. of Medicine, 1923-28; asst. in biolog. chem., Washington U. Schl. of Med., 1928-32; instr. in biolog. chem., 1932-33; asst. prof. of chem., U. of Tenn. Schl. of Med., 1933-35; chem. to the Depts. of Internal Medicine and Oto-Laryngology and dir. of the Blood Chem. Lab., and asst. prof. of biolog. chem., Washington U., Schl. of Med., 1935-37; assoc. prof. chem., U. of Tenn., Schl. of Med., 1937-45; prof. of biochem. and chmn. of dept., Tulane U. Schl. of Med., Sept., 1945, to date. Most active res. fld.: metabolism of mammalian erythrocytes and malarial parasites. Mem.: Phi Beta Kappa, Sigma Xi, A.S.Bio.C., A.C.S., S.E.B.M., A.A.A.S.

WENDER, Simon Harold, prof. chem., U. of Okla., Norman, Okla.; res. 1013 Madison St., Norman.
Univ. prof.; b. Dalton, Ga., Sept. 4, 1913; s. of Louis David and Ella (Mendel) Wender; ed. Emory U., Ga., A.B., 1934; M.S., 1935; U. of Minn., Ph.D., 1938; mem.: Alpha Epsilon Pi, Alpha Chi Sigma; m. Ruth Miriam Wisenberg, Sept. 6, 1942; ch.: Joseph Harris, Barbara Ray. Tex. Agric. Exp. Sta., assoc. chem., 1939-41; U. of Ky., instr., asst. prof., 1941-46; U. of Okla., assoc. prof., prof., 1946 to date. Res. in fld. of biochem., mainly on pigments and physiolog. active substances in plants. Contrib. extens. to sc. and tech. jls. Mem.: A.C.S., A.A.A.S., Okla. Acdy. of Sc., Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, Phi Sigma. Club: Chemists' of Central Okla.

WENDT, Louise Marie, instr. of chem., State Teachers Coll., Wayne, Neb.; res. 809 Logan St., Wayne.

Chem. tchr.; b. Carroll, Neb., Oct. 26, 1893; d. of Gustav and Augusta Wendt; ed. Wayne State Teachers Coll.; Ia. State Coll., B.S., M.S.; grad. wk., U. of Wis.; mem.: Phi Omega Pi. Wayne State Teachers Coll., 1919 to present. Mem.: A.C.S., A.A.U.W., N.E.A., Neb. Acdy. Sc., Iota Sigma Pi, Lambda Delta Lambda, Phi Omega Pi. Hobbies: wood carving, fishing, hunting.

WENNERSTROM, Albert Eugene, mgr., specialties div., Mathieson Chem. Corp., Baltimore, Md.; res. 108 La Paix Lane, Towson, Md.

Sales; b. N.Y.C., Aug. 17, 1893; s. of Albert Pratt and Catherine Henrietta Wennerstrom; ed. pub. schl., 1906; H.S., 1910; Pratt Inst., 1914; m. Adele Trebus, June 6, 1925; ch.: Arthur John. Durex Chem. Corp., N.Y.C., sales, adv., pur., asst. to Dr. M. Toch, dir. plants & prod., to 1916; Gen. Elec. Co., Natl. Lamp Wks. Div., Cleveland, O., asst. to v.p. & gen. mgr., 1917; U.S. Bur. of Aircraft Prod., Wash., D.C., in chg. prod. oxygen apparatus, 1918; Simmons Hdwe. Co. & mfg. subsids., St. Louis, Mo., mdsing. assignments throughout U.S., 1919-21; Mathieson Chem. Corp., Balto., Md., St. Louis, Mo., dist. sales mgr., 1922-24; mgr. distributor sales div., 1925-31; mgr. specialties div., 1932 to date.

WENZEL, Robert N(icolas), mgr., fundamental chem. sec., Insulation Dept., Westinghouse Res. Labs., E. Pittsburgh, Pa.; res. 32 Bryn Mawr Rd., Forest Hills, Pittsburgh 21.

Res. chem.; b. St. Louis, Mo., Oct. 15, 1894; s. of Leonard and Barbara M. (Schwebel) Wenzel; ed. A.B., Stanford U., 1916; Chem. Engr., 1917; Ph.D. (org. chem.), 1928; mem.: Phi Lambda Upsilon, Phi Beta Kappa, Sigma Xi; m. Frances A. Browne, Mar. 18, 1922; ch.: Leonard Andrew, Marian Eleanor (decd.), Eleanor Frances, Marian Barbara. Res. chem., dept. smelter smoke investigations, Am. Smelt. & Ref. Co., summer 1916, 1917-18; res. chem., Monsanto Chem. Wks., St. Louis, Mo., 1918-22; instr., applied math., Stanford, 1922-23; instr. chem. 1923-27; indust. fellow, Mellon Inst., 1927-29; sr. fellow, 1929-42; mgr., fund. chem. sec., insulation dept., Westinghouse Res. Labs., 1942 to date. Spec. asst. to commissioner, smelter smoke investigations, Salt Lake Valley, U.S. Fed. Court, 1920. Res. in colloids, surface chem., vapor phase catalytic reactions; reactions in liquid ammonia solution, fatty acid technology, fuel gas, textile finishing agents, organo silicon cmpds., organo fluorine cmpds., dielectrics. Mem.: A.C.S., (chmn., Pittsburgh sec., 1946; councilor, 1947-49) Pittsburgh Chemists' Club (pres., 1941), Pa. Chem. Soc.

WEPPLER, George Robert, prod. mgr., Metal & Thermit Corp., 100 E. 42 St., N.Y., N.Y.; res. 555 Everett Rd., Red Bank, N.J.

Exec.; b. Kan. City, Mo., Mar. 21, 1916; s. of George Burkhardt and Julie Augusta (Witte) Weppler; ed. M.I.T., S.B., 1937; mem.: Kappa Sigma; m. Cornelia Menard, Aug. 9, 1941; ch.: Jay Robert, Stuart Willcutt. Engr., Procter & Gamble Co., 1937-41; asst. gen. mgr., gas mask div., Johnson & Johnson, 1941-43; gen. prodn. mgr., dir., Industrial Tape Corp., 1943-47; prodn. mgr., Metal and Thermit Corp., 1947 to present. Mem.: Army Ord. Assn., Natl. Soc. of Profnl. Engrs., N.J. Soc. Profnl. Engrs. Clubs: Union League (Chicago), Downtown Athletic (N.Y.), Big Savanna Sportsmen's Assn.

WERBIN, Sanford Joseph, chf. food chem., Stein, Hall & Co., 285 Madison Ave., N.Y., N.Y.; res. 139-35 85th Dr., Briarwood, L.I., N.Y.

Chem. engr.; b. N.Y.City, Oct. 18, 1906; s. of Harry and Anne Werbin; ed. N.Y.U., B.S. Ch.E.; Ch.E. Asst. chf. chem., Pittsburgh Testing & Inspecting Labs., 1928-29; chem., Nestle Milk Products Co., 1929-32; chem., N.Y. Eskimo Pie Corp., 1932-34; gen. mgr., Queens Farms, Inc., 1934-35; chem., Dr. Frieden's Res. Labs., 1935-36; food chem., Stein, Hall & Co., 1936 to present. Five pats. in food fld.

WERKING, Leroy C., mgr., indus. carbon dept., Natl. Carbon Div. Union Carbide & Carbon Corp., Cleveland, Ohio; res. 13415 Shaker Blvd., Cleveland 20.

Sales mgmt., chem. engrg.; b. Watertown, Conn., Mar. 30, 1898; s. of Frederic J. and Clara C. Werking; ed. Transylvania Coll., B.Sc., (cum laude), 1919; U. of Ky., grad. schl., 1920 (no deg.); N.Y.U., Grad. Schl. Bus. Adm., 1921; m. Louise P. Evans, 1936. Instr., Hotchkiss Schl., 1920-21; res. asst., Union Carbide & Carbon Res. Labs., 1921-24; ind. engr., Firestone Cotton Mills, 1924-29; res. dir., Republic Carbon Co., 1930-34; sales engr., 1935-38, asst. mgr. new prod. div., 1939-43, mgr. ind. carbon dept. 1943 to date, Natl. Carbon Div. U.C.C. Dev. of porous carbon; design & application of impervious carbon prods. Mem.: A.I.Ch.E., Electrochem. Soc.

WERNER, Tyrrell Hawley, res. chem., S. D. Warren Co., Cumberland Mills, Maine.; res. 100 Tolman St., Cumberland Mills.

Chem.; b. Waterbury, Conn., July 23, 1903; s. of Henry M. and Harriet H. Werner; ed. Dartmouth Coll., B.S., M.A.; Harvard U., M.S., Ph. D.; mem.: Phi Beta Kappa, Alpha Chi Sigma, Gamma Alpha; m. Irma R. Adams, 1937. Instr. chem., Dartmouth Coll., 1925-27; grad. stud., Harvard, 1927-30; tchg. asst., org. chem., Harvard, 1929-30; instr., res. asst., Harvard, 1930-32; res. assoc., Roscoe B. Jackson Mem. Lab., Bar Harbor, Me., 1932-33; res. asst., Harvard, 1933-34; res. chem., S.D. Warren Co., 1934 to date. Res. in chem. of chlorophyll; field of pulp and paper. Mem.: A.C.S.

WERNIMONT, Grant Theodore, staff asst., color control dept., Eastman Kodak Co., Rochester 4, N.Y.; res. 62 Dake Ave., Rochester 17.

Anal. chem.; b. Geneva, Nebr., Nov. 30, 1904; s. of John and Rose Wernimont; ed. Nebr. Wesleyan U., A.B., 1927; U. of Utah, A.M., 1929; Purdue U., Ph.D., 1934; mem.: Alpha Chi Sigma; m. Ruth Ann Biddle, June 12, 1934; ch.: Sandra Lou. Tchg. fellow, U. of Utah, 1928-29; grad. asst. in chem., Purdue U., 1929-34; instr., anal. chem., 1934-35; anal. chem., Eastman Kodak Co., 1935 to date. Statistical methods in chem. Mem.: A.C.S. (chmn., div. anal. chem., 1950), A.S.Q.C., Am. Statistical Assn., Sigma Xi. Hobby: photography.

WERTHAN, Sidney, chf., paint sec., tech. dept., N.J. Zinc Co., Palmerton, Pa.; res. Palmerton.

Res. chem.; b. Denver, Colo., Nov. 12, 1891; s. of Saul and Bertha (Eliel) Werthan; ed. U. of Denver, B.A. (in chem.), 1914; M.A. (in chem.), 1915; mem.: Phi Lambda Upsilon; m. Emilie Benson, Aug. 29, 1929; ch.: Merylee Elizabeth, George Benson. Chem., asst. chf. chem., Copper Queen Mine, Phelps Dodge Co., 1915-18; W.W. I, C.W.S., 1918-19; N.J. Zinc Co., Palmerton Plant, formn. testing labs. 1919-23; res. chem., paint sec., 1923-28; chf., paint sec., tech. dept., 1928 to date. Res. in paint tech. of ext. house, interior, emulsion & traffic paints; dev. & evaluation of zinc paint pigments. Contrib. extens. to tech. and sc. jls.; lectured frequently at univs. and tech. soc. meetings. Mem.: Fedn. Paint & Varnish Prodn. Clubs, A.C.S. (paint div.), Lehigh Valley Engrs. Club, A.S.T.M. Club: Blue Ridge Country. Hobbies: garden, golf, bridge.

WERTHEIM, E(dgar), hd., dept. of chem., U. of Ark., Fayetteville, Ark.; res. 103 N. Duncan Ave., Fayetteville.

Admin., tchg.; b. La Salle, Ill., Feb. 22, 1886; s. of Henry and Emma (Eliel) Wertheim; ed. B.P.E.; Y.M.C.A. Coll., 1915; Northwestern U., B.S., 1917; Kans. U., M.S., 1919; U. of Chicago, Ph.D., 1921; m. Katherine Hale, Aug. 25, 1924; ch.: Barbara (Mrs. Campbell), Marianne (Mrs. Melton). Kans. U., asst. prof. chem., 1918-19; U. of Ark., assoc. prof. chem., 1921-28; prof., 1928 to date; hd., dept., 1945 to date. Author: "Textbk. of Org. Chem." (3rd ed., 1951); "Org. Chem. Lab. Guide" (3rd ed., 1948); "Intro. Org. Chem." (2nd ed., 1948); "Expts. in Org. Chem." (2nd ed., 1950). Mem.: A.A.A.S., A.C.S., A.I.C., A.A.U.P., Sigma Xi, Phi Beta Kappa, Alpha Chi Sigma. Club: Univ. (Fayetteville). Hobbies: literature, music.

WESCOTT, Blaine Benjamin, asst. to exec. v.p., Gulf Res. & Dev. Co., P.O. Drawer 2038, Pittsburgh 30, Pa.; res. 2507 Hollywood Dr., Pittsburgh 21.
Res. admin.; b. Syracuse, N.Y., July 7, 1895; s. of Fred C. and Harriet M. (Adams) Westcott; ed. Syracuse U., B.S., 1917; U. of Pittsburgh, M.S., 1920; Ph.D., 1923; mem.: Alpha Chi Sigma, Phi Lambda Upsilon; m. Anna R. Kelly, Dec. 21, 1918; ch.: Shirley Norene. Res chem., Fed. Dyestuff & Chem. Corp., Kingsport, Tenn., 1917; Jr. physical chem., U.S. Bur. of Mines, Pittsburgh, Pa., 1918; instr. anal. chem., U. of Pittsburgh, 1919-22; fellow, Mellon Inst., 1922-29; chf., materials & prodn. chem. div., Gulf Res. & Dev. Co., 1930-46; asst. to exec. v.p., 1946 to date. Res. in fld. of organic synthesis, anal. methods, wrought iron, fatigue and corrosion fatigue of metals, and metall. in oil industry. Cert. for war wk., Amer. Standards Assn.; D.S. Award (Amer. Soc. for Metals, for contribns. to applications of alloy steel in oil industry. Mem.: A.P.I., A.I.M.E., A.S.M., A.S.M.E., Natl. Assn. of Corrosion Engrs., S.A.E. Hobby: photography.

WESP, Edward Floyd, dir. viscose rayon res., E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.; res. 121 School Rd., Alapocas, Wilmington.
Chem.; b. Canton, O., July 6, 1907; s. of Carl E. and Zella C. Wesp; ed. Coll. of Wooster, B.S., 1929, magna cum laude with spl. hons. in chem.; O. State U., M.S., 1931; Ph.D., 1932; mem.: Gamma Alpha; m. Florence Norton, Sept. 2, 1933; ch.: Marjorie Louise, Barbara Ann. O. State U., instr. chem., 1932-33; E.I. du Pont de Nemours & Co., rayon dept., res. chem., 1933-37; res. supvr., 1938-41; res. mgr., 1941-43; asst. dir. viscose rayon res., 1943-46; tech. supt., 1946-50; dir., 1950 to date. Mem.: A.C.S.

WESSINGER, George David, asst. dir., Sterling-Winthrop Res. Inst., Rensselaer, N.Y.; res. 3 Sunset Dr., Delmar, N.Y.
Chem., biolog. & phar. res.; b. Cherryville, N.C., Sept. 28, 1913; s. of Benjamin D. and Nancy (Caughman) Wessinger; ed. B.S., 1935, Fla. Southern Coll. (summa cum laude, President's Scholarship M.); M.S., 1936, Northwestern U.; Ph.D., 1939; D.D.S., Loyola U., Chicago, 1944; mem.: Sigma Xi, Mu Omega Xi; m. Ruth Jensen, July 27, 1940; ch.: David Lee, Mary Louise. 1935-39, instr. chem., Northwestern U.; 1939-41, asst. prof., Loyola U.; 1941-44, assoc. prof.; 1944 to date, asst. dir., Sterling-Winthrop Res. Inst. Res. in flds. of local anesthetics, control of dental caries, enzyme chem. Mem.: A.A.A.S., A.C.S., Internatl. Assn for Dental Res. Clubs: University (Albany), Torch. Hobbies: photography, hunting, fishing.

WEST, Byron L(illibridge), res. assoc., Calco Chem. Div., Am. Cyanamid Co., Bound Brook, N.J.; res. Terrill Rd., Plainfield, N.J.
Res. assoc.; b. Providence, R.I.; s. of James and Jane G. (Bannerman) West; ed. Ph.B., 1915, Brown U.; M.S., 1916; Ph.D. (organ. chem.), 1918; Morgan Edwards Fellow, 1916-18; mem.: Lambda Chi Alpha; m. Anne J. Wehrle, June 1, 1920; ch.: Dr. Jane G. Magill, Byron F. Dev. chem., Nitro. Prod. Co., Greene, R.I., 1915; res. chem., Fed. Chem. & Dye Corp., Kingsport, Tenn., 1916; 2nd Lt., San. Corps, U.S.A., 1918-19; res. chem., E.I. du Pont de Nemours & Co., 1919-21; res. dev., Natl. Anil. & Chem. Co., Buffalo, N.Y., 1921-32; 1932 to date, Calco Chem. Div., Am. Cyanamid Co., res. chem., grp. ldr., div. chf. chem., res. assoc. Res. in azo, vat dyes, interm. phars. Contrib. extens. to sc. and tech. jls. Mem.: A.I.C. (fellow), A.C.S. (natl. councilor, 1940-46; chmn., comm. prof. affairs, 1949-50), Franklin Inst., N.Y. Acdy. Sc., Sigma Xi. Clubs: Mendellsohn Glee, Brown U. (N.Y.). Hobbies: color photography, dramatics.

WEST, Clarence Jay, res. assoc., editor, The Inst. of Paper Chem., Appleton, Wis.; res. 202 River Dr., Appleton.
Editor & bibliographer; b. Brighton, Mich., June 14, 1886; s. of William and Rebecca (Brown) West; ed. Mich. State Normal Coll., B.Pd., 1909; M.S. (hon.), 1937; U. of Mich., A.B., 1909; Ph.D., 1912; mem.: Phi Lambda Upsilon, Sigma Xi; m. Eva B. McClellan, Dec. 28, 1910; ch.: Eva Jeanne (Mrs. Doubleday), Clarence John. Rockefeller Inst., res. chem., 1912-18; Arthur D. Little, Inc., dir. info. serv., 1919-21; Natl. Res. Council, dir., res. info. serv., 1921-36; The Inst. of Paper Chem., res. assoc. & editor, 1936 to date. Co-author: "Chem. Warfare"; joint translator, "Cellulose Chem."; assoc. ed., "Internatl. Critical Tables" (7 vols.), & compiler of Index to series; compiler "Bibliography on Papermaking," 1900-28, 1928-35, 1936-45, & annual vols. since 1946; compiler of num. bibliographies on tech. subjs., esp. in fld. of papermaking. Mem.: A.C.S., A.A.A.S., T.A.P.P.I. (medal 1937), Tech. Sec., Can. Pulp & Paper Assn. Clubs: Rotary, Riverview Country, Masons (York & Scottish Rites). Hobbies: masonic res., gardening.

WEST, Frank Beach, asst. prof. chem. engrg., Bagley Hall, U. of Wash., Seattle 5, Wash.; res. 8114 Latona Ave., Seattle 5.
Chem. tchg.; b. Minneapolis, Minn., Apr. 4, 1915; s. of Willis Mason and Elizabeth (Beach) West; ed. U. of Minn., B.Ch.E., 1936; Ph.D., 1939; m. Marion Fuller, 1939; ch.: Susan Beach, Richard Fuller, Allan Beach. 1939-42, instr. chem. engrg., U. of Wash.; 1942-46, indust. engr., E.I. du Pont de Nemours & Co., Wilmington, Del.; 1946 to date, asst. prof. chem. engrg., U. of Wash. Mem.: A.I.Ch.E., A.C.S.

WEST, James Robert, sr. fellow on Sulfur Fellowship, Mellon Inst., 4400 Fifth Ave., Pittsburgh 13, Pa.; res. 3812 Rural Court W., Pittsburgh 21.
Chem. engr.; b. McKeesport, Pa., Dec. 5, 1914; s. of Frank and Margaret West; ed. U. of Pittsburgh, 1933-37, B.S. Ch.E. (high hons.); M.S., 1941; Ph.D., 1944 (chem. engrg.); m. Louise Kish, Feb. 23, 1941. Res. asst., Bone Black Fellowship, Mellon Inst., 1937-39; fellow, Bone Products Fellowship, 1939-42; fellow, Sulfur Fellowship, 1942-46; sr. fellow, 1946 to present; lecturer in chem. engrg., U. of Pittsburgh, 1942-49. Co-inventor of "Synthad," a synthetic bone char, corrosion of metals by sulfur, thermodynamic properties of hydrogen sulfide, thermodynamic properties of sulfur and of sulfur dioxide, viscosity of sulfur vapor, thermal conductivity of sulfur vapor. Mem.: A.I.Ch.E. (active), A.C.S., A.A.A.S., Pa. Chem. Soc., The Chemists' Club (Pittsburgh), Phi Lambda Upsilon. Clubs: Faculty of U. of Pittsburgh, Robert Kennedy Duncan Mellon Inst. Hobbies: math. puzzles, hiking.

WEST, Philip W(illiam), assoc. prof chem., Coates Lab., L.S.U., Baton Rouge, La.; res. 2039 Lee Dr., Baton Rouge.
Chem. prof.; b. Crookston, Minn., Apr. 12, 1913; s. of William L. and Anne S. West; ed. B.S., 1935, U. of N.D.; M.S., 1936; Ph.D., 1939, State U. of Iowa; mem.: Tau Kappa Epsilon,

Alpha Chi Sigma; m. T. Constance Johnson, July 5, 1935; ch.: Dorothy Anne, Linda Kay, Patty Sue. Asst. chem., N.D. Geol. Survey, 1935-36; res. asst., sanit. chem., Iowa, 1937-40; res. & microchemist, Economics Lab., St. Paul, 1940; instr. chem., L.S.U., 1940-43; asst. prof., 1943-46; assoc. prof., 1946 to date. Author of approx. 50 papers; collaborated with Prof. Fritz Feigel on spot test res. in Rio de Janeiro, 1946; mem. of comm. on New Reagents and Reactions, International Union of Chem.; annual review on inorg. microchem. for "Anal. Chem." Author: "Calculations of Quantitative Anal.," 1948; "Qualitative Chem. & Anal. Separations," in press. Mem.: Phi Kappa Phi, Phi Lambda Upsilon, Sigma Xi, A.C.S., A.A.U.P., A.A.A.S., Instrument Soc. Am., La. Acdy. Sc. Club: L.S.U. Faculty. Hobbies: golf, billiards, swimming, target shooting.

WESTBROOK, Leon R(ussell), v.p. & secy., Cleveland Industrial Research Inc., 2310 Superior Ave., Cleveland 14, Ohio; res. Briar Hill Dr., Solon, Ohio.
Consltg. chem.; b. Newton, N.J., Sept. 20, 1894; s. of Obadiah and Laura (Dobbins) Westbrook; ed. M.I.T., B.S., 1917; m. Bertha Mann, Nov. 8, 1919; ch.: Russell D. 1917-18, res. chem., Natl. Aniline Chem. Co., Buffalo; 1918-19, 2nd Lt., C.W.S., U.S.A. Dev. Div., Cleveland; 1919-20, res. chem., Goodyear Tire & Rubber Co., Akron; 1920-21, consltg. chem., Cosma Labs., Cleveland; 1921-23, instr., East Tech. H.S., Cleveland; 1923-30, res. chem., Grasselli Chem. Co., Cleveland; 1930-39, asst. dir. expt. lab., Grasselli Chems. Dept., E.I. du Pont de Nemours & Co., Cleveland, 1940-46, res. mgr., electroplating div.; W.W.II, 1942-45, conslt., Metallurg. Lab., U. of Chicago, on one phase of Manhattan Project; 1947-48, professorial lecturer, dept. chem. & chem. engrg., Case Inst. of Tech., Cleveland; 1948-50, secy., treas., Carl F. Prutton & Associates, Inc.; new, v.p. & secy., Cleveland Industrial Research Inc. (change of organization name, Sept.,1950); chem. res. & dev. lab., Cleveland; 1946 to date, conslt. in electroplating, electrochem., corrosion, res. lab. management, tech. pats. 11 U.S. pats., num. pubs. in sc. jls. Mem.: A.C.S., A.S.T.M., Am. Electroplaters' Soc., Electrochem. Soc. (bd. of mgrs., 1934-37; v.p., 1937-39), Sigma Xi.

WESTHEIMER, Frank H., prof. chem., U. of Chicago, Chicago 37, Ill.; res. 5130 Greenwood Ave., Chicago 15.
Prof.; b. Baltimore, Md., Jan. 15, 1912; s. of Henry and Carrie (Burgunder) Westheimer; ed. Dartmouth, A.B. (summa cum laude), 1932; Harvard, M.A., 1933; Ph.D., 1935; m. Jeanne Friedmann, Aug. 31, 1937; ch.: Ruth, Ellen. Natl. res. fellow, Columbia, 1935-36; instr., U. of Chicago, 1936; asst. prof., 1941; res. supvr., Explosives Res. Lab., Bruceton, Pa., 1944-45; assoc. prof., U. of Chicago, 1946; prof., 1948 to date. Naval Ord. Dev. Award (1945); Army-Navy Cert. of Appreciation (1947). Res. in fld. of reaction mechanisms, electrostatic and steric effects. Contrib. extens. to sc. and tech. jls. Mem.: A.C.S. Clubs: Quadrangle, Chaos.

WESTMAN, Albert Ernest Roberts, dir. dept. of chem., Ontario Res. Foundation, 43 Queen's Park, Toronto 5, Canada; res. 35 Glenayr Rd., Toronto 10.
Res. chem.; b. Ottawa, Canada, May 31, 1900; s. of Thomas and Florence Augusta (Collett) Westman; ed. U. of Toronto, Toronto, Canada, B.A. (chem.), 1921; M.A. (physical & electrochem.), 1922; Ph.D., (physical & electrochem.), 1924; mem.: Sigma Xi; m. Agnes Jean Minore, 1925; ch.: Ellen Joan, Barbara Collett, Sheila Margaret. Res. assoc. in ceramics, Engrg. Expt. Station, U. of Ill., 1924-28; assoc. prof., Rutgers U., 1928-29; dir. dept. of chem., Ontario Res. Foundation, 1929 to date. Res. in elec. arcs, refractories, whitewares, clays, fuels, etc. & applications of quality control & statistical meths. in ceramic res. & in chem. & metallurg. industries. Author: "An Extension Course in Statistical Quality Control," Consolidated Press, Toronto, Can., 1947 (reprinted U. of Toronto Press, 1949). Mem.: Chem. Inst. of Canada (fellow), Am. Soc. for Quality Control (fellow), Am. Ceramic Soc. (fellow), Electrochem. Soc. Club: Hart House, U. of Toronto.

WETHERBEE, Burt, pres., Wetherbee Chem. Co., 1510 S. Park Ave., Buffalo 20, N.Y.; res. 525 Washington Hwy., Snyder 21, N.Y.
Mfr's. agent; b. N.H., 1905; ed. Tuft's Coll., B.S. in chem.; U of Fla., M.A. Mem.: A.C.S. (Buffalo Rubber Group), A.I. C. (div. of Rubber Chem.). Club: Chemists'.

WETTSTEIN, Thomas F., v.p. & gen. mgr., Midwest Carbide Corp., Box 554, Keokuk, Ia.; res. 914 N. 11th St., Keokuk.
Exec.; b. Chicago, Ill., Aug. 25, 1892; s. of John R. and Annie E. Wettstein; ed. Yale U., Sheffield Sc. Schl., 1912; mem.: Phi Gamma Delta; m. Edith Jane Bardo, June 24, 1915 (dec.); m. 2nd, Ada L. Raymow, Dec. 28, 1943; ch.: Thomas F., Jr., John Bardo, Mrs. M.D. Landis. Clubs: Phi Gamma Delta (N.Y.), Keokuk Country, Rotary. Hobby: book collecting.

WHALEY, Atherton Mikell, pres., Halogen Chem. Inc., Columbia, S.C.; res. 616 King St., Col.
Chem.; b. Columbia, S.C., Apr. 4, 1917; s. of Marcellus S. and Edna R. Whaley; ed. U. of S.C., Columbia, B.S.Ch.E., 1933-38; Ohio State U., Columbus, Ph.D., 1938-41; m. Harriett Bailey, Apr. 2, 1942; ch.: Joyce. 1942-44, res. dir., Res. Chem., San Jose, Calif.; 1944-47, pres., Halogen Chem., Columbia, S.C.; 1947 to date, pres., Halogen Chem. Inc. Author of 10 papers, pats. & pubs. in fld. of org. halides. Mem.: A.C.S.

WHALEY, Baynard Reed, assoc. chem., Sonoco Prods. Co., Hartsville, S.C.; res. Golf Club Rd., Hartsville.
Chem.; b. Columbia, S.C., Aug. 15, 1912; s. of Marcellus S. and Edna (Reed) Whaley; ed. The Citadel, Charleston, S.C.; U. of S.C., B.S. (in chem. engrg., cum laude); mem.: Alpha Beta; m. Helen A. Akers, June 15, 1938; ch.: Reed Spencer, Roger Baynard, Charles Akers. Supt., Water Purification Plant, Eau Claire, Columbia, S.C., 1934; chem., Firestone Tire & Rubber Co., Akron, Ohio, 1935-38; chem., Firestone Rubber & Latex Prods. Co., Fall River, Mass., 1938-40; assoc. chem., Sonoco Prods. Co., 1940 to date. Halogen Chems., Inc., Columbia, S.C., v.p., dir.; South Point Services, Edisto Beach, S.C., dir. Adhesives, plastics, insecticidal coatings. Mem.: A.C.S. (v.chmn., S.C. sec., 1947; chmn., 1948), A.A.A.S., S.C. Acdy. of Sc. Clubs: Cotillion, Parent Teachers Assn. (pres., 1948-49), U. of S. C. Alumni Assn., Jr. Ch. of Com. (1946-48). Hobbies: sailing, gardening, fishing, puttering.

WHEATON, George Sterrett, v.p., Eston Chems., Inc., 3100 E. 26 St., Los Angeles, Calif.; res. 477 Calif. Terrace, Pasadena.
Chem. mfr.; b. Oakland, Calif., Sept. 22, 1905; s. of George S. and Ida Belle (Palmer) Wheaton; ed. Stanford U., B.A. in C.E., 1927; study at Stanford Grad. Schl. of Bus. and U. of S. Calif. in chem. engrg.; mem.: Alpha Delta Phi; m. Virginia Rodgers Murphy, Sept. 22, 1931; ch.: Gearge S., III, John R. Engr., Calaverns Cement Co., 1927-28; estimator, supt., engr., S.H. Palmer Co. and Bechtel & Palmer, 1928-35; explosives sales & serv., Hercules Powder Co. 1935-41; gen. partner, Pittsberg Chem. Co., 1941-46; v.p., Eston Chems., Inc., 1946 to date. Mem. Amer. Soc. Refrigerating Engrs. (chmn., Los Angeles sec.). Calif. Mfrs. Assn. (dir.). Clubs: Valley Hunt, Univ., Los Angeles Athletic. Hobbies: tennis, fishing, hunting.

WHEELER, Harry K., Jr., tech. dir., Pan Am. Southern Corp., El Dorado, Ark.; res. 1110 W. 8th St., El Dorado.
Chem. engr.; b. Minneapolis, Minn., Mar. 3, 1922; s. of Harry K. and Anne Marie Wheeler; ed. U. of Cincinnati, 1944, Ch.E.; mem.: Sigma Alpha Epsilon; m. Etta Jean Leeker, June 24, 1944; ch.: Thomas Craig. 1944-48, chem. engr. process design, res. dept., Stand. Oil Co. (Ind.); 1948-50, asst. dept. hd., mfg. dept.; 1950 to date, asst. tech. dir., tech. dir., Pan Am. Southern. Mem.: A.I.Ch.E. (jr. mem.). Club: Jr. Chamber of Com. (El Dorado). Hobbies: golf, photography.

WHEELER, Maynard C., v.p. in chg. of production, Commercial Solvents Corp., Terre Haute, Ind.; res. R.R. 5, Box 21, Terre Haute, Ind.
Chem. engr.; b. Terre Haute, Ind., Jan. 12, 1900; s. of Conrad S. and Laura May Wheeler; ed. B. S. Ch.E., Purdue U., 1923; mem.: Phi Delta Chi; m. Mary Wilbie McDaniel, June 9, 1923; ch.: Marilyn, Maynard C., Jr. Commercial Solvents Corp., since 1923, plant chem., shift bacteriologist, process supt., plant mgr., production mgr. of all plants, v.p. in chg. of prod. and engineering; Thermatomic Carbon Co., dir. Alumni Counselor, Purdue Res. Foundation; dir., Terre Haute Ch. of Com., Y.M.C.A., Family Service Soc., Community Chest. Mem.: A.C.S., A.I.Ch.E. Clubs: Chemists' (New York), Columbia (Indianapolis), Country (Terre Haute), Creve Coeur Club (Peoria, Ill.).

WHEELER, Rollo Clark, v.p., dir., Stauffer Chem. Co., 3501 Jackson St., San Francisco 18, Calif.; res. same.
Mfg. chem. exec.; b. St. Helena, Napa Co., Calif.; s. of John H. and Frances V. (Jones) Wheeler; ed. Coll. of Chem., U. of Calif., class of 1913; mem.: Sigma Alpha Epsilon; m. Christine Marie Finnell; ch.: Rollo Simpson. Former pres. of San Francisco Curb Exchange, 2 yrs.; former mem., San Francisco Stock Exchange; Wheeler, Reynolds & Stauffer, San Francisco (v.p., dir.); San Francisco Sulphur Co., San Francisco, v.p., dir.; Dominguez Chem. Co., v.p.; Stauffer Chem. Co. of Nevada, dir.; Stauffer Chem. Co. of Texas, dir. Clubs: Bohemian (San Francisco), San Francisco Golf. Hobbies: golf, hunting, photography.

WHEELER, Walter C., patent atty., 1166 Natl. Press Bldg., Wash., D.C.; res. 3051 Idaho Ave., N.W.
Lawyer; b. Cincinnatus, N.Y., May 22, 1887; s. of Philo C. and Harriet N. Wheeler; ed. B.Ch. E., U. Mich., 1912; LL.B., Duquesne U., 1926; m. Julia Q. Clush, Aug. 23, 1917. U.S. Geolog. Survey, div. chem. & physical res., 1912-15, Wash., D.C.; U.S. Patent Off., 1915-17, Wash., D.C.; Rumford Metal Co. (Am. Magnesium Corp.), 1917-19, Rumford, Me.; Solvay Proc. Co., Syracuse, N.Y., 1919-23; Westinghouse Elec. & Mfg. Co., E. Pitts., Pa., pat. dept., 1923-27; Union Carbide & Carbon Corp., pat. dept., 1927-30, N.Y.; A.O. Smith Corp., pat. dept., Milwaukee, Wis., 1930-33; Westinghouse Elec. & Mfg. Co., Phila., Pa., pat. dept., 1934; E.I. du Pont de Nemours & Co., Wilmington, Del., & Wash., D.C., pat. div., legal dept., 1935 to date. Contrib. extens. to sc. and tech. jls. Mem.: A.I.Ch.E., Am. Patent Law Assn., N.Y. Patent Law Assn. Hobbies: music (cello), golf.

WHELAND, George Willard, prof. chem., dept. of chem., U. of Chicago, Chicago 37, Ill.; res. 5715 Drexel Ave., Chicago 37.
Univ. prof.; b. Chattanooga, Tenn., Apr. 21, 1907; s. of Zenas Windsor and Lena (Willard) Wheland; ed. Dartmouth Coll., B.S., 1928; Harvard U., A.M., 1929; Ph.D., 1932; mem.: Alpha Sigma Phi, Alpha Chi Sigma, Phi Beta Kappa, Sigma Xi; m. Betty Clayton, Aug. 11, 1934; ch.: Margaret Elizabeth, Robert Clayton. Calif. Inst. of Tech., postdoctoral fellow, 1932-36; Guggenheim Fellow, 1936-37; U. of Chicago, instr. chem., 1937-43; asst. prof., 1943-46; assoc. prof. 1946-49; prof., 1949 to date. Author: "The Theory of Resonance and Its Application to Organic Chem." (John Wiley and Sons, 1944); "Advanced Organic Chem." (John Wiley and Sons, 1949). Mem.: A. C.S., A.A.A.S. Clubs: Quadrangle, Chaos.

WHERRY, Edgar T(heodore), prof. of botany, U. of Pa., Phila. 4, Pa.; res. 137 Maplewood Ave., Phila. 44.
Tchr. & conslt.; b. Phila., Pa., Sept. 10, 1885; s. of Albert C. and Elizabeth (Doll) Wherry; ed. B.S. in chem., U. of Pa., 1906; Ph.D. in mineralogy, 1909 (Course honors; 2 prizes; Harrison Fellowship); m. E.G. Smith, Jan. 1, 1914. Analyst, G.C. Davis Co., Phila., 1907-08; lecturer in chem., Wagner Free Inst., Phila., 1908-09; asst. curator, U.S. Natl. Museum, 1913-17; crystallographer & later, principal chem., U.S. Dept. Agric., 1917-30; abstractor & asst. editor, Sect. 8, "Chemical Abstracts" for 25 yrs. Pioneer in study of hydrogen ion concentration, its significance and determination in soils and its relation to the growth and distribution of plants. Pioneer in the application of optical-microscopic methods to the identification of chem. substances. Mem.: Sigma Xi, A.C.S. Hobby: photography.

WHIRL, Solomon Frederick, chem. operating engr., Duquesne Light Co., 435 6th Ave., Pittsburgh, Pa.; res. 166 Spring Grove Rd., Pittsburgh, Pa.
Chem. engr.; b. Spencerville, Ohio, Mar. 13, 1906; s. of Cicero David and Katherine (Seibert) Whirl; ed. Ohio St. U., A.B., 1928; M.Sc., 1931; Ph.D., 1933; mem.: Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma, Pi Kappa Phi; m. Mary Winifred Lepard, Sept. 25, 1927; ch.: William Frederick. Eastman Kodak Co., res. chem., 1928 & 1929; Ohio St. U., grad. asst., 1928-31; Fellowship on Boiler Water Foaming and Priming, Joint Res. Comm. on Boiler Feedwater Studies, 1931-33; Duquesne Light Co., chem., 1933-36; chf. chem., 1936-50; chem. operating engr., 1950 to date. Res. in boiler, serv. water cond. for steam power stations and centr. heating plants; steam qual.; Turb., insult. oil qual. contr.; coal sampl. and anal.; ferrous and non-ferrous metallurgy. Mem.: A.C.S., A.S.T.M., Engrs. Soc. Westn. Pa., Natl. Dist. Heat. Assn., Power Sta. Chem. Subcomm., Prime Movers Comm., Edison Elec. Inst., (past chmn.), Joint Res. Comm. on Boiler Feedwater Stud., (chmn.), Jt. Comm. on Steam Contamn., Tech. Comm. on Air Pollut., Assn. Edison Illum. Cos. Trustee Mt. Hope Comm. Ch. Clubs: Pi Kappa Phi Alumnae (Pittsburgh), Duquesne Light Co. Suvr. Assn. Hobbies: photography, gardening, numismatics.

WHISTLER, Roy Lester, prof., agric. chem. dept., Purdue U., Lafayette, Ind.; res. 409 Steely St., W. Lafayette, Ind.
Chem. (prof. biochem.); b. Morgantown, W.Va., Mar. 21, 1912; s. of Parkh and Cloe Whistler; ed. Heidleberg Coll., B.S., 1934; O. State, M.S., 1935; Ph.D., 1938; m. Leila A.B. Kaufman; ch.: Deloris Irene. Ia. State Coll., instr. chem., 1935-38; Textile Foundation, Bur. Standards, res. assoc., 1938-40; N. Regional Res. Lab., Bur. Agric. Chem. & Engrg., U.S. Dept. Agric. chem., later sect. leader, 1940-46; Purdue & Assoc. Chem. Expt. Sta., prof. agric. biochem., asst. hd. dept., 1946 to date. Author: arts. in fld. of carbohydrate chem. (starch, cellulose, sugars, amylose, gums). Designated as one of the 10 ablest chems. wkg. in U.S. in fld. of starch chem. Mem.: Phi Lambda Upsilon, Sigma Xi. Club: Rotary.

WHITACRE, Francis M(arion), sc. dir., Schieffelin & Co., 30 Cooper Sq., N.Y.C.; res. 148 Shoreview Rd., Manhasset, L.I., N.Y.
Res. & mfg. of med. chems.; b. Salamonia, Ind., Apr. 10, 1905; s. of Francis T. and Dora M.

Whitacre; ed. A.B., Ind. U., 1927; A.M., 1928; Ph.D., 1935; mem.: Sigma Xi, Phi Lambda Upsilon, Acacia, Alpha Chi Sigma; m. Mildred Eckerty, July 25, 1929. 1927-29, tchg. asst., Ind. U.; 1929-34, instr. chem. engrg., Case Inst. Tech., Cleveland, O.; 1934-35, instr. org. chem.; 1935-37, asst. prof., org. chem., Case; 1937-45, assoc. prof., org. chem.; 1945, prof. org. chem., 1945 to date, sc. dir., Schieffelin & Co., N.Y.C. Several conslt. connect. 1935-45. Res. in chem. of anesthetics, plastics, explos., latter two for U.S. Dept. of Education during war. Medal, Int. Coll. Anesthetists, 1937. Co-author: "A Lab. Manual of Chem.," 1937, 1944. Mem.: A.C.S., N.Y. Acdy. Sc., A.A. A.S., Ind. Acdy. Sc., Internatl. Coll. Anesthetists (fellow), A.Phar.A., Am. Phar. Mfg. Assn., Assn. Res. Dirs. Clubs: Chemists' (N.Y.), Masonic Order. Hobbies: photography, oil painting, metal & wood working.

WHITACRE, Harold Monroe, v.p., Akron Chem. Co., 255 Fountain St., Akron 4, O.; res. 2383 16th St., Cuyahoga Falls, O.
Chem.; b. Alliance, O., Sept. 2, 1907; s. of Charles R. and Georgiana Whitacre; ed. Mount Union Coll., Alliance, O., B.S., 1929; O. State U., M. A., 1931; Ph.D., 1933; Univ. Fellow, 1932-33; mem.: Sigma Nu, Gamma Alpha; m. Wanda Klingler, Feb. 10, 1934; ch.: Harold M., Jr., Anna K. Firestone Tire & Rubber Co., Akron, O., chem., 1933-39; Akron Chem. Co., 1939 to date Mem.: Sigma Xi, Phi Beta Kappa, Phi Lambda Upsilon. Clubs: Fairlawn Country, Akron City.

WHITAKER, Ernst, pres. & treas., Amer. Liquid Fertilizer Co., Inc., partner, Rokeby Chem. Co., 2nd St. and St. Clair, Marietta, O.; res. Rathbone, Marietta.
Exec.; b. Newburgh, N.Y., Jan. 18, 1894; s. of John H. and Grace (Ernst) Whitaker; ed. pub. schls., Newburgh, N.Y.; H.S., Newburgh; m. Helen Middleswart, Aug. 4, 1928; ch.: Sally Fulton, Sue (Mrs. Wm. Maury Lyon). Salesman for var. co's., 1912-27; sales mgr., Edw. T. Kelly Pub. Co., Chicago, Ill., 1927-33; engaged in organization of present businesses, 1933-38, when Amer. Liquid Fertilizer Co. began first as partnership; incorp. in State of Ohio, June, 1940; gen. mgr. both firms.

WHITAKER, Howard E., v.p., Mead Corp., Chillicothe, Ohio; res. 132 West Second St., Chillicothe.
Chem. engr.; b. Woburn, Mass.; s. of S. Edgar and Edith (Wilder) Whitaker; ed. M.I.T., B.Sc., 1925; mem.: Theta Xi; m. Patricia Jones, Feb. 22, 1930; ch.: Michael David, Catharine H. 1925-42, Mead Corp., tech. and supvr. wk.; 1942-46, asst. v.p.; 1946-48, v.p.; 1948 to date, v.p., operations; dir., Brunswick Pulp & Paper Co. Mem.: T.A.P.P.I., Supts. Assoc., Chf. Logan Council, B.S.A. (pres.). Clubs: Chemists', Chillicothe Country (gov.). Hobby: golf.

WHITAKER, M. C., conslt., Amer. Cyanamid Co., 30 Rockefeller Plaza, N.Y. 20, N.Y.; res. North East, Cecil Co., Md.
Exec. (retired); b. Frazeysburg, O., Dec. 16, 1870; s. of Reuben B. and Jennie (Magruder) Whitaker; ed. U. of Colo., B.S., 1898; M.S., 1900; LL.D., 1913; U. of Pittsburgh, D. Ch.E., 1915; mem.: Delta Tau Delta, Phi Beta Kappa, Sigma Psi, Tau Beta Pi; m. (1st) Mabel Martin, Denver, July 9, 1900 (d. 1932); m. (2nd) Frances S. Culver, Baltimore, Md., June 16, 1934; ch.: John Martin, Robert Martin. U. of Colo., instr. applied chem., 1896-98; Columbia U., instr. applied chem., 1898-1902; pvt. asst. to Prof. C.F. Chandler, industrial wk., 1899-1902; Welsbach Co., Gloucester, N.J., chem., 1902-03; gen. supt. in chg, prodn., 1903-10; consltg. chem. engr., 1910-16; Columbia U., prof. chem. engrg., 1910-17; ed. "Journal Ind. & Engrg. Chem.," 1911-16; U.S. Indus. Alcohol Co., v.p. in chg. res. & prodn., 1917-27; U.S. Industrial Chem. Co., pres., 1918-27; consltg. chem. engr., N.Y., 1927-30; v.p. in chg. of res. & a dir. American Cyanamid Co., 1930-47; dir., The Ruberoid Company; dir., Jefferson Chem. Company, Inc. Specialized in organization & dev. of chem. mfg. plants, new processes. Perkin Medal, 1923, Medal for Excellence, Columbia U., 1950. Mem.: A.A.A.S., A.C.S. (dir., 1931-36), A.I.C., Am. Inst. of Chem. Engrs. (pres., 1914), Chem. Warfare Adv. Comm., S.C.I. (chmn., N.Y. sec., 1911). Clubs: The Chemists' (pres. 1915-17, trustee), Rockefeller Luncheon.

WHITBY, George Stafford, prof. rubber chem., U. of Akron, Akron 4, O.; res. 123 N. Partage Path, Akron 3.
Chem.; b. Hull, England, May 26, 1887; s. of Stafford B. and Harriet (Smith) Whitby; ed. Royal Coll. of Sc., London, Eng.; McGill U., Montreal, Can.; A.R.C.S., B.S., M.S., Ph.D., D.Sc., LL.D. (hon.); m. Wynne Atkinson, May 12, 1915; ch.: Oliver Wynford, Phillida Wynne. Royal Coll. of Sc., instr., 1906; Sociétè Financière des Caoutchoucs, chem., 1910; McGill U., prof. organic chem., 1917-23; Natl. Res. Council of Can., dir. of chem., 1929; Chem. Res. Lab., Teddington, Eng., dir., 1939; U. of Akron, prof. rubber chem., 1942 to date. Author: "Plantation Rubber and the Testing of Rubber," (1920); "Sc. Progress in the Field of Rubber and Synthetic Elastomers," (editor, with H. Mark, 1946). Editor "Synthetic Rubber" (1951). Mem.: A.C.S., Chem. Soc., Royal Soc. of Can. (fellow), Instn. of the Rubber Industry (fellow, 1929, Colwyn Gold M.), Officier d'Academie, Canadian Inst. of Chem. (pres., 1927), Canadian Chem. Assn. (pres., 1928). Club: University. Hobby: botany.

WHITCOMB, Gordon Putnam, college relations repr., Amer. Cyanamid Co., 30 Rockefeller Plaza, N.Y. 20, N.Y.; res. Wooded Rd., Watchung, N.J.
Chem.; b. Spencer, Mass., Feb. 26, 1913; s. of Henry L. and Maude P. Whitcomb; ed. Worcester Poly. Inst., B.S. (in chem., with distinction) 1934; M.S. (in chem.), 1936; Yale U., Ph.D. (in organic chem.), 1939; mem.: Sigma Alpha Epsilon, Skull; m. Ruth Kennedy, Apr. 8, 1944. Amer. Cyanamid Co., Calco Chem. Div., Bound Brook, N.J., res. chem., 1939-42; priorities specialist, 1942-45; tech. personnel dir., 1945-49; Amer. Cyanamid Co., Rockefeller Plaza, coll. relations repr., 1949 to date. Res. in flds. of phar., dyes, textile chem. Mem.: A.C.S., A.I.C., Tau Beta Pi, Sigma Xi. A.S.E.E. Hobbies: tennis, swimming, gardening, reading, theater, sports.

WHITE, Abraham, prof. & chmn., dept. of physiological chem., U. of Calif., Los Angeles 24, Calif.; res. 2249½ S. Beverly Glen Blvd., Los Angeles 64.
Tchg. & res.; b. Cleveland, O., Mar. 8, 1908; s. of Morris and Lena White; ed. U. of Denver, A. B., 1927; M.A., 1928; U. of Mich., Ph.D., 1931; m. Edna Shapiro, July 4, 1937. U. of Denver, grad. asst. in chem., 1927-28; U. of Mich., grad. asst. in physiological chem., 1928-30; U. fellow, 1930-31; Yale U., Sterling Fellow, 1931-32; Porter Fellow of the Amer. Physiological Soc., Yale U., 1932-33; U. of Mich., instr. physiological chem., (summer session) 1932; Yale U., instr., physiological chem., 1933-37; asst. prof., 1937-43; assoc. prof., 1943-48; U. of Calif., Los Angeles, prof. & chmn., dept. physiological chem., 1948 to date. Res. and teaching in fld. of physiological chem. Contrib. to: Duncan's "Diseases of Metabolism," (2nd ed. 1947); Wohl's "Dietotherapy," (1945). Mem.: Phi Lambda Upsilon, Sigma Xi, Alpha Omega Alpha, A.C.S., A.S. Biol. Chems., Assoc. Study of Internal Secretions, Am. Inst. of Nutrition, S.E.B.M., Hist. of Sc., Soc., N. Y. Acdy. Scs., West. Soc. for Clinical Investigation. Hobbies: tennis, music, painting.

WHITE, Albert Easton, dir. of engrg. res., prof. of metallurg. engrg., U. of Mich., 2038 E. Engrg. Bldg., Ann Arbor, Mich.; res. 2110 Dorset Rd., Ann Arbor.
Metallurg. engr., dir. of engrg. res.; b. Plainville, Mass., Mar. 12, 1884; s. of Albert Nelson and Martha (Easton) White; ed. A.B. 1907, Sc. D. (hon.) 1925, Brown U.; studied Harvard 1908; mem.: Sigma Xi, Tau Delta Pi, Phi Lambda Upsilon, Phi Delta Theta, Phi Kappa Phi; 1st m. Margaret Belle Arnold, 1911 (died 1934); 2nd m. Elsie Speckmann Hauswald, 1934; ch.: Arnold Easton. In chg. res., iron ores, flue dust & fire bricks, Jones & Laughlin Steel Co., 1908-11; instr. chem. engrg. 1911-13, asst. prof. 1913-17, prof. 1919 to date, dir. engrg. res. 1920 to date, U. of Mich.; consltg. metallurg. engr. Power Plant metallurgy. Over 100 papers & articles, an investigation of condenser tubes. Mem.: A.C.S., A.S.T.M. (ex-pres.), A.I.M.E., A.S.M. (ex-pres.), A.S.M.E. (soc. mgr.), Eng. Foundation, N.R.C. Chmn. metallurg. comm. Natl. Defense Res. Comm., 1940-41; mem. War Metallurgy Comm., Natl. Acdy. of Sc. & N.R.C. Trustee, First M.E. Church of Ann Arbor, chmn. of bd. Clubs: Ann Arbor Rotary, Mason, Detroit Athletic, Engineers (N.Y.), U. of Mich., Barton Hills Country. Hobbies: golf, photography, collecting amberina glass.

WHITE, Chandler T., v.p. & gen. mgr., Gen. Aniline Wks., 435 Hudson St., N.Y. 14, N.Y.; res. 17 W. 54 St., N.Y.
Chem.; b. Concord, N.H., Feb. 19, 1894; s. of William C. and Annie L. (Tubbs) White; ed. Dartmouth Coll., B.S. in organic chem., 1916; M.I.T., spl. student in chem., 1916-17; m. Gertrude A. Schimpf, Apr. 15, 1922; ch.: Elizabeth C. M.I.T., asst. instr. chem., 1917-19; Winchester Repeating Arms Co., chem. 1919-20; Gen. Aniline Wks., v.p. 1950. Club: The Chemists'. Hobby: golf.

WHITE, Charles Edward, prof. of inorganic chem., chem. dept., U. of Md., College Park, Md.; res. 4405 Beechwood Rd., Hyattsville, Md.
Chem. prof.; b. College Park, Md., Nov. 4, 1901; s. of Thomas H. and Annie L. White; ed. U. of Md., B.S., 1923; M.S., 1924; Ph.D., 1926; post doctorate wk., U. of Ill. & N.Y.U.; mem.: Alpha Tau Omega, Sigma Xi, Phi Kappa Phi, Alpha Chi Sigma; m. Helen Rose White, 1925; ch.: Helen E., Frances A. U. of Md., asst. prof., 1926; assoc. prof., 1929; prof., 1937 to date; Syracuse U., asst. prof., summer 1928. Extens. res. publs. on fluorometric anal. Author: "A Lab. Manual Of Gen. Chem.," (Natl. Capital Press., Aug., 1931). Mem.: Wash. Acdy. of Scs., A.C.S. (div. of chem. edn., treas. 1941 to date, pres., Wash. sec., 1949). Clubs: Brotherhood of St. Andrew, Rotary of College Park.

WHITE, Chester Miller, dir. of res., Genesee Res. Corp., 961 Lyell Ave., Rochester 6, N.Y.; res. 182 Elmcroft Rd., Rochester 9.
Res. chem.; b. Rochester, N.Y., Sept. 15, 1906; s. of Sherman and Susan Miller White; ed. U. of Rochester, B.S., 1929; M.S., 1931; Ph.D., 1935. U. of Rochester, asst., 1929-35; Puritan Soap Co., chf. chem., 1936-39; U. of Rochester (ext. div.), instr., 1937-42; Puritan Co., Inc., v.p. in chg. of res., 1940-45; Genesee Res. Corp., dir. of res., 1945 to date. Res. in fld. of specific heats of aqueous salt solutions; hydraulic brake fluids. Mem.: A.C.S., A.A.A.S., Sigma Xi, A.I.C., S.A.E., A.S.T.M.

WHITE, James Frederick, asst. prof., engrg. expt. sta., Mich. State Coll., E. Lansing, Mich.; res. 334 E. Cherry St., Fremont, Mich.
Res. chem.; b. Berea, O., Aug. 20, 1899; s. of Rowland and Lura L. (Brown) White; ed. Baldwin-Wallace Coll., A.B. (cum laude), 1920; Columbia U., M.A., 1922; Ph.D., 1924; m. Ruth E. Hoddinott, June 28, 1923; ch.: Caroline L. (Mrs. Robert A. Shogren), George R., Florence R. Columbia U., dept. of physics, asst., 1920-21; C.C.N.Y., dept. of chem., fellow & tutor, 1921-24; Soochow U., Soochow, China, prof. of chem., 1924-27; hd., dept. of chem., 1925-27; Cleveland Varnish Co., Cleveland, O., chem., 1927-28; Mathieson Chem. Corp., Niagara Falls, N.Y., res. chem., 1928-49; Shurtleff Coll., Alton, Ill., prof. of chem., 1949; Mich. State Coll., engrg. expt. sta., asst. prof., 1949 to date. Res. in fld. of dev., prodn., use sodium chlorite; cannery waste disposal and stream pollution. Mem.: A.C.S., Sigma Xi. Hobby: gardening.

WHITE, Lester M., chem. conslt., 4520 Lewiston Rd., Niagara Falls, N.Y.; res. same.
Chem. conslt.; b. Chicago, Ill., Sept. 8, 1890; ed. M.I.T., B.S., 1912; m. Jennie Phillips, Jan. 2, 1915; ch.: Lester M., Jr., Elaine. 1916-46, Roessler & Hasslacher Chem. Co. & its successor E.I. du Pont de Nemours & Co., Perth Amboy, N.J. & Niagara Falls, N.Y.; wks. mgr., gen. supt., dev. dir., tech. dir., Electrochem. Dept.; 1946 to date, chem. conslt. Mem.: A.C.S., A.I.Ch.E. Clubs: Chemists', Niagara Falls Country, Niagara, Rotary. Hobby: photography.

WHITE, Locke, Jr., hd. physical div., asst. dir., Southern Res. Inst., Birmingham, Ala.; res. 318 Edgewood Blvd., Birmingham.
Chem.; b. South Boston, Va., Mar. 15, 1919; s. of Locke and Emma (Edmunds) White; ed. B.S., Davidson Coll., 1939; Ph.D., U. of N.C., 1943; mem.: Kappa Sigma; m. Anne Stelzenmuller, June 12, 1948; ch.: Stephen Locke. Naval Res. Lab., Wash., D.C.; 1945 to date, Southern Res. Inst., Birmingham, Ala. Mem.: Phi Beta Kappa, Sigma Xi, A.C.S., A.A.A.S.

WHITE, Nelson C., asst. mgr., Internatl. Minerals & Chem. Corp., P.O. Box 71, Carlsbad, N. Mex.; res. 1017 N. Halagueno, Carlsbad.
Chem. engr.; b. Sept. 20, 1903; s. of Howard C. and Sadie F. White; ed. R.I. State Coll., B.S., 1925; Ch.E., 1931; mem.: Beta Phi; m. Lila M. Haven; ch.: Nelson C., Jr. Brown & Sharpe Mfg. Co., Providence, R.I., engr., 1926; Fields Point Mfg. Corp., Providence, R.I., prod. mgr., 1927-42; Internatl. Minerals & Chem. Corp., Carlsbad, N. Mex., asst. mgr., potash div., 1942 to date.

WHITE, Robert Edward, assoc. prof., chmn. dept. of chem. engrg., Villanova Coll., Villanova, Pa.; res. 14 Annabella Ave., Havertown, Pa.
Chem. engrg. prof.; b. Jersey City, N.J., Aug. 31, 1917; s. of Frank A. and Frances D. White; ed. Brooklyn Poly. Inst., B.Ch.E., 1938; M.Ch.E., 1940; D.Ch.E., 1942; m. Gloria E. Ingersoll, June, 1943; ch.: Jeffrey R., Donna Lee. Grad. asst., B.P.I., 1938-42; jr. engr., Vulcan Copper & Supply Co., 1939-40; res. fellowship, Foster Wheeler Corp., 1941; res. engr., York Corp., 1942-47; asst. prof., Bucknell U., 1947-49; assoc. prof. & chmn. dept. of chem. engrg., Villanova Coll., 1949 to date. Res. in fld. of heat transfer, gas absorption, extraction. Pats. on distillation methods. Contrib. extens. to tech. jls. Mem.: A.C.S., A.I.Ch.E., Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma, A.S.E.E., A.A.U.P., Franklin. Hobbies: gardening, forestry, golf.

WHITE, Robert Roy, prof., dept. chem. & metall. engrg., U. Michigan; res. Avon 860 Belfield Circle, Ann Arbor, Mich.
Prof., chem. engrg. consult.; b. Bklyn., N.Y., Mar. 1, 1916; s. of Laurance S. and Grace A. White; ed. Cooper Union Inst. Tech., B.S., 1936; U. Mich., M.S., 1938; Ph.D., 1940; Bklyn. Polytech., 1937; De Paul Law Schl., 1941; mem.: Alpha Chi Sigma; m. Elizabeth Rachel Clark, July 2, 1940; ch.: Robert Roy, Jr., William Wesley. Calco Chem. Co., Bound Brk., N.J., 1936-37, jr. engr.; The Dow Chem. Co., Ann Arbor, Mich., 1938-39, res. engr.; Std. Oil of Calif., El Segundo,

1940, res. engr.; Universal Oil Prods., Chicago, Ill., 1940-42, res. engr.; U. Mich., Ann Arbor, 1942 to date, instr., asst. prof., assoc. prof., prof.; consult. to The Dow Chem. Co., Ethyl Corp., Owens-Illinois Glass Co., among others. Fractnl. distill.; azeotropic & extractive distill.; react. kinetics; mass & heat transfer; isotope separation. Author: "Unit Operations," John Wiley & Sons, 1st edit., 1950. Mem.: A.C.S., A.A.A.S., A.I.Ch.E., A.S.E.E., Am. Gas Assn., Phi Kappa Phi, Iota Alpha, Phi Lambda Upsilon, Alpha Chi Sigma.

WHITE, Sumner W., Jr., secy.-asst. treas., dir., Mutual Chemical Co. of America, 270 Madison Ave., New York 16, N.Y.; res. 206 E. 72nd St., New York 21.
Chem. mfr.; b. Nutley, N.J., June 17, 1902; s. of Sumner W. and Frances Grosvenor (Crosby) White; ed. Pomfret School, Pomfret, Conn.; A.B., Harvard U., 1924; m. Virginia Earle, Oct. 22, 1927; ch.: Sumner W., 3rd, Edgar P.E. With Mutual Chemical Co. of America since 1925. Treas., Church of the Epiphany, N.Y.C.; treas., Church of St. Simon-by-the-Sea, Mantoloking, N.J. Clubs: Union, Harvard (N.Y.C.).

WHITE, Wayne Elwood, supvr. of res. & dev. in fluorine chems., Ozark-Mahoning Co., Box 449, Tulsa, Okla.; res. 2708 W. 51st St., Tulsa.
Chem. res.; b. Garfield, Kan., Mar. 31, 1905; s. of Horace A. and Josie (Ogier) White; ed. A.B., Southwestern Coll., Winfield, Kan., 1927; Ph.D., U. of Kan., 1930; mem.: Alpha Chi Sigma; m. Laura Brown, Apr. 19, 1930; ch.: Arlene Amelia, Wayne Franklin. 1930-36, instr. chem., Western Reserve U.; 1936-37, postdoctorate res. fellowship, U. of Kan.; 1937-45, res. chem., Al. Co. of Am.; 1945 & 1946, prof. of chem. & physics, Am. Inst., La Paz, Bolivia; 1946 to date, res. & dev. of fluorine chems., Ozark-Mahoning Co. Publ. & pats. on org. anal. reagents, cmpds. of al. & phosphorus, fluoborates, fluophosphates, other fluorine cmpds.; a survey of sc. in Bolivia. Author: "Specific Tests for Use in the 'Qual.' Course," (a booklet), 1937. Mem.: A.C.S. (v.chmn. local sec., 1948; chmn., 1949), Sigma Xi.

WHITEHEAD, Thomas Hillyer, prof. anal. chem., asst. hd. dept. of chem., U. of Ga., Athens, Ga.; res. 236 Henderson Ave., Athens.
Prof. chem.; b. Maysville, Ga., Sept. 5, 1904; s. of Asa Hillyer and Clara (Comer) Whitehead; ed. U. of Ga., B.S., 1925; Columbia U., M.A., 1928; Ph.D., 1930; mem.: Chi Psi, Phi Kappa Phi, Phi Lambda Upsilon; m. Dorothy Simms, Dec. 19, 1931; ch.: Thomas H., Jr., John Simms. Athens H.S., hd. sc. dept., 1925-27; Columbia U., asst. in chem., 1927-30; U. of Ga., asst. prof. chem., 1930-35; assoc. prof., 1935-39; prof. of anal. chem., 1939 to date. Legion of Merit M. and Army Commendation Ribbon, U.S. Army, 1945-46. Res. in fld. of anal. methods, complex ions, oxidation-reduction indicators, qualitative anal. of common sugars. Contrib. extens. to sc. and tech. jls. Author: "Theory of Elementary Chem. Anal.," (Ginn & Co., Boston, 1950); "A Lab. Manual of Elementary Chem. Anal." (Ginn & Co., Boston, 1950). Mem.: A.C.S., Ga. Acdy. of Sc., Sigma Xi, Gamma Sigma Epsilon, A.A.A.S. Hobbies: flower growing, tennis.

WHITESCARVER, Wilmer Field, dept. mgr., Coating Resins Dept., Amer. Cyanamid Co., 30 Rockefeller Plaza, N.Y. 20, N.Y.; res. 16 Fiske Terrace, Cranford, N.J.
Chem., sales exec.; b. Roanoke, Va., Apr. 13, 1893; s. of Wilmer O. and May (Field) Whitescarver; ed. U. of S.C., B.S., 1914; M.A., 1915; m. Ruth Scott, Nov. 19, 1924; ch.: Lucie G. E.I. du Pont de Nemours & Co., chem., 1915-19; Congoleum Co., chem., 1920-23; Martin-Senour Co., salesman, 1923-25; Standard Plate Glass Co., chem., 1925-28; E.I. du Pont de Nemours & Co., chem., 1928-34; Amer. Cyanamid Co., sales & exec., 1934 to date. Contrib. extens. to tech. jls. Advisory capacity to several govt. agencies during war. Mem.: A.C.S., Natl. Paint, Varnish & Lacquer Assn. Hobbies: fishing, hunting, golf, outdoor activities.

WHITESELL, Willard Alexander, prof. chem., U. of S.C., Columbia, S.C.; res. 307 Southwood Dr., Columbia.
Tchr.; b. Greenville, Va., July 27, 1897; s. of William James and Cora (Brubaker) Whitesell; ed. Bridgewater Coll., 1914-15; Randolph-Macon Coll., A.B., 1918; Johns Hopkins U., Ph.D., 1923; mem.: Chi Beta Phi, Sigma Upsilon; m. Mary Cook Atkinson, July 27, 1926; ch.: William James, Mary Louise, Margaret Ann, Frank Cook. U. of S.C., assoc. prof. of chem., 1923-37; prof., 1937 to date. Res. in fld. of catalytic oxidation. Mem.: Phi Beta Kappa, Le Conte Sc. Soc., S.C. Acdy. of Sc., A.C.S. Hobby: gardening.

WHITE-STEVENS, Robert Henry, dir. of res., Kentucky Chemical Industries, Inc., Cincinnati 32, Ohio; res. 118 Virginia Ave., Salisbury, Md.
Agricultural Research; b. London, England, June 3, 1912; s. of Montague and Lenore Muriel White-Stevens; ed. Primary—Devon, England, 1920-29; McGill U., Montreal, P. Quebec, Canada, B.Sc. 1933 1st class honors, M.Sc. 1935, magna cum laude; Cornell U., Ithaca, N.Y. Ph.D. 1942; mem.: Phi Kappa Phi, Sigma Xi; m. Lillian Ruth Jaffin in 1937; ch.: Pamela, Lenore, Derek Tyeth, Rodric Harold. Res. asst. McGill, 1933-35; res. asst., Cornell, 1935-40; res. instr., 1940-42; asst. res. prof., 1942-46; dir. of Nutrition Hosp. Bur. of Standards, N.Y.C., 1946-48; res. dir. Kentucky Chem. Indus., Inc., 1948 to present. Res. in the minor element nutrition of crop plants. Mem.: Acdy. of Sc. (New York), Amer. Soc. Hort. Sc., Amer. Plant Physiol. Soc., Poultry Sc. Assoc., A.A.A.S., Sigma Xi, Phi Kappa Phi, Natl. Chemurgic Council. Club: Kiwanis. Hobbies: music, dramatics, radio, public speaking.

WHITFORD, Earl L(ester), pres., Oldbury Electro-Chem. Co., Niagara Falls, N.Y.; res. 465 College Ave., Niagara Falls.
Chem.; b. Edgerton, Wis., Feb. 26, 1895; s. of D.F. and Emma Jane Whitford; ed. Edgerton, Wis., H.S.; Ia. State Teachers Coll., A.B., 1917; U. of Wis., Ph.D., 1924; mem.: Acacia, Alpha Chi Sigma, Phi Lambda Upsilon, Gamma Alpha; m. Edna M. Chalus, June 2, 1925; ch.: Nancy Ann. U. of Wis., instr. of chem., 1920-25; Oldbury Electro-Chem. Co., Niagara Falls, asst. wks. mgr., 1925-36; dir. of sales, 1936-47; v.p., 1947-50; pres., 1950 to date & dir.; dir. and treas., Pembroke Chem. Corp. Mem.: A.C.S., Amer. Electrochem. Soc., A.I.C., Soc. of Sigma Xi. Clubs: Niagara, Niagara Falls Country, Youngstown Yacht, Chemists' (N.Y.). Hobbies: outdoor sports in gen. and Scandanavian stories.

WHITLEY, Wyatt Carr, prof., Schl. of Chem., Ga. Inst. of Tech., Atlanta, Ga.; res. 1864 Greystone Rd. N.W., Atlanta.
Teaching, res.; b. Selma, N.C., Oct. 17, 1900; s. of John Berry and Nancy (Greene) Whitley; ed. B.S., Wake Forest Coll., 1928; M.S., Ga. Schl. of Tech., 1933; Ph.D., U. of Wis., 1939; honors: Wake Forest, Golden Bough, cum lauda, Gamma Sigma Epsilon; Ga. Tech., Phi Kappa Phi; U. of Wis., Sigma Xi, Phi Lambda Upsilon; m. Lora Dills, Dec. 26, 1934; ch.: John Bryan, Margaret Wyatt, Nancy Lucinda. Spring semester 1929, instr. in chem., George Washington U.; 1929-35, instr. in chem. Ga. Inst. of Tech., Atlanta, 1935-43, asst. prof. chem.; 1943-46, assoc. prof. chem.; 1946 to date, prof. chem. Co-author: "Theory of Anal." with John L. Daniel, 1940. Mem.: A.C.S., Ga. Acdy. of Sc., Alpha Chi Sigma. Mem. Ga. Tech. Athletic Assn.

WHITLOCK, Gaylord Purcell, tech. sales, Merck & Co., Inc., Rahway, N.J.; res. 420 W. Seventh St., Plainfield, N.J.
Biochem.; b. Mount Vernon, Ill., July 7, 1917; s. of Walter Patten and Ferne (Purcell) Whitlock; ed. Southern Ill. Normal U., B.Ed.; Penn. State Coll., M.S., Ph.D.; U.C.L.A., prof. degree in meteorology; mem: Alpha Chi Sigma; m. Margaret Baumbach, Aug. 14, 1941; ch.: Margay Jo, Pamela Kay. 1940-42, Penn. State Coll., res. asst.; 1943, Iowa State Coll., res. assoc., dairy chem.; 1943-46, U.S. Naval Reserve; 1946-47, Iowa State Coll., asst. prof., dairy chem.; 1947 to date, Merck & Co., Inc. Res., vitamins in food, pharmacology, human and animal nutrition. Mem.: Sigma Xi, Gamma Sigma Delta, A.C.S., I.F.T. Chmn. of Council, St. Peters Lutheran Church, North Plainfield, N.J. Hobbies: sports, collection hobbies, handicraft.

WHITMAN, Walter Gordon, hd. dept. of chem. engrg., Mass. Inst. Tech., Cambridge, Mass.; res. Nashawtuc Rd., Concord, Mass.
Chem. engr.; b. Winthrop, Mass., Nov. 30, 1895; s. of John T. and Ida M. Whitman; ed. M.I.T., S.B. Ch.E., 1917, S.M. Ch.E., 1920; m. Martha Key, June 7, 1921; ch.: Ann (Mrs. Hosmer), John T., William K. Mass. Inst. Tech., asst., 1917-18; instr., 1918-20; asst. prof., 1920-25 (chem. engrg.); dir. of sta., Schl. of Chem. Engrg. Practice, 1920-22; asst. dir. res. lab., applied chem., 1922-25; Standard Oil Co. (Ind.), asst. dir. res., 1926-29; assoc. dir., 1929-34; M.I.T., prof., hd. dept. chem. engrg., 1934 to date. Res. in fld. of corrosion, gas absorption, petroleum refining. Dir., Basic Chem. Div., W.P.B. (during war); chmn., comm. on aircraft fuels & lubes., N.A.C.A. (1940-45); mem. comm. on fuels & lubes., Res. & Dev. Bd.; general advisory Comm., Atomic Energy Commission, 1950 to date. Mem.: A.I.Ch.E. (Council), A.C.S., Amer. Acdy. Arts & Sciences. Club: Chemists' (N.Y.).

WHITMOYER, C.W., pres., gen. mgr., Whitmoyer Labs., Inc., 19 N. Railroad St., Myerstown, Pa.; res. 2 E. Carpenter Ave., Myerstown.
Gen. mgr.; b. Buffalo Springs, Pa., Apr. 4, 1905; s. of John H. and Jennie C. Whitmoyer; ed. Albright Coll., Reading, Pa., B.S., 1928; Columbia U., M.A. in Chem., 1929; mem.: Pi Tau Beta; m. Dorothy E. Strickler, Apr. 27, 1930; ch.: Sally Ann, C. Walter, Jr., John H., II. Columbia U., lab. instr., 1928-29; E.I. du Pont de Nemours & Co., Jackson lab., res. chem., 1929-31; C.W. Whitmoyer Labs., Myerstown, self employed, 1931-34; pres. & gen. mgr., 1934 to date; Whitmoyer Labs., Ltd., Yarmouth, Nova Scotia, Can., pres., 1940 to date. Joint holder several U. S. & Canadian pats. Hon. Achievement Award, Albright Coll., Trustee, Lebanon Co. Community Chest; pres., Myerstown Borough Council; chmn. Myerstown Water Authority; v.p., Atlantic Cod Liver Oil Producers Assoc. Mem.: A.C.S., A.A.A.S., Animal Nutrition Res. Council, Animal Health Inst. (dir.). Clubs: Myerstown Rotary, Masons. Hobby: tech. literature.

WHITNEY, John Boardman, consltg. chem. engr., 36 W. 44th St., N.Y. 18, N.Y.; res. 163 Park St., Montclair, N.J.
Chem. engrg.; b. Buffalo, N.Y., Jan. 10, 1882; s. of Harry Bennet and Harriet (Newell) Whitney; ed. Hobart Coll., B.S., 1904; hon. in chem., Columbia U., A.M., 1905; mem.: Theta Delta Chi; m. Cora Edith Avery, June 20, 1907; ch.: John Boardman, Jr., Robert Avery, David William. 1906-14, Gen. Chem. Co. Buffalo Wks., asst. supt.; 1914-17, chf. operating chem., Arlington Co.; 1917-31, du Pont Co., Deepwater Plant, supt. several divs., Wilmington, Del., sales dev. dept.; 1931-35, U.S.S.R., consltg. chem. engr. in Moscow; 1935-42, Natl. Lead Co., Titanium Div., Sayreville, indus. dev. div.; 1935-50, Chem. Construction Co., sales div.; 1950 to date, chem. conslt.; v.p., Allied Process Co. Mem.: A.C.S., A.I.Ch.E. Hobbies: Boy Scouts, golf, contract bridge.

WHITNEY, Leslie Clifton, chf. metallurgist, Copperweld Steel Co., Glassport, Pa.; res. 171 Fairfax Rd., Pittsburgh 21, Pa.
Metallurgist; b. Oct. 29, 1899; s. of Clifton F. and Alice M. (Lippard) Whitney; ed. Lehigh U., Met. Engrg., 1922; mem.: Phi Gamma Delta; m. Pauline Preston Howe, June 20, 1925; ch.: Elizabeth Jean (Mrs. F.J. France, Jr.), Robert Preston. Amer. Steel & Wire Co., Worcester, Mass., asst. hd. of physical lab., 1922-30; Copperweld Steel Co., Glassport, Pa., chf. metallurgist, 1930 to date. Mem.: A.S.M., A.I.M.E., Wire Assn., A.S.T.M., E.S., British Iron & Steel Inst., British Inst. of Metals. Club: Univ. Hobby: sports.

WHITNEY, Robert B., prof. of chem., Amherst Coll., Amherst, Mass.; res. 92 Sunset Ave., Amherst.
Teacher of chem.; b. Minneapolis, Minn., July 28, 1905; s. of Arthur L. and Grace L. Whitney; ed. U. of Minn., A.B., 1924, Ph.D., 1927; mem.: Delta Upsilon, Alpha Chi Sigma, Gamma Alpha. Phi Lambda Upsilon, Phi Beta Kappa, Sigma Xi; m. Mabel W., Oct. 8, 1948; ch.: Robert B., Jr., Martha J., Marian E., John W. Harvard U., instr., 1928-30; Amherst Coll., instr., 1930-33; asst. prof., 1933-38; assoc. prof., 1938-44; prof., 1944 to date.

WHITNEY, Roy Powell, res. assoc., The Institute of Paper Chem., Appleton, Wis.; res. 1709 S. Douglass St., Appleton.
Chem. engr.; b. Milo, Maine, May 30, 1913; s. of Andrew Donald and Laura Mary (Powell) Whitney; ed. M.I.T., S.B., 1935, S.M., 1937, Sc.D., 1945; m. Virginia Margaret Gordon, Dec. 27, 1941; ch.: Patricia Ann, Donald Gordon. Teaching asst., Dept. of Chem. Engrg., M.I.T., 1935-36; asst. dir., Bangor Station, M.I.T., Schl. of Chem. Engrg. Practice, 1936-38; dir., 1938-42; asst. prof. of chem. engrg., M.I.T., 1939-45; dir., Dept. of Indus. Coop., U. of Me., 1945-47; prof. & acting hd. chem. engrg., 1946-47; res. assoc., The Inst. Paper Chem., 1947 to date. About 12 res. papers in the chem. engrg. field—gas absorption, phase equilibrium, various phases of pulp and paper tech. Mem.: Alpha Chi Sigma, Sigma Xi, Tau Beta Pi, A.I.Ch.E. (recipient, with J.E. Vivian, of Jr. Medal, 1948), A.C.S., T.A.P.P.I., Am. Soc. for Engrg. Education. Hobbies: hunting, fishing.

WHITNEY, William Travers, chf. chem., Coronet Phosphate Co., Box 790, Plant City, Fla.; res. same.
Chem.; b. Gainesville, Fla.; s. of William P. and Caroline Y. Whitney; ed. U. of Fla., B.S., 1905; m. Margaret Willis, Aug. 3, 1924; ch.: Margaret Willis, Martha Caroline, Anne Travers. Pratt Lab., asst. chem., 1906-09; Coronet Phosphate Co., chem., 1909-17; U.S.A., 1917-19; Coronet Phosphate Co., chf. chem., 1919 to date. Defluorinating phosphate rock. Mem.: A.C.S. Hobbies: fishing, hunting, gardening.

WHITTAKER, Roland Mapes, prof. chem., chmn. dept. of chem., Queens Coll., Flushing, N.Y.; res. 137 Washington Ave., Beacon, N.Y.
Chem., prof. chem.; b. Middletown, N.Y., Nov. 29, 1903; s. of William and Cicely Jane Whittaker; ed. City Coll. of N.Y., B.S.S., 1927; Columbia U., A.M., 1930; Fordham U., Ph.D., 1932; m. Mary Reynolds LaDue, Apr. 4, 1931; ch.: Cynthia Jane. Fellow, City Coll. N.Y., 1926-27; Bklyn. Coll., tutor to asst. prof., 1927-37; Queens Coll., asst. prof. to prof., 1937 to date; chmn. dept. of chem. 1937 to date; acting acad. dean 1948-49. Conslt. in fld. of organic insecticides and coll. lab. design. Author: "Lab. Hdbk. for Gen. Chem." (1938 & 1947); "Rudiments of

Chem." (1947). Mem.: A.A.A.S., A.C.S., A.I.C. (fellow), N.E.A.C.T. Mem.: bd. of edn., City of Beacon, 1949-50.

WHITTEMORE, John Weed, assoc. dean of engrg., hd. dept. of ceramic engrg., Virginia Polytech. Inst., Blacksburg, Va.; res. 900 Draper Rd., Blacksburg.
Coll. prof. & dean; b. Sioux City, Ia., Sept. 27, 1897; s. of James H. and Jennie L. (Weed) Whittemore; ed. Ia. State Coll., B.S. in Ceramic Engrg., 1921; prof. of engrg., ceramic engrg., 1927; mem.: Sigma Nu, Sigma Xi, Omicron Delta Kappa, Tau Beta Pi, Keramos; m. Clifford Kelley, Aug. 30, 1926; ch.: Mary Ann, Joan W. Supt., Sioux City Brick & Tile Co., 1921-26; ceramic engr., Dept. of Conservation, State of La., 1926-29; asst. prof. ceramic engrg., La. State U., 1926-29; prof. ceramic engrg., hd. dept., Va. Poly. Inst., since 1929; assoc. dean engrg. 1943; sc. conslt. for foreign econ. admin., 1946. O.T.S., F.A. Camp Zachary Taylor, 1919. Res. in fld. of ceramic engrg. Contrib. several arts. to sc. and tech. jls. Conslt., Bur. of Mines. Licensed Ceramic Engr., State of Va. Mem.: Amer. Ceramic Soc. (pres. 1948-49), Inst. of Ceramic Engrs. (pres. 1949-50), Am. Soc. Engrg. Edn., A.S.T.M. (chmn. comm. C-15, v.-chmn. comm. C-12, mem. comm. C-8, C-7, C-3).

WHITTINGTON, Charles S., pres., Mississippi Chem. Corp., P.O. Box No. 444, Greenwood, Miss.; res. Rural-Greenwood, Miss.
Gen. farming, cattle prod.; b. Roxie, Miss., Nov. 10, 1895; s. of A.M. and M.I. Whittington; ed. Miss. State Coll., B.S.; mem.: Lee Guard (social fraternity), Kappa Alpha; m. Mattie Blair, Sept. 16, 1919; ch.: Mrs. Joyce Whittington Hughes, Charles Blair Whittington (dec.). General farming and cattle prod., Leflore and Carroll Counties (owner); Miss. Chemical Corp., Yazoo City, Miss., pres.; bd. of dirs., Staple Cotton Assoc., Greenwood, Miss.; Farmers Supply Corp., Greenwood, Miss., pres.; C.S. Whittington Planting Co., Cotton and Cattle, owner. Past pres., Miss. Cattleman's Association; (past pres., Leflore County Farm Bur.; past. dir., Delta Cotton Council. Mem., Baptist Church. Clubs: several hunting and fishing clubs, Country. Hobbies: hunting, fishing, golf.

WHITWELL, John Colman, prof. chem. engrg., dept. chem. engrg., Princeton U., Princeton, N.J.; res. R.D. No. 1, Snowden Lane, Princeton, N.J.
Chem. engrg. prof.; b. Washington, D.C., Nov. 17, 1909; s. of George M. and Bessie Allen Whitwell; ed. Princeton U., B.S.E., 1931; Ch.E., 1932; m. Blanche Fleming, June 26, 1933. Chem. engrg. dept., Princeton, 1933 to date, as instr., asst. prof., assoc. prof., prof.; conslt., Thermoid Rubber Co., Trenton, 1932-34; official investigator, N.D.R.C., 1941-44; Textile Res. Inst., group ldr., acting dir. res., conslt., 1944 to date. Contrib. extens. to sc. and tech. jls. Mem.: A.I.Ch.E. (active), A.C.S., A.S.E.E., Textile Res. Inst., Fiber Soc., Am. Stat. Assn., Prof. Engr. (N.J.). Club: Springdale Golf.

WICHERS, Edward, chf., chem. div., Natl. Bur. of Standards, 215 Chemistry Bldg., Washington 25, D.C.; res. 9601 Kingston Rd., Kensington, Maryland.
Chem.; b. Mar., 1892; s. of William and Wilhelmina Pyl Wichers; ed. Hope Coll., A.B., 1913, Sc.D. (hon.), 1941; U. of Ill., M.S., Ph.D.; m. Ruth Hopkins, June 30, 1917; ch.: Edward Hopkins. U. of Ill., grad. asst., 1913-15; Natl. Bur. of Standards, Wash., D.C., apptd. chem., July 23, 1917; detailed to Los Alamos Lab., Atomic Energy Project, 1944-45; chf. of sec., platinum metals & pure substances, prior to June, 1948; chf., div. of chem., 1948 to date. Res. in flds. of anal. and inorganic chem. of platinum metals; methods of testing reagent chems.; pure substances, techniques of purification and criteria of purity. Mem.: A.C.S. (Hillebrand Award, Wash. sec., 1938, with R. Gilchrist), Sigma Xi, Phi Lambda Upsilon. Club: Cosmos (Wash.).

WICKENDEN, Thomas Howard, v.p., mgr. dev. & res. div., The Internatl. Nickel Co., Inc., 67 Wall St., N.Y. 5, N.Y.; res. No. 1 Twin Oak Rd., Short Hills, N.J.
Metallurgical engr., exec.; b. Toledo, O., May 26, 1888; s. of Thomas R. and Ida (Consaul) Wickenden; ed. Denison U., 1906-09; U. of Mich., B.Ch.E., 1913; mem.: Sigma Chi, Sigma Psi, Phi Lambda Upsilon; m. Dee S. Shuman, Mar. 9, 1916; ch.: Mrs. Vincent Scofield, Thomas C., M.D. Am. Steel & Wire Co., Waukeegan, Ill., chem., 1910-11; Studebaker Corp., various positions in metall. & engrg. depts., 1913-20; engr. in chg. S. Bend plant, incl. chem. & physical labs., 1916-20; Willys Corp., exec. engr., 1920-22; Internatl. Nickel Co., dev. & res. div. in chg. dev. automotive industry, 1922-31; asst. mgr., d. & r. div., 1931-43; mgr., 1943; v.p., since 1947, directing res. & dev. of ductile cast iron. Holds pats. in fld. of nickel cast iron and steel. Contrib. extens. to sc. and tech. jls. Clubs: Downtown Athletic, City Midday, Short Hills, Awosting Yacht and Country, U.S. Power Squadron. Hobby: sailing.

WICKERT, Jacob Nelson, asst. supt., Union Carbide & Carbon Corp., Carbide & Carbon Chem. Div., S. Charleston, W. Va.
Chem.; b. Chicago, Ill., Jan. 23, 1902; s. of Paul and Edna M. Wickert; ed. U. of Ill., B.S. Ch.E., 1925; State U. of Ia., M.S., 1926; Ph.D., 1928; mem.: Alpha Chi Sigma; m. Sarah Creigh, Apr., 1930; ch.: Jacob N., Jr., Paul C., Sarah E., Nancy E. Carbide & Carbon Chems., 1928 to date. Res. in prod. of aliphatic organic chems. Conslt., Oak Ridge Natl. Labs. (A.E.C.). Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S., A.I.Ch.E., A.S.M., A.P.I. Mem. local planning commis., library bd., Visiting Nurses Assn. Clubs: Masons, Shrine. Hobbies: stamps, music.

WICKS, Zeno W., Jr., dir. of res., textile colors div., Interchem. Corp., Hawthorne, N.J.; res. 26-15 Fair Lawn Ave., Fair Lawn, N.J.
Chem.; b. Port Jervis, N.Y., July 24, 1920; s. of Zeno W. and Lulu M. Wicks; ed. Oberlin Coll., A.B. (summa cum laude), 1941; U. of Ill., Ph.D., 1944; mem.: Alpha Chi Sigma; m. Susan Donberg, Nov. 22, 1941; ch.: Robin Margaret, Zeno W., III. 1944 to date, Interchem. Corp., in following capacities: res. chem., Res. Labs., 1944-47; Pacific Dist., tech. mgr., Finishes Div., 1948-49; dir. of res., Text. Colors Div., 1949 to date. Res. on drying oils, synth. resins, emulsions. Mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, A.C.S.

WIDTSOE, John Andrew, mem., Council of Twelve, Church of Jesus Christ of Latter-day Saints, 47 E. South Temple St., Salt Lake City, U.; res. 1425 Sigsbee Ave., Salt Lake City.
Churchman, prof. chem., pres. univ.; b. Island of Froyen, Norway, Jan. 30, 1872; s. of John A. and Anna Gaarden; ed. Harvard U., B.S.; Goettingen A.M., Ph.D.; State Agric. Coll. of Utah, LL.D., & from U. of Utah; m. Leah E. Dunford, June 1, 1898; ch.: Anna G., Leah Eudora. Chem., U. State Agric. Exp. Sta., 1894-1905; prof. of chem., U. State Agric. Coll., 1895-1905; dir., U. Agric. Sta., 1900-05; dir., Schl. of Agric., Brigham Young U., 1905-07; pres., U. State Agric. Coll., 1907-16; pres., U. of Utah, 1916-21; mem. Council of the Twelve of the Church of Jesus Christ of Latter-day Saints, 1921 to date. Traveled widely in Europe & other countries; held many state positions. Res. in soil chem. and plant physiol. Pub. over 20 bks., six in sc. flds.: "Dry Farming"; "Western Agric."; "The Prin. of Irrigation Prac-

tice"; "Success on Irrig. Projs."; "In Search for Truth." Trustee Brigham Young U.

WIEDEMANN, H(ugo) Edmund, consulting chem. and chem. engr., 1604 Chemical Bldg., St. Louis 1, Mo.; res. 7003 Waterman Ave., St. Louis 5.
Consulting chem., chem. engr.; b. Harrisburg, Ill., Apr. 1, 1882; s. of E.W. and Sarah A. Wiedemann; ed. B.S., 1903, M.S., 1907, Ch.E., 1909, Rose Polytechnic Institute; mem.: Alpha Chi Sigma; m. Amy L. Buchanan, Nov. 24, 1910; consulting chem. & chem. engr., 1905 to date. Industrial res. Mem.: A.C.S., A.I.Ch.E., A.I.C., A.S.T.M., Acdy. of Sc. (St. Louis), Engrg. Club of St. Louis, A.W.P.A., Food Techs., A.A.A.S. Dir., Rose Polytechnic Institute. Clubs: University (St. Louis), Chemists' (New York). Hobby: photography.

WIEGAND, William Bryan, v.p., Columbian Carbon Co., 41 E. 42nd St., New York 17, N. Y.; res. Ballwood Rd., Old Greenwich, Conn.
Res. exec.; b. Conestogo, Ontario, Canada, Feb. 17, 1889; s. of John and Melvina (Stauffer) Wiegand; ed. U. of Toronto, B.A. (chem.), 1912 (Medal); M.A. (physics), 1913; m. Janet Lee, June 17, 1925; ch.: John, Pamela, Philip, Jeffrey, Frederick. Gen. tech. supt., Dom. Rubber Co., 1915-20; managing dir., Ames-Holden Tire Co., 1920-25; dir. res., Binney & Smith Co., 1925-36; Columbian Carbon Co., 1936 to date, v.p., 1938 to date. Mem. of Can. Synthetic Rubber Advisory Comm., 1942 to date; civilian with W.P.B., Office Rubber Dir., 1943-44. Res. in physics of rubber; carbon black; new proc. and new prods.; rubber pigments. Mem.: A.C.S., S.C.I. Hobby: classical Greek.

WIER, Thomas Percy, Jr., res. group leader, Shell Oil Co., P.O. Box 2527, Houston 1, Texas; res. 3720 Blue Bonnet, Houston 5.
Res. chem.; b. Houston, Texas, June 10, 1919; s. of T.P. and Elinor (Jones) Wier; ed. Rice Inst., Houston, B.S. in Ch.E. with distinction, 1940, M.A., 1942, Ph.D., 1943; m. Marjorie Parsons, Dec. 23, 1942; ch.: Thomas Percy III, Donna Parsons. 1943-44, sr. res. chem., Shell Dev. Co., Emeryville, Calif.; 1944-47, sr. res. chem., Shell Oil Co., Houston, Texas; 1947 to date res. group leader. Catalysis (catalytic cracking, desulfurization); hydrocarbon anal.; pats. on electro-deposition of Al. Mem.: Phi Beta Kappa, Tau Beta Pi (chapter pres., 1939-40), Sigma Xi, Phi Lambda Upsilon, A.C.S. (local sec. secy., 1949). Clubs: Assn. of Rice Alumni (mem. exec. bd., 1945-47). Hobbies: woodworking, gadgeteering.

WIESE, Alvin Carl, prof., hd. dept. of agric. chem., U. of Idaho, Moscow, Idaho; res. 721 S. Lynn, Moscow.
Biochem., tchr.; b. Milwaukee, Wis., Aug. 13, 1913; s. of Alvin J. and Clara (Krause) Wiese; ed. U. of Wis., B.S., 1935, M.S., 1937, Ph.D., 1940; m. Hazel M. Kuntz, Aug. 19, 1944. Teaching asst., dept. biochem., U. of Wis., 1935-40; instr. dept. chem., Okla. A.&M. Coll., 1940-42; res. assoc. dept. chem., U. of Ill., 1942-45, res. asst. div. animal nutrition 1945-46; prof., hd. dept. agric. chem., U. of Idaho, 1946 to date. Study of perosis in chicks; relation of manganese to phosphatase activity; calf & swine nutrition; study of the animal protein factor & vitamin B-12 in poultry nutrition; wk. on chem. warfare agents for Natl. Defense Res. Comm. during W.W. II. Mem.: A.C.S., A.A.A.S., S.E.B.M., Am. Inst. of Nutrition, Sigma Xi, Phi Lambda Upsilon, Phi Sigma. Club: Lions.

WIGHT, E(dward) Hyatt, dir. of res., Penniman & Browne, 341 St. Paul Pl., Baltimore 2, Md.; res. Earl Court, 1301 St. Paul St., Baltimore 2.
Chem.; b. Baltimore, Md., Oct. 12, 1888; s. of John Hyatt and Esther Cox (Loney) Wight; ed. Princeton, B.S., 1910; U. of Wis., M.S., 1915, Ph.D., 1916. E.I. du Pont de Nemours, 1917-19, div. hd., Azo Dyes, Jackson Lab.; own anal. and conslt. lab., Balt., Md., 1920-28; G. Ober & Sons Co., Balt., 1928-35, chf. chem.; Davison Chem. Corp., Balt., res. chem., 1936-39; Penniman & Browne, Balt., 1940-45, dir. or mgr.; Davison Chem. Corp., Balt., res. chem., 1945-49; Penniman & Browne, dir. of res., 1949 to date; dir., Cockeysville Distilling Co., Cockeysville, Balt., Md. Invention and dev. of first commercial proc. for the mfr. of granular superphosphate and fertilizers. Mem.: A.I.Ch.E. Hobbies: hunting, fishing, golf.

WIGHTMAN, Eugene Pinckney, tech. ed., sales serv. div., Eastman Kodak Co., 343 State St., Rochester 4, N.Y.; res. 85 Harding Rd., Rochester 12.
Tech. ed.; b. Dec. 24, 1888, Baltimore, Md.; s. of John Pinckney and Gertrude Numsen Wightman; ed. Richmond Coll. (now called U.), Richmond, Va., B.S., 1908; Johns Hopkins U., Ph.D., 1911; fellow by courtesy 1910-11; m. Edith Victoria Stephenson, June 26, 1920; ch.: Arthur Strong, Ph.D., Robert Pinckney, B.F.A. Johns Hopkins U., Carnegie res. asst., chem., 1911-14; British-Amer. Chem. Co. Fellow, Mellon Inst., 1916; Richmond U., acting prof. chem., 1916-17; Parke Davis & Co., Detroit, res. chem., 1917-18, 1919-20; U.S.N.A. chem. warfare serv., lt., 1918-19; Eastman Kodak Co., Rochester, res. chem., 1920-36; tech. editor, sales serv., 1937 to date; asst. editor, "Chem. Absts.," photo sec., 1931-35. Contrib. extens. to sc. and tech. jls. Res. in fld. of photographic chem., theory and practice, esp. in relation of silver halide grain size to sensitivity and latent image. Mem.: A.C.S., Opt.S.A., Amer. Inst. of Physics, Fed. Amer. Scientists, Rochester Acdy. Arts & Sciences, Photog. Soc. Amer. (fellow), Royal Photog. Soc. of Gt. Brit., Rochester Mem. Art Gallery, Rochester Museum, Rochester Assn. for U.N., United World Federalists, Rochester Civic Music Assoc. Clubs: Kodak Camera (pres. 1921-22), Rochester C. of C., Univ. C. of Rochester. Hobbies: pictorial photography, flower gardening, philately, collecting interesting books, study and discussion of "great books."

WIIG, Edwin Odde, prof. chem., U. Rochester, Rochester, N.Y.; res. 175 Willowbend Rd., Rochester.
Instr., physical chem.; b. Oslo, Norway, Aug. 14, 1899; s. of Ove Edwin and Anna Odde Wiig; ed. B.S., 1921, Rensselaer Polytech. Inst.; M.S., 1925; Ph.D., 1927, U. of Wis.; mem.: Delta Tau Delta, Alpha Chi Sigma (chem.); m. Gladys M. Bagley, Sept. 18, 1923; ch.: Robert B., Donald E., Janet D. Chem., Eastman Kodak Co., 1921-22; Gas & Elec. Corp., 1922-23; asst. chem. U. Wis., 1923-27; instr. chem., 1927-29; natl. res. fellow chem., Princeton, 1929-30; Harvard, 1930-31; U. of Berlin, Frankfort, 1931-32; sr. res. assoc. chem., U. of Rochester, 1932-35; asst. prof., 1935-39; assoc. prof., 1939-45; prof., 1945 to date. Official investigator N.D.R.C. 1941-45. Photochem., reaction kinet., adsorp. of gases on solids, nuclear chem. Author: "Lab. Manual for Chem.," 1939, 1943. Mem.: A.C.S., Sigma Xi.

WILBUR, Paul C., v.p., dir. of res., Food Machinery and Chemical Corp., 333 W. Julian St., San Jose, Calif.; res. 1181 Fremont St., San Jose.
Admin., chem. engr.; b. Los Angeles, Calif.; s. of Curtis D. and Olive Doolittle Wilbur; ed. A. B., 1924, Ch.E. 1925, Stanford U.; teaching Fellow U. of Calif. 1926-27; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Phi Beta Kappa, Sigma Xi; m. Margaret Curtner, Sept. 4, 1923; ch.: Paula (Wilbur) Lindsay, Arthur. Chf. of section, American Can Co., Maywood, Ill., 1931-37; dir. of res., Richmond Chase Co., San Jose, Calif., 1937-42; v.p. and dir. of res., Food Machinery and Chemical Corp., San Jose, 1942 to date. Mem.:

I.F.T., A.C.S., A.A.A.S., Alumni Association (Stanford), U. of Calif. Alumni Assoc., A.I.Ch.E., Acdy. of Sc. (Calif.). Pres. of Bd. of Trustees, San Jose Hospital. Clubs: Rotary, St. Claire (San Jose).

WILCOX, Ansley, 2nd, secy., Hooker Electrochem. Co., Buffalo Ave. & 47th St., Niagara Falls, N.Y.; res. Lewiston, N.Y.
Lawyer; b. Niagara Falls, N.Y., Apr. 22, 1899; s. of Francis Urquhart and Anne Corson Wilcox; ed. Cornell U., A.B., 1921; Albany Law Schl., LL.B., 1924; mem.: Alpha Delta Phi, Phi Delta Phi; m. Julia Allison Davenport, Aug. 21, 1925. Wilcox & VanAllen, Buffalo, N.Y., assoc., 1924-28; Wallace Orr & Wilcox, Niagara Falls, N.Y., 1928-41, partner; Hooker Electrochem. Co., secy., 1941 to date. Mem.: Niagara Falls Bar Assn., N.Y. State Bar Assn. Pres., Niagara Falls Memorial Hosp.; past pres., Niagara Falls Community Chest. Clubs: Niagara, Niagara Falls Country. Hobby: art.

WILCOX, Marion James, project tech., Sinclair Refining Co., 400 E. Sibley Bldg., Harvey, Ill.; res. 14915 Riverside Dr., Harvey.
Chem. engr.; b. Jackson, Mich., July 24, 1916; s. of Frank Albro and Lida C. Wilcox; ed. B.S. Ch.E. (summa cum laude) Mich. State Coll.; mem.: Tau Beta Pi, Phi Lambda Tau: m. Marjorie E. Johnson, Apr. 5, 1941; ch.: Carol Elaine, Robert James, Susan Lynn. Pilot plant operator; assisted in evaluation & startup wartime & postwar refinery cracking installations cracking div., Sinclair Refining Co., res. and dev. depts. Holds several pats. on improvements in fld. of cracking of petroleum. Mem.: A.I.Ch.E. Hobby: model railroading.

WILCOX, Paul William, dir. phar. res., Sharp & Dohme, Inc., Glenolden, Pa.; res. Scott and Ashland Aves., Glenolden.
Res. phar.; b. Brooklyn, Pa., Apr. 15, 1907; s. of William Sherman and Alice Spencer Wilcox; ed. Syracuse U., 1931; Phila. Coll. of Phar. and Sc., B.Sc., 1934, M.Sc., 1935; Temple U., 1949; mem.: Pi Kappa Alpha; m. Doris Underwood, Apr. 23, 1938; ch.: Betsy Alice. LaWall and Harrisson, conslts., 1934-35; dir. phar. res., med. res. div., Sharp & Dohme, 1935 to date. Contrib. numerous arts. to sc. and tech. jls. Mem.: A.Phar. A., A.C.S., Penn Chem. Soc., Amer. Soc. of Hosp. Pharmacists, A.S.T.M., Sub.-com. No. 5, Natl. Formulary Revision. Pres., Alumni Assn., Phila. Coll. of Phar. & Sc.

WILCOX, Perley S., chmn., bd. dirs., Eastman Kodak Co., Rochester, N.Y. and Tenn. Eastman Corp., Kingsport, Tenn.; res. 1218 Linville St., Kingsport, Tenn.
Exec.; b. Mexico, N.Y., June 18, 1874; s. of Luzern H. and Mary E. (Smith) Wilcox; ed. Cornell U., M.E., 1897; mem.: Sigma Xi; m. Isabelle V. Blake, July 14, 1904. Mech. dftsmn., Swift & Co., Chicago & St. Joseph, Mo., 1897-98; mech. engr., Eastman Kodak Co., Rochester, N.Y., 1898-1901; supt., roll coating dept., Kodak Park Wks., 1901-06; asst. mgr., 1906-20; gen. mgr., Tenn. Eastman Corp., Kingsport, Tenn., 1920-33; dir., since 1920; v.p., 1921-33; pres., 1933-44; chmn. bd. dirs., since 1944; dir., Eastman Kodak Co., Rochester, N.Y., since 1935; chmn. bd. dirs., since 1945. Mem.: A.S.M.E., A.C.S. Clubs: Genesee Valley, Country (Rochester, N.Y.).

WILDER, Harold Kenneth, dir. res., Schuckl & Co., Inc., Sunnyvale, Calif.; res. 58 Catalpa Dr., Atherton, Calif.
Dir. res., Canning Indust. (Chem. Engr.); b. Leominster, Mass., June 18, 1895; s. of David Alonzo and Mary Louise (Sime) Wilder; ed. B.S. Chem. Engrg., R.I. St. Coll., 1920 (as of class 1918), M.S., Stanford U., elect. Phi Kappa Phi (hon.) R.I.S.C. 1917; mem.: Beta Phi (local, R.I. St. Coll.); m. Ella Rachel Condon, June 19, 1920; ch.: Janet Rae, Kenton Thomas. A.&J.M. Anderson Co., draftsman, shop mgt., 1911-14; U.S.N. Commanding Off. U.S. Sub Chasers Nos. 258, 84, operating European War Zone, based at Plymouth, Eng., 1918. Awarded Navy Cross, Disting. Serv. Mass. Dept. Mental Diseases, chem. 1919-20; Boston Floating Hosp., res. chem. 1920-21; Kellogg Co., chf. chem., dir. res. 1921-37; Stanford U., grad. study 1937-38 (M.S.); Langendorf United Bakeries, dir. res. 1939; Natl. Canners Assn., asst. dir., Western branch res. labs. 1939-50; Schuckl & Co., Inc., dir. res. 1950 to date. Serv. principally as dir., res. dev. and qual. contr. for employers; numerous inventions, six patents covering prod., proc., machines in food mfg. field. Mem.: A.C.S. (twice v.chmn., council, Mich. St. Coll. Secy.), A.A.A.S., A.I.C. (fellow), I.F.T., I.E.S. Hobbies: radio, yachting, photography, mechanical constr.

WILDISH, James Elmer, chmn. dept. of chem., Jr. Coll. of Kansas City, 3845 McGee St., Kansas City 12, Mo.; res. 115 N. Lawn Ave., Kansas City 1.
Tchr.; b. Empire Prairie, Mo., July 8, 1881; s. of James F. and Mary Ann Wildish; ed. B.Pd., Warrensburg State Coll., 1905; B.S. & A.B., Missouri, 1909; A.M., Wisconsin, 1915; Ph.D., Missouri, 1932; m. Harriet E. Newcomer, June 3, 1909; ch.: Agnes Mary (Wildish) Obermeyer, Myra Elizabeth (Wildish) Rising. Teacher, high schls., Mo., 1905-07; teacher & principal, high schl. Parsons, Kans., 1909-10; teacher high schls. Mo., 1910-16; chmn. dept. of chem., Kans. City Jr. Coll., 1916-50. The dielectric constant of selenium oxychloride; origin of protactinium. Mem.: Alpha Chi Sigma, Phi Delta Kappa, Gamma Alpha, Sigma Xi, A.A.A.S., A.C.S., Summer Scholar, Minn., 1932. Hobbies: photography, wood & metal work.

WILDMAN, Ernest Atkins, prof. chem., hd. dept., also hd. agr. sc. dept., Earlham Coll., Richmond, Ind.; res. R.R. 4, Richmond.
Teaching; b. Chattanooga, Tenn., July 2, 1889; s. of Walter J. and Cora D. Wildman; ed. Earlham Coll., B.S., 1912; U. of Ill., M.S., 1914, Ph.D., 1922; m. Edith Anne Edwards, June 24, 1916; ch.: William E., Dorothy F. (Mrs. Mills). Staff, Rockefeller Inst. for Med. Res., 1915-16; dir. chem. res., Eli Lilly and Co., 1916-19; prof. chem., Earlham Coll., 1919 to date; visiting prof., Mills Coll., 1929-30. Res. in chem. of soils. Mem.: A.C.S., A.A.A.S., Ind. Acdy. of Sc., Soil Sc. Soc. of Am., A.S.A., Sigma Xi, Phi Lambda Upsilon. Hobby: farming.

WILDS, Alfred L(awrence), prof. chem., dept. chem., U. of Wis., Madison 6, Wis.; res. 109 Chestnut St., Madison 5.
Chem. prof.; b. Kansas City, Mo., Mar. 1, 1915; s. of Frank A. and Harriet Hewer Wilds; ed. Kans. City (Mo.) Jr. Coll. 1931-34; U. of Mich., 1934-40, B.S. Chem., 1936, M.S. Chem., 1937, Ph.D. (organic chem.), 1939; m. Carolyn Simcock, Sept. 4, 1937. Teaching asst. chem., Mich., 1937-39; du Pont post doctorate fellow, Mich., 1939-40; U. of Wis., instr. in chem., 1940-42; asst. prof., 1942-45; assoc. prof., 1945-46; prof., 1946 to date. Co-official investigator, N.D.R.C., 1942-45. Res. in fld. of organic chem.; synthesis of sex hormones & other steroids; analogs of steroids; polycyclic compounds related to phenanthrene, benzo (c) phenanthrene, chrysene; Arndt-Eistert synthesis; organic reactions. Co-author: "Experiments in Organic Chem." with W.S. Johnson & M.W. Klein (1947); Chap. 5 "Reduction with Aluminum Alkoxides" of "Organic Reactions," vol. 2 ed. by

Roger Adams (1944). Mem.: A.C.S., London Chem. Soc., Swiss Chem. Soc., A.A.A.S., Wis. Acdy. of Scs., Arts & Letters, Sigma Xi, Phi Beta Kappa, Phi Kappa Phi, Phi Lambda Upsilon. Hobbies: music, birds, golf.

WILEY, Averill J., tech. dir., Sulphite Pulp Mfrs. Res. League & Lake States Yeast Corp., 1101 E.S. River St., Appleton, Wis.; res. 303 N. Drew St., Appleton.
Fermentation biochem. in sulphite pulp indus.; b. Pullman, Wash., June 10, 1911; s. of John Benjamin and Effie G. (Libby) Wiley; ed. Whitworth Coll., 1932-34; State Coll. of Wash., 1934-37, B.S. & M.S. (major bact., minor chem.); U. of Wis., 1938-41 (predoctoral studies in fermentation biochem.); m. Sylvia Maud Wimbish, Aug. 5, 1941; ch.: Averill John, Jr., William Townes. City of Spokane, Wash., asst. City bacteriologist, 1937-38 & 1941; Sulphite Pulp Mfrs. Res. League, chf. biochem., 1942-43, acting coordinator 1943-46, tech. dir. 1946 to date; tech. dir., Lake States Yeast Corp., 1948 to date. Primary interest res. & dev. of processes for utilization of spent sulfite liquor from sulphite pulp indus.; secondary interest prod. & uses for food & feed yeast. Chapter author for new book on Indus. Fermentations, Chem. Pub. Co., spring 1951, edited by UnderKofler. Mem.: A.C.S., T.A.P.P.I., Sigma Xi, Alpha Sigma Omicron. Hobby: stamp collecting.

WILEY, Richard Haven, prof., chmn. dept. of chem., U. of Louisville, Louisville 8, Ky.; res. 407 Cannons Lane, Louisville 6.
Organic chem.; b. Mattoon, Ill., May 10, 1913; s. of John Frederick and Mary Frances Moss Wiley; ed. U. of Ill., A.B. (with honors), 1934, M.S., 1935; U. of Wis., Ph.D., 1937; Temple U., LL.B., 1943; mem.: Phi Eta Sigma, Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, Phi Kappa Psi; m. Marybeth Signaigo, Dec. 28, 1940; ch.: Richard Haven, Jr., Frank Edmond. Res. chem., E.I. du Pont de Nemours & Co., 1937-45; assoc. prof., U. of N. Car., 1945-49; prof. & chmn. dept. of chem., U. of Louisville, 1949 to date. Contrib. extens. to sc. and tech. jls. Mem.: A.C.S., A.A.A.S.

WILFERT, Edwin William, gen. supt. mfg., New Brunswick Plant, E.R. Squibb & Sons, New Brunswick, N.J.; res. 3 Park Place, Metuchen, N.J.
Chem. (adm.); b. Boston, Mass., Sept. 10, 1910; s. of John C. and Emma Wilfert; ed. Boston U., B.A. Chem., 1934; mem.: Phi Beta Kappa; Temple U., M.A. Chem., 1936; m. Edna M. Coffin, 1937; ch.: Edwin W., Jr., Julia June. With Squibb since 1936; dept. hd. arsenical mfg., penicillin extrm. & purific., streptomycin; div. hd., antibiotic mfg.; gen. supt. mfg., New Brunswick.

WILHELM, Harley Almey, assoc. dir., Inst. for Atomic Res., Iowa State Coll., Ames, Iowa; res. 513 Hayward Ave., Ames.
Res. & teaching in applied physical chem., metallurgy; b. Ellston, Iowa, Aug. 5, 1900; s. of Bert C. and Anna B. (Glick) Wilhelm; ed. Drake U., 1923 A.B., 1924-25 grad. student in chem.; Iowa State Coll., 1931 Ph.D.; U. of Mich., summer 1941, post doctorate wk.; m. Orpha E. Lutton, May 29, 1923; ch.: Lorna (Wilhelm) Livingston, Myrna, Gretchen, Max Gene. High schl. teacher, H.S. Mapleton, Ia., 1923-24, coach of athletics, teacher of sc.; fellowship chem., Drake U., Des Moines, Ia., 1924-25, advanced chem. & res.; high schl. teacher, H.S. Guthrie Center, Ia., 1925-26, coach of athletics, teacher of sc.; hd. of chem. & athletics, Intermountain Union Coll., Helena, Mont., 1926-27; Iowa State Coll., Ames, Ia., grad. asst. in chem., wk. toward advanced degree & teaching part time, instr. in chem. 1928-31, wk. toward advanced degree & teaching full time, instr. in chem. 1931-40 res. & teaching, asst. prof. chem. 1940-44 res. & teaching, assoc. prof. 1944-45 res.; prof. of chem., assoc. dir., Atomic Inst., Iowa State Coll., res. 1945 to date. Practically all articles since 1941 are secret in nature & are now in the lit. files of U.S. Atomic Energy Commis.; most of these articles deal with problems in metallurgy of interest to Atomic Energy Program; most articles in the free literature deal with spectrochem. publ. in tech. jls. Mem.: A.C.S., A.S.M., Opt.S.A., Iowa Acdy. of Sc., Sigma Xi, Phi Lambda Upsilon, Phi Kappa Phi, Phi Beta Kappa. Coll. athletic awards in basketball & baseball at Drake U.; Alumni Merit Award, Iowa State Coll. Club: Osborn Res. Hobbies: athletics, home workshop.

WILHELM, Paul Houston, gen. supt., Kansas Carbon Black Operations, United Carbon Co., Inc., Satanta, Kansas; res. Satanta.
Exec.; b. Bowie, Texas, Oct. 28, 1905; s. of Hiram B. and Maymie Beatrice Houston Wilhelm; ed. B.A., Texas Tech. Coll., 1936; m. Mildred Lazelle McDonald, Dec. 24, 1939; ch.: Paul Donald, Dorryace Lazelle, Mack Houston. Chem. Control Lab., United Carbon Co., Inc., 1937-39; res. chem., 1939-49, located Borger & Aransas Pass, Texas, & Satanta, Kansas; gen. supt., Kansas Carbon Black Operations, Satanta, 1949 to present. Mem.: A.C.S., Rubber Division.

WILKENS, George Albert, chf. chem., Indust. Div., Polychem. Dept., E.I. du Pont de Nemours & Co., 626 Schuyler Ave., Arlington, N.J.; res. 401 Edgewood Ave., West Englewood, N.J.
Chem. engr., plastics mfr.; b. Granton, N.J., June 29, 1909; s. of Albert and Theodora J. Wilkens; ed. Columbia, A.B., 1929; B.S., 1930; Chem. E., 1931; Ph.D., 1933; m. Helen Poffenberger, Sept. 14, 1946; ch.: John Albert. du Pont Co., Arlington, N.J., 1933 to date, various positions. Res. in agitation chem. engrg., cellulose plastics; synth. resins; dyes, pigments. Contrib. to sc. & tech. jls. Mem.: A.C.S., A.I.Ch.E., Sigma Xi, Tau Beta Pi, Phi Lambda Upsilon, Theta Tau. Hobby: photography.

WILKERSON, Vernon Alexander, M.D., dir., Med. Arts, Inc., 61 Kay St., N.W., Washington, D.C.
Physician; b. Kansas City, Kansas, 1901; s. of H. Roy and Mertha Wilkerson; ed. U. of Kans., A.B., 1921; U. of Ia., M.D., 1925; U. of Minn., Ph.D., 1932; mem.: Sigma Xi, Alpha Omega Alpha, Alpha Phi Alpha, Chi Delta Mu; m. Vivian Cheethan, 1929; ch.: Vivian, Victor, Vernon. Howard U. Schl. of Med., assoc. prof. biochem., 1932-37; prof. & biochem., 1937-48; hd. dept. of biochem., 1934-48; practicing internal med. & organizer of Med. Arts, Inc. (1948); consltg. biochem., Freedmen's Hosp. Res. in fld. of chem. of embryonic growth; protein growth, protein chem., chem. of human skin, physical chem. of human tissues, electro kinetic phenomena of human skin, chem. of chylous fluid. Mem.: A.C.S., Soc. of Biol. Chems., A.A.A.S., Am. Men of Sc. Hobbies: hunting, fishing, water sports.

WILKES, Benjamin Garrison, Jr., propr., J.C. Ackerman Co., Penn-Lincoln Hotel, Pittsburgh 21, Pa.; res. 2374 Sebring Place, Pittsburgh 21.
Res. chem., chem. sales rep.; b. Baltimore, Md., Jan. 23, 1908; s. of Benj. G. and Minnie H. Wilkes; ed. Baltimore City Coll., 1922-25; Albright Coll., B.S., 1929; Columbia U., 1929-33 M.A., Ph.D.; mem.: Pi Tau Beta; m. Gwendolyn Patterson, 1936; ch.: Richard Patterson. Mellon Inst., Carbide & Carbon Chem. Corp. Fellowship, 1933-38; Carbide & Carbon Chem. Corp., fine chem. div., 1938-39; Mellon Inst., Sr. Fellow, Carbide & Carbon Fellowship, 1940-50; propr. J.C.

Ackerman Co., sales rep. & chem. consultation, 1950 to date. Res. in fld. of kinetics of enzyme action in vivo and in vitro (Columbia U.); synthetic organic chem. application dev. res. in flds. of wetting, emulsification, detergency, textile finishes, solvent extraction, insecticides, water softeners, solvents. Mem.: Sigma Xi, Phi Lambda Upsilon, Pi Gamma Mu, A.C.S. Clubs: Ambassador's, Edgewood Country. Hobbies: golf, singing.

WILKIN, Robert E., gen. sales mgr., Hooker Electrochem. Co., Niagara Falls, N.Y.; res. 4 River Rd., Youngstown, N.Y.
Sales of chem. prods.; b. Newark, Ohio, July 10, 1896; s. of F.N. and Minnie Wilkin; ed. Denison U., B.S., Granville, Ohio; U. of Iowa, M.S., Iowa City, Iowa; mem.: Lambda Chi Alpha, Alpha Chi Sigma, Sigma Psi; m. Mary Pabst, Dec. 30, 1922. Asst. chem. instr., U. of Iowa, 1920-21; chem. instr., Kansas State Agric. Coll., Manhattan, Kan., 1921-22; chem. res., Stand. Oil Co. of Ind., Whiting, Ind., 1922-27; tech. sales dept., Stand. Oil Co. of Ind., Chicago, Ill., 1927-32; mgr. of tech. sales dept., Stand. Oil Co. of Ind., Chicago, Ill., 1932-36; sales mgr. of fine chemicals, Hooker Electrochemical Co., Niagara Falls, N.Y., 1936-39; asst. sales mgr., Hooker Electrochemical Co., Niagara Falls, New York, 1939-43; Eastern Sales Mgr., Hooker Electrochemical Co., Niagara Falls, N.Y., Aug. 27, 1943-Jan. 14, 1949; General Sales Mgr., Hooker Electrochemical Co., Niagara Falls, New York, Jan. 15, 1949 to date. Mem.: S.A.E, Synthetic Org. Chems. Assn., Natl. Agric. Chems. Assn., Natl. Sales Execs. Club. Clubs: Chemists' Club (N.Y.C.), Niagara Club (Niagara Falls, N.Y.), Niagara Falls Country Club, (Niagara Falls, N.Y.). Hobbies: photography, nature study, golf.

WILKINS, Richard Alfred, v.p., Revere Copper & Brass, Inc., Rome, N.Y.; res. R.D. 3, Rome.
V.p. in chg. of res. & dev.; b. Cambridge, Mass., Sept. 12, 1896; s. of William A. and Josephine C. (Blazo) Wilkins; ed. M.I.T., B.S., 1918; mem.: Phi Beta Epsilon; m. Sue Manning, Aug. 11, 1942; ch.: John M. Res. chem., Lynite Labs., 1919-20; instr. chem. & math., Chauncy Hall Schl., Boston, 1921-25; v.p., tech. dir., Ind. Dev. Corp., 1925-29; asst. prof. chem. engrg., M.I.T., 1929-30; metallurg. mgr., Revere Copper & Brass, Inc., 1930 to date, v.p. Co-author: "Copper & Copper Base Alloys" 1943; numerous tech. articles & papers. Mem.: A.I.C. (fellow), A.S.T.M., A.C.S., A.I.M.E., hon. corresponding mem. for U.S. Inst. of Metals (Brit.). Pres. bd. of mgrs., Oneida Co. Hosp., Rome, N.Y. Clubs: Rome (Rome, N.Y.), Teugega Country (Rome, N.Y.). Hobby: golf.

WILKINSON, Howard Paul, mgr. sales, centrifuge dept., National Acme Co., 170 E. 131 St., Cleveland 8, O.; res. Old Mill Rd., Gates Mills, O.
Consltg. chem. engr.; b. Wheeling, W. Va.; s. of Howard and Nettie Bowman Wilkinson; ed. O. State U., B.E., 1917, Ch.E., 1945; mem.: Sigma Alpha Epsilon; m. Helen A. Hunscher (2nd m.), Dec. 23, 1939; ch.: Jeanne W. (Mrs. Goebel), Jas. H. Atlas Chem., Div. Henry S. Doherty Co., chf. chem.; Sharples Corp., dist. mgr.; Natl. Acme Co., div. sales mgr. Contrib. extens. to sc. & tech. jls. Mem.: A.C.S., A.O.C.S., N.SPE. Hobbies: gardening, woodworking.

WILKINSON, John Anderson, prof. of inorganic & anal. chem., Ia. State Coll., Ames, Ia.; res. 430 Ash Ave., Ames.
Chem. prof.; b. Sidney, O., June 21, 1880; s. of Joseph Elemore and Mary Agnes (McKee) Wilkinson; ed. O. State U., B.Sc., 1903; Cornell U., Ph.D., 1909; mem.: Alpha Chi Sigma, Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, Phi Kappa Phi; m. Elizabeth Dorothy Hall, Dec. 24, 1912. Ia. State Coll., asst. prof. chem., 1913-14; assoc. prof., 1914-15; prof., 1919 to date; res. prof. Agr. Expt. Sta. & Indus. Sc. Res. Inst., 1948. Res. in fld. of liquid hydrogen sulfide as solvent and reaction medium; adsorption, colloids. "Calculations In Quantitative Anal.," McGraw-Hill Co. (1928-38). Mem.: A.C.S., Ia. Acdy. Sc. Dir. 1936 to date, pres. 1939-41, Ames Bldg. and Loan. Clubs: Mason, Rotary. Hobbies: flowers, bridge.

WILKINSON, Paul D., prof. chem., hd. dept., Indiana State Teachers Coll., Terre Haute, Ind.; res. R.R. 4, Terre Haute.
Prof. & admin.; b. St. Louis, Mo., Aug. 17, 1896; s. of Benjamin F. and Julia E. Wilkinson; ed. U. of Mo. Schl. of Mines, B.S., 1919; Ia. State Coll., M.S., Ph.D., 1930; Wash. U., 1925-26; mem.: Kappa Sigma; m. M. Lucile Wilson, Oct. 26, 1918. U. of Mo., Schl. of Mines, chem. asst., 1917-19; acting hd., chem. dept., summer 1921; Ia. State Coll., instr., 1919-21, 1929-30; Wash. U., res. fellow, 1925-26. Res. in fld. of vitamins, Grignard Reagent. Mem.: Sigma Xi, Phi Lambda Upsilon, Phi Sigma, A.C.S., Ind. State Teachers Assn., Natl. Education Assn., Ind. Acdy. of Sc., A.A.U.P. Club: Elks. Hobbies: woodworking, photography, swimming, maintenance of country home.

WILKS, Louis Philip, v.p., dir. of res., Velsicol Corp., 330 E. Grand Ave., Chicago 11, Ill.; res. 2827 Rascher Ave., Chicago.
Chem.; b. Dayton, Ohio, June 28, 1913; s. of David and Rebecca (Gibson) Wilks; ed. B.S., U. of Dayton, cum laude; m. Helen Patterson, Oct. 23, 1938; ch.: Eleanor, Ricki. U. of Dayton, summer, 1935, instr.; Thomas & Hochwalt Labs. (from 1936 a div. of Monsanto Chem. Corp.), 1935-38, res. chem.; Velsicol Corp., 1938 to date, res. chem., dir. of labs., dir. of res. Res. on pet. resins, petrochems., pet. by-prods. Mem.: A.C.S.

WILLAMAN, John J., hd. biochem. div., Eastern Regional Res. Lab., Bur. of Agr. & Indus. Chem., U.S. Dept. of Agr., Phila. 18, Pa.; res. Plymouth Meeting, Pa.
Biochem.; b. Brodhead, Wis., Oct. 7, 1889; s. of John Henry and Eldora (Scoville) Willaman; ed. U. of Wis., B.S., 1912, M.S., 1914; U. of Chicago, Ph.D., 1919, Phi Beta Kappa; mem.: Phi Lambda Upsilon; m. Leola Lorenz, June 25, 1915; ch.: Dorothy E. (Willaman) Haas, Janet L. (Willaman) Post. Asst., U. of Wis., 1913-14; instr. agr. biochem., U. of Minn., 1913-16; asst. prof., 1916-23; assoc. prof., 1923-28; prof., 1928-29 chf., div. of chem., N.Y. Agr. Expt. Station, Geneva, 1929-30; biochem., Rohm & Haas Co., 1930-40; hd. biochem. div., Bur. Agr. Ind. Chem., U.S.D.A., 1940 to date. Mfr. of sorghum sirup; biochem. of plant diseases; ind. enzymes; utilization of agr. prods. Author: "Vocational Chem." 1920. Mem.: A.C.S., I.F.T., Sigma Xi. Treas., Biolog. Abstracts. Hobbies: growing woody plants, wood working.

WILLARD, Harry Lentz, sr. fellow, Mellon Inst., Pittsburgh, Pa.; res. 301 Park Place, Pittsburgh 9.
Chem. engr.; b. Fairfield, Ill., Jan. 16, 1914; s. of Harry Dray and Bess Morris Willard; ed. U. of Ill., B.S. Ch.E., 1935; m. Ann Duryea Kirk, June 17, 1944; ch.: Anne Kirk, Norman Lentz, John Morris. Mellon Inst., res. asst., Organic Syn-

thesis Fellowship, 1935-36; Carbide & Carbon Chem. Corp., tech. rep., 1936-39; U.S. Navy, 1939-40; Koppers Co., Inc., tar & chem. div., tech. dept., 1940-42; U.S. Army, Lt.-Col., 1942-46; Mellon Inst., sr. fellow, Corn Products Fellowship, 1946 to date. Res. in fld. of indus. organic chemicals. Mem.: A.C.S., A.A.A.S., Registered prof. engr., Commonwealth of Pa. Club: Pittsburgh Athletic Assoc.

WILLARD, Hobart Hurd, prof. of chem., U. of Mich., Ann Arbor, Mich.; res. 1926 Norway Rd., Ann Arbor, Mich.
Chem. prof. & conslt.; b. Erie, Pa., June 3, 1881; s. of James R. and Julia M. (Hobart) Willard; ed. U. of Mich., A.B., A.M.; Harvard U., Ph.D.; mem.: Delta Tau Delta; m. Margaret A. Sheppard, June 27, 1927; ch.: Ann H., Nancy M. Dir. of chem. & metall. lab., Bur. Aircraft. Prodn., Detroit, 1917-18; U. of Mich., instr., 1905; progressing to prof., 1922, present position. Sr. author 110 papers describing chem. res. in fld. of anal. and inorganic chem. Co-author: "Elementary Quantitative Anal." (3rd ed. 1940, with N.H. Furman); "Advanced Quantitative Anal." (1943, with Harvey Diehl); "Instrumental Methods of Anal." (1948 with L.L. Merritt & J.A. Dean); "Short Course In Quantitative Anal." (1943, with N.H. Furman, J.F. Flagg). Mem.: A.C.S., E.S., A.A.A.S., Sigma Xi. Club: Exchange (pres., 1950). Hobby: photography

WILLARD, John E., prof. of chem., Dept. of Chem., U. of Wisconsin, Madison, Wis.; res. 2306 Hollister Ave., Madison.
Chem., tchg. and res.; b. Oak Park, Ill., Oct. 31, 1908; s. of Wallace W. and Mary E. Willard; ed. Harvard U., S.B., 1930; U. of Wis., Ph.D., 1935; m. Adelaide Ela, June 12, 1937; ch.: Ann, Mark, David, Robert. Avon Old Farms Schl., Avon, Conn., 1930-32, tchr. of chem. and physics; Haverford Coll., Haverford, Pa., 1935-37, instr. in chem.; U. of Wis., 1937 to date, instr., asst. prof., assoc. prof. and prof. in chem.; on lve. 1942-46 for wk. at Metallurg. Lab. of U. of Chicago, and the Hanford Engr. Wks. of the du Pont Co. Res. in flds. of radiochem. and reaction kinetics. Mem.: A.C.S., A.Phys.S., Sigma Xi.

WILLARD, Mary Louisa, prof. chem., Penn. State Coll., 101 Pond Lab., State Coll., Pa.; res. 363 Ridge Ave., State College, Pa.
Tchg., res.; b. State College, Pa., May 19, 1898; d. of Joseph Moody and Henrietta Norris (Nunn) Willard; ed. Penn. State Coll., B.S., 1921, M.S., 1923; Cornell U., Ph.D., 1927. Asst. & instr. in chem., Penn. State Coll., 1921-27; asst. in chem., Cornell U., 1926-27 asst. prof. in chem., Penn. State Coll., 1927-38; assoc. prof., 1938-48; prof., 1948 to date. Res. in fld. of chem. microscopic res., determination of optical properties of crystals, war res. on crystals, optical crystallography, criminalistics. Author: "Lab. Manual Chem. Microscopy" (1928); "Textile Microscopy," (1930); "Drug Microscopy," (1929); "Paper Microscopy," (1935). Mem.: A.C.S., A.A.A.S., A.I.C., A.Crys.S., Microchem. Soc., Sigma Xi, Phi Kappa Phi, Sigma Delta Epsilon, Iota Sigma Pi, A.A.U.P., A.A.U.W., Delta Kappa Gamma, Penn. Acdy. of Sc., N.Y. Acdy. of Sc. Club: Republican, in Pa. Hobbies: motoring, gardening.

WILLETS, William R., tech. service dept., Titanium Pigment Corp., 99 Hudson St., New York 13, N.Y.; res. 75 Pierrepont St., Bklyn., 2, N.Y.
Chem.; b. Montclair, N.J., Apr. 20, 1905; s. of John J. and Emily H. (Pupke) Willets; ed. New York State Coll. of Forestry, Syracuse U., B.S., 1925; m. Lorain A. Atkinson, Jan. 25, 1930. Res. chem., Oxford Paper Co., 1926-29; chem. engr., Western Elec. Co., 1929-33 chf., Paper Dev. Lab., Titanium Pigment Corp., subsid. Natl. Lead Co., 1933 to date. Dollar-a-Year conslt. on pulp, paper, printing, publishing to Conservation Div., W.P.B. Much published wk. on pulp, paper and related flds. Author of 3 chapters in T.A.P.P.I. Monograph Series No. 7, "Pigments for Paper Coating." Mem.: A.C.S., T.A.P.P.I., A.I.C. (fellow), Soc. of Rheology, A.S.T.M. (chmn. comm. D-6).

WILLEY, Benjamin Franklin, tech. dir., indus. mech. div., Elgin Softener Corp., 134 N. Grove Ave., Elgin, Ill.; res. 307 N. Hamilton Ave., Elgin.
Chem., water treatment engr.; b. Chicago, Ill., Feb. 1, 1913; s. of Raymond Shackleford and Pearl Imogene Emmons Willey; ed. North Pk. Coll., Chicago; U. of Ill., Champaign-Urbana, chem.; Armour Inst. of Tech., Chicago, engrg.; m. Iris Leona LeRoy, Apr. 17, 1936; ch.: Gerald LeRoy. Commonwealth Varnish Co., Chicago, Ill., res. lab., 1930-33; Chicago Bd. of Health Lab., lab. asst., 1933-35; Natl. Aluminate Corp., Chicago, chf. anal. chem., 1935-39; res. chem., 1939-40; prod. chem., 1940-42; Chicago Chem. Co., catalyst div., asst. supt., 1942-44; Elgin Softener Corp., Elgin, chf. chem. & asst. chem. dir., 1944-49; tech. dir., indus. mech. div., 1950 to date. Res. in fld. of prod. of soluble stable sodium aluminates & other water conditioning chem. and processes; anal. res. on methods of water anal.; ion exchangers. Contrib. extens. to sc. and tech. journals. Mem.: Chicago Indus. Water, Wastes & Sewerage Group, Natl. Assn. Water Conditioning Equip. Mfrs., A.C.S. (div. of chem. literature, div. of water sewage & sanitation chem.). Clubs: Soc. for the Preservation and Encouragement of Barbershop Quartet Singing in Amer., Inc., Fin'n Feather. Hobbies: quartet singing, choral directing, horseshoe pitching, fishing.

WILLIAMS, Arthur S., conslt. chem., 2 Locust St., Roselle Pk., N.J.; res. 172 Lincoln Ave., Elizabeth, N.J.
Conslt. chem.; b. Chapin, S.C., Aug. 21, 1894; s. of Edward and Josephine Williams; ed. B.S., U. S.C., 1915; A.M., 1916; grad. wk., M.I.T., 1916-17; U. Chicago, 1920; N.Y.U., 1927-29, Ph. D., 1929; m. Grace Hawkins, 1918; Emma Archer, Jan. 5, 1947; ch.: Dorothy, Marjorie, Kenneth, Arthur, Jr. Asst. prof. chem., Georgetown Coll., 1919-20; assoc. prof. chem., Miami U. (Ohio), 1920-22; asst. prof. chem., N.C. St. Coll. of Engrg., 1922-24; instr. chem., L.I.U., 1928-30; res. chem. Protexol Corp., Kenilworth, N.J., 1930-35; instr. chem., Newark Coll. Engrg., 1938-45; conslt. chem., 1936 to date. Chem. of bldg. matls. testing, wood impreg., fireproofing, dyeing, hardening, processing; pres., Stand. Insulation Co., Roselle Park, N.J., Preservative Chem. Co.; dir., Termite Contr. Bur., Commercial Research & Testing Lab. Res. in microorg. anal., fireproofing of wood. Mem.: A.C.S., A.S.T.M., A.A.A.S., A.I.C., Am. Wood Pres. Assn. Hobbies: racing, pigeons, homing instinct of birds.

WILLIAMS, Carl Paul, plant mgr., Joseph E. Seagram & Sons, Inc., Midway, Ky.; res. Midway.
Chem. engr.; b. Eidson, Tenn., Mar. 8, 1915; s. of N.B. and Mary Horton Williams; ed. U. of Tenn., B.S. Ch.E., 1937, grad. Coll.; U. of Ky., one yr., Coll. of Law; mem.: Alpha Chi Sigma; m. Edna Smith, May 14, 1937; ch.: Carl Paul, Jr., Linda Lou. T.V.A., lab. asst. 1937-38; Joseph E. Seagram & Sons, Inc., Lawrenceburg, Ind., supvr., 1939-42; Distiller's Advisory Com., W.P.B., chem. engr., 1942-43; Joseph E. Seagram & Sons, Inc., Fairfield, Ky., plant mgr., 1943-45; plant mgr.,

Midway, Ky., 1945 to date. Mem.: A.I.Ch.E. (active).

WILLIAMS, Clyde (E.), dir., Battelle Memorial Inst., 505 King Ave., Columbus, Ohio; res. 1085 Urlin Ave., Columbus.
Res. dir.; b. Salt Lake City, Utah, Sept. 8, 1893; s. of Thomas J. and Ellen (Eccles) Williams; ed. B.S. chem. engrg., U. of Utah, 1915; D.S. (honorary), Case Inst. of Tech., 1945; D.S. (honorary), U. of Utah, 1946; D.Engrg. (honorary), Mich. Coll. of Mining & Tech., 1949; mem.: Sigma Chi; m. Martha Barlow, 1919; ch.: Clyde, Jr., Samuel B., Thomas J. Chem., U.S. Smelting Co., 1915-16; grad. fellow, U.S. Bur. of Mines & U. of Utah, 1916; chem., Santa Fe Copper Co., 1916-17; chem., U.S. Bur. of Mines, Cornell U. Station, 1917-1918; res. chem., Hooker Electrochem. Co., 1918-20; supt., Northwest Expt. Station, U.S. Bur. of Mines, 1920-24; metallurgist, Govt. of Argentina, on commis. to study iron, steel & fuels resources of Argentina, 1924-25; chf. metallurgist, Columbia Steel Corp., 1925-29; asst. dir., Battelle Memorial Inst., 1929-34, dir. 1934 to date; also dir. in: Middle East Co., Claycraft Co., and Growth Cos., Inc. Contrib. to iron & steel metallurgy, alloy dev., fuel tech.; during W. W. II was chmn., War Metallurgy Comm. of the Natl. Acdy. of Sc. & N.R.C. Mem.: A.I.M.E. (pres. 1947), Am. Ceramic Soc., Mining & Metallurg. Soc. of Am., A.I.Ch.E., A.S.M. (distinguished Serv. Alloy Steel Award, 1948), Am. Iron & Steel Inst. (Inst. Medalist, 1936), E.S., Am. Railway Engrs. Assn., Am. Refractory Inst., Brit. Iron & Steel Inst., Am. Ordnance Assn. (Gold Emblem, 1945), S.C.I., Am. By-Prod. Coke Inst. (honorary), Chem., Metallurg. & Mining Soc. of S. Africa (honorary), A.S.M.E., Newcomen Soc. of England, Sigma Xi, Tau Beta Pi. Award: Presidential Citation & M. of Merit. Mem. Bd. of Mgrs., N.Y. State Coll. of Ceramics, dir., Columbus Chamber of Com. Clubs: Rotary, Research Directors', Cosmos, Columbus, University, Engineers, Mining, Kit Kat, Torch.

WILLIAMS, David Tyndale, div. supvr., Battelle Memorial Inst., 505 King Ave., Columbus, Ohio; res. 52 E. South St., Worthington, Ohio.
Physicist; b. Manilla, P.I., Feb. 24, 1907; s. of Hermon Porter and Beulah (MacFarland) Williams; ed. A.B., A.M., Columbia U., N.Y.C.; Ph.D., N.Y.U., N.Y.C.; mem.: Phi Gamma Delta; m. Charlotte Marie Rigg, Feb. 20, 1934; ch.: David Gerald, James Hermon, Christopher Rigg. Teacher, Atlantic Highlands, N.J., 1931-35; grad. asst., N.Y.U., 1935-38; instr., Carleton Coll., Northfield, Minn., 1938-39; physicist, Natl. Advisory Comm. for Aeronautics, 1939-45; assoc. prof. aer. engrg., U. of Mich., 1946-47; physicist, div. supvr., Battelle Memorial Inst., 1945-46, 1947 to date. Res. wk. in dielectrics, acoustics, propulsion & thermodynamics, combustion, atomic energy, ind. res. Mem.: Am. Inst. of Physics, Inst. of Aer. Sc., Sigma Xi. Hobby: music.

WILLIAMS, Donald, dir. of sales, The Dow Chem. Co., Midland, Mich.; res. 1109 St. Andrews Drive, P.O. Box 5, Midland.
Sales exec.; b. Lemont, Pa., Dec. 6, 1892; s. of James M. and Sarah Jane Williams; ed. pub. schls., State College, Pa.; Penn. State Coll., State College, Pa., B.S.; m. Marjorie Gunn, Sept. 3, 1919; ch.: George James, Natalie Elaine. Employed by Pa. State Coll., before 1918; U.S. Army, June 27-Nov. 14, 1918 (honorable discharge); Phila. Woolen Textile Assn., Phila., Pa., 1919; Mich. State Coll., U.S. Dept. of Agric. Mich. State Farm Bur., Lansing, Mich., 1920-21-22-23; The Dow Chem. Co.: insecticide sales, July 1, 1924 to date; mgr., Dowflake Div., 1929-33; asst. gen. sales mgr., 1933-45; gen. sales mgr., Sept., 1945; dir. of sales, Apr., 1949 to date. Clubs: Chemists' (N.Y. City), Union League (Chicago), City (Lansing), Detroit Athletic, Midland Country. Hobbies: golfing, fishing.

WILLIAMS, E. Clifford, conslt., Belden Hill, Wilton, Conn.; res. same.
Res. & indus. dev.; b. England; ed. U. of Manchester, M.Sc.; U. of London, D.Sc.; m. Lilian H. Baxter, 1919; ch.: Anthony, Penelope, Roger. Res. chem., Brit. Dyestuffs Corp., I.C.I., 1917, hd. intermediates dept. 1919-21; dir. res., Natl. Benzol Assn., London, 1921-23; (1st) Ramsay prof. chem. engrg., U. of London, 1923-28; dir. of res., v.p., dir., Shell Dev. Co., Emeryville, Calif., 1928-41; v.p. in chg. res., Gen. Mills, Inc., 1941-42; appointed by U.S. Alien Property Custodian during W.W. II as dir. & v.p. in chg. res. for Gen. Aniline & Film Corp., 1942-45; v.p., dir. res., Schenley Industries, Inc., 1945-50; 1950 to date, own consltg. practice. Helped est. dyestuffs indus. in England 1917-21; est. Shell Dev. Labs. & directed them until 1941; dir., U.S. Ind. Chems. 1942-46. Acetone, methyl ethyl ketone, isooctane, hydrogenated polymers & alkylates for aviation fuel, various petrochem. processes & prods. incl. synthetic glycerine. Recipient of Walker M. (A.I. Ch.E.). Clubs: Century Assn. (N.Y.), Chemists' (N.Y.), Athenaeum (London). Hobbies: tennis, riding, fishing, painting, cabinet making.

WILLIAMS, Earl Raymond, dir. of res. center, Johns-Manville, Manville, N.J.; res. 86 Fairview Ave., N. Plainfield, N.J.
Exec.; b. Warren, Vt., Nov. 1, 1893; s. of Elwin A. and Alice (Marston) Williams; ed. Dartmouth Coll., 1916 B.S.; mem.: Phi Delta Theta; m. Anna T. Mullen, May 8, 1918; ch.: Dorothy Mae, Helen Louise. 1916-17, chem., Johns-Manville; 1917-19, 1st Lt., U.S.A., Signal Corps; 1919-37, res. engr., 1937-39 asst. mgr. res., 1939-43 mgr. res., 1943 to date dir. of res. center, Johns-Manville. Several pats. on thermal insulations. Mem.: A.S.T.M., A.S.C., Indus. Res. Inst. Clubs: Dartmouth (N.Y.), Chemists'. Hobbies: fishing, baseball.

WILLIAMS, Fred T(uttle), pat. attorney, 77 W. Washington St., Chicago 2, Ill.; res. 69 Salem Lane, Evanston, Ill.
Pat. attorney; b. Salt Lake City, Utah, Jan. 11, 1911; s. of Fred T. and Florence T. Williams; ed. U. of Wis., B.S., 1932, Ph.D., 1936; DePaul U., Chicago, J.D., 1941; mem.: Phi Gamma Delta; m. Geraldine B. Thiess, Oct. 19, 1939; ch.: James T., Richard T. Mem.: Sigma Xi, A.C.S., Am. Pat. Law Assn.

WILLIAMS, Glenn Carber, assoc. prof. chem. engrg., M.I.T., Cambridge, Mass.; res. 91 Standish Rd., Watertown, Mass.
Chem. engr.; b. Princeton, Iowa, Oct. 9, 1914; s. of H. Lurie and Elizabeth (Hire) Williams; ed. B.S., M.S., U. of Ill., 1937, 1938; Sc.D., M.I.T., 1942; mem.: Delta Sigma Phi, Omega Chi Epsilon, Sigma Xi, Alpha Chi Sigma; m. Dorothy Bryan, Aug. 27, 1939; ch.: Glenn Lurie, Cheryl. 1938, res. asst., U. of Ill.; M.I.T., 1938-40, asst.; 1940-42, instr.; 1942-46, asst. prof.; 1946 to date, assoc. prof. Res. on cumbustion. Author: "Thermodynamic Charts for Combustion Processes," Wiley, 1949. Mem.: A.C.S., Inst. of Aeronautical Sc., A.I.Ch.E.

WILLIAMS, Gordon Curran, prof. & hd. dept. chem. engrg., U. of Louisville, Louisville, Ky.; res. 4321 Southern Parkway, Louisville.
Tchr. & conslt.; b. Mexico, Maine, July 11, 1908; s. of William Ray and Mary (Curran) Williams; ed. B.S. Ch.E., U. of Wis., 1931; M.S. Ch.E., 1932; Ph.D., (Ch.E. Major), 1935; mem.: Phi Eta Sigma, Phi Lambda Upsilon, Tau Beta

Pi, Sigma Xi; m. Mildred A. Scheel, Aug. 11, 1938. Regent's Fellowship, U. of Wis., 1931-32, 1932-33; Univ. Res. Fellowship, U. of Wis., 1933-35 (resigned in 1934 to accept instructorship); instr. chem. engrg., U. of Wis., 1934-35; instr. chem., Miss. State Coll., 1935-36 (in chg. chem. engrg.); asst. prof. chem. engrg., U. of Louisville, 1936-39; mem. Grad. Schl. Faculty, same U., 1936 to date; Monsanto Chem. Co., phosphate div., 1939 (on leave of absence from U. of Louisville); assoc. prof. chem. engrg., U. of Louisville, 1939-47; registered prof. engr., Commonwealth of Ky., 1939 to date; U. of Louisville, div. of adult educ. advis. comm., 1942 to date; acting hd., dept. chem. engrg., U. of Louisville, 1947; prof., chem. engrg., same U., 1947 to date; hd., Dept. of Chem. Engrg., same U., 1947 to date. Dir. of Grad. Res. Projs., sponsored by indust. funds (Louisville Paint, Oil & Varnish Indust. Fellowship, 1937-38; 1939-40; 1941-42; Div. of Indust. Res. F'ship on following: Oxidation of Phenanthrene, 1941-42; Utiliz. of Wood Wastes, 1942-45; and Marine Adhesives, 1943-45; Inst. of Indust. Res. F'ship on following: Creosote and Creosote Tars, 1945 to date; Fiberglas Packing, 1945-46; Beneficiation of Phosphate Rock, 1945-46; Synth. Adhesives, 1945 to date; Efficiencies of Bubble Plate Columns, 1946-47; Fiberboard Res., 1946 to date; Synth. Leather Res., 1944-45; Correlation of Mass Transfer in Bubble Cap Plates, 1947-49; and Pilot Plant Purification of Zirconium Salts, 1949-50; Natl. Fed. of Paint and Varnish Prod. Clubs F'ship on Drying Properties of Synth. Oils, 1947 to date). Mem.: A.I.Ch.E. (secy., v.chmn. Louisville Sec.); A.C.S. (local sec. secy., 1940-42; v.chmn., 1941; chmn.-elect, 1943; chmn., 1944); A.S.M. (chmn., Educ. Comm., Local Sec., 1943-46); Am. Soc. for Engrg. Educ., Ky. Soc. of Prof. Engrs., Theta Chi Delta, Phi Kappa Phi, A.A.U.P. Hobby: photography.

WILLIAMS, Harry M., v.p., engrg. & res., Natl Cash Register Co., Dayton, Ohio.
Res. & engrg. exec.; b. Westerville, Ohio, Oct. 13, 1884; s. of John R. and Lucy M. (Hooper) Williams; ed. B.S., Otterbein Coll., 1905, B.S. Ch.E., 1908; Ch.E., 1941; mem.: Delta Upsilon, Sigma Xi; m. Blanche E. Yager, 1908; ch.: Frank H., Ned B. 1908-17, Natl. Cash Register Co., engr. of tests; 1917-19, Remington Arms, Bridgeport, Conn., engr. of tests; 1919-25, Gen. Motors Res. Corp., hd. of chem. & metallurg. sec.; 1925-38, Frigidaire Div., Gen. Motors Corp., 1925-32 mgr. of res., 1932-35 mgr. of com. engrg., 1935-38 mgr. of stands. div.; 1938-40, dir. of res., Natl. Cash Register Co.; 1940 to date, v.p. in chg. of engrg. & res. 36 inventions in chem. & metallurg. fld. Mem.: Ohio Soc. Prof. Engrs., A.C.S., A.S.T.M., Brit. Inst. of Metals, Newcomen Soc., Ind. Res. Inst. Award: Lamme M. by Ohio State U. for outstanding engrg. achievement. Trustee, Kettering Foundation. Clubs: Engineers', Bicycle, Moraine Country (Dayton, Ohio). Hobbies: golf, fishing, photography.

WILLIAMS, James H(orace), dir. of res., Lederle Labs. Div., Am. Cyanamid Co., Pearl River, N.Y.; res. Ridgewood, N.J.
Res. exec.; b. Manchester, England, Jan. 1, 1908; s. of John Charles and Amy Williams; ed. B.Sc., 1929, Worcester Poly. Inst.; Ph.D., 1933, N.Y. U.; mem.: Lambda Chi Alpha; m. Lillian A. Carlock, Sept. 17, 1932; ch.: John Christopher, Mary Elizabeth, Margaret Ann. Teaching fellow, N.Y.U., 1929-33; mem. pat. dept., Allied Chem. & Dye, 1933-35; res. chem., Autoxygen, Inc., 1936, Swann Chem. 1936; res. chem., Stamford Labs., Am. Cyanamid Co., 1937-40; tech. advisor, pat. dept., Am. Cyanamid Co., 1940-45; adm. dir. res., Lederle Labs. Div. Am. Cyanamid Co., 1945-47; dir. of res., 1947 to date. Engaged in or directed many flds. of medicinal or phar. res.; T.I.I.C. investigating team Germany 1945. Author: "Chemotherapy of Malaria" 1941. Mem.: Sigma Xi, Tau Beta Pi, A.C.S., A.I.C., N.Y. Acdy. of Sc., A.A.A.S., A.Phar.A. Hobbies: gardening, painting.

WILLIAMS, John Francis, chf., Div. of Labs., Bur. of Customs, Washington 25, D.C.; res. 8911 Flower Ave., Silver Spring, Md.
Chem.; b. Charlotte, N.C., Jan. 9, 1894; s. of John F. and Ann (Keenan) Williams; ed. N.C. State Coll., B.S., 1917; U. of Buffalo, M.A., 1928; mem.: Alpha Chi Sigma; m. 1st. Jan. 1, 1920, Doris Jenkins; m. 2nd. Virginia Pomeroy, Mar. 3, 1933; ch.: John F., III, Mrs. Ray Betts, Donald, Pomeroy, Bruce. 1919-21, control chem., Ross Phillips Co., Canandaigua, N.Y.; 1921-34, assoc. chem. and chem., U.S. Treas. Dept.; for 12 yrs. had chg. of Internal Rev. branch lab. at Buffalo, N.Y.; dur. 1924-25 worked for sev. months with Natl. Aniline & Chem. Co. on dyestuffs with the City Chemist, Buffalo, N.Y. on poison cases; 1935-42, chem., U.S. Treas. Dept., Bur. of Customs, Washington, D.C.; 1945 to date, chf. Div. of Labs., Bur. of Customs, Washington, D.C. Military record: priv. to 2nd Lt. 1914-17, N.C. National Guard; 1st Lt. to Capt., W.W. I, in chg. infantry co. in France; wounded and rec. D.S.C. and 2 foreign decorations; W.W. II, Lt. Col., Infantry and Air Corps, U.S.A., Feb., 1942-May, 1945; among other assignments, Acting Air Inspector, Mobile Air Tech. Serv. Command, 1944. Dev. a new test for the identification and estimation of nickel by use of nitro-aminoguanidine which substance itself was an orig. disc. of Phillips & Williams; discovered a new test for procaine (novacaine) and other local anesthetics; dev. a rapid meth. for the estimation of methanol (wood alcohol) in alcohol and beverages; holds 2 U.S. pats. covering formulas and processes for extracting (and determining) alcohol in solution by means of a selective solvent. Mem.: A.C.S. (chmn., 1932, Western N.Y. Sect.), A.S.T.M., fellow, A. I.C., A.S.Q.C. (Washington Sect.), pres. Fed. Business Assoc., (Buffalo), 1931, Reserve Officers Assoc., Amer. Legion, Legion of Valor. Club: Cosmos. Hobby: chess.

WILLIAMS, John Randolph, mgr., plastics sales, polychem. dept., E.I. du Pont de Nemours & Co., Inc., Wilmington, Del.; res. 11 Aldrich Way, Westhaven, Wilmington.
Chem. engr.; b. Richmond, Va., Oct. 3, 1912; s. of Ennion G. and Anna (Lassiter) Williams; ed. B.S., Ch.E., U. of Virginia; mem.: Delta Psi, Tau Beta Pi; m. Frances Ogden Stubblefield, Jan. 17, 1942; ch.: John Randolph, Jr., David Rankin, Daniel Wilkin. The du Pont Co.: chem. engr., process section, Belle Wks., 1934-41; asst. area supt., operations, Belle Wks., 1941-43; chem. sales, ammonia dept., 1943; asst. sales mgr., special products, 1946; asst. sales mgr., plastics sales, polychems. dept., 1950. Mem.: A.I.Ch.E., Wilmington Sales Executive Club.

WILLIAMS, John Warren, prof. of chem., Chemistry Bldg., U. of Wis., Madison, Wis.; res. 4129 Mandan Crescent, Madison.
Tchr.; b. Woburn, Mass., Feb. 10, 1898; s. of Charles S. and Genevieve Allen Williams; ed. Worcester Poly. Inst. B.S., 1921; U. of Wis., Ph.D., 1925; continuation studies at U. of Copenhagen, U. of Leipsic, U. of Upsala; m. Lois Andrews, Sept. 5, 1925; ch.: Janet Andrews. U. of Wis., instr. in chem., 1925-27; asst. prof., 1927-32; assoc. prof., 1932-38; prof., 1938 to date. Res. in fld. of dipole moments and molecular structure (1925-35); physical chem. of proteins (1935-). Civilian with Manhattan District Proj. and Office of Sc. Res. & Dev. (1941-46). Co-author: "Exptl. Physical Chem." (McGraw-

Hill, 1st ed. 1929; 4th ed. 1949). Contrib. extens. to sc. journals. Mem.: Sigma Xi, Tau Beta Pi, Phi Lambda Upsilon, A.C.S., A.S.Biol.Chem.

WILLIAMS, Langbourne Meade, Jr., pres., Freeport Sulphur Co., 122 E. 42nd St., N.Y. 17, N.Y.; res. 71 E. 71st St., N.Y. 21, N.Y. Corp. official; b. Richmond, Va., Feb. 5, 1903; s. of Langbourne Meade and Susanne Catherine (Nolting) Williams; ed. U. of Va., B.A., 1924; Harvard Grad. Schl. of Bus. Adm., M.B.A., 1926; mem.: Delta Psi, Lambda Pi; m. Elizabeth Goodrich Stillman, Sept. 27, 1930. Lee, Higginson & Co., N.Y.C., 1926-27; John L. Williams & Sons, Richmond, Va., 1927-30; Freeport Sulphur Co., v.p., treas., 1930-33, pres. 1933 to date, dir. Nicaro Nickel Co., pres., dir.; Sulphur Export Corp., dir.; B.F. Goodrich Co., dir.; Bank of N.Y. & Fifth Ave. Bank, dir.; Va. Central Railway, chmn. of bd.; Natl. Indus. Conference Bd., trustee. Mem.: Phi Beta Kappa, A.I.M.E., Va. Historical Soc., Soc. of the Cincinnati, Council on Foreign Relations. Trustee, Am. Church Inst. for Negroes; mem., Bd. of Governors, Soc. of the N.Y. Hosp. Clubs: Century, Harvard, River, Union (N.Y.), Metropolitan (Wash.).

WILLIAMS, Lawrence M., owner, mgr., gen. processing & formulating bus., Main & Depot Grade, Eureka Springs, Ark.; res. 285 Spring St., Eureka Springs. Chem. processing exec.; b. Apr. 15, 1896; s. of J. Edwin and Effie (Miller) Williams; ed. undergrad. wk. at V.M.I.; Law Schl. at Washington & Lee; m. Dorothy Funston, Jan. 20, 1922; ch.: Lawrence, Jr., Betsie, Donald Funston. Merchandising, advertising & selling chems. & phars., 1921-33, with positions varying from salesman to divisional mgr. & dir. of res.; gen. processing & formulating bus., 1933 to date. Mem.: Assn. of Vitamin Chemists, Horticultural Soc., A.C.S.

WILLIAMS, Paul DeWitt, chf. chem., Eitel-McCullough, Inc., San Bruno, Calif.; res. 373 McKendry Dr., Palo Alto, Calif. Chem.; b. Ogden, Iowa, July 13, 1909; s. of George W. and Ruby Belle (Carl) Williams; ed. U. of San Francisco, B.S.; three yrs. post grad. wk. in chem., U. of Calif.; m. Grace Pauline Munday, Mar. 22, 1941; ch.: George Frank, Frances Munday. 1936-42, Western Sugar Refinery, San Francisco, lab. foreman; 1942 to date, Eitel-McCullough, Inc., San Bruno, Calif., chf. chem. Res. on vacuum tube components, refractory metals; holds pats. in above flds. Mem.: A.Phys.S., A.C.S., A.I.C., A.A.A.S., E.S. Club: Forest Hill Masonic Lodge No. 534, San Francisco.

WILLIAMS, Philip Samuel, mgr. mfg., Calif Spray-Chem. Corp., Richmond, Calif.; res. 286 Lenox Ave., Oakland 10, Calif. Chem. engr.; b. Mancos, Colo., Jan. 10, 1898; s. of Charles and Annie L. Williams; ed. Stanford U., A.B., Ch.E., Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon; mem.: Alpha Chi Sigma; m. E. Louise Brown, Aug. 30, 1918; ch.: Robert Walter, Philip Laurence. 1919-21, chem., Atlas Powder Co.; 1921-24, chem. engr., Stand. Oil Co. of Calif.; 1924-25, plant mgr., Pacific Distributing Co.; 1925-41, chem. engr., Stand. Oil Co. of Calif.; 1941 to date, Calif. Spray-Chem. Corp., successively plant mgr. & chf. engr., mgr. mfg. in chg. of mfg. & engrg., also dir.; Johnson-Williams, Ltd., secy., treas., dir. Co-inventor: Electrical Combustible Gas Indicator (J-W); Flue Gas System for Protecting Tank Ships; both presented to ind. through Am. Pet. Inst. by courtesy Stand. Oil Co. of Calif. Club: Engineers of San Francisco.

WILLIAMS, Philip Sidney, chf. of res., The Carter Oil Co., Box 801, Tulsa, Okla.; res. 3016 S. Madison, Tulsa 5, Okla. Res. dir.; b. Abingdon, Va., June 15, 1908; s. of P.C. and Mary Ramsaur Williams; ed. William and Mary Coll., B.S., 1930; Wash. U. (St. Louis), Ph.D., 1934; m. Dorothy Drews, June 12, 1934; ch.: Clayton Drews, Agnes Mary, Philip Karl, John Leslie. Washington U., St. Louis, asst. physics, 1930-32; res. assoc., Schl. of Med., 1934-35; The Carter Oil Co., res. geophysicist, 1935-37; chf. geophysicist res., 1937-45; chf. of res., 1945 to date. Direction & supervision of res. and dev. in fld. of oil exploration & prodn. Mem.: A.Phys.S., A.I.M.E., S.E.G., Tulsa Geophysical Soc., Tulsa Geol. Soc.

WILLIAMS, Reginald Victor, pres., Williams Gold Refining Co., Inc., 2978 Main St., Buffalo 14, N.Y.; res. 85 Meadow Rd., Buffalo 16. Metallurgist; b. Brit. Columbia, Jan. 16, 1894; s. of Alexander D. and Eva May Williams; ed. Upper Canada Coll.; Kansas U.; U. of Buffalo, anal. chem.-metallurgist; mem.: Phi Gamma Delta; m. Elizabeth Prout, Nov. 14, 1925; ch.: John, Reginald, Donna, Georgia. 1920-24, secy.-treas., 1925 to date pres., treas., Williams Gold Refining Co., Inc., Buffalo, N.Y., Ft. Erie, Ont., Havana, Cuba. Williams Investments Ltd., pres.; Rigidized Metals, Inc. dir. Silver catalysts, original res. precious metals for dentistry, precious metals for rayon indus. Num. arts. in sc. & tech. jls. largely concerning metallurgy in dental profession. Mem.: Eighth District Dental Soc. N.Y. State (honorary), Gamma Psi. Dir., Buffalo Airport; dir., Children's Hosp. Clubs: Chemists' (N.Y.), Buffalo Country, Saturn, Tennis & Squash, Pack, Trap & Field, Launch, Flight, Aviation Country. Hobbies: hunting, fishing, flying.

WILLIAMS, Robert Case, dir. of research, Ironsides Co., Columbus, Ohio; res. 1492 Roxbury Rd., Columbus 12. Res. exec.; b. Wooster, O., Oct. 12, 1903; ed. Oberlin, A.B., 1925; A.M., 1927; Stanford, Ph.D., 1929; m. Dorotha M. Young, Sept. 1, 1928; ch.: 1 son, 2 dau. Oberlin Coll., asst. instr., 1925-27; O. Agric. Expt. Sta., res. chem., summers, 1927-28; Firestone Tire & Rubber Co., res. chem., 1929-31; Battelle Inst., res. chem., 1931; Ironsides Co., chf. chem., 1932-40; dir. of res., since 1940. Res. on adsorp., catalysis, colloidal electrolytes, electrokinetics, fungicides, rubber, lubs., syn. resins, ind. emulsions. Mem.: Amer. Oil Chem. Soc., Wire Assoc., Soc. Plastics Engineers, A.C.S., Sigma Xi, Phi Lambda Upsilon. Hobbies: gardening, fishing, hunting.

WILLIAMS, Robert R., dir. of grants, Research Corp., 405 Lexington Ave., N.Y., N.Y.; res. 297 Summit Ave., Summit, N.J. Chem.; b. Nellore, India, Feb. 16, 1886; s. of Robert R. and Alice E. Mills Williams; ed. U. of Chicago, B.S., 1907; M.S., 1908; m. Augusta C. Parrish, Mar. 27, 1912; ch.: Robert, Elizabeth, Jean, June. Bur. of Sc., Manila, 1908-15; Bur. of Chem., Washington, D.C., 1915-17; C.W.S. & Bur. of Aircraft Prod., 1917-18; Melco Chem. Co., 1919; West. Elec. Co., N.Y., N.Y., 1919-24; Bell Tel. Labs., chem. dir., 1925-46; Res. Corp., dir. of grants, 1946 to date. Res. in fld. of synthesis of vitamin B. Co-author: "Vitamin B and its Use in Medicine," 1938. Mem.: A.C.S., A.S.Biol.C., Amer. Inst. Nutrition, S.E.B.M. D. Sc. (hon.) from Ottawa, O. Wesleyan, Chicago, Columbia, Yale, Stevens Inst., Willard Gibbs, John Scott, Perkin; and other medals. Clubs: Chemists', Century Assn.

WILLIAMS, Roger, v.p., dir., exec. comm., E.I. du Pont de Nemours & Co., Inc., du Pont Bldg., Wilmington 98, Del.; res. 911 Westover Rd., Wilmington 79. Bus. exec.; b. Pottsville, Pa., July 27, 1890; s. of Henry Laurens and Catharine Ann (Phillips)

Williams; ed. U. Nebr., 1909-11; B.S., M.I.T., 1914; D.Sc. (hon.), U. W.Va., 1938; D.Sc. (hon.), U. Del., 1947; m. Caddy W. Jennings, June 2, 1915; ch.: Roger, Jr. Res. asst., M.I.T., 1914-15; res. fellow, 1915-16; res. supvr., Nitrogen Prods. Co., Providence, R.I., 1916-18; res. supvr., E.I. du Pont de Nemours & Co., Wilmington, 1918-24; chem. dir., ammonia dept., 1924-42; asst. eng. mgr., explosives dept., chg. of atomic energy (plutonium) proj., 1942-45; v.p., dir., mem. exec. comm., 1945 to date. Res. in hydrogen prod., high-pressure synth. ammonia, methanol; rec'd U.S.M. for Merit for part taken in U.S. Wartime atomic energy prog., 1946. Mem.: A.C.S., A.I.Ch.E.

WILLIAMS, Roger J(ohn), Distinguished Prof., Dept. of Chem., dir., Biochem. Institute, The U. of Texas, Austin 12, Texas; res. 303 Moore Blvd., Austin.
Chem. prof.; b. Octacumund, India, Aug. 14, 1893; s. of Robert Runnels and Alice Evelyn (Mills) Williams; ed. B.S., 1914, U. of Redlands; M.S., U. of Chicago, 1918; Ph.D., U. of Chicago, 1919; D.Sc. (hon.), U. of Redlands, 1934; D.Sc. (hon.), Columbia U., 1942; mem.: Phi Kappa Phi, Phi Lambda Upsilon, Phi Sigma, Phi Kappa Delta, Sigma Xi, Phi Beta Kappa; m. Hazel Elizabeth Wood, Aug. 1, 1916; ch.: Roger John, Janet Elizabeth, Arnold Eugene. Res. chem., Fleischmann Co., 1919-20; asst. prof., U. of Oregon, 1920-21; assoc. prof., 1921-27; prof., 1928-31; prof. chem., Oregon State Coll., 1932-39; prof. chem., U. of Texas, 1939 to present; dir., Biochem. Institute, U. of Texas, 1941 to present. Honors: D.Sc. (hon.), U. of Redlands, 1934; D.Sc. (hon.), Columbia U., 1942; Mead Johnson Award, Amer. Inst. of Nutrition, 1941; Chandler Medal, Columbia U., 1942; Research Prof., U. of Texas, 1941-42; Special Scroll for Distinguished Service, U. of Oregon, Sigma Xi, 1934. Res. in pantothenic acid, yeast nutrilites, folic acid, avidin, microbiol. assay methods for B Vitamins, B vitamins in tissues including malignant tissues, nutrition of fungi, fungicidal power, absorption of org. ampholytes, fractional electrical transport in biochem., org. oxidation equivalent anal., ionization of alcohols, etiology of alcoholism, humanics. Author: "An Introduction to Organic Chemistry," 1927 (2nd ed., 1931; 3rd ed., 1935; 4th ed., 1941; 5th ed. (with L.F. Hatch), 1948). Co-author, with R.Q. Brewster, "A Laboratory Manual of Organic Chemistry," 1928 (2nd ed., 1934; 3rd ed., 1939; 4th ed., 1948); with E. Beerstecher, "An Introduction to Biochemistry," 1931 (2nd ed., 1948). Author: "Textbook of Biochemistry, 1938 (2nd ed., 1942); "What To Do About Vitamins," 1945; "The Human Frontier," 1946. Co-author, with R.E. Eakin, E. Beerstecher and W. Shive, "The Biochem. of B Vitamins," 1950. Mem.: Natl. Acdy. Scs., Natl. Advisory Cancer Council (planning comm.), Research Council on Problems of Alcohol (pub. comm.), A.A.A.S. (centennial policy comm.), A.A.U.P., A.C.S., Amer. Soc. Biol. Chem., Biochem. Soc. (London), Am. Assn. Cancer Research, Philosophical Soc. (Texas), Texas State Teachers Assn., N.Y. Acdy. of Sc., Soc. Exptl. Biol. Med., Academy Science (Texas). Clubs: Town and Gown, University. Hobbies: golf, fishing.

WILLIAMS, Virgil C., assoc. dir. res., dir. chem. engrg. dev., Central Res. Labs., Gen. Aniline & Film Co., Easton, Pa.; res. Hotel Easton, Easton.
Chem. engr.; b. Chicago, Ill., May 6, 1912; s. of Virgil C. and Irene M. Williams; ed. U. of Mich., B.S.E. (Ch.E.) 1934, M.S.E. 1935; mem.: Sigma Xi, Phi Lambda Upsilon, Phi Kappa Phi, Alpha Sigma Phi; m. Vivian H. Brown, June 26, 1940 (divorced); ch.: Randall, Lynne, Christopher. 1935-39, Linde Air Prods. Co., res. engr.; 1939-42, U. of Va., asst. prof. of chem. engrg.; 1942-50, Northwestern U., prof. of chem. engrg., chmn. of dept.; 1950 to date, Gen. Aniline & Film Co., assoc. dir. res., dir. chem. engrg. dev.; 1945-50, consltg. engr., Phillips Pet. Co., Assoc. Am. Railroads, Stewart-Warner Co. Inventor of flame rock drilling meth., low temp. gas processing. Mem.: A.C.S., A.I.Ch.E. (chmn. Chicago sec. 1947-48), Am. Soc. Engrg. Educ., A.A.A.S. Hobby: photography.

WILLIAMS, William Hunt, prof. mgr., The Dow Chem. Co., Midland, Mich.; res. 116 Auburn St., Midland.
Chem. engr.; b. Columbus, O., Dec. 3, 1896; s. of Charles E. and Cornelia H. Williams; ed. O. State U., Columbus, O., B.A., 1919; M.Sc., 1920; Ch.E. (prof.), 1941; mem.: Phi Delta Chi; m. Mary Margaret Knapp, 1918; ch.: Marjorie A., William W., Charles R. Res. chem., Werner G. Smith Co., 1919; res. chem., process dev., des. & operation chem. equipment & processes, The Dow Chem. Co., 1919 to date; dir., Midland Natl. Bk. Numerous inventions relating to mfr. of arlyamines, diphenyl, phenols, phenolates, salicylic acid and salicylates. Mem.: A.I.Ch.E., A.C.S., A.A.A.S., A.S.T.M. Club: Rotary, Midland Country. Hobby: photography.

WILLIAMS, William Lloyd, gen'l. supt., development dept., E.I. du Pont de Nemours & Co., Inc., Chambers Works, Penns Grove, N. J.; res. Lenape Rd., R.F.D. No. 5, West Chester, Pa.
Engr.; b. Feb. 13, 1912; s. of Henry Clayton and Hanna C. Williams; ed. grammar schl., Millersville, Md.; H.S., Arundel; Johns Hopkins U.; married Marie; ch.: Diana H., Constance M., W.L. Williams, Jr. 1929 to present, du Pont Co. Assisted in design of TiO2 Plant; special assignment, dev. TiO2 process; aided in design of silica gel plant; special assignment, aided in study of polymerization MM resins; group supervisor Manhattan Dist. work; assistant section supvr. in chg. of all I.E.D. wk. at Chambers Wks.; in chg. of all I.E.D. wk. for Orchem.; supt., chem. engrg. div. in chg. of chem. engrg. wk.; genl. supt., dev. dept. Mem.: A.I.Ch.E., Am. Soc. Prof. Engineers. Hobbies: music, gardening, woodwork.

WILLIAMSON, Donald G., pres., Williamson Adhesives, Inc., 2327 W. 18th St., Chicago 8, Ill.; res. 277 Poplar St., Winnetka, Ill.
Exec.; b. Detroit, Mich., Nov. 3, 1920; s. of Donald V. and Eleanor M. Williamson; ed. Dartmouth Coll., A.B., 1942; mem.: Theta Chi; m. Marion J. Salisbury, May 20, 1944; ch.: Barbara Helen, Donald Hugh, Richard Salisbury. Williamson Adhesives, Inc., since 1942. Past pres., Chicago Jr. Assn. of Commerce and Industry; dir., Com. of Fifteen, Marshall Square Chicago Boys Club. Mem.: T.A.P.P.I. (Chicago sec.). Clubs: Union League, Rotary. Hobby: golf.

WILLIEN, Leon John, retired res. engr.; res. 4321 Hortensie St., San Diego 3, Calif.
Gas engr.; b. Terre Haute, Ind.; s. of Leon J. and Mary E. (Fleming) Willien; ed. Rose Polytech. Inst., Terre Haute, Ind., B.S., 1906; M.S., 1908; Ch.E., 1910; m. Della Irene Hudman, Jan. 20, 1915. 1906-07, anal. chem., Arthur D. Little, Boston, Mass.; 1907-10, chem., Springfield (Mass.) Gas Light Co.; 1910-26, chf. chem. & chem. engr., Chas. H. Tenney & Co., Boston, Mass.; 1926-27, gas engr., Byllesby Engrg. & Management Corp., Chicago, Ill.; 1927-36, oper. gas engr., same co.; 1936-44, chf. oper. gas engr.,

Pub. Utility Ser. & Engrg. Corp., Chicago, Ill.; 1944-46, assoc. dir., Inst. Gas Tech., Chicago, Ill.; 1946-50, res. engr., San Diego Gas & Elec. Co., San Diego, Calif. 1926, dev. proc. for mfr. of low gravity water gas; 1932, dev. high Btu oil gas proc. for mfr. of an oil gas that can be substituted for natural gas in case of an outage of natural gas. 1918-19, served as Major in C.W.S.; 1928, awarded the Beal M. for the most valuable Tech. Paper presented before Tech. Sec. Amer. Gas Assoc. at 1927 Convention; 1932, elected hon. mem. for life, Pacific Coast Gas Assoc., for dev. of proc. for the prod. of a high Btu mfrd. gas, with existing equip., which can be used as a substitute for natural gas in the event of a failure in the natural gas supply, or which can be mixed with natural gas in any proportions to augment the supply of natural gas at times of peak loads; this dev. was voted the most valuable in the gas industry on the Pacific Coast in 1932; 1936, rec. the Chas. A. Monroe Award from the Am. Gas Assoc. for the most outstanding recent contrib. by an individual to the advancement of the Gas Industry; 1942, apptd. hd. conslt. on mfrd. gas for the W.P.B. Author: "Calculations Used in Studying Gas Plant Operations," pub. by Robbins Pub. Co., N.Y.C., 1944; presented numerous papers before var. Gas Assns.; written papers for pub. in Gas jls.; author of chapt., "The Use of Propane & Butane with Mfrd. Gas" for "Handbook Butane-Propane Gases," pub. by Western Business Papers, Inc., Los Angeles, Calif.; chapt. on "Oil Gas" for "The Sc. of Petroleum," pub. by the Oxford U. Press, Oxford, England; paper on "Manufactured Gas" for the 3rd World Power Conf. held in Wash., in Sept., 1936. Vice-chmn., Smoke Prevention Comm., San Diego Ch. of Comm. Mem.: Am. Gas Assoc., Wiscon. Utilities Assoc., Pacific Coast Gas Assoc., A.C.S., A.I.C. Clubs: San Diego Electric. Hobby: color photography.

WILLIHNGANZ, Eugene (Adrian), dir. of res., Natl. Battery Co., Depaw, N.Y.; res. 54 Park Blvd., Lancaster, N.Y.
Electrochem.; b. Beaver Dam, Wis., Mar. 24, 1903; s. of Joseph and Louisa (Diehl) Willihnganz; ed. B.S., U. of Notre Dame, 1924, M.S., 1925; Ph.D., Pa. State Coll., 1934; mem.: Sigma Xi, Phi Lambda Upsilon; m. Lorna Rea, Jan. 2, 1936; ch.: Paul, Walter. Calco Chem. Co., res. chem., 1925-30; Pa. State Coll., res. fellow, 1930-35; Natl. Lead Co., res. supvr., 1935-45; Natl. Battery Co., res. dir., 1945 to date. Storage battery dev., org. addition agents, theory; pats. on org. addition agents; electrical resistance of storage batteries. Mem.: A.C.S., Electrochem. Soc. Hobby: music.

WILLIS, Roderick Matteson, mgr., Standard Chem. Engrg. Co., 1795 Harbor Ave. S.W., Seattle 6, Wash.; res. 5202 W. Stevens St., Seattle 6.
Chem. engr.; b. Hinsdale, Ill., June 5, 1914; s. of Richard Washington and Grace (Matteson) Willis; ed. U. of Mich., B.S. in chem., 1936; M.S. in chem. engrg., 1939; Wash. & Lee Univ.; U. of Chicago; mem.: Phi Kappa Psi; m. Dorothy, Oct. 8, 1936; ch.: Barbara, Audrey, Margaret, Doug. 1936-37, chem., Gen. Chem. Co., Chicago; 1939-42, chem. engr., Universal Oil Prods. Co., Chicago; 1942-44, proc. engr., J.S. Abercrombie Co., Houston, Texas; 1944-46, chf. proc. engr., Eastern States Petroleum Co., Houston; 1946 to date, chem. engr., mgr., Std. Chem. Engrg. Co., Seattle; partner, Std. Chem. & Food Equipment Co.; partner, Northwest Industrial Dev. & Engrg. Co. (N.I.D.E.C.). Registered Chem. Engr., Wash. & Texas. Pilot plant & design work in fluid catalytic cracking of petroleum oils. Mem.: Iota Alpha (Mich.), Wash. Soc. of Prof. Engrs., A.I.Ch.E., A.C.S., Puget Sound Engrg. Council.

WILLKE, Louis Gustav, chf. process engr., Cities Serv. Oil Co., Tallant, Okla.; res. Barnsdall, Okla.
Chem. engr.; b. Leon Springs, Texas, Dec. 29, 1915; s. of Louis H. and Justine C. Willke; ed. Texas A.&M., B.S. Ch.E., 1937; Johns Hopkins, 1944; Okla. A.&M., grad. chem. engrg. courses, 1946, 1947, 1948; Texas A.&M., post grad. studies, 1949-50; m. Velma V. Vogt, June 29, 1940. 1937-38, jr. engr., Cities Serv. Oil Co.; 1939, control chem.; 1940-41, process engr. in petrochem. refinery; 1942-45, U.S.A., C.W.S., Tech. Command, in chg. of dev. of anti-personnel incendiary bombs; 1946-49, sect. chf., chem. res. div., Cities Serv. Oil Co.; 1950 to date, chf. process engr., chem. div. Dev. of refining procedures in petrochem. fld.; pats. on processes & equipt. Mem.: A.I.Ch.E., Natl. Rifle Assn. Hobbies: photography, gardening.

WILLKIE, Herman Frederick, pres. Kingan & Co., Indianapolis, Ind.; res. 4270 N. Meridian St., Indianapolis.
Exec.; b. Elwood, Ind., Sept. 30, 1890; s. of Herman Francis and Henrietta (Trisch) Willkie; ed. pub. schls. of Elwood, Ind.; Indiana U., A.B. 1912; admitted to the Madison County, Ind., bar; m. Helen Fowler Hall, June 10, 1944; ch.: Herman Frederick, II, Arlinda Frederick, Julia Frederick, Hall Francis. Dec., 1911 to Nov., 1916, Fajardo Sugar Co., Puerto Rico, Dec., 1911, control chem. (fall, 1912, asst. chem., Great Western Sugar Co., Sterling, Colo.), 1912-13, Soils and Fertilizer (Fajardo), 1914-16, chf. chem.; Nov., 1916-Dec., 1917, Celluloid Co. of Amer., E. Newark, N.J., in chg. of Res. Lab. on Camphor Substitutes; Dec., 1917 to July, 1924, U.S. Indust. Alcohol Co., Baltimore, Md., res. chem.; Aug., 1924-Feb., 1927, asst. mgr., Canadian Indust. Alcohol Co., Corbyville, Ontario; Feb., 1927- May, 1937, Hiram Walker & Sons, Ltd., and Hiram Walker, Gooderham & Worts, Ltd., prod. mgr., v.p., mem. of Exec. Comm.; Jan.-May, 1937, also Hiram Walker & Sons, Scotland, Ltd.; responsibilities incl. all prod. operations, res., and construc. operations; construc. operations consisted of rebuilding of Gooderham & Worts and Hiram Walker in Canada, bldg. of Hiram Walker & Sons, Inc., Peoria, Ill., and bldg. a new distillery for Hiram Walker & Sons, Scotland, Ltd., Dumbarton, Scotland; June, 1937 to Jan. 1, 1951, v.p. and dir. of Distillers Corp.-Seagrams, Ltd., and v.p. in chg. of prod. and dir. of Joseph E. Seagram & Sons, Inc. and its subsid. corps.; to date pres. & dir. Kingan & Co.; dir. & consult. Distillers Corp., Seagram Ltd. and Amer. subsids.; author or co-author of 43 pub. books, pamphlets and mag. arts., the books pub. as follows: "Food For Thought" (A treatise on the utiliz. of farm prods. for producing farm motor fuel as a means of solving the agricultural problem); "Fundamentals of Distillery Practice"; "Outline for Industry" (An exposition of industrial management); "A Rebel Yells" (A philosophy of industrial education); holds 14 U.S. pats. and sev. foreign pats. on diverse subjs. incl. articles of mfr. to industrial processes. Mem.: Amer. Acdy. Polit. & Social Sc.; A.A.A.S.; A.I.Ch.E.; A.S.M.E.; Argentine-Amer. Chamber of Commerce, Inc.; Atlantic Union Comm.; Brotherhood of Boilermakers, Iron Ship Builders and Helpers of Amer.; mem. Chem. Warfare Assoc.; Colonel on Staff of Gov. of La.; mem. Comm. for Internatl. Trade Organiz.; Federal Union, Inc., (Kentuckiana Chapter); Hon. Order of Ky. Colonels; Indiana Farm Bur.; Indiana Univ. Foundation (mem. of Bd. of Trustees); Internatl. House (New Orleans, La.); Natl. Counsellor to U.S. Chamber of Commerce; Natl. Farm Chemurgic Council, Inc.; Postwar Advis. Planning Commis. of Ky. (chmn.); Ruskin College (Oxford, Eng), Scholarship Selection Comm. mem.; Sarah Lawrence Coll., Res. Fund for Educ. (donor); Soc. for the Advancement of Mgmt.; Newcomen Soc. of Gr. Britain in North America. Clubs: Chemists' (N.Y.C.), Cosmos (Wash., D.C.), University (N.Y.C.).

WILLS, James Henry, chf. pharmacol. sec., medical div., Army Chem. Center, Md.; res. 15 Webster St., Bel Air, Md.
Pharmacologist; b. Richmond, Va., Aug. 7, 1912; s. of James Henry and Sarah Macy (Baughman) Wills; ed. Va. Polytech. Inst., B.S. with hon., 1934; Medical Coll. of Va., M.S., 1936; U. of Rochester, Ph.D., 1940; m. Ruth Elizabeth Cass, June 12, 1948. Assoc. in pharmacol., U. of Rochester Schl. of Medicine & Dentistry, 1941-46; asst. prof. of pharmacol., U. of Tenn. Medical Schl., 1946-47; asst. chf., pharmacol. sec., medical div., Army Chem. Center, 1947-49, chf. 1949 to date. Mem.: Phi Kappa Phi, Phi Lambda Upsilon, Pi Delta Epsilon, Sigma Xi, Am. Physiolog. Soc., S.E.B.M., A.A.A.S., A.C.S., N.Y. Acdy. of Sc. Hobby: photography.

WILLSON, Edward Acheson, pres., Grafo Colloids Corp., Sharon, Pa.; res. Willoaks, Robertson Rd., Sharon.
Exec.; b. Youngstown, O.; s. of John Rankin and Jean Acheson Willson; ed. Penn. State Coll., A.B., 1916; mem.: Phi Gamma Delta; m. (1st) Katherene Beazell Kennedy. Acheson Oildag Co., supt., 1917-20; wks. mgr., 1920-32; Grafo Colloids Corp., pres. 1934 to date. Mem. Am. Soc. of Lubrication Engrs. Dir., C. of C. Clubs: Rotary, Country. Hobbies: photography, gardening.

WILLSON, Fred Mayhew, chf., raw matls. stds. section, Merck & Co., Inc., Rahway, N.J.; res. 199 Kearney Ave., Rahway, N.J.
Anal. chem.; b. Somerville, Mass., Mar. 27, 1916; s. of Frederic H. and Anna (Brown) Willson; ed. 1938, B.S. (chem., cum laude), Tufts Coll.; 1940, M.A., Temple U.; m. Jane E. Lorah, Mar. 18, 1942; ch.: Patricia J., Shirley L. Chemist, Industrial Test Lab., Phila. Naval Base, 1940-47; to date, with Merck & Co., Inc. Mem.: A.C.S., A.A.A.S.

WILSON, Alexander Logan, asst. dir. res., Corn Products Refining Co., chem. div., Argo, Ill.; res. Hobart Ave., Box 8, Palos Park, Ill.
Chem.; b. Pittsburgh, Pa., Mar. 13, 1902; s. of John Logan and Aimee E. Reineman Wilson; ed. U. of Princeton, B.S., 1923, Phi Beta Kappa; U. of Pittsburgh, Ph.D., 1943, Sigma Xi; mem.: Phi Lambda Upsilon; m. Helen R. West, Apr. 21, 1930; ch.: Charles W., Alexandra L., Aimee M., Rebecca B. Carbide & Carbon Chems. Corp., chem., 1927-39; fellow, Mellon Inst., 1939-42; Bakelite Corp., res. chem., 1942-45; Corn Products Refining Co., asst. dir. res., 1945 to date. Mem.: A.C.S., A.A.A.S., N.Y. Acdy. of Sc., Chicago Chemists Club.

WILSON, A(lfred) J.P., consltg. engr., res. & office 79 Tobin Ave., Great Neck, N.Y.
Chem., indus. engr.; b. N.Y.C., May 7, 1901; s. of J.O. and Irene (Smith) Wilson; ed. Bklyn. Poly. Inst., B.Sc. in chem., 1924, Ch.E., 1925. Courses: Columbia U., Wall St. Schl. U.S.A.: Army Extension Schl. 1928-39, instr. 1939-40; Chem. Warfare Schl., grad., 1932; instr. 1944-45. Comd. & Gen. Staff Coll., grad. 1944, Army Indus. Coll., grad., 1941; Phi Sigma Chi, Pi Kappa Phi; m. Amie Billingsley, 1926; ch.: Paul N. Chem. & chem. engr. in dye mfg., electro-plating, petr. refining 1924-26; chem. engr., asst. to res. engr. on rate wk., Bklyn. Union Gas Co., 1926-29; traffic anal., Port of N.Y. Authority, res. in connection with bond issues for bridges, etc., 1930-33; pvt. pract., engrg., financial, economic, res., mem. Saunders & Van Deusen, consltg. engrs., 1931-34; chem. engr., anal. on cost wk., Allied Chem. & Dye Corp. (Natl. Aniline Div.), 1934-36; chem. engr. & indus. anal., Coverdale & Colpitts, consltg. engrs., N.Y., 1936-41; commissioned 2nd Lt., C.W.S., ORC, 1928, rose to Lt. Col. active duty Mar. 15, 1941; chf., Mfg. & Insp. Div. of N.Y.C.W. Proc. Dist., 1941; overseas: Control Div., Gen. Staff, Hq. S.O.S., E.T.O.U.S.A. (England), 1942; acting chf., Chem. Sec. Special Staff, Hq. S.O.S., N.A.T.O.U.S.A. (No. Africa), 1943; instr., chf., Logistics Sec., Chem. Corps Schl., Edgewood Arsenal, 1944-45; chf., Postwar Planning Sec., Office, Chf. C.W.S., Wash., D.C., 1945; returned to inactive status Mar. 25, 1946. Author of engrg., financial & scientific articles in "Chemical Engineering," "Barrons," "Railroad Data," "Chem. Warfare Bulletin," "Military Review" of Command & Gen. Staff Coll., "Canadian Army Training Memorandum." Author: "Wilson Index of Annual Bus. Activity." Lic. Prof. Engr. N.Y.; registered Investment Advisor. Mem.: A.C.S., Chemical Market Research Assn., R.O.A., Natl. Sojourners, Heroes of '76, A.A.S.R., A.A.O.N.M.S., S.A.R. Club: Chemists' (N.Y.).

WILSON, Carroll Louis, Fairfax, Va.
Research exec.; b. Rochester, N.Y., Sept. 21, 1910; s. of Louis W. and Edna C. Wilson; ed. M.I.T., B.S., 1932; hon. D.S., Williams Coll., 1947; mem.: Delta Kappa Epsilon; m. Mary Bischoff, Apr. 1, 1937; ch.: Diana Bischoff, Rosemary, Barbara Colby, Paul Carroll. Asst. to Dr. K.T. Compton, pres., M.I.T., 1932-36; spec. advisor to Dr. V. Bush, v.p. & dean of engrg., M.I.T., 1936-37; hd. dept. for handling patents, Res. Corp. of N.Y., 1937-40; asst. to Dr. V. Bush, chmn., N.D.R.C., 1940-41; sr. liaison offcr., 1941-42; exec. asst. to dir., O.S.R.D., 1942-46; secy. to bd. of consIts. to State Dept. for preparation of report on plan for internatl. control of atomic energy, 1946-; v.p. & dir., Natl. Res. Corp., Boston, 1946-47; gen. mgr., U.S. Atomic Energy Commis., 1947 to Aug. 15, 1950. Hon. offcr., Civil Div., Most Excellent Order of the British Empire (1948); M. for Merit (Pres. Truman, 1948). Mem.: A.A.A.S. (fellow). Dir., Harvard Cooperative Soc. (1933-45). Club: Cosmos. Hobby: overhauling old Rolls Royce cars.

WILSON, Channing Ward, sr. res. chem., Consol. Gas Elec. Light & Power Co., Baltimore 3, Md.; res. 4122 Westview Rd., Baltimore 18.
Res. chem.; b. Salt Lake City, Utah, Dec. 1, 1903; s. of Edward B. and Lillian S. Wilson; ed. U. of Richmond, Va., B.S., 1925; Johns Hopkins U., Ph.D., 1928; mem.: Phi Gamma Delta, Gamma Alpha; m. May S. Copenhaver, Aug. 2, 1929; ch.: Laura Eleanor, Katherine E. Prof. chem., Md. Coll. for Women, 1926-27; res. chem., Consol. Gas Elec. Light & Power Co., 1928 to date; instr., E.S.M.W.T. Courses, Johns Hopkins & Aberdeen Proving Ground, Md., 1943-45. Res. in problems of gas mfg. & purification processes; combustion of fuels; composition of boiler deposits; corrosion. Mem.: Sigma Xi, A.C.S., Md. Acdy. Sc. Club: Johns Hopkins. Hobbies: fishing, hunting, photography.

WILSON, Charles Owens, prof. pharmaceut. chem., Coll. of Pharmacy, U. of Texas, Austin, Tex.; res. 3414 Cherry Lane, Austin, Tex.
Prof.; b. Bothell, Wash., Jan. 25, 1911; s. of Charles O. and Aura B. Wilson; ed. Ph.G., 1932; Ph.C., 1933; B.S., 1934; M.S., 1935; Ph.D., 1938, all U. of Washington; mem.: Kappa Psi; m. Vaughn Howell, June 16, 1936; ch.: Owens, Heather, Bonnie, Felix. U. of Wash., Coll. of Pharmacy, Seattle, Wash., tchg. asst. 1934-38; The Geo. Washington U., Coll. of Pharmacy, Wash., D.C., asst. prof. of pharmaceut. chem., 1938-40; U. of Minn., Coll. of Pharmacy, Minneapolis, Mnn., asst. prof., 1940-43; assoc. prof., 1943-47; prof., 1947-48; U. of Texas, Coll. of Pharmacy, Austin, Tex., prof. of pharmaceut. chem., 1948 to date; hd. of dept. of pharmaceut. chem., 1948 to date. Contrib. num. tech. arts. to sc. jls.; author also of "Assay of Ephedrine Jelly," The Bulletin of the Natl. Formulary Comm., Vol. 8, 1940; and "An Assay for Camphorated Menthol," same pub., Vol. 9, 1941. Co-author (with Ole Gisvold), "Organic Chem. in Pharmacy,"

1st ed. J.B. Lippincott Pub. Co., Phila., 1949; and (with Charles H. Rogers and Taito O. Soine), "Inorganic Pharmaceutical Chem.," 4th ed. Lea and Febiger, Phila., 1948. Mem.: A.C.S. (Med. Sect., Organic Sect.); A.Phar.A.; A.A.A.S.; Minn. State Pharmaceutical Assoc.; Texas State Pharmaceut. Assoc.; Rho Chi, Sigma Xi, Phi Sigma, Kappa Psi; chmn. of Scientific Section of A.Phar. A., 1942-44; v.chmn., Practical Section of A.Phar. A., 1942-44; Award Comm. for Prize in Iodine Research, 1948-51; Comm. apptd. by the Council of A.Phar.A.; prize of $1,000 given by Iodine Educ. Bur.

WILSON, Christopher Lumley, prof., O. State U., Columbus 10, O.; res. 65 E. North Broadway, Columbus 2.
Univ. teacher, res. chem., conslt.; b. Leeds, England, Aug. 31, 1909; s. of William Fletcher and Mary Elizabeth Wilson; ed. Cockburn H.S., Leeds; Leeds U., B.Sc. (hon.), 1930; Univ. Coll., London, Ph.D., 1932; D.Sc., 1939; mem.: Phi Lambda Upsilon; m. Martha Evelyn, Mar., 1937; ch.: Jeremy David, Elizabeth Ann, Deborah Jane. Univ. Coll., London, asst. lect., 1932-36; lect., 1936-46; Imperial Chem. Industries, res. chem., 1939-42; Revertex Ltd., London, res. dir., 1942-46; U. of Notre Dame, prof. chem., 1946-48; O. State U., prof. chem., 1948 to date. Res. in fld. of organic and physical chem., esp. in relation to mechanism of reactions, cathodic reduction, use of isotopes as tracers, long wave spectroscopy & structure of benzene, furan chem. & vapor phase catalytic processes. Contrib. extens. to sc. and tech. journals. Mem.: Royal Inst. of Chem. (fellow), Chem Soc., S.C.I., A.C.S., Amer. Electrochem. Soc., A.A.A.S. Hobbies: photography, violin.

WILSON, Cornelius Joseph, engr., Griscom-Russell Co., 285 Madison Ave., N.Y. 17, N.Y.: res. 83-47 116 St., Kew Gardens, L.I., N.Y.
Chem. engr.; b. Boston, Mass., June 9, 1911; s. of Ernest John and Elizabeth A.F. Sullivan Wilson; ed. S.B. Chem. Engrg., M.I.T.; m. Marion Parker. Union Oil of Calif., 1936, trainee; Shell Oil Co., 1936, chem.; Griscom-Russell Co., 1936 to date (less Army time) engr.; C.W.S. on duty with Air Corps., 1941-46, Lt. to Lt. Col.; transf. to Supreme Hq. A.E.F., chg. of sec. controlling German chem. indust., approx. 5 mos.; wkd. with English, French, Russians in Paris, Rheims, Frankfurt, Berlin to set policy on control. Mem.: A.I. Ch.E. Hobbies: photography, tennis.

WILSON, David Wright, Benjamin Rush prof. of physiolog. chem., U. of Pa. Medical Schl., Phila. 4, Pa.; res. 5 Hathaway Circle, Wynnewood, Pa.
Chem. prof.; b. Knoxville, Iowa, Jan. 4, 1889; s. of James Ewing and Katherine (Wright) Wilson; ed. Grinnell Coll., 1910, B.S.; U. of Ill., 1912, M.S.; Yale U., 1914, Ph.D.; m. Helene Connet, Nov. 24, 1921; ch.: Thomas Hastings, Juliet Connet. Asst., assoc. & assoc. prof., Johns Hopkins U. Medical Schl., 1914-22; prof., U. of Pa. Medical Schl., 1922 to date. Nitrogenous muscle extractives; carnosine, anserine & octopine; precursors in the biolog. syn. of purines & pyrimidines studied with C-14. Author: "Lab. Manual of Physiolog. Chem.," Williams & Wilkins, 1928-47. Mem.: A.S.Biol.C., Am. Physiolog. Soc., A.C. S., S.E.B.M. Club: Art Alliance of Phila. Hobbies: gardening, painting.

WILSON, Edgar Bright, Jr., prof. of chem., Harvard U., 12 Oxford St., Cambridge 38, Mass.; res. 97 Avon Hill St., Cambridge.
Prof. of chem.; b. Gallatin, Tenn., Dec. 18, 1908; ed. S.B., Princeton U., 1930, S.M., 1931; Ph.D., Calif. Inst. of Tech., 1933; A.M., Harvard U., 1942; m. Emily Buckingham; ch.: David, Kenneth, Nina. Teaching fellow chem., Calif. Inst. Tech., 1931-33, fellow 1933-34; jr. fellow, Harvard 1934-36, asst. prof. chem., 1936-39, assoc. prof. 1939-46, prof. 1947-48, Theodore Wm. Richards prof. 1947 to date; res. dir., Underwater Explosives Res. Lab., Woods Hole, 1942-44; chf. div. 2, Natl. Defense Res. Council, 1944-46. Quantum mechanics in chem.; molecular dynamics; infra-red, microwave & Raman spectroscopy; physics of explosives. Co-author: "Introduction to Quantum Mechanics with Applications to Chem." with Linus Pauling, N.Y., 1935. Mem.: Am. Acdy. of Arts & Sc. (fellow), Am. Philosophical Soc., Am. Physical Soc., Natl. Acdy. of Sc. Award: A.C.S. in Pure Chem. 1937.

WILSON, Elwood Justin, Jr., v.p., Experiment, Inc., P.O. Box 1-T, Richmond 2, Va.; res. 417 St. Christopher Rd., Richmond 21, Va.
Res., conslt. chem.; b. N.Y.C., Nov. 28, 1917; s. of Elwood J. and Cora Florence MacDermand Wilson; ed. A.B., Princeton U., 1938; M.A., 1940; Ph.D., 1941; mem.: Phi Beta Kappa, Sigma Xi; Cloister Inn; m. Dorothea Madison Haskins, 1941; ch.: Christopher Todd, Elwood Justin, III, Thomas Todd, Deborah Gay. Res. assoc., Natl. Inst. Health, 1941-43; proj. engr., Sperry Gyroscope Co., Inc., 1943-44; U.S.A.A.F., 1944-45; sr. chem., Exp., Inc., 1945-48; secy., 1948-49; v.p. 1949 to date. Contrib. extens. to sc. and tech. jls. Mem.: A.C.S., A.A.A.S., Va. Acdy. Sc. Clubs: Princeton (N.Y.), Country Club (Virginia). Hobbies: sailing, skiing.

WILSON, Ernest Dana, hd. of dept. chem. engrg. & chem., Worcester Polytech. Inst., Worcester, Mass.; res. 33 Flagg St., Worcester.
Prof., consltg. chem. engr.; b. Harlan, Iowa, Nov. 2, 1890; s. of Charles H. and Harriet E. Wilson; ed. B.S., U. of Nebr., 1913; M.I.T., 1913-14; Ph.D. magna cum laude, Chicago U., 1915; mem.: Phi Gamma Delta, Gamma Alpha, Alpha Chi Sigma; m. Avilda D. Moore, 1915; ch.: Robert D., Avilda D. Fellow, Mellon Inst. 1916-18; chf. engr., Graton & Knight, Worcester, 1918-20; chf. com. res., Geo. Batten Co., N.Y.C., 1920-21; dept. hd., Am. Cyanamid Co., N.Y.C., 1922-33; conslt. & partner, Barsky & Wilson, N.Y.C., 1934-36; pres., Zialite Corp., N.Y.C. & Worcester, 1936 to date; hd. of dept., Worcester Polytech. Inst., 1940 to date. Papers on atomic & nuclear structure in sc. and tech. jls., 1915. Mem.: A.I.Ch.E., A. C.S., S.C.I., Electrochem. Soc., Am. Soc. Engrg. Ed., A.A.A.S., Am. Instrument Soc., Am. Electroplaters Soc., Tau Beta Pi, Pi Delta Upsilon, Sigma Xi. Clubs: Engineers (Boston), Worcester Country. Hobbies: golf, sailing.

WILSON, Ernest Staton, dir. of engrg., Hercules Powder Co., Wilmington, Del.; res. Walnut Lane & Ridge Rd., Wilmington.
Engr.; b. Newark, Del., Oct. 1, 1896; s. of William R. and Margaret S. Wilson; ed. B.S. in Ch.E., U. of Delaware, 1918; mem.: Tau Beta Pi, Sigma Nu; m. Mildred Jefferis, 1921; ch.: Ernest S., Jr. 2nd Lt., U.S. Army, Engr. Corps, 1918-19; asst. inspector, State Highway Dept., 1919-20; contracting business (own), 1920-21; Bd. of Harbor Commissioners—construction of Wilmington Marine Terminal, 1921-22, chf. of survey party; inspector, State Highway Dept., 1922-23; Hercules Powder Co., since 1923. Mem.: A.S.M. E. Trustee, Haskell Res. Foundation. Clubs: Concord Country Club, Hercules Country, Hercules Men's Club.

WILSON, George Watkins, assoc. prof. chem., C.C.N.Y., 17 Lexington Ave., N.Y.C.; res. 56 Tunstall Rd., Scarsdale, N.Y.
Assoc. prof. chem.; b. N.Y.C., June 22, 1890; s. of James and Dorothea Becker Wilson; ed. C.C.N.Y., 1910, B.S.; N.Y.U., 1915, M.S.; 1921, Ph.D.; m. Josephine Spencer, Aug. 26, 1937; ch.: George Spencer, Susan Van Pelt, Richard William. Instr. high schls., N.Y.C., 1910-16, 1920-28; chem., Bur. of Mines, 1917; 2nd. Lt. Chem.

Warfare Serv., U.S.A., 1917-19; aide Smithsonian Inst., 1919-20; instr. C.C.N.Y., 1928-31; asst. prof., 1931-37; assoc. prof., 1937-41, 1943 to date. Subchmn. Dept. Commerce Center 1950; Major, Chem. Warfare Serv., 1941-43. Res. inorg. chem., cataly., adsorp., flammable mixtures. Mem.: A.C.S., A.I.C. (fellow), A.A.A.S. Club: Chem. Teachers (N.Y.). Hobbies: photography, fishing.

WILSON, Herman Evans, chf. chem., By-Prod. Coke Dept., Wheeling Steel Corp., Steubenville, Ohio; res. 1101 Main St., Wellsburg, W.Va.
Chem.; b. Grafton, W.Va., July 19, 1893; s. of J. Frank and Martha (Evans) Wilson; ed. W.Va. U., 1920, A.B. chem. (maj.); mem.: Sigma Nu; m. Beatrice Harrah, Dec. 29, 1920; ch.: William (dec.), Robert, Joanne. Wheeling Steel Corp., 1922 to date; U.S. Inf. Lt., W.W. I. Mem.: Masons, Am. Legion, V.F.W. Hobbies: stamps, fishing, hunting.

WILSON, Irving White, sr. v.p., dir., Aluminum Co. of Am., 2014 Gulf Bldg., Pitts. 19. Pa.; res. 1201 Murrayhill Ave., Pitts. 17.
Industrialist; b. Bloomington, Ill., Sept. 26, 1890; s. of J.J.S. and Lucy (White) Wilson; ed. 1907-11, M.I,T., B.S. electrochem.; mem.: Chi Phi; m. Katherine Whalen, 1917; ch.: Mrs. Katherine W. White, Mrs. Anne W. Baker, Margaret L. Entire bus. career with Aluminum Co. of Am., 1911, Niagara Falls Wks., plant control & engrg. wk.; 1913, New Kensington (Pa.) Wks., asst. dir. of res.; 1914, Toronto Wks., specifically to install welding & canteen unit; 1915, Massena (N.Y.) Wks., asst. supt. of reduction plant; 1919, Niagara Falls Wks., asst. to v.p. in chg. of reduction plants; 1921, Pitts. office, supt. of reduction plants; 1931, v.p. in chg. of operations; 1939 to date, dir.; 1949 to date, sr. v.p. Under his intensive planning, Alcoa expanded its own plants & facilities for W.W. II operations to extent of $300,000,000.; during war, Alcoa also built for govt. a series of ultra-modern & efficient al. plants. & through his guidance, operated these 24 plants for govt.; during same period, Alcoa's al. prod. was boosted from 327,000,000 lbs. in 1939 to 1,644,000,000 lbs. in 1943. Award: 1948, Presidential Cert. of Merit in recognition of contrib. to W.W. II war effort. 1948, elected to serve on Natl. Indus. Conference Bd. Clubs: Duquesne (Pitts., Pa.), Longue Vue Country, Fox Chapel Golf, Rolling Rock (Ligonier, Pa.). Hobbies: bridge, golf.

WILSON, James A., prod. mgr., Monsanto Chem. Co., Everett Station, Boston 49, Mass.; res. 61 Lincoln St., Belmont, Mass.
Exec.; b. Roanoke, Ala., July 18, 1909; s. of William L. and Ela Whatley Wilson; ed. Clemson A. & M., 1930, B.S., chem., Clemson, M.I.T., 1930-31; m. Marie Matthey, 1941; ch.: William, Elizabeth, Julia. Joined Swann Corp., Anniston, Ala., Res. Dept., 1931; (during coll. summers, worked as lab. asst.); transferred to Production Dept., 1935; transferred to St. Louis as asst. plant mgr., of Carondelet, 1939; transferred to Trenton as asst. plant mgr., 1942; plant mgr., Trenton, 1944; transferred to Everett as plant mgr., 1947; production mgr., 1948. Mem.: A.C.S., A.I.Ch.E. Clubs: Winchester Country, Everett Rotary. Hobbies: rearing a family, occasional golf game, photography.

WILSON, Jesse Russell, dir. pat. dept., Monsanto Chem. Co., 1700 S. Second St., St. Louis, Mo.; res. 335 Bristol Rd., Webster Groves, Mo.
Exec.; b. Sheffield, Ala., Nov. 26, 1904; s. of J.G. and Myrtle (Hagler) Wilson (dec.); ed. Auburn, B.S., 1926; George Washington, M.S., 1928; Chicago Kent, LL.B., 1931; mem.: Phi Kappa Phi, Phi Delta Phi, Alpha Chi Sigma; m. Elizabeth E. Ebert, 1931; ch.: Robert G., David R. Chem., Dept. of Agric., Wash., D.C.; pat. examiner, U.S. Pat. Office, Wash., D.C.; pat. attorney, Stand. Oil of Ind., Chicago, 1931-39; pat. attorney, Monsanto Chem. Co., St. Louis, 1939 to date. Mem.: A.C.S., Am. Bar Assn.

WILSON, John Boynton, chem., beverage br., div. of food, Food & Drug Admn., Federal Security Agency, Wash., D.C.; res. 1339 Ingraham St., N.W., Wash., D.C.
Res. chem.; b. Steubenville, Ohio, June 2, 1890; s. of Joseph M. and Mary Ida Lynch Wilson; ed. Ohio St. U., B.A., 1911, sp. chem.; mem.: Sigma Nu; m. Ruth Agnes Miller, Oct. 9, 1917. 1911, appt. asst. chem., Bur. Chem., U.S. Dept. Agric., assigned to contracts lab.; 1914, animal physiol. chem. lab.; 1921, appt. assoc. chem., transfd. to water & beverage lab. (Bur. of Chem. changed to Food & Drug Admn., 1927, & transfd. as Bur. to Fed. Security Agency in 1940; Water & Beverage Lab. became beverage br. of food div., 1927); apptd. chem., 1942. Res. on methds. for dect. and determination of the prods. of decomposition in fish, eggs; meths. for detection, determination of flavoring ingredients, natural, synth. in foods; meths. for detection, determ. of preservatives in foods, anal. of flavoring extracts. Hobby: music (particularly pipe organ, choir conducting, piano, & some compositions; recd. degree A.A.G.O., 1915).

WILSON, John L(ewis), dir. of res. & dev. div., Economics Lab. Inc., 914 Guardian Bldg., St. Paul 1, Minn.; res. 2101 Dudley Ave., St. Paul 8.
Chem.; b. Poland, Ind., June 27, 1898; s. of John C. and Ellen (Little) Wilson; ed. Jamestown Coll., Jamestown, N.D., A.B., 1920, B.S., 1925; U. of Mich., M.A., 1924; U. of Ore., M.S., 1927; U. of Minn., Ph.D., 1933, Sigma Xi; mem.: Alpha Kappa Lambda; m. Palma J. Nelson, Sept. 24, 1935. Teacher & principal high schl., Page, N.D., 1920-23; res. asst., U. of Ore., 1925-27; Am. Pet. Inst. res. asst., U. of Minn., 1927-31; Economics Lab. Inc., 1931 to date. Res. in com. dishwashing. Mem.: A.C.S., A.P.H.A., A.Phys.S. Club: St. Paul Athletic. Hobbies: hiking, gardening, nature study.

WILSON, Perry William, prof. of agric. bacteriol., dept. of agric. bacteriol., U. of Wis., Madison, Wis.; res. 3830 Cherokee Dr., Madison.
Bacteriologist, biochem.; b. Bonanza, Ark., Nov. 25, 1902; s. of Comodore L. and Frankie Ellen (Smith) Wilson; ed. Rose Polytech. Inst., Terre Haute, Ind., 2 yrs., winner Freshman Scholarship M.; U. of Wis., B.S., 1928, M.S., 1929, Ph.D., 1932, Alpha Zeta, Phi Kappa Phi; mem.: Sigma Nu; m. Helen E. Hansel, Sept. 4, 1929; ch.: Gwenn D., Richard H. Anal. Lab. 1920-22, Res. Lab. 1925-26, Com. Solvents Corp.; res. assoc., U. of Wis., 1929-32, instr. 1932-34, asst. prof. 1934-38, assoc. prof. 1938-45, prof. 1945 to date. Teaching bacterial physiol.; res. on bacterial fermentation & mechanism of biolog. nitrogen fixation; biochem. of symbiotic nitrogen fixation. Co-edit.: "Respiratory Enzymes," Burgess Publ. Co., 1939; "Symposium on Respiratory Enzymes," U. of Wis. Press, 1941; "Symposium on Use of Isotopes in Biol. & Medicine," U. of Wis. Press, 1948. Mem.: Soc. of Am. Bacteriologists, Biochem. Soc. (England), A.S.Bio.C., A.C.S., Soc. of Gen. Microbiol. (England), Sigma Xi. Club: University (Madison, Wis.). Hobbies: fishing, writing.

WILSON, Philip Johnson, Jr., res. assoc., Carnegie-Ill. Steel Corp.; res. R.D. No. 1, Sewickley, Pa.
Chem. engr.; b. N.Y.C., July 7, 1896; s. of Philip Johnson and Louisa Forman Wilkinson Wilson; ed. 1918, B.S. Chem. Engrg., U. of Mich.; 1940, Ph.D., U. Pitts.; m. Virginia P. Eaglesfield, Dec. 31, 1924; ch.: Phoebe S., Judith,

Virginia. 1918-21, Semet-Solvay Co., Syracuse, N.Y., chem. engr.; 1921-23, Cambria Steel Co., Johnstown, Pa., chf. recorder; 1923-27, Indus. Coke & Gas Co., Terre Haute, Ind., chf. chem.; 1927-28, Semet-Solvay Co., N.Y.C., chem. engr.; 1928-32, Koppers Co., Pitts., Pa., chem. engr.; 1933-48, Mellon Inst., chem. engr.; 1948 to date, Carnegie-Ill. (Pitts., Pa.) Steel Corp., chem. engr. Res. & dev. in byprod. coking industry. Author: "Coal, Coke, Coal Chems.," 1950. Mem.: A.C.S., A.I.Ch.E., Am. Coke & Coal Chems. Inst., Eastern States Blast Furn. & Coke Assn., Blast Furn. & Coke Assn. of Chicago Distr. Club: Edgeworth.

WILSON, Ralph H., chf. chem., Cataract Chem. Co., Inc., 90 Rapin Pl., Buffalo 11, N.Y.; res. 105 Laird Ave., Buffalo 7.
Chem.; b. Toronto, Ont., Canada, Nov. 16, 1902; s. of Reuben and Elizabeth Wilson; ed. Millard Fillmore Coll.; U. of Buffalo; Cornell U. Cataract Chem. Co., Inc., anal. 1927-38, chf. chem. 1938 to date. Collaborator, Leather Chapter, "Ind. Chem." by E. Raymond Riegel, Rheinhold Publ. Corp., 1949. Mem.: Am. Leather Chemists Assn., A.C.S. Hobbies: music, golf.

WILSON, Robert E., chmn. of bd., Stand. Oil Co., (Ind.), 910 S. Mich. Ave., Chicago 80, Ill.; res. 1500 Lake Shore Dr., Chicago 10.
Chf. exec. officer; b. Beaver Falls, Pa., Mar. 19, 1893; s. of William Hyatt and Madge (Cunningham) Wilson; ed. Ph.B., magna cum laude, Coll. of Wooster, Ohio, 1914, hon. Sc.D., 1931; B.S. in chem. engrg., M.I.T., 1916; hon. Dr. of Engrg., Bklyn. Poly. Inst., 1940; hon. LL.D., Colby Coll., 1941; hon. LL.D., Northwestern U., 1947; hon. L.H.D., U. of Tulsa, 1948; mem.: Phi Beta Kappa, Alpha Chi Sigma, Delta Sigma Rho; m. Pearl M. Rockfellow, Dec. 22, 1916; ch.: Doris Mildred (Wilson) Blanchard, Lois Marian (Wilson) Miles, Janice Marjorie. Res. asst., Res. Lab., Gen. Elec. Co., 1916; res. assoc., Res. Lab. Applied Chem., M.I.T., 1916-17; consltg. chem. engr., Bur. of Mines, Wash., D.C., 1917-18; Capt. & Major, C.W.S., 1918-19, W.W.I, directing res. div.; M.I.T., dir. Res. Lab. of Applied Chem., & assoc. prof. chem. engrg., 1919-22; asst. dir. res., Stand. Oil Co. (Ind.), 1922-28; asst. to v.p. in chg. mfg., 1929-30; dir. & v.p. in chg. res. & dev., 1931-34; chmn. of bd. & chf. exec. officer, 1945 to date; v.chmn., Pan Am. Pet. & Transport Co., 1935-37; pres., 1937-44; chmn. of bd. & dir., 1945 to date. Mechanism of corrosion; mechanism of lubrication; fluid flow through pipe lines; theory of cracking; prevention of evaporation losses. Contributed about 85 articles to prof. journals. Mem.: A.C.S., A.I.Ch.E., S.A.E., Am. Pet. Inst., A.S.T.M., Inst. Pet. Technologists, 25 Year Club of Pet. Ind., Newcomen Soc. of England, Natl. Acdy. of Sc., Natl. Pet. Council, former Pet. Ind. War Council. Awards: Chem. Ind. M. 1939, Perkin M. 1943. Life mem. of Corp., M.I.T.; trustee, Coll. of Wooster (Ohio), U. of Chicago, Museum of Sc. & Ind. (Chicago); dir., Chase Natl. Bank of N.Y., First Natl. Bank of Chicago; dir. & natl. v.p., Natl. Assn. of Mfrs.; mem. governing body Natl. Ind. Conference Bd. Clubs: Links (N.Y.), Chemists' (Chicago & N.Y.), M.I.T. Club of Chicago, Economic (Chicago), Commercial (Chicago), Scarsdale Golf (Hartsdale, N.Y.), Glen View (Golf, Ill.), Ind. Soc. of Chicago. Hobbies: golf, bridge.

WILSON, Robert L., dir. of res., Wm. Wrigley, Jr. Co., 410 N. Mich. Ave., Chicago, Ill.; res. 9412 S. Hoyne Ave., Chicago.
Chem.; b. Chicago, Ill., Aug. 27, 1893; s. of Lee H. and Anna D. Wilson; ed. B.S. 1915, Ch. E. 1923, Armour Inst. of Tech., Chicago; m. Doris H. Wilson, Aug. 29, 1930; ch.: Virginia L., Barrie L. Wm. Wrigley, Jr. Co., 1920 to date. Northwestern Chem. Co., W. Chicago, Ill., dir., v.p. Hobbies: golf, tennis, painting, pottery.

WILSON, Robert North, prof. chem. emeritus, Duke U.; Cardinal Prods. Inc., Box 828, Durham, N.C.; res. 822 Third St., Durham.
Tchr.; b. Lenoir, N.C., Mar. 3, 1875; s. of J.R. and Louisa Jane (Round) Wilson; ed. Haverford Coll., Pa., A.B.; U. of Fla., M.S.; Harvard, Ill., Yale; m. Saza Hendrick Peck, Sept. 15, 1910; ch.: Robert N., Jr., M.D., Jane Bliss, A.B., B.S. in library sc., M.A. Guilford Coll., N.C., 1898-1910, chem.; U. of Fla., 1908-10, chem. & asst. dir. of extension; Trinity Coll. & Duke U., prof. chem., 1910-48; Duke U., prof. chem. emer., 1948-50; at present, Cardinal Prods. Inc., dealers in chems., lab. equipt. & supplies, scientific instruments. Mem.: N.C. Acdy. Sc., A.C.S., A.A.A.S., S.P.E.E., Phi Beta Kappa, Sigma Xi. Durham Community Chest, Durham Childrens Museum. Club: Kiwanis (pres.). Hobbies: scoutmaster, pres. Occoneeche Council, mem. Natl. Council B.S.A.

WILSON, Stanley D(avis), formerly prof. of org. chem., dean Coll. of Natural Science, Yenching U.; res. 1405 Via Zurita, Claremont, Calif.
Retired; b. Waldo, Me., Feb. 5, 1881; s. of Manley O. and Estelle (Davis) Wilson; ed. B.A. gen. hon., Wesleyan U., 1909, M.A., 1910; Ph.D. with high hon., U. of Chicago, 1916; D.Sc. honorary, Wesleyan U., 1944; mem.: Commons Club; m. Anna Marie Lane, May 30, 1923; ch.: Helen M. (Wilson) Saunders, Marion S. (Wilson) Mast. Instr. in chem. & geol., Washburn Coll., 1910-12; instr. in chem., U. of Kan., 1912; instr. in chem., U. of Chicago, 1914-16; instr. in org. chem., Rice Inst., 1916-17; instr. in chem., Premed. Schl., Peking Union Medical Coll., 1917-22; asst. prof., 1922-25; prof. chem., Yenching U., 1925-49; chmn. of dept., 1925-29; dean of Coll. of Natural Sc., 1929-49; res. assoc., U. of Chicago, 1930-31; res. assoc., Calif. Inst. of Tech., 1944; visiting prof., acting chmn. of dept., Pomona Coll., 1944-45. Study of the use of night soil in agric. in China; meths. of composting as a means of improving the use of night soil; elhedrine homologs, polyhalogen derivatives of tri phenyl methane. Mem.: Phi Beta Kappa, Sigma Xi, A. A.A.S., A.C.S., Chinese Chem. Soc., Chinese Assn. for Advancement of Sc., China Medical Soc., Peking Soc. of Natural History. Award: Decorated by Chinese govt. 1941. Trustee, Peking Union Medical Coll., 1941-49; dir., Peking Am. Schl.; dir., North China Am. Schl. Clubs: University, (Claremont, Calif.). Hobbies: gardening, collection of stamps & coins.

WILSON, Thomas Adam, div. hd., Chem. Lab., Spool Cotton Co. Res. Labs., 264 Ogden St., Newark 4, N.J.; res. 136 North Mountain Ave., Montclair, N.J.
Res. chem.; b. Middletown, N.Y., Feb. 2, 1897; s. of William A. and Mary (Peck) Wilson; ed. Syracuse, A.B., 1919 (magna cum laude); U. of Ill., M.S., 1921, Ph.D., 1923; mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, Phi Kappa Phi, Delta Upsilon, Alpha Xi Sigma, Gamma Alpha; m. Ruth Burton, Aug. 2, 1923; ch.: Mrs. Sarah (Wilson) Bennett (Mrs. John A. Bennett, II). Union Coll., instr. chem., 1923-25, asst. prof. 1925-29; assoc. prof. 1929-35; Gen. Elect. Co., res. chem., consult., 1924-31; Mellon Inst., Senior Fellow, 1935-48; Spool Cotton Co. Res. Labs., 1948 to date. Syracuse, S.A.T.C. 1918. Res. on X-ray crystallography, single crystals metals, theoret. crystall.; synthetic textile fibers and plastics. Mem.: A.C.S. (secy. East. N.Y. Sect. 1924-27; chmn. 1927-28), Am. Phys. Soc. (fellow). Hobbies: gardening, study of lore connected with Adirondack Mountains.

WILSON, William Burton, pres., Wilson Export & Import Corp., 35 Water St., New York 4, N.Y.; res. 298 Argyle Rd., Brooklyn 18, N.Y.
Chem. and dye exporter; b. New Orleans, La., Mar. 14, 1906; s. of Robert Lee and Katharine

Adams Wilson; ed. A.B., Harvard; m. Irmgard Hammel, Mar. 29, 1933; ch.: Emma Katharine, Anne Marie, William Burton, Jr., Peter Andrew. Foreign salesman, Natl. Aniline Div., Allied Chem. & Dye Corp., 1926-42; pres., Wilson Export & Import Corp., 1942 to present. Mem.: A.A.T. C.C. Club: Chemists' (New York).

WILSON, William Courtney, v.p., Pyroxylin Prods., Inc., 4851 S. St. Louis Ave., Chicago 32, Ill.; res. 4913 Dorchester Ave., Chicago 15.
Exec. v.p.; b. New Wilmington, Pa., Apr. 4, 1893; s. of John M. and Mary Courtney Wilson; ed. B.S., Westminster Coll., 1917; M.S., 1920, Ph.D., 1922, U. of Ill.; m. Marie Lytle, 1918; ch.: John E., Opal M., Mary C. Res. chem., Atlas Powder Co., 1918-19; teaching, U. of Mich., 1922-23; res. chem., Cutler Hammer Co., 1923-24; res. chem., Miner Labs., 1924-25; v.p. Pyroxlin Products, Inc., 1925 to present; also treas. & dir. Res. wk. on resins, plastics and coating mtls. Club: Chemists' (Chicago). Hobbies: photography, gardening.

WILSON, William Solomon, prof. of chem., hd. of dept., acting dir. of the Geophysical Inst., U. of Alaska, College, Alaska.
Tchg. and res.; b. Reynoldsburg, Ohio, Aug. 9, 1908; ed. Brown U., 1927-31, Sc.B. in Chem.; 1931-34, Sc.M.; Yale U., 1934-36, Ph.D.; prof. study, U. of Calif., Fall, 1937; U. of So. Calif., Spring, 1938; Mich. State Coll., summer, 1939; U. of Ky., Fall, 1945, summer, 1947; U. of Wyoming, summer, 1949; prelim. honors, 1929; magna cum laude, 1931; final highest honor in math. and chem., 1931; mem.: Sigma Xi, Gamma Sigma Epsilon, Phi Delta Kappa, Lambda Chi Alpha; prof. cert.: Ky. Secondary Schl. Cert. (Emergency), 1944-46, (Std. Cert.), 1946-51; Critic Teacher's Cert., summer, 1947. Res. chem., Shell Dev. Co., Emeryville, Calif., 1937-38, (spectroscopy); part-time: res. asst. in phys., Brown U., 1931-34; res. sc., M.I.T., summer, 1945, War Research; instr. in chem., Blue Ridge Coll., New Windsor, Md., 1938-40; asst. prof. of phys. and acting hd. of Dept. of Physics, Georgetown Coll., Georgetown, Ky., 1940-42; assoc. prof. of phys. and hd. of Dept. of Phys., 1942-43; assoc. prof. of physical scs. and acting hd. of Dept. of Phys. Scs., 1943-47; prof. of chem. and hd. of Dept. of Chem., U. of Alaska, 1947-48; asst. prof. of chem. in chg. of Gen. and Inorg. Chem., U. of Wyoming, 1948-49; hd. of Dept. of Chem., prof. of chem., U. of Alaska, College, Alaska, 1949 to date; fellow and acting dir. of the Geophysical Inst., U. of Alaska; part-time, lab. instr. in phys. chem., Yale U., 1934-36; jr. radio instr., Civil Service, spring, summer, 1943; tchr. of chem. and physics, Garth H.S., Georgetown, Ky., 1944-47. Author: "The Wave Mech. of Polyolectronic Atoms. The Self-Consistent Field Meth. of Hartree and Some Applications" (dissertation under Prof. R.B. Lindsay of Brown U., 1934); "The Theory of the Wien Effect for a Binary Electrolyte," (dissert. under Profs. Lars Onsager and H.S. Harned, Yale U.); also sev. tech. arts. in sc. jls., and two unpub. arts.: "Surface Ozone at College, Alaska," and "Surface Ozone in the Arctic." Mem.: A.C.S. (Div. of Chem. Educ.), A.Phys.S. (Div. of Fluid Dynamics), A.A.A.S., Franklin Inst. (life mem.), Natl. Sc. Tchrs., Amer. Physics Tchrs., Amer. Soc. for Engrg. Educ., Ky. Acdy. of Sc., Yale Chemists, A.A.U.P. Club: Kiwanis of Fairbanks (secy.). Hobbies: photography, travel.

WILSON, Woodrow Allen, tech. mgr., Firestone Tire & Rubber Co., Drawer 1631, Lake Charles, La.; res. 2014 Fourth Ave., Lake Charles.
Chem. engr.; b. Tilton, Ill., Feb. 7, 1914; s. of Allen G. and Viola Mae Wilson; ed. U. of Ill., B.S. in Ch.E., 1938; m. Martha Warren, Sept. 27, 1941; ch.: Charles W., David A. 1938, Jos. E. Seagram & Sons, Louisville, Ky., distillery operator, 1939, Lawrenceburg, Ind., distillery operator, 1939-40 shift supvr.; 1940-42, Calvert Distilling Co., Relay, Md., distillery supt.; Firestone Tire & Rubber Co., 1942-43, Akron, Ohio, chem. engr. syn. rubber, 1943, Akron, Ohio, hd. of lab. syn. rubber, 1943-44, Lake Charles, La., hd. of lab. syn. rubber, 1944 to date, Lake Charles, La., tech. mgr. syn. rubber. Mem.: A.I.Ch.E. (active), A.C.S., Southwest La. Local Sec. of A.C.S. Club: Presbyterian Men's Fellowship. Hobbies: hunting, fishing, music. amateur craftsman.

WIMMER, Llewellyn Curt, asst. supt., Chas. Pfizer & Co., Inc., 11 Bartlett St., Brooklyn, N.Y.; res. Bay Avenue, Halesite, L.I., N.Y.
Chem. engr.; b. New York City, June 5, 1911; s. of Dr. C.P. and Catherine Wimmer; ed. B.A., B.S., Masters in Ch.E., Columbia U., 1930-36; mem.: Phi Delta Theta; m. Evelyn Aschoff, May 4, 1940; ch.: Curt L., Cynthia L. Kitter Labs., N.Y.C., 1936-38; New England Collapsible Tube Co., New London, Conn., 1938-40; Chas. Pfizer & Co., Inc., Brooklyn, N.Y., 1940 to present. Mem.: A.I.Ch.E.

WINANS, Charles F(rancis), plant mgr., Koppers Co., Inc., Chem. Div., Petrolia, Pa.; res. Foxburg, Pa.
Chem.; b. Evansville, Ind.; s. of Francis W. and Valeda B. (Daum) Winans; ed. B.S., 1929, U. of Akron; Ph.D., 1933, U. of Wis.; mem.: Lambda Chi Alpha, Alpha Chi Sigma; m. Mareta G. Schiller, June 10, 1933; ch.: Charles S., Lynne M. 1933, res. chem., Natl. Aniline & Chem. Co., Buffalo; 1933-39, res. chem., Goodyear Tire & Rubber Co., Akron, Ohio; 1939-42, sr. fellow, Mellon Inst., Pitts.; 1942-46, chf. chem., Koppers Co., Inc., Butadiene Div., Monaca, Pa.; 1947 to date, plant mgr., Koppers Co., Inc., Chem. Div., Penacol Plant, Petrolia, Pa. Hydrogenation, rubber accelerators & antioxidants, syn. rubber, coal by-prods., syn. org. chem., res. & dev. adm. Mem.: Sigma Xi, Phi Lambda Upsilon, A.C.S., Pitts. Chemists Club. Vestryman, treas., Memorial Church of Our Father (Episcopal), Foxburg, Pa. Clubs: Butler Tech. Discussion Group (Butler, Pa.), Foxburg Country (Foxburg, Pa.). Hobbies: golf, photography, woodworking, public speaking.

WINANS, Wilfred Hughes, v.p. ind. relations, Union Carbide & Carbon Corp., 30 E. 42nd St., N.Y. 17, N.Y.; res. 30 Huguenot Dr., Larchmont, N.Y.
Ind. relations exec.; b. Pt. Henry, N.Y., Oct. 1, 1889; s. of William Robert and Ida M. Winans; ed. Williamette (Ore.) U. Prep. Schl.; Ohio Wesleyan U., Delaware, Ohio, A.B., 1909; m. Beatrice Coby, June 15, 1911; ch.: Mrs. H.J. Jensen, R.C. Winans. Commis. of Charities & Corrections, City of Cleveland, Ohio; secy. to Dir. of Public Welfare, City of Cleveland, Ohio; supt., Associated Charities, Cleveland; employment mgr., Natl. Carbon Co., Inc., Cleveland, 1916; ind. relations mgr., Union Carbide & Carbon Corp., 1919, v.p. ind. relations 1950 to date; v.p. of Natl. Carbon Div., Electro Metallurg. Div., U.C.C., and of Linde Air Prods. Co. Mem.: Natl. Assn. of Mfrs., U.S. Chamber of Com., Am. Management Corp. Welfare Council of N.Y.C., Internatl. Y.M. C.A. Clubs: Larchmont Shore, Uptown.

WINDING, Charles Calvert, asst. dir., Schl. Chem. & Metallurg. Engrg., Cornell U., Olin Hall, Ithaca, N.Y.; res. 107 Oak Hill Pl., Ithaca.
Chem. engr.; b. Minneapolis, Minn., Aug. 12, 1908; s. of Oscar E. and Florene B. (Jordan) Winding; ed. Central H.S., Minneapolis, Minn., grad. 1925; U. of Minn., B.Ch.E., 1931, Ph.D., 1935; m. Katharine M. Cudworth, Aug. 8, 1936. 1932-33, teaching asst., 1933-35, res. asst., U. of Minn.; 1935-38, instr., 1938-41 asst. prof., 1941-44 assoc. prof., Cornell U.; 1943-44, conslt., Office of Rubber Dir., Rubber Reserve Co.; 1944 to date, prof., Cornell U.; 1937-45, 1950 to date,

conslt., Tide Water Assoc. Oil Co.; 1947 to date, asst. dir., Schl. of Chem. & Metallurg. Engrg., Cornell U. 12 pats. on adsorbents. Co-author: "Plastics, Theory & Practice" with R.L. Hasche, McGraw-Hill 1947. Mem.: A.I.Ch.E., A.C.S., Am. Soc. for Engrg. Ed., Soc. of Plastics Engrs., Sigma Xi, Tau Beta Pi, Phi Lambda Upsilon, Alpha Tau Omega (pres. Alumni Corp. 1942 to date), Alpha Chi Sigma, Lic. Prof. Engr. N.Y. (1941 to date). Clubs: Ithaca Yacht (commodore 1948), Cornell Corinthian Yacht, Exchange. Hobby: sailing.

WINDUS, Wallace, res. chem., John R. Evans & Co., 2nd & Erie Sts., Camden 2, N.J.; res. 612 Warwick Rd., Haddonfield, N.J.
Conslt. in leather ind., v.p. of an importing firm; b. Pullman, Wash., Aug. 8, 1905; s. of Walter van Antwerp and Rowena (Smith) Windus; ed. B.A. chem., U. of Mont., 1925; M.A., 1928, Ph. D., 1931, U. of Ill., in org. chem.; mem.: Alpha Chi Sigma, Gamma Alpha; m. Mary Elizabeth Lehman, Nov. 24, 1934; ch.: Donald Taylor, Margaret Lehman. Custer Co. H.S., Miles City, Mont., teacher of chem., 1925-27; Rohm & Haas Co., Inc., leather chem. div., 1931-44; leather conslt., J.R. Evans & Co., Camden, N.J., & Van Tassel Leather Co., Norwich, Conn., 1944 to date; v.p., Tanimex Corp., N.Y.C.; dir., Stand. Dyewood Co., Inc., Medford, Mass.; advisor N. R.C. Advisory Subcomm. on leather & tanning mtls., most of latter 1945 to date. Syn. & resolution of methionine with Prof. C.S. Marvel; discovery of the unhairing action of mercaptans; publ. & pat. with Dr. H.G. Turley in J. Am. Leather Chem. Assn. & Stiasny Festschrift; pats. alone on tanning processes. Mem.: A.C.S., Am. Leather Chem. Assn., A.A.A.S., Franklin Inst., Phi Lambda Upsilon, Sigma Xi. Hobbies: gardening, photography, book collecting, art.

WINEGARDEN, Howard Merlin, v.p. for prod. & res., Cutter Labs., 4th & Parker Sts., Berkeley 2, Calif.; res. 5591 Country Club Dr., Oakland 18, Calif.
Res. biochem. & exec.; b. Cosumnus, Calif., Sept. 1, 1898; s. of M.L. and Ella (Walters) Winegarden; ed. Calif. Inst. of Tech., B.S. 1924, M.S., 1927, fellow, 1930-31, Ph.D. biochem., 1931; mem.: Tau Beta Pi, Sigma Xi; m. Ruth E. Jones, July 15, 1925; ch.: Howard Merlin, Jr., Winston J. Cutter Labs., Berkeley, 1923-29, res. biochem.; 1929-45, dir. of res.; 1945 to date, v.p. for prod. & res. Dev. of human & veterinary biolog. prods. including toxins, vaccines, sera & preparations from viruses; human blood prods.; antibiotics. Mem.: A.C.S., A.A.A.S. Hobbies: mountain hiking, character building youth groups.

WINFIELD, William Hood, asst. to pres., Monsanto Chem. Co., St. Louis, Mo.; res. 456 Baker Ave., Webster Groves, Mo.
Economic res.; b. Harrison Co., W.Va., Oct. 10, 1907; s. of John Buckner and Fannie McKee Winfield; ed. W.Va. U., A.B., 1930; Harvard Grad. Schl. Bus. Adm., M.B.A., 1934; mem.: Phi Kappa Psi; m. Alice Turner, Apr. 15, 1939; ch.: Mary, Frances, William, Alice. Woodyard Publications, assoc. editor; T.V.A., adm. asst.; Weyerhauser Forest Prods., dir. ind. res.; U.S.N., Commander; McKinsey & Co., sr. conslt.; Monsanto Chem. Co., mgr., economic res. dept. Mem.: Am. Statistical Assn., Am. Mgt. Assn., Discussion Group (Harvard Bus. Schl.), v.p., Harvard Bus. Schl. Club of St. Louis. Clubs: Army & Navy (Wash., D.C.), Harvard (N.Y.C.), Greenbriar Country (St. Louis). Hobbies: golf, fishing, hunting.

WING, Henry J., res. dir., Northam Warren Corp.; res. 16 Grandview Ave., Stamford, Conn.
Chem.; b. Steele City, Nebr., Nov. 28, 1898; s. of Henry J. and Kate A. (Faxon) Wing; ed. U. of Nebr., 1921, B.Sc. Ch. E., 1925, M.Sc., Sigma Tau, Sigma Xi; State U. of Iowa, 1929, Ph.D.; mem.: Alpha Chi Sigma; m. Esther L. Jackson, Aug. 25, 1925; ch.: Henry J., Jr. Asst. prof. chem., Doane Coll., 1924-26; asst. prof. chem., S.D. State Coll., 1926-28; assoc. chem., Natl. Bur. Stands., 1929-34; res. chem. du Pont, 1935-39; res. chem., Johnson & Johnson, 1939-44; res. dir., Northam Warren Corp., 1944 to date. Properties of pure rubber hydrocarbon; catalytic decomposition of esters by nickel. Mem.: A.I.C. (fellow), A.A.A.S., A.C.S. (chmn., W. Conn. Sec. 1948-49). Club: Chemists' (N.Y.). Hobbies: Boy Scout work, men's class leader, gardening, photography.

WING, Wallace E., pres., Marblehead Lime Co., 308 W. Washington, Chicago 6, Ill.; res. 2132 W. 92nd St., Chicago 20.
Chem. engr.; b. Gibsonburg, Ohio, Sept. 12, 1897; s. of Fred L. and Kate (Warner) Wing; ed. Ohio State U., B. of Chem. Engrg., 1922; mem.: Sigma Phi Epsilon; m. Frances S. Harvey, June 16, 1926; ch.: Wallace Elijah, Jr., Barbara Harvey. With Marblehead Lime Co. since grad. from coll. in following capacities: chem., engr., dir. of res., gen. supt., v.p. and pres. Pres. of Natl. Lime Assoc., 1948 to date; pres., Cardiff Co. Mem.: A.C.S., A.S.T.M.

WINSTEIN, S(aul), prof. of chem., dept. of chem., U. of Calif., Los Angeles 24, Calif.; res. 421 S. Bundy Dr., Los Angeles 49.
University prof.; b. Montreal, Canada, Oct. 8, 1912; s. of Louis W. and Anne (Dick) Winstein; ed. B.A., U.C.L.A., 1934, M.A., 1935; Ph.D., Calif. Inst. of Tech., 1938; m. Sylvia V. Levin, Sept. 3, 1937; ch.: Bruce Darrell, Carolee Joyce. 1938-39, postdoctorate fellow in chem., Calif. Inst. of Tech.; 1939-40, natl. res. fellow in chem., Harvard U.; 1940-41, instr., Ill. Inst. of Tech.; U. of Calif., 1941-42, instr., 1942-45 asst. prof., 1945-47, assoc. prof., 1947 to date prof. A.C.S. Award in Pure Chem. 1948. Mem.: Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, A.C.S.

WINSTON, Lula Gaines, prof. of chem. retired; res. 2607 Hanover Ave., Richmond 20, Va.
Retired chem. prof.; b. Richmond, Va., d. of Charles Henry and Nannie (Steger) Winston; ed. U. of Richmond, B.S., 1899; Johns Hopkins U., Ph.D., 1911; first woman to grad. in chem. at Johns Hopkins U. Prof. of chem., State Tchrs. Coll., Farmville, Va., 1902-20; prof. chem., Meredith Coll., Raleigh, N.C., 1920-38. Research, the conductivity, temperature coefficients of conductivity and dissociation of certain electrolytes in aqueous solution from 0 deg. to 35 deg.; probable inductive action in solution and evidence for the complexity of the ion. Mem.: A.C.S., A.A.A.S. (fellow). Trustee, U. of Richmond, 1920-33. Hobbies: writing, gardening.

WINTER, Lester Lyle, res. chem., Natl. Carbon Div., U.C.&C. Corp., 1280 W. 73rd St., Cleveland, Ohio; res. 21313 Hillsdale, Fairview Park 26, Ohio.
Chem. engr.; b. Vancouver, Wash., Sept. 18, 1911; s. of Lyle and Neta Winter; ed. State Coll. of Wash., Pullman, Wash., B.S., M.S., Ph. D.; mem.: Delta Sigma Zeta; m. Claire L. Spiegle, June 28, 1939; ch.: Carol Jean, Janice Kay. 1939 to date, res. chem., Natl. Carbon Div., U.C.&C. Corp. Res. on thermodynamics of carbon at elevated temps.; graphite for electronic devices; physical & chem. studies of carbon, graphite & carbon blacks; pats., publications. Mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi, Res. Soc. of Am., A.C.S., Am. Inst. of Radio Engrs., Prof. Engr. State of Ohio. Clubs: Republican, All Twos. Hobbies: photography, gardening.

WINTER, Paul K(enneth), sr. res. engr., Res. Labs. Div., Gen. Motors Corp., Detroit 2, Mich.;

res. 10764 Lincoln Dr., Huntington Woods, Mich.
Anal. res. chem.; b.Clarion, Iowa, Nov. 16, 1902; s. of Albert C. and Helen (McAllister) Winter; ed. B.S., cum laude, 1925, Muskingum Coll., New Concord, Ohio; M.A., 1932, Ph.D., 1934, Ohio State U., Columbus, Ohio; mem.: Gamma Alpha; m. Beulah Parrot, June 19, 1937; ch.: Kenneth, Richard. High schl. principal & teacher, Frazeysburg, Ohio, 1925-27, Utica, Ohio, 1927-30; grad. asst. in anal. chem., Ohio State U., 1930-34; res. asst., Inst. of Paper Chem., Appleton, Wis., 1935; conslt. asst., Dr. C.E. Boord, Ohio State U., 1935-36; chem. res., Gen. Motors Corp., Res. Labs. Div., 1937 to date. Res. on anal. meths.; metallurg. anal.; gas anal.; halogens; phosphorus; polarography; spectrophotometry. Mem.: A.C.S., A.A.A.S., Assn. of Anal. Chem., Sigma Xi, Phi Lambda Upsilon. Hobbies: our boys, yard & garden, amateur photography, loafing.

WINTERKORN, Hans F., owner, mgr., Winterkorn Road Res. Inst., 116 Prospect Ave., Princeton, N.J.; res. same.
Chem. and engrg. conslt. and res. contractor; b. Mannheim, Baden, Germany, Nov. 24, 1905; s. of Valentin de Genomé and Elisabetha Christina (de Geddé) Winterkorn; ed. Heidelberg U. (Dr. phil. nat. in phys. chem. 1931); University of Mo., M.I.T.; mem.: Teutonia, Heidelberg, Alpha Chi Sigma, Sigma Xi, Gamma Alpha, Tau Beta Pi; m. Hazel zum Waldt, Oct., 1940; ch.: Hans Friedrich zum Waldt, Erik Guignemer. 1929-31, hd., Div. of Chem., Schl. of Adult Educ., Mannheim, Baden, Germany; 1931-32, res. chem. and engr., Mo. State Highway Dept.; 1932-42, res. conslt., Mo. State Highway Dept.; 1932-33, visit. asst. prof. in chem., U. of Mo.; 1933-40, res. assoc. in Soils, U. of Mo.; 1937-40, res. conslt. of Vialidad Nacional of Argentina; 1940-42, res. assoc. prof. of Soil Mechs., Schl. of Engrg., U. of Mo.; 1942-43, assoc. prof. of Civ. Engrg., U. of Mo.; 1942-46, conslt. and dir. of contract res. for Airport Dev. Sect. of Civil Aeronatucs Admin.; 1943-45, chmn. Soil Tech. Sect. of Soil Sc. Soc. of Amer.; 1943 to date, assoc. prof. of Civil Engrg., Princeton U.; 1945, conslt., Turkish Highway Engrg. Mission to U.S.A.; 1946 to date, conslt. to priv. road-improvement interests in Argentina; 1947 to date, conslt. to Bur. of Yards and Docks, The U.S.N. Dept.; 1948 to date, conslt. to Pan-Amer. Div. of the A.R.B.A.; more than 75 sc. and engrg. papers on soil and bituminous matls. with spec. emphasis on their use in low-cost road construc., also on the influence of climatic factors on highway design, construction and performance; considered Father of sc. soil stabiliz.; pubs. in relation to above are in English, Spanish and German. Mem.: A.I.C. (fellow); Amer. Geographic Soc. (fellow); A.A.A.S. (fellow); A.C.S.; Geophys. Union; Soc. for Engrg. Educ.; Acdy. of Polit. Sc.; A.A.U.P.; Assoc. of Asphalt Paving Techs.; Amer. Road Builders Assoc.; A.S.C.E. (assoc. mem.); Highway Res. Bd. (assoc. mem.); mem. Dept. of Soils Investigations; Proj. Comm. on Subsurface Drainage; Proj. Comm. on Soil-Cement Roads; chmn., Proj. Comm. Physicochem. Phenomena in soils; mem. of Comm. on Stabiliz. of Soil with Asphalt, chmn. Subcomm. on theory of Stabiliz. of Cohesive Soils of the Amer. Rd. Bldrs. Assoc. Clubs: Nassau (Princeton, N.J.); Teutonia, Bremeneck, (Heidelberg, Gy.). Hobbies: painting, translation of French Poetry into English and German Verse.

WINTERSTEINER, Oskar Paul, dir., div. org. chem., res., dev. labs., Squibb Inst. Med. Res., E.R. Squibb & Sons, New Brunswick, N.J.; res. Dewey Dr., Dewey Hts., New Brunswick, N.J.
Res. chem.; b. Bruch a/d Mur, Austria, Nov. 15, 1898; s. of Carl and Eva Wintersteiner; ed. Ph.D., U. Graz, Austria, 1921; m. Margaret Ralston Prest, Sept. 22, 1934; ch.: Peter Prest, Susanne Ralston. Instr. med. chem., org. microanal., U. Graz, Austria, 1921-26; fellow, Internatl. Ed. Bd., 1926-27 (Johns Hopkins Med. Schl., Rockefeller Inst.); instr. phar., Johns Hopkins Med. Schl., 1927-29; asst. prof., later assoc. prof. biochem., Coll. Physicians, Surgeons, Columbia U., 1929-41; mem. & dir., div. org. chem., res., dev. labs., Squibb Inst. Med. Res., E.R. Squibb & Sons, New Brunswick, N.J., 1941 to date; adjunct prof. biochem. Rutgers U., 1942 to date; conslt., Natl. Inst. Health, 1946-49. Contrib. extens. to sc. and tech. jls. Mem.: A.C.S., A.S.Biol.C., A.A.A.S., Harvey Soc., N.Y. Acdy. Sc. (fellow), S.E.B.M., Sigma Xi, Swiss Chem. Soc., Natl. Acdy. Sc.; Pres. Cert. of Merit 1948, Nichols M. 1950 (A.C.S.). Hobby: chamber music.

WINTRINGHAM, Arthur Beedie, tech. serv. supvr., Ethyl Corp., P.O. Box 341, Baton Rouge, La.; res. 6070 Chandler Dr.
Chem. engr.; b. Millerton, N.Y., July 7, 1910; s. of Henry C. and Ella M. Wintringham; ed. Rensselaer Polytech. Inst., Troy, N.Y., Chem. Engr., 1933; mem.: Theta Xi; m. Mary Katharine Lyle, Mar. 1, 1941; ch.: Mary Hugh, Ann Norwood, John A., Susan B. 1933-38, chem. engr., res. labs., Texas Co., Beacon, N.Y.; 1938-42, chem. engr., ref. dept., Texas Co., Port Arthur, Texas; 1942-43, chem. engr., Chem. Construction Co., N.Y.; 1943-44, asst. dept. hd., Shell Chem. Co., Dumas, Texas; 1944-46, chem. engr., Am. Cyanamid Co., N.Y.C.; 1946 to date, Ethyl Corp., Baton Rouge, La. Mem.: A.I.Ch.E. Hobbies: horticulture, photography.

WIRTH, Charles, III, district mgr., Eastern District, Pet. Chems. Div., E.I. du Pont de Nemours & Co., Inc., 1270 Ave. of the Americas, N.Y.C.; res. 220 Madison Ave., N.Y.C.
Chem. engr.; b. New Orleans, La., Nov. 7, 1904; s. of Charles, Jr. and Ophelia (Bohne) Wirth; ed. Tulane U., New Orleans, La., 1926, B.E. in Ch.E., 1927 M.S. in org. chem.; mem.: Phi Kappa Sigma, Tau Beta Pi, Alpha Chi Sigma; m. Frances Wiginton, Dec. 23, 1944. 1927-28, Gulf Refining Co., Pt. Arthur, Texas, res. chem.; 1928-29, Goodrich Rubber Co., Akron, Ohio, res. chem.; 1929-39, Universal Oil Prods., Chicago, Ill., supervising chem.; 1939 to date, E.I. du Pont de Nemours & Co., district mgr.

WIRTH, Henry E(dgar), chmn. dept. of chem., Syracuse U., Syracuse 10, N.Y.; res. 108 Euclid Terrace, Syracuse 10.
Prof. of chem.; b. June 4, 1908; s. of Henry and Viola D. Wirth; ed. B.S. in chem. 1929, Ph.D. 1934, U. of Washington, Seattle; m. Naomi Thomas, Aug. 27, 1931; ch.: Thomas H., Kathryn, John L. Asst. & assoc. prof. of chem., N. Dak. Agric. Coll., 1934-39; Ohio State U., asst. prof. chem. 1939-45, assoc. prof. chem. 1945-50, v.chmn. chem. dept. 1946-49; chmn. chem. dept., prof. chem., Syracuse U., 1950 to date. Chem. oceanography, partial Molal vols. in mixed electrolyte sols., phases of soap. Mem.: A.C.S., A.A.A.S., Sigma Xi.

WISE, John Kenneth, asst. res. mgr., U.S. Gypsum Co., 1253 Diversey Pkwy., Chicago 14, Ill.; res. 639 Library Pl., Evanston, Ill.
Chem., attorney; b. Shelby, Ohio, Nov. 3, 1912; s. of Robert B. and Dora S. Wise; ed. DePauw U., A.B., 1933, Phi Beta Kappa, summa cum laude; Chicago-Kent Coll. of Law, LL.B., 1945, summa cum laude; mem.: Delta Tau Delta, Delta Theta Phi; m. Elizabeth Turner, July 29, 1939. Mem.: A.C.S., Chicago Bar Assn.

WISELOGLE, Frederick Yager, assoc. dir., Squibb Res. & Dev. Labs. in chg. of chem. res., E.R. Squibb & Sons, New Brunswick, N.J.; res. Main St., Kingston, N.J.
Org. chem.; b. Albion, Mich., May 18, 1912; s. of Andrew and Florence (Yager) Wiselogle;

ed. U. of Mich., Sc.D. with high distinction, 1936; m. Louise Ryder, Oct. 13, 1945; ch.: Elizabeth, Ann Dee. Johns Hopkins U., asst. in chem. 1936-37, instr. 1937-39, assoc. 1939-43, assoc. prof. 1943-46; tech. aide to chmn., Div. of Chem. & Chem. Tech., N.R.C., 1942-46; adm. asst. to dir., Squibb Inst., 1946-49; assoc. dir., Squibb Res. & Dev. Labs., 1949 to date. Free radicals; hydrazynes; chemotherapy of malaria; chemotherapy of tuberculosis. Editor: "Survey of Antimalarial Drugs" 1941-45 (1946). Mem.: A.C.S., N.Y. Acdy. of Sc., Phi Beta Kappa, Sigma Xi. Award: Presidential Cert. of Merit. Club: Johns Hopkins.

WISER, (James) Eldred, prof chem., hd. dept. physical sc., Middle Tennessee State Coll., Murfreesboro, Tenn.
Prof. chem.; b. Wartrace, Tenn., Dec. 31, 1915; s. of E.E. and Sadie (Reynolds) Wiser; ed. 1934-38, B.S., M.T.S.C.; M.A., 1939-40, Peabody Coll.; Ph.D., 1947; post grad. wk., Vanderbilt; mem.: Phi Delta Kappa, Phi Gamma Mu; m. Louise Houck, 1941; ch.: Eldred Houck. 1938-39, high schl. tchr., Pensacola, Fla.; 1939-40, teach. fellow, Peabody Coll.; 1940-41, asst. prof. chem., physics, S.T.C., Troy, Ala.; 1941-42, teach. fellow, Peabody Coll.; 1942-46, prof. chem., physics David Lipscomb Coll., Nashville, Tenn.; 1946 to date prof. chem., hd. dept. physical sc., Middle Tenn. State Coll., Murfreesboro. Author: "Chem. Usage by Book and Teachers of College Home Economics," 1947. Mem.: A.C.S., A.A.A.S., Tenn. Acdy. Sc. Club: Sigma. Hobbies: photography, fishing, traveling.

WISHNICK, Robert Isidore, pres., Witco Chem. Co., 295 Madison Ave., N.Y. 17, N.Y.; res. 575 Park Ave., N.Y. 21.
Chem. engr.; b. Russia, Apr. 5, 1892; (naturalized 1908); s. of Eli and Minnie Wishnick; ed. Armour Inst. of Tech., Chicago, class 1914, B.S. in chem. engrg.; Chicago Kent Coll. of Law, LL.B., 1917; m. Freda Frankel, Nov. 29, 1919; ch.: Betty June Freeman, John H., William. 1920, organized Witco Chem. Co., serving as pres. to date; 1927, pres., Pioneer Asphalt Co.; 1933, organized Witco Carbon Co., serving as pres. & dir. to date; 1935, organized Witco Chem. Co. Ltd., London, serving as dir. to date; 1936, organized Crown Carbon Co., serving as pres. & dir. to date; 1936, organized Continental Carbon Co., serving as pres. & dir. to date; 1947, organized Barnhart Hydrocarbon Corp., serving as pres. & dir. to date. Mem.: A.C.S., A.I.Ch.E., A.I.C., A.A.A.S., Am. Gas Assn., Am. Pet. Inst., Mfg. Chemists Assn., N.Y. Paint, Varn. & Lacq. Assn. S.C.I. Trustee, Ill. Inst. of Tech.; dir., United Serv. for New Americans; dir., Dominican Republic Settlement Assn.; trustee, Jewish Child Care Assn. of N.Y. Clubs: Chemists' (N.Y.), Harmonie (N.Y.), Old Oaks Country (Purchase, N.Y.), Standard (Chicago). Hobbies: golf, fishing.

WISMER, Roy N., pres., Mich. Chem. Corp., St. Louis, Mich.; res. Grand Blanc, Mich.
Production engr.; b. Alma, Mich., July 10, 1885; s. of David and Isabel Wismer; ed. Mich. State; m. Ruby Gertrude Robinson, Nov., 1905; ch.: Fred, Elaine, Ottele, Eileen, Dorothy, Raymond, Robert. With Fisher Bros. (Gen. Motors) for 39 yrs. Started as body builder, then in chg. of equipping & starting new body plants in various parts of country, also reorganized 3 plants, was gen. prod. exec. over all body plant; also handled the placement of key personnel within the organization during the war; retired 1944 due to ill health; became pres., Mich. Chem. Corp. 1949 to date.

WISSMANN, Harry B(ernard), Arthur D. Little, Inc., Cambridge 42, Mass.; res. Snake Hill, Belmont 78, Mass.
Tech. economic res., operations res.; b. San Francisco, Calif., Aug. 18, 1908; s. of Harry and Mary (Catherine) Weiland Wissmann; ed. B.A. (high hons. econ.), U. Ill., 1928; M.B.A. (with distinction), Harvard U., 1931; mem.: Phi Beta Kappa; m. Sally Frances Wile, May 19, 1934. 1931 to date Arthur D. Little, Inc.; since 1937 chg. of numerous res. assign. in fields of chem. & proc. indust.; 1937-41, related to biochem. On leave 1941-45, office, Chf. C.W.S.; completed serv. as Capt., with Commendation Ribbon.

WISWALL, Charles L., pres., Delaware Research Development Corp.; res. Greenville, Del.
Exec.; b. Watervliet, N.Y., Aug. 4, 1893; ed. Colgate, B.S., 1915; m. Irene Gilbert, 1920; 3 children. Hercules Pwdr. Co., 1915-20; Roessler & Hasslacher Chem. Co., 1920-30; du Pont Co., R. & H. Chem. Dept., from 1930-Aug., 1950; to date, pres., dir., Delaware Res. & Devel. Corp. Mem.: Phi Delta Theta. Clubs: Wilmington, du Pont Country.

WISWESSER, William Joseph, dir. chem. res., Willson Prods., Inc., Reading, Pa.; res. 504 Main St., Kutztown, Pa.
Res. chem.; b. Reading, Pa., Dec. 3, 1914; s. of Louis E. and Hattie J. (Flatt) Wiswesser; ed. Lehigh U., B.S. chem., 1936; mem.: Beta Kappa, Theta Chi; m. Katherine M. Connell, Aug. 24, 1940; ch.: Betty Jean, John Michael. Res. chem., Hercules Powder Co., 1936-39; res. chem., Trojan Powder Co., 1939-42; instr., dept. chem. engrg., Cooper Union, 1942-45; dir. chem. res., Willson Prods., Inc., 1945 to date. Chem. structure coding. Mem.: Tau Beta Pi, A.C.S., Am. Ind. Hygiene Assn., Armed Forces Chem. Assn., Franklin Inst. Club: Reading Chemists. Hobbies: atomic art, photography, family.

WITHEROW, William Porter, pres., Blaw-Knox Co., 2028 Farmers Bk. Bldg., Pittsburgh 22, Pa.; res. 5448 Northumberland St., Pittsburgh 17.
Exec.; b. Pittsburgh, Pa., Apr. 15, 1888; s. of William and Alice May (Douglass) Witherow; ed. Yale, Ph.B., 1908; Thiel, LL.D.; mem.: Delta Psi; m. Dorothy Dilworth, Dec. 3, 1913; ch.: Virginia (Witherow) Ahlbrandt. 1908-10, Jones & Laughlin Steel Co.; 1910-14, partner, Irvin & Witherow Engrs.; 1914-29, pres., Witherow Steel Corp.; 1929-30, chmn. bd., Donner Steel Co.; 1930, v.p., Republic Steel Co.; dir., Steel Prods. Co.; 1937 to date, pres. & dir., Blaw-Knox Co.; pres., The Cemenstone Corp.; trustee, Dollar Savings Bk., North Western Mutual Life Ins. Co. (Milwaukee); dir., Peoples First Natl. Bk. & Trust Co., Pittsburgh & W. Va. R.R., Pittsburgh Consolid. Coal Co., Westinghouse Air Brake Co., Union Switch & Signal Co., Bell Tel. Co. of Pa. Chmn., Citizen's Comm. on Tax. (Pittsburgh) 1932; dir., N.I.R.B. (Wash., D.C.), 1935; tech. advis., Interntl. Labor Conf. (Geneva), 1936; trustee, Carnegie Inst. & Carnegie Inst. of Tech.; dir., Community Chest of Allegheny Co. Mem.: N.A.M. (pres., 1942; chmn. bd., 1943; hon. v.p. & dir. to date), Tristate Indus. Assn. (dir.), West. Pa. Safety Council (dir.), Pittsburgh Chamber of Commerce (dir.), Y.M.C.A. (dir.), Natl. Indus. Conf. Bd. (mem. of bd.), Engrs. Soc. W. Pa., Yale Engrs. Soc. Clubs: Yale (Pittsburgh), Duquesne, Fox Chapel Golf, Harvard-Yale-Princeton, Pittsburgh Golf, Allegheny Country (Sewickley), Rolling Rock (Greensburg, Pa.). Hobbies: golf, fishing.

WITHROW, David Daniel, in chg. of special prods. dev., Schering Corp., 2 Broad St., Bloomfield, N.J.; res. 5 Green Acres Dr., Verona, N.J.
Chem.; b. Columbus, Ohio, Aug. 11, 1913; s. of James Renwick and Alice (Steelman) Withrow; ed. guest scholarship to Cornell U. in the Telluride Assn. 1933-34; Capital U., 1934-37, B.S.; McGill U., 1937-40, grad. wk. in med. sc.; Ohio State U., 1940, special gas anal.; m. Anne Young, Feb. 22, 1943. 1940-41, G.D. Searle & Co., prof.

serv. rep.; Ayerst, McKenna & Harrison Ltd., 1942-44, prof. serv. rep.; 1945, prof. serv. supvr.; 1945-46, p.s. district mgr.; 1947, res. rep.; 1948-49, dir. of prof. serv.; 1950 to date, Schering Corp., exec. in chg. of special prods. dev. Special gas anal. wk. under the supervision of Prof. Joseph Koffolt, chem. engrg. dept., Ohio State U. Contr. to "Physicians' Desk Reference," 1947, 1948, 1949. Mem.: A.I.C. (1949, 1950), Osler Soc., Telluride Assn., Am. Federation of Physically Handicapped (pres. of N.Y. Chapter, 1950). Hobbies: mineralogy, ornithology, rehabilitation of physically handicapped, bibliophile.

WITMAN, Eugene Dewald, market res., Pittsburgh Plate Glass Co., 5th Ave. & Bellefield, Pittsburgh 13, Pa.; res. 744 Country Club Dr., Pittsburgh 16.
Chem.; b. New Albany, Ind., Sept. 21, 1910; s. of R.M., Sr., and Starr E. (Hunter) Witman; ed. B.A., O.S.U., 1935; Ph.D., 1939; mem.: Gamma Alpha; m. Lillian Louise Hossinger, June 22, 1937; ch.: Ann Louise. Res. fellow, O.S.U. Res. Found., 1935-47; instr., Agr. Chem., O.S.U., 1941-46; asst. prof., 1947; dir. fundamental res., Sherwin-Williams Co., 1948; asst. dir., Agric. Chem. Div., S.W. Co., 1949; market res., Pittsburgh Plate Glass Co., 1950 to date. Res. in agric. chems. Mem.: A.C.S., A.A.Econ. Entomologists. Hobby: gardening.

WITT, Joshua Chitwood, conslt. engr., 5834 Stony Island Ave., Chicago 37, Ill.; res. Rockyrill, Lockport, Ill.
Engr.; b. Connersville, Ind., Aug. 5, 1884; s. of Isaac Snyder and Amanda (Chitwood) Witt; ed. A.B., Butler Coll., 1908; S.B., U. of Chicago, 1909; S.M., Ph.D., U. of Pittsburgh, 1912, 1915; S.B., in M.E., 1934, M.E., Armour Inst. of Tech., 1935; mem.: Tau Beta Pi, Sigma Xi, Phi Delta Theta; m. Florence Ruth Oldham, 1918. R.W. Hunt & Co., dir. of labs., 1911-15; Bur. Sc., Manila, P.I., chf. sect. phys. and mech. test. 1915-17; Rizal Cement Co., Manila, tech. dir. 1917-19; Portland Cement Assoc., chg. chem. res. 1920-23; Universal Atlas Cement Co., dir. res., 1924-39; Marquette Cement Mfg. Co., tech. dir., 1939-49; conslt. engr. 1949 to date. Res. in sc. and tech., principally in the mfg. and use of portland cement; holds sev. pats. in fld.; more than 50 pub. papers. Author: "Portland Cement Tech.," 1947, and its Spanish translation, "Technologia del Cemento Portland," 1950. Fellow, A.A.A.S. and A.S.M.E.. Mem.: A.S.C.E., A.I.Ch.E. and other orgs. Clubs: Chicago Engineers', Chicago Chemists (past pres)., and Adventurers. Hobby: Rockyrill.

WITT, Paul Chandler, prof. of chem., hd. of dept. of natural sc., Abilene Christian Coll., Abilene, Texas; res. 811 E.N. 16th St., Abilene.
Teacher; b. Gainesville, Texas, Dec. 26, 1898; s. of J.M. and Laura E. (Ratcliff) Witt; ed. Abilene Christian Coll., A.B., 1922; U. of Texas, A.M., 1927; U. of Colo., Ph.D., 1938; m. Willie Lee Pritchett, May 18, 1923; ch.: Pauline (Witt) Dunn, Dorothy, Nancy Gay. Teacher of chem., Abilene Christian Coll., 1922 to date. Res. on toxicity of sulfanilamide. Mem.: Sigma Xi, Texas Acdy. of Sc. (fellow), A.A.A.S., A.C.S. Hobby: birds.

WITTENBERG, Aloysius J., pres., A.J. Wittenberg Corp., Bank of the Manhattan Bldg., Long Island City 1, N.Y.; res. 39 Vanderveer Court, Rockville Centre, N.Y.
Exec.; b. Dec. 15, 1894; s. of Augustine J. and Mary Wittenberg; ed. St. Joseph's College, Phila., Pa.; m. Anna L. Reichwein, Jan. 22, 1921; ch.: Anne Louise Hughes, Virginia M. Braun. Pres., Strook and Wittenberg, 1924-38; v.p., U.S. Indus. Chems., Inc., 1938-45; pres. A.J. Wittenberg Corp., 1945 to present; Synthetic Resins, Inc., Valdosta, Ga., pres., on bd. dir. Mem.: Amer. Gum Importer's Labs., Assoc. Hobbies: golf, fishing, horseback riding.

WITTENBERG, Robert Bringhurst, asst. to pres., J.T. Baker Chem. Co., North Broad St., Phillipsburg, N.J.; res. Whitney Ave., M.R. No. 36, Easton, Pa.
Exec., chem. engr.; b. Scranton, Pa., Oct. 21, 1902; s. of Lester and Elizabeth (Bringhurst) Wittenberg; ed. Sheffield Sc. Schl., Yale U., B.S. Chem. Engrg., 1924; mem.: Book & Bond; m. Elizabeth Hotchkiss Hall, Feb. 13, 1926; ch.: Robert B., Jr., Lester Hall, Frederick Hotchkiss. 1924-25, Grasselli Chem. Co., Grasselli, N.J., trainee; 1925-26, salesman, Phila.; 1926-27, salesman, N.Y.; 1928-32, N.E. mgr., Boston, Mass. (all with Grasselli); 1932-40, Mathieson Alkali Wks., N.Y., mgr. Market Res.; 1941-48, Internatl. Minerals & Chem. Corp., Chicago, mgr. Potash Chem. Dept.; 1948 to date, J.T. Baker Chem. Co., asst. to pres. & dir. One of the founders of the Chem. Market Res. Assoc.; contrib. sev. arts. to sc. jls. Mem.: A.C.S., Chem. Inst. of Canada, E.S., S.C.I., Commercial Chem. Dev. Assoc., Chem. Market Res. Assoc. (charter mem. and past pres.). Distr. chmn., B.S. of A., (mem. Delaware Valley Council). Clubs: Yale (N.Y.), Chemists' (N.Y.), Pomfret (Easton, Pa.). Hobbies: trout fishing, golf, economics.

WODEHOUSE, Roger P., assoc. dir. res. in allergy, Lederle Labs. Div., Am. Cyanamid Co., Pearl River, N.Y.; res. Strawtown Rd., W. Nyack, N.Y.
Allergy res.; b. Toronto, Canada, Dec. 9, 1889; s. of Thomas F. and Laura E. Bryant Wodehouse; ed. Toronto U., B.A.; Harvard U., M.A.; Columbia U., Ph.D.; mem.: Sigma Xi; m. Ellys Butler, Dec. 25, 1942; ch.: Armine P., Anne M., Emund B., Dora F., Roger A. Protein chem., Peter Bent Brigham Hosp., 1916-17; sc. dir., Hayfever Lab., Arlington Chem. Co., Yonkers, 1918-44; Lederle Labs. Div., Am. Cyanamid Co., assoc. dir. res. in allergy, 1944 to date. Res. in preparation of allergenic extracts for diagnosis, treatment of hayfever, asthma. Author: "Pollen Grains," 1935; "Hayfever Plants, Chronica Botanica." 1945. Mem.: N.R.C. Comm. on Aerobiol., Internatl. Corres. Club of Allergists, Sociedad Argentina de Alergia (hon.). Clubs: Yonkers Rotary, 1924-44 (pres. 1 yr.), Torrey Botanical (ed. abt. 3 yrs.), A.A.A.S. (fellow), Botanical Soc. of Am., Am. Coll. of Allergists (edit. bd.). Hobby: farming.

WOHL, Kurt, prof. chem. engr., U. Del., Newark, Del.; res. 54 W. Del. Ave.
Prof. chem. engr.; b. Dec. 31, 1896, Berlin, Germany; s. of Alfred and Auguste Peters Wohl; ed. Tech. U. of Danzig (B.Engr.) 1914; 1919-21 U. Berlin, Ph.D., 1921-23; m. Margaret Wocke, Oct. 1, 1924; ch.: Hellmut. Lecturer on physical chem., U. Berlin, 1928-38; res. assoc., U. Oxford, England, 1939-42; asst. prof. of physics, Princeton U., 1943-45; prof. chem. engr., U. Del., 1945 to date. Res. in thermodyn., photosynth. of green plants, combustion. Mem.: A.C.S., Assn. Engrg. Ed. Hobbies: chamber music, art collecting.

WOHLERS, Herbert Carl, tech. dir., Mich. Chem. Corp., St. Louis, Mich.; res. 126 Davis, St. Louis.
Chem.; b. Bklyn., N.Y., Sept. 27, 1918; s. of Herman W. and Lena M. Wohlers; ed. S.B. chem., M.I.T., Cambridge, Mass., 1940; Ph.D. org. chem., 1944; mem.: Delta Kappa Epsilon; m. Helen Wesley Davis, 1945; ch.: Charles Colburn, Helen Swisher. Mem.: A.C.S., Sigma Xi, A.A.A.S.

WOHLLEBEN, William Joseph, hd. dept. chem. engrg., U. of Dayton, Dayton 9, O.; res. same.
Prof. of chem. engrg. (teaching and consltg.); b. Chic., Ill., Jan. 19, 1878; s. of John and Catherine (Pemmers) Wohlleben; ed. B.S., U. of Day-

ton, 1903, M.Sc., U. of Freiburg, Switzerland, 1905, Ph.D., 1908. H.Schl. tchg., St. Louis, 1897-1904; organization of depts. of chem. and chem. engrg., U. of Dayton, 1909 to date. Res. in fld. of org. chem., especially in flds. of aromatic phenolic cmpds., industrial and consultations. Mem.: A. C.S., A.I.C. (fellow), A.A.A.S. (fellow). Club: Knights of Columbus. Hobbies: music, French and German literature.

WOLDENBERG, Jay M., v.p., A. Daigger & Co., 159 W. Kinzie St., Chicago 10, Ill.; res. 1168 Ashbury Ave., Hubbard Woods, Ill. Exec.; b. Chicago, Ill., June 24, 1927; s. of Max and Rose C. Woldenberg; ed. B.S. ceramic engrg., U. of Ill., class of June, 1950. V.p. & dir., A. Daigger & Co. Mem.: Am. Ceramic Soc. Hobbies: athletics, music.

WOLDENBERG, Max, pres., A. Daigger & Co., 159 W. Kinzie St., Chicago 10, Ill.; res. 1168 Ashbury Ave., Hubbard Woods, Ill. Chem. engr.; b. Aug. 23, 1887, Poland; s. of Jacob and Anna Woldenberg; ed. Sc.B., Ill. Tech., Sc.M. Loyola U.; Ch.E., Ill. Tech.; Ph.D., U. Zurich; mem.: Alpha Chi Sigma (hon.); m. Rose Cohn, Dec. 30, 1915; ch.: Harry C., Martin R., Jay M. 1908-14 secy., treas., Woldenberg & Schaar, Chicago; 1915 to date, pres., A. Daigger & Co.; pres., Mutual Paper Box Corp.; Woldenberg & Fisher; Studio Creators; Cowen & Woldenberg. Res. in sulphuric acid ester of ricinoleic acid, its derivatives. Clubs: Northmoor Country, (Ravinia, Ill.), Army & Navy (Wash., D.C.), Army & Navy (Chicago).

WOLF, Benjamin, soil technologist, Dr. Wolf's Agricultural Labs., Rt. 4, Bridgeton, N.J.; res. 2119 Carlls Corner Village, Rt. 5, Bridgeton. Soil tech.; b. Deerfield, N.J., Dec. 2, 1913; s. of Abraham and Mollie Yankelwitz Wolf; ed. B. Sc., 1935, M.S., 1938, Ph.D., 1940, Rutgers; mem.: Alpha Zeta; m. Esther Lourie, Dec. 22, 1940; ch.: Andrea Joan, Marsha Susan. Asst. soil classifier, N.J. Agric. Expt. Sta. 1936-40; res. asst., N.J. Agric. Expt. Sta., 1940-41; soil chem., Seabrook Farms Co., N.J., 1941-49; owner, Dr. Wolf's Agric. Labs. 1949 to date. Res. concerning value of boron and other trace elements; devised and calibrated practical rapid soil tests; value of cover crop fertilization, aided in developing bulk fertilizer spreading. Mem.: Sigma Xi, A.C.S., Soil Science Soc. of Am., Am. Soc. of Agronomy. Hobbies: wood carving, painting.

WOLF, Harry J(ohn), mining & consult. engr., 420 Madison Ave., N.Y. 17, N.Y.; res. 3 Glenwood Ave., Little Neck, L.I., N.Y. Mine valuat. & mgt., mineral & econ. surveys; b. Phila., Pa., Feb. 6, 1881; s. of Harry John and Emma Regina Wolf; ed. Colo. Schl. Mines, E. M., 1903; M.S., 1913; Distinguished Achievement Medal, "Outstanding Accomplishments in Mining Engrg. & Mine Mgt.," 1949; mem.: Tau Beta Pi; m. Carolyn Alice Wright, Jan. 19, 1908; ch.: Harry John, Jr. (decd.), William Robert, George Edward. Began career, 1903; Assay. & chem., San Miguel Cons. G.M. Co.; survey, Ella G.M. Co., mng. engr., San Miguel & Ella, & Gold King Cons. G.M. Corp.; supt., Nellie Mine, Ella G.M.; power line supt., Telluride Power Co.; chf. engr., Camp Bird Mine, Camp Bird, Ltd.; supt. & dir., Stanley Mines Co.; Consult. engr. & dir., Western Metals Co.; manag. dir., Stanley Mines; gen. mgr., Japan-Flora Mines & Tunnel Co.; gen. mgr., Fisher & Cunningham, Lessees; consult. engr. & mgr., Square Deal G.M. Co.; prof. & hd., dept. of mining, Colo. Schl. Mines; consult. engr. & mgr., Cunningham, Johnson & Fisher; v.p. & dir., R.D. Wykoff Analyt. Staff, Wykoff Advis. Bur., Trend Trading Serv., & Invest. Advis. Bd.; consult. engr., private practice; consult. on Cadmium-bismuth sec., W.P.B.; chf., cadmium-indium & sundry metals sec., W.P.B.; mineral spec. & lead spec., F.E.A.; res. engr., Reynolds Res. Inst.; mining & consult. engr., private practice; consult. engr. to various corps. & individuals. Electrochem. res.; salt cells; chlorine cells; dry Chlorination of sulphide ores; res. in metall. of gold, silver, copper, lead, zinc, manganese-silver problem, cadmium, indium, germanium & gallium; thallium, aluminum; res. in chem. processes preparat. & finish. aluminum; reportg. on invents. & processes. Author: "Studies in Stock Speculation"; "Ten Cardinal Principles of Trading"; "Treatise on Cadmium" (in prep.); "Pitfalls in the N.Y. Stock Market" (in prep.); some 200 articles in sc. & tech. jls. Mem.: A.I.M.E., M. M.S.A., A.A.A.S. (fellow); former mem., Colo. Sc. Soc. (one time secy.-treas.), Assn. W. Chems. & Metalls., A.I., E.E., Am. Electrochem. Soc. Clubs: Colo. Schl. Mines Alumni Assn., Cosmos (Wash., D.C.), Mining (N.Y.), Teknik (Denver), Rocky Mt. (N.Y.). Hobbies: music, math., mineralogy, economics.

WOLF, Jacques P., pres., Jacques Wolf & Co., 356 Lexington Ave., Passaic, N.J.; res. 10 Crestmont Rd., Rockcliffe Apts., Montclair, N.J. Chem.; b. Mulhouse, France, Aug. 15, 1873; s. of Jacques and Golder-Angelique Wolf; ed. École de Chime—(professionelle) Mulhouse-Alsace. Lifetime with Jacques Wolf & Co. Textile chem. res. Club: Chemists' (N.Y.). Hobby: chess.

WOLFE, Clayton A., v.p., Monsanto Chem. Co., 1700 S. Second St., St. Louis 4, Mo.; res. 709 S. Skinker Blvd., St. Louis 5. Dir. of purchases & traffic; b. Webster, N.Y., Apr. 14, 1893; s. of William H. and Sarah K. Wolfe; ed. Cornell U., Ithaca, N.Y.; mem.: Alpha Sigma Phi; m. Gertrude Wright, Sept. 25, 1925. 1919-21, anal. lab., Mathieson Alkali Wks., Newark, N.Y., 1921-29 asst. plant mgr.; 1929-31, prod. supt., St. Louis, Mo. Plant, Monsanto Chem. Co., 1932-47 dir. of purchases & traffic, 1947 to date, v.p. Clubs: University (St. Louis, Mo.), Cornell (N.Y.), Algonquin Golf. Hobby: outdoor activities.

WOLFE, Haynes George, in chg. indust. and pharmaceut. copy., Advertising Dept., Merck & Co., Inc., Rahway, N.J.; res. 35-16 76th St., Jackson Heights, N.Y. Pharmacist, med. copy writer; b. Schulitz, Germany, Apr. 19, 1908; s. of Martin and Paula Wolfe; ed. Columbia U., Universities of Munich and Koenigsberg, Pharmaceut. Chem.; postgrad. work in literature and history; m. Mollie Hart, June 1, 1940; ch.: Enid Joan, Paul Martin. Var. positions in the retail, hospital, and mfg. flds. of pharmacy in U.S., Gt. Britain, France, Germany, Switzerland; 1946-47, Murray Breese Associates, N.Y. Advertising Agency (Pharmaceut. Dir. and Copy Chf.); 1947 to date, with Merck & Co., Inc. in chg. of indust. and pharmaceut. copy, Advertising Dept. Author num. commercial books and arts. in newspapers, prof. jls., trade jls. Mem.: A.Phar.A. (chmn. sect. on historical pharmacy, 1950). Hobbies: philately, skiing.

WOLFE, Herbert Jay, pres., Kienle & Co., 33 Nassau Ave., Brooklyn, N.Y.; res. 53-04 64th St., Maspeth, Long Island, N.Y. Chem.; b. Brooklyn, N.Y., July 3, 1904; s. of Jay and Anna Wolfe; ed. Pratt Inst., Industrial chem. engr., 1933; m. Catherine Amey, Sept. 10, 1927; ch.: Alisanne, Richard, Elizabeth. Tech., George H. Morrill Co., 1923-25; chf. chem., Berger & Wirth, 1925-27; supt., McCutcheon Bros. and Quality, 1927-30; chf. chem., Superior Printing Ink, 1930-34; exec. capacities, Kienle & Co., 1934 to present. Granted about 10 pats. in fld. of printing inks, pigmented coatings, varnishes and equipment for applying and drying same. Author: "Manufacture of Printing & Litho Inks," 1923, MacNair-Dorland Pub., "Printing & Litho

Inks," 4 editions, latest 1949, pub. by MacNair-Dorland Co. Mem.: A.C.S., A.I.C., Acdy. of Sc. (New York), Soc. of Gallows Birds. Clubs: U.S. Power Squadrons, Port Washington Yacht. Hobbies: photography, yachting.

WOLFENDEN, John Hulton, prof. of chem., Dartmouth Coll., Hanover, N.H.; res. 11 N. Balch St., Hanover.
Prof. of chem.; b. Fallsworth, Lancashire, Eng., Mar. 28, 1902; s. of John Henry and Edith May Hulton Wolfenden; ed. Manchester Grammar Schl., Balliol Coll., Oxford, England, First Class Honours, Princeton U.; m. Josephine Vance, Dec. 29, 1932; ch.: Richard, Susan. Exhibitioner of Balliol Coll., Oxford, 1919-23; War Memorial Res. Student, Balliol Coll., 1923-24; Jane Eliza Proctor Visiting Fellow, Princeton U., 1924-25; lecturer, Balliol Coll., Oxford, 1925-27; asst. prof., Oberlin, 1927-28; Fellow and Tutor, Exeter Coll., Oxford, 1928-47; prof., Dartmouth Coll., 1947 to present. Miscellaneous papers on physical chem. Author: "Numerical Problems in Advanced Physical Chemistry," Oxford U. Press, 1938. Mem.: Chemical Soc., Faraday Soc., A.C.S., U.S. M. of Freedom, with bronze palm. Member of Hebdomadal Council, U. of Oxford, 1933-39, trustee, Irving Travel Fund, Oxford, 1925-47; chmn., Sub-Faculty of Chem., Oxford U., 1945-47. Hobbies: mountain walking, golf, wild flowers.

WOLFF, Charles Henry, buyer, Aluminum Co. of Am., New Kensington, Pa.; res. 28 N. Grandview Ave., Pitts. 5, Pa.
Ceramic chem.; b. Peru, Ill., Jan. 19, 1904; s. of William and Alvina Wolff; ed. U. of Ill., B.S., 1926; mem.: Gamma Pi Upsilon, Keramos; m. Pauline Ross, July 7, 1932; ch.: Carmen Ann, Charles William. Kelvinator Corp., 1927-34, ceramic chem.; Wheeling Steel Corp., 1934-36, enameling engr.; Humphrey's Mfg. Co., 1937-40, enameling shop frmn.; O. Hommel Co., 1940-42, res.; Al. Co. of Am., 1942 to date, purchasing. Consltg. wk. in porcelain enamels, retained by O. Hommel Co., 1943 to date. Dev. wk. on porcelain enamel; wk. confidential not publ. Author: "Construction of Refrigerator Linings" 1930, Am. Ceramic Soc. Convention, publ. J.A.C.S. Oct., 1930. Mem.: Am. Ceramic Soc. Hobbies: fishing, hunting.

WOLFF, Frederick Willard, mgr. Intermediates Sales, Dyestuffs Div., E.I. du Pont de Nemours & Co., Nemours Bldg., Wilmington, Del.; res. 1011 Overbrook Rd., Westover Hills, Wilmington.
Sales exec.; b. New Brunswick, N.J., Apr. 8, 1894; s. of Frederick and Emily (Volkert) Wolff; ed. Rutgers U., class of 1916; mem.: Pi Kappa Alpha; m. Anna E. McCarte, Sept. 29, 1917; ch.: Frederick A., Mrs. E.C. Rendall. E.I. du Pont de Nemours & Co., chem. 1916-19, chf. clerk 1919-21, salesman 1921-24, mgr. of sales 1925 to date. Mem.: A.C.S., Chem. Specialties Mfrs. Assn., Compressed Gas Assn., Syn. Org. Chem. Mfrs. Assn. Clubs: du Pont Country, Wilmington Country, Chemists' (N.Y.), Skytop (Skytop, Pa.). Hobbies: gardening, golf, travel.

WOLFF, Harold I., chf. tech., Shell Chem. Corp., 50 W. 50th St., New York, N.Y.; res. 6 Juliette St., Lakeview, L.I., N.Y.
Chem. engr.; b. San Francisco, Aug. 4, 1908; s. of William and Hattie Wolff; ed. B.S., Coll. of Chem., U. Calif., 1930; m. Esther Barak, July 11, 1930; ch.: Babbette, Billie, Barak. Pet. tech., Stand. Oil of Calif., 1930-34; res. chem., Shell Dev. Co., 1934-37; res. engr., 1937-43; chf. tech., Shell Chem. Corp., 1943-50; senior tech., Shell Chem. Corp. to date. Mem.: A.C.S., A.I.Ch.E., A.A.A.S.

WOLFROM, Melville Lawrence, prof. chem., hd., div. org. chem., dept. chem., Ohio St. U., Columbus 10, Ohio; res. 168 Fallis Rd., Columbus 14.
Prof. chem.; b. Apr. 2, 1900, Bellevue, Ohio; s. of Fred and Maria Louisa Sutter Wolfrom; ed. A.B., Ohio St., 1924 (distinction); M.Sc., Northwestern, 1925; Ph.D., 1927; U. Zurich, 1939; mem.: Alpha Chi Sigma; m. Agnes Louise Thompson, 1926; ch.: Eva M., Betty J., Anne M., Carl T. Dev. chem., Natl. Carbon Co., Fremont, Ohio, 1917-18; U.S. Gypsum Co., Gypsum, O., Chicago, Ill. 1921-24 (summers); asst. instr., Northwestern U., 1924-27; Natl. Res. Council Fellow chem., Natl. Bur. Stands., Wash., D.C., Rockefeller Inst., N.Y.C., Ohio St. U., 1927-29; instr. chem., Ohio St. 1929-30, asst. prof. 1930-36, assoc. prof. 1936-40, prof. 1940 to date, hd. org. div. 1948 to date. Guggenheim Fellow, U. Zurich, 1939; official investigator, Natl. Def. Res. Comm. 1940-45; S.A.T.C. 1918. Res. in chem. of carbohydr., other natural prods.; heparin, streptom., secretin, starch, cellulose, plant pigments. Contrib. extens. to sc. and tech. jls. Mem.: A.C.S. (past chmn., cellulose div., sugar div., Columbus Sect.), A.A.A.S., Natl. Acdy. Sc., 1950, Phi Beta Kappa, Sigma Xi, Phi Lambda Upsilon, Pi Mu Epsilon. Hobbies: flower gardening, camping.

WOLLNER, Herbert J., pres., Am. Conditioning House, Inc., 11-17 Melcher St., Boston 10, Mass.; res. 140 Beacon St., Boston 16.
Consltg. chem.; b. Bklyn., N.Y., July 22, 1900; s. of Hugo and Ernestine Wollner; ed. Bklyn. Polytech., B.S., 1924; m. Gertrude Price, Apr. 10, 1926; ch.: Zelda. Hilo Varn. Co., chem., 1924-25; Gen. Chem. Co., res. chem., 1926-31; Shallmar Prods. Corp., et al., consltg. chem., 1932-34; Treas. Dept., consltg. chem., 1934-44; United Nations Stands. Coordinating Comm., secy., 1944-46; pres., Am. Conditioning House, Inc., 1946 to date. Dev. first satisfactory procedures for raw wool evaluation, now internationally used. Mem.: A.S.T.M., Am. Council of Com. Labs., A.I.C., A.A.T.C.C., A.C.S., Am. Assn. of Textile Technologists, A.O.C.S. Club: Cosmos (Wash., D.C.). Hobby: painting.

WOLLWAGE, John C., asst. tech. dir., Kimberly-Clark Corp., Neenah, Wis.; res. 1712 N. Drew St., Appleton, Wis.
Chem.; b. Chicago, Ill., Oct. 11, 1914; s. of Walter E. and Emma U. Wollwage; ed. Northwestern U., B.A. honors; Inst. of Paper Chem., Lawrence Coll., M.S., Ph.D.; mem.: Theta Xi, Sigma Xi, Alpha Chi Sigma, Phi Lambda Upsilon; m. Jeannette L. Chabot, Feb. 14, 1939; ch.: Paul, David, Mark. Kimberly-Clark Corp., res. chem., tech. control supt., mill mgr., asst. tech. dir. Mem.: Sigma Xi. Schl. Bd. Mem., Appletown, Wis.

WOLTEN, Gerard M(artin), chf. chem., tech, dir., Tempil Corp., 132 W. 22nd St., N.Y. 11, N.Y.; res. 235 Jewett Ave., Jersey City 4, N.J.
Chem.; b. Berlin, Germany, Nov. 7, 1920; s. of Hans and Margaret L. Wolten; ed. N.Y.U., B.A., 1942, M.S., 1944, Ph D., 1948, Sigma Xi; mem.: Mu Chi Sigma; m. Helen Zogran, Aug. 1, 1942. 1942-44, teaching fellow, chem., N.Y.U., 1944 to date, Tempil Corp., res. chem., chf. chem., tech. dir. Dev. of & res. in temp. indicating chems. Mem.: A.C.S., Am. Crystallographic Assn., Sigma Xi. Club: Am. Automobile Assn. Hobbies: motoring, general science.

WOLTERS, C. Frederick, Jr., mgr. Phila., br. office, Diamond Alkali Co., 12 S. 12th St., Phila., Pa.; res. 521 Cedar Lane, Swarthmore, Pa.
Sales mgr.; b. Rochester, N.Y., Sept. 8, 1892; s. of C.F. and Belle (Negus) Wolters; ed. U. of Rochester, M.E., 1915; mem.: Alpha Delta Phi; m. Susan U. Darrach, June 3, 1919; ch.: Susan U. (Wolters) Van Arsdale. Hooker Electrochem. Co., engr., 1915-20; Diamond Alkali Co., 1920 to date, sales.

WOLTHUIS, Enno, assoc. prof. chem., Calvin Coll., Grand Rapids, Mich.; res. 1030 Sherman Street.
Tchr. of chem.; b. Feb. 10, 1911, Grand Rapids, Mich.; s. of Rein and Gertrude Wolthuis; ed. A.B., Calvin Coll., 1932; M.S., 1933, U. of Mich. (State Fellowship); Ph.D., 1937, U. Ill.; mem.: Phi Alpha Kappa (social), Phi Lambda Upsilon (hon.); m. Jessie Zylstra, Aug., 1935; ch.: Roger Allen, Anita Lou, Gladys Ann, Patricia Joan, Judith Kay. 1937-41 chem., Gen. Aniline Wks., Grasselli, N.J.; 1941-45 group leader; 1945-46 div. mgr., Intermediates div. of proc. dev. dept., Gen. Aniline; 1946-49 res. chem., Holland Color & Chem. Co., Holland, Mich.; 1949 to date assoc. prof. chem., Calvin Coll.; conslt. chem. Res. and dev. in dyestuffs, pigments, intermediates therefor; patents on bromination of indigo, prep. of glyoxal-sulfate, aromatic hydroxy carboxylic acids. Mem.: A.C.S., School Bd. Club: Academians (Philosophy).

WOMER, Robert Leroy, assoc. dir., res. & dev., Western Cartridge Co., E. Alton, Ill.; res. R.R. No. 1, Box 453, Florissant, Mo.
Assoc. dir. res. & dev.; b. June 19, 1909, Niles, Mich.; s. of W.A. and Ruth Boal Womer; ed. 1929, A.B. (hon.), No. Central Coll.; 1931, M.S., Wash. U., 1933, Ph.D.; m. Margaret Houghton, Nov. 17, 1933; ch.: Susan Christiana. Physicist, Western Cartridge Co. 1933-34; supvr. Explosives & Ammunition Res., same co., 1934-37; asst. to tech. dir., 1937-43; hd. comm. evaluation dept., res. & dev. div., 1943-45; hd. new prods. dept., div. of Olin, Ind., 1945-47 assoc. dir. of res. & dev., 1947 to date. Mem.: Sigma Xi, Am. Inst. Physics, E.S., Am. Marketing Assn., Comm. Chem. Dev. Assn. Church trustee; treas., Old Jamestown Assn. Hobbies: gardening, coin collection.

WOOD, Arthur Eugene, prof. of chem., Mississippi College, P.O. Box 53, Clinton, Miss.; res. Clinton.
Chem.; b. Twiggs County, Ga., Nov. 20, 1887; s. of I.W. and Mary S. Wood; ed. B.S., Mercer U., 1907; M.S., Vanderbilt U., 1909; Ph.D., U. of Pittsburgh, 1924; m. Anne Powers, Aug. 5, 1914; ch.: Eleanor, James P., Arthur E., Jr. Hd., Sc. Dept., Alabama State Tchrs. Coll., Florence, Ala., 1912-17; prof., anal. chem., Texas A.&M. Coll., College Station, Tex., 1917-20; prof. of chem., Miss. Coll., Clinton, Miss. since 1920; instr. in chem., U. of Pittsburgh, 1923-24; chem., Humble Oil Co., Baytown, Tex., summer, 1920; chem., Phillips Petroleum Co., Bartlesville, Okla., summers of 1926-27-28-29; res. papers in A.C.S. Jls. and other tech. jls. on org. sulfur compds. and on chem. action of petroleum refining agents on removal of org. sulfur compds. Mem.: A.C.S., Southern Assoc. of Sc. and Industry, A.A.A.S., Miss. Acdy. of Sc., Miss. Educ. Assoc. Mayor, City of Clinton, Miss., 1930 to date; past pres., Miss. Municipal Assoc. (1949). Club: Kiwanis. Hobbies: fishing, hunting.

WOOD, John Edward, III, coordinator of contracts, Esso Stand. Oil Co., Baton Rouge, La.; res. Jefferson Hway., Baton Rouge.
Chem., chem. engr.; b. Lynchburg, Va., May 20, 1916; s. of John E., Jr. and Louise W. Wood; ed. Lynchburg Coll., A.B. cum laude, 1936; M.I.T., Ph.D., 1939; m. A. Morrill Macleod, Dec. 27, 1946; ch.: Edward G. Tyree, Walter P. Tyree (step-sons), Nancy M. 1939-41, res. chem., Stand. Oil Dev. Co.; 1941-42, tech. shift supvr., Stand. Oil Co. of La., 1942-45 asst. hd. alcohol dept.; 1945-49, hd. alcohol dept., Esso Stand. Oil Co., 1950 to date, coordinator of contracts. Doctorate thesis in Friedel-Crafts reactions, M.I.T., 1939. Hobbies: hunting, fishing.

WOOD, Lyman J., prof. chem., St. Louis U., 1402 So. Grand, St. Louis, Mo.; res. 321 E. Swon, Webster Groves, Mo.
Prof. chem.; b. Bluford, Ill.; s. of Lyman and Bessie Wood; ed. Otterbein Coll., B.S., 1919; U. Ill., M.S., 1920; Ph.D., 1924; mem.: Sigma Xi, Sigma Chi Sigma, Pi Mu Epsilon; m. Ella Van Horn, 1920; ch.: Ralph, Mary. Hd. dept. chem., Hedding Coll., 1920-22; grad. asst., U. Ill., 1923; hd. dept., Defiance Coll., 1924; St. Louis U., 1925 to date. Res. in X-ray crystal anal., chem. ed.; author: "Exp. Chem. for Beginners," 1934, 1937, 1939, 1944, 1947; "A Brief Outline for Qualitative Anal." 1947. Mem.: A.C.S., St. Louis Soc. of Analysts.

WOOD, Richard Cameron, asst. to gen. mgr., Antara Prods., Gen. Aniline & Film Corp., 435 Hudson St., N.Y. 14, N.Y.; res. 36 Magnolia St., Westbury, L.I., N.Y.
Chem. sales; b. Providence, R.I., Jan. 20, 1913; s. of Hugh P. and Lovina E. Wood; ed. B.S. in Ch.E., R.I. State Coll., 1933 Phi Kappa Phi; Ph.D. in phys. chem., N.Y.U. (Heights) 1936, Sigma Chi; mem.: Rho Iota Kappa; m. Rachel Munson, Aug. 30, 1937; ch.: Marilyn E., R. Craig, Martha M. 1936-41, dev. engr., Procter & Gamble, Cincinnati, Ohio; 1941-45, Officer, U.S. A.A.F. (last rank Major); 1945-46, Foreign Serv. Officer, U.S. Diplomatic Serv., Budapest, Hungary; Dec., 1946 to date, asst. to mgr., Antara Prods., Gen. Aniline & Film Corp. (now Antara Prods., div. of Gen. Dyestuff Corp.). Mem.: A.C.S., A.I. Ch.E., A.A.T.C.C., Salesmen's Assn. of Am. Ch. Ind., Sales Exec. Club, Q.M. Assn., Chem. Warfare Assn. Club: Chemists' (N.Y.).

WOOD, William Chalmers, chf. chem. and chem. engr., Newport Soap Co., 1100 78th Ave., Oakland, Calif.; res. 3028 Revere Ave., Oakland 5, Calif.
Chem. and chem. engr.; b. San Francisco, Aug. 15, 1910; s. of Frank W. and Flora J. Wood; ed. U. of Calif., 1934, B.S. chem.; mem.: Kappa Kappa Psi; m. Margaret I., Mar. 10, 1934; ch.: Diane F. 1928-30, jr. chem., Calif. Packing Corp.; 1935-36, chem., Curtis & Tompkins and Santa Cruz Oil Co.; 1936-41, chem., Pioneer Soap Co.; 1942-43, chem., Par Soap Co. and Colgate-Palmolive-Peet; 1943, chem., Moore Dry Dock Co.; 1943-45, chem. engr., U. of Calif. Rad. Lab. (Manhattan Proj.); 1945 to date chem. and chem. engr., Par Soap Co. (sold to Newport Soap Co). Prod. of uranium chloride; extraction of uranium salts using continuous extraction meth.; designed and dir. construction of soap plant. Mem.: A.C.S., A.I.Ch.E., A.O.C.S. Hobby: horseback riding.

WOOD, William Samuel, res. engr., Sun Oil Co., Marcus Hook, Pa.; res. 227 E. Thomson Ave., Springfield, Pa.
Chem. engr.; b. Indianapolis, Ind., June 14, 1913; s. of Grover C. and Matilda (Garloch) Wood; ed. Purdue U., 1934-37, B.S.Ch.E.; m. Helen Farley, Sept. 20, 1938; ch.: Susan Elaine. Sun Oil Co., res. dev. dept., 1937 to date. Mem.: A.C.S., A.I.Ch.E., Reg. Prof. Engr. State of Pa. Hobby: photography.

WOODBRIDGE, Richard George, 3rd, spec. adviser to investment dept., N.Y. Life Ins. Co., 51 Madison Ave., N.Y. 10, N.Y.; res. 46 N. Stanworth Dr., Princeton, N.J.
Chem., chem. engr.; b. Wilmington, Del., Feb. 22, 1917; s. of Richard G., Jr. and Ethel Lytle (Whall) Woodbridge; ed. Princeton U., B.S. Ch.E., 1939; M.I.T., 1940; Princeton U., M.A., 1947; Ph.D., 1949; m. Marie Josephine Carveth, Jan. 1, 1943; ch.: Richard Carveth, Mary Lytle. E.I. du Pont de Nemours & Co., indus engrg. div., jr. engr. on dye wks., Deepwater, N.J., & Grasselli Plant, E. Chicago, Ind.; chem. res. & dev., electrochem. dept., Niagara Falls, N.Y.; N.Y. Life Ins. Co., investment dept., 1949 to date. Discovery and res. on a novel sulfidation reaction

in org. chem. Mem.: A.C.S., A.I.C. (fellow), Sigma Xi. Club: Dial Lodge (Princeton), Chemists' (N.Y.).

WOODBURN, Henry M(ilton), hd. dept. of chem., prof. of chem., U. of Buffalo, 3417 Main St., Buffalo, N.Y.; res. 73 Evans St., Williamsville, N.Y.
Prof. of chem.; b. Lockport, N.Y., May 30, 1902; s. of David and Margaret J. (Shaw) Woodburn; ed. Lockport H.S.; U. of Buffalo, B.S., 1923; Northwestern U., M.S., 1925; Pa. State Coll., Ph.D., 1931; mem.: Alpha Chi Sigma, Phi Lambda Upsilon; m. Dorothea W. Brown, June 3, 1933; ch.: James M., Eleanor M., Stephen B. U. of Buffalo, instr. 1923-24, 1926-35, asst. prof. 1935-42, assoc. prof. 1942-45, acting chmn. dept. 1943-45, prof. 1945 to date, hd. of dept. 1945 to date. Res. org. reactions of cyanogen, pyridine & pyridones, oxamidines, cyanoformamidines; publ. princ. in J.A.C.S. & J. Org. Chem. Co-author: "Lab. Ex. in Inorg. Chem.," 1935. Mem.: Phi Beta Kappa, Sigma Xi, A.C.S., A.A.U.P.

WOODBURY, Robert Arthur, M.D., prof. & chf. of div. of pharmacology, U. of Tenn., Room 211P, 874 Union Ave., Memphis 3, Tenn.; res. 532 W. Clover Dr., Memphis 17.
Pharmacology; b. Pittsburg, Kan., Sept. 1, 1904; s. of Forrest H. and Katheryn (Jernigan) Woodbury; ed. B.S., U. of Kan., M.S., Ph.D.; M.D., U. of Chicago; mem.: Phi Chi; m. Helen Blakesley, 1931; ch.: George Robert, Joan Katheryn. Martha Alice. Asst. instr. physiol. & pharmacol., U. of Kan., 1927-29, instr. physiol. & pharmacol. 1929-31; instr. physiol., Y.M.C.A. Coll. (Chicago), 1931-32; instr. biol., Cent. Y.M.C.A. Coll. (Chicago), 1932-33; intern, Gen. Hosp., Kansas City, 1933-34; asst. prof. physiol. & pharmacol., Georgia, 1934-37, assoc. prof. physiol. & pharmacol. 1937-40, prof. pharmacol. & hd. dept. 1940-47; prof. pharmacol. & hd. dept., Tenn., 1947 to date. Mem.: A.A.A.S., Sigma Xi, Physiol. Soc., Pharmacol. Soc.

WOODFORD, Lois Wilcox, personnel dir., Stamford Res. Labs., Am. Cyanamid Co., Stamford, Conn.; res. 7 W. Park Place.
Personnel dir.; b. Bloomfield, Conn., Jan. 17, 1891; d. of George F. and Helen Wilcox Woodford; ed. Mount Holyoke Coll., B.A., 1913. M.I.T., secy. to dir. chem. dept., 1913-17; J. Ind. & Engrg. Chem., asst. ed., 1917-21; Synthetic Org. Chem. Mfrs. Assn., asst. to pres. 1921-25; Chem. Found., asst. to chem. adv. 1926-27; staff of Chas. H. Herty, ind. conslt. 1927-33; Freeport Sulphur Co., asst. to lab. dir. 1933-36; Stamford Res. Labs., Am. Cyanamid Co., 1936-45; personnel dir., 1945 to date.

WOODHOUSE, John Crawford, tech. dir., Grasselli Chem. Dept., E.I. du Pont de Nemours & Co., Wilmington, Del.; res. 1 Guest Lane, Cragmere, Wilmington.
Chem.; b. New Bedford, Mass., Apr. 29, 1898; s. of Robert H. and Sara (Crawford) Woodhouse; ed. 1917-21, Dartmouth Coll., B.A.; 1921-23, M.A.; 1923-24, Harvard U., M.A., 1924-27, Ph.D.; mem.: Gamma Alpha, Alpha Chi Sigma, Zeta Psi; m. Ann Houth, Aug. 13, 1927; ch.: Robert William, John Frederick. 1921-23, Dartmouth Coll., teacher; 1927-28, Harvard U., teacher; 1928-42, E.I. du Pont de Nemours & Co., chem., 1942 to date, tech. dir. Grasselli Chem. Dept. Mem.: A.C.S., A.I.Ch.E., S.C.I., Phi Beta Kappa, Sigma Psi. Alumni Councillor, Dartmouth Coll.; N.R.C., mem. several comms. Hobby: mountain climbing.

WOODLAND, Dorothy Jane, prof. of chem. and assoc. dean, John Brown U., Siloam Springs, Ark.; res. same.
Tchg.; b. Warren, O., Sept., 1908; d. of William Charles and Agnes B. Woodland; ed. Coll. of Wooster, B.S., 1929 (summa cum laude); Ohio State U., M.Sc., 1930 and Ph.D., 1932. Wellesley Coll., 1932-38, instr. and asst. prof. chem.; Western Coll., 1938-44, assoc. and prof. of chem., hd. of dept.; John Brown U., 1944 to date, prof. of chem., hd. of dept., assoc. dean. Res. in relation betw. curvature of surface and surface energy. Mem.: Phi Beta Kappa, Sigma Xi, A.C.S., A.A.A.S.

WOODMAN, Herbert Brookhart, pres., Interchem. Corp., 67 West 44th St., N.Y. 18, N.Y.; res. 40 W. 10th St., N.Y. 11.
Exec.; b. Cheyenne, Wyo., June 11, 1904; s. of Herbert J. and Lola M. (Brookhart) Woodman; ed. U. of Wyo., 1921-25, A.B.; Harvard Law Schl., 1925-27; Oxford U., 1927-30, A.B. in Jurisprudence; mem.: Sigma Nu; m. Jean Maw, Aug. 15, 1936; ch.: Sarah Jean. 1930-36, attorney, Cravath, de Gersdorff, Swaine & Wood, N.Y.C.; 1936 attorney, 1939 secy., gen. counsel, 1943 v.p., 1947 to date pres., Interchem. Corp. Mem.: Am. Bar Assn., Harvard Law Schl. Assn. Club: Harvard University. Hobbies: fishing, hunting, wood-working.

WOODRUFF, Ben T., asst. supt., E.I. du Pont de Nemours & Co., Belle Wks., Charleston, W. Va.; res. 126 Oakwood Rd., Charleston 4.
Chem. engr.; b. Chicago, Ill., Dec. 29, 1910; s. of Frederick H. and Etta (Willard) Woodruff; ed. U. of Chicago, 1929-32, B.S.; M.I.T., 1934-36, M.S.; mem.: Phi Pi Phi; m. Susan Cunningham, May 9, 1942; ch,: Frederick, Polly, Louisa, Thomas. 1936-38, E.I. du Pont de Nemours & Co., ammonia dept. expt. station, dev. wk., 1938-40 ammonia dept. Belle Wks., Charleston, W. Va., process engr., 1940 to date, polychems. dept., Belle Wks., Charleston, W.Va., asst. div. supt. Mem.: A.I.Ch.E. Club: Charleston Tennis.

WOODRUFF, John Caulfield, dir. microbiolog. res. dept., Merck & Co., Inc., Rahway, N.J.; res. 445 W. 23rd St., N.Y. 11, N.Y.
Dir. microbiolog. res.; b. Ft. Macinac, Mich., Oct. 15, 1887; s. of Charles E. and Estelle (Caulfield) Woodruff; ed. A.B., Williams Coll., 1909; B.S. in chem. engrg., M.I.T., 1911; mem.: Delta Kappa Epsilon; m. Mabel Whitney Stower, Sept. 3, 1913; ch.: John, Whitney. Major, C.W.S., dir. mfg. & dev. sec., Gas Defense Div., 1917-19; Southern Cotton Oil Co., chem. engr., 1911-13; Western Elec. Co., chem. engr., 1913-17; Wheeler & Woodruff, conslt. chem. engrg., partner, 1919-25; Com. Solvents Corp., res. dir., 1925-35; dir. microbiolog. res. dept., Merck & Co., Inc., 1935 to date. Mem.: A.C.S., Soc. of Am. Bacteriologists, A.A.A.S.

WOODS, Clarence G., controller, treas., Michigan Chem. Corp., 500 N. Bankson St., St. Louis, Mich.; res. 120 Center St.
Accountant, atty.; b. St. Louis, Mo., Dec. 20, 1905; s. of J.E. and Aimee Scollay Woods; ed. 1929, B.S. in Bus. Admn., U. Southern Calif.; 1942, LL.B., St. Johns Law Schl., Bklyn., N.Y.; mem.: Alpha Kappa Psi, Phi Delta Phi; m. Dora L. Bissell, 1930; ch.: Ronald W. 1924-33, Hayward Lumber & Inv. Co., Los Angeles, Calif., asst. br. mgr.; 1933-37, W.I. Hollingsworth & Co., accountant; 1937-39, Metzler & Co., accountant; 1939-41, St. Calif., Dept. Finance, auditor; 1941-44, U.S. Treas. Dept., Income Tax Auditor; 1941-46, Lee Heyer White, C.P.A., Public Accounting; 1946 to date, Mich. Chem. Corp., controller, treas. 1945 adm. to Bar, N.Y.; 1946 C.P.A. certificate, N.Y.; treas., Mich. Salt Co.; Mich. Chem. Internatl. Mem.: Am. Inst. Accountants; Natl. Assn. of Cost Accountants. Clubs: Lions, Masonic. Hobbies: golf, bowling.

WOODS, James Albert, pres., Commercial Solvents Corp., 17 E. 42 St., N.Y.C.; res. 133 E. 80th St.
Exec.; b. Shelbyville, Tenn., Sept. 3, 1897; s. of George Albert and Frances Sandusky Woods; ed. Webb Schl., Bell Buckle, Tenn.; U. of So.

(Sewanee); mem.: Sigma Alpha Epsilon; m. Cornelia Witherspoon, Apr. 14, 1920; ch.: George Albert, John Witherspoon. Armour Fertilizer Wks., 1917-34, salesman, sales mgr., v.p., dir.; Chilean Nitrate Sales Corp., 1934-45, v.p. & 1st v.p., pres., dir.; W.R. Grace & Co., 1945-47, v.p.; Wilson & Toomer Fertilizer Co., Jacksonville, Fla., pres., dir., 1947-50; pres. & dir. Commercial Solvents Corp., N.Y.C., 1950 to date; dir.: Barnett Natl. Bank, Jacksonville; Am. Plant Food Council, Wash.; Wilson-Toomer Fertilizer Co., Jacksonville; Regent, U. South. Commandedor Order Meriho Republic of Chile; chmn. Finance Comm. (U. of So.). Clubs: Links, Blind Brook, (N.Y.C.), Metropolitan (Wash.). Hobbies: hunting, fishing.

WOODS, Lloyd Lander, hd. dept. of chem., Texas State U. for Negroes; res. 2706 Barbee Ave., Houston, Texas.
Org. chem.; b. Iola, Kan., Mar. 2, 1908; s. of Arthur G. and Minnie Woods; ed. A.B., Friends U., 1930; M.S., Kan. State Coll. of Agric. & Applied Sc., 1934 (Gen. Ed. Bd. Fellow), Ph.D., 1944; mem.: Kappa Alpha Psi; m. Dora E. Keeton, Aug. 10, 1932; ch.: Elaine. St. Augustine's Coll., 1931-48, prof. of chem.; Texas State U., 1948 to date, prof. of chem., hd. of dept. Isolation of Kafiroic acid from Kafir Bran.; chem. of Kojic acid & pyrones related to Kojic acid (five notes & papers on subject). Mem.: A.C.S., Kan. Acdy. of Sc., Phi Lambda Upsilon. Hobby: numismatics.

WOODSIDE, Vernon, distr. sales mgr., Mathieson Chem. Corp., 710 Queen Bldg., New Orleans, La.; res. 2264 Odin St.
Sales engr.; b. Dexter, N.Y., Mar. 26, 1905; s. of James Robert and Eva May Galloway Woodside; ed. N.Y. St. Coll. of Forestry at Syracuse U., B.S., 1928; mem.: Alpha Chi Sigma; m. Frances N. Gale, June 27, 1931. 1929-30 Foster Paper Co., Utica, N.Y., chem. engr.; 1930-31, Oswego Falls Corp., Skaneateles, N.Y., res. chem.; 1933-36, Dexter Sulphite Pulp & Paper Co., Dexter, N.Y., chem.; 1936-48, Mathieson Chem. Corp., tech. rep.; 1948 to date, distr. sales mgr. Mem.: A.I.Ch.E., T.A.P.P.I., Natl. Soc. of Prof. Engrs., mem. at large; Am. Pulp & Paper Mill Supts. Assn., A.A.T.C. (active).

WOODWARD, Charles Frank, hd., Carbohydrate Div., Eastern Regional Res. Lab., U.S.D.A. Chestnut Hill Sta., Phila. 18, Pa.; res. 229 Huntingdon Rd., Abington, Pa.
Res. chem.; b. West De Pere, Wis., Sept. 29, 1910; s. of Roy and Christine W. Reiff Woodward; ed. B.A., Lawrence Coll., 1930; U. Ill., M.A., 1932; Ph.D., 1934; mem.: Gamma Alpha; m. Armella Lillian Bonk, Aug. 19, 1937; ch.: Barbara Ann, Elisabeth Lee, William Stewart. 1934-41, res. chem., Rohm and Haas Co.; 1941-50, hd., tobacco utiliza. sect., biochem. div., Eastern Regional Res. Lab., U.S.D.A.; 1950 to date, hd., carbohydrate div. Res. in Friedel-Crafts reaction, synth. org. insectic. acrylate monomers, polymers, vapor phase catal., nicotine, related alkal., nicotinic acid. Mem.: Sigma Xi, Phi Beta Kappa, A.C.S., Phila. Org. Chem. Club. Hobbies: gardening, fishing.

WOODWARD, Raymond West, dir. electronics div., Gen. Res. Lab., Underwood Corp., Hartford, Conn.; res. 41 Middlefield Dr., W. Hartford, Conn.
Metallurgist; b. Hartford, Conn., Nov. 2, 1893; s. of Benjamin S. and Estelle L. Woodward; ed. Trinity, Conn., 1914, B.S., M.S. hon. in math.; George Washington U., Ph.D., 1921; mem.: Sigma Nu; m. Ernestine A. Spiker, Feb. 14, 1917; ch.: Nancy Estelle (Woodward) Porter. Physicist, Natl. Bur. of Stands., 1914-21; chf. met., Whitney Mfg. Co., 1921-26; secy., treas., Stanley P. Rockwell Co., 1926-30, cons. met. 1930-33; chf. met. & engr. of tests, Underwood Corp. 1933-50, dir. electronics div. 1950 to date. Various tech. articles in publs. of Bur. of Stands., A.S.T.M. & A.S.M. on metallurg. subjects. Mem.: A.S.T.M, A.S.M., Am. Accoustical Soc., Am. Inst. Physics, A.A.A.S., Assn. for Computing Machinery. Award: Conn. M. for Distinguished Civilian Serv. Club: Chemists' (N.Y.C.). Hobbies: amateur radio, coin collection.

WOODWARD, Teynham, conslt., Westvaco Chem. Div., Food Machinery & Chem. Corp., Newark, Calif.; res. R. 1, Box 281, Los Altos, Calif.
Chem. engr.; b. London, England, Jan. 9, 1903; s. of Dr. Henry Thomas and Marie Eva (Schaaf) Woodward; ed. A.B., 1926, M.A., 1930, U. of Calif.; mem.: Sigma Xi; m. Marie Welshons, May 31, 1928; ch.: Henry Teynham, Jr. 1929-39, res. chem., Westvaco Chem. Corp., 1939-42 res. dir. Newark Plant; 1942-46, pilot plant dir., Moss Landing Plant, Permanente Metals Corp.; 1946 to date, conslt., Westvaco Chem. Div., Food Mach. & Chem. Corp. Prod. of Mg0 from sea water. Mem.: A.C.S., A.I.Ch.E. Hobby: farming.

WOOLFOLK, E. Oscar, prof. of chem., chmn. of chem. dept., Coll. of Ed., & Ind. Arts, Wilberforce, Ohio; res. P.O. Box 311, Wilberforce.
Res. org. chem., teacher; b. Tupelo, Miss., Mar. 9, 1912; s. of Rev. E.O. and Irene (Slack) Woolfolk; ed. Talladega Coll., B.A., 1934, cum laude; Ohio State U., M.S., 1939; U. of Pitts., Ph.D., 1949; mem.: Alpha Phi Alpha; m. Norma G. Branch, Dec. 23, 1944; ch.: David L. 1934-37, teacher, public schls. of Memphis, Tenn.; 1938-40, W.P.A. res. asst. to Dr. M.S. Newman, Ohio State U.; 1940-42, instr. in chem. dept., Claflin Coll., Orangeburg, S.C.; 1942-43, Sciota Ordnance Plant, Marion, Ohio; 1943-49, res. chem., U.S. Bur. of Mines, Pitts., Pa.; Sept., 1949 to date, Coll. of Ed. & Ind. Arts, Wilberforce, Ohio. 11 publ. on fundamental res. related to syn. liquids fuels program of the U.S. Bur. of Mines. Mem.: A.C.S., A.A.A.S., Sigma Xi, Phi Lambda Upsilon, Beta Kappa Chi, Natl. Inst. of Sc. Hobbies: golf, listening to good music, reading.

WOOSTER, Charles Bushnell, v.p. and gen. mgr., Ciba Products Corp., Kimberton, Pa.; res. 1210 Haworth St., Phila. 24, Pa.
Chem., exec.; b. Deep River, Conn., Dec. 20, 1902; s. of Franklin B. and Sarah Elydia (Bushnell) Wooster; ed. A.B., Clark U., 1924, M.A., 1925, Ph.D. (chem.), Brown U., 1928; mem.: Sigma Xi, Lambda Chi Alpha; m. Mary Elta Montgomery, Oct. 10, 1927; ch.: Charles B., Jr., Elta Elydia. Res. Fellow of the Natl. Res. Council at the M.I.T., 1927-29; instr., Brown U., 1929-30; asst. prof., 1930-38; (dir. grad. res. in org. chem.); res. chem., Plastics and catalysis, Rohm & Haas Co., 1938-44; v.p. and gen. mgr., Ciba Products Corp., at present. Mem.: A.A.A.S. (fellow), A.C.S., Franklin Inst.

WORK, Lincoln Thomas, conslt. engr., 2118 Graybar Bldg., 420 Lexington Ave., New York 17, N.Y.; res. 15 North Crescent, Maplewood, N.J.
Conslt. engr.; b. Hartford, Conn., Dec. 28, 1898; s. of Norman P. and Hattie S. (Lincoln) Work; ed. Columbia U., B.A., 1918; Ch.E., 1921; M.A., 1924; Ph.D., 1929; mem.: Phi Beta Kappa, Tau Beta Pi, Sigma Xi, Phi Lambda Upsilon; m. Clara Radcliff, Sept. 7, 1922; ch.: Lillian R., Dorothy L. Columbia U., 1921-40, instr., 1921-29; asst. prof., 1929-39; assoc. prof., 1939-40; conslt. chem. engr., 1921-40; Metal & Thermit Corp., dir. of Res. and Dev., 1940-49; conslt. engr., 1949 to date. Prof. engr., licensed in N.Y. and N.J.; mem. N.Y. Univ. Metallurg. Adv. Comm., 1947 to date; Advis. Mem., Naval Assoc. Visiting Comm. to N.R.L., 1948; Advis. Panel Mem., Program Comm. for Sc. Manpower Mobilization Planning, 1947. Contrib. num. arts. and papers to tech. and sc. jls.; author and co-author of var. U.S. pats. Author also of "An Anal. of Crushing and Pulverizing Proc.," A.S.M.E. Res.

Paper, 1932 (presented at Natl. Proc. Meeting of A.S.M.E., Buffalo, N.Y.); co-author: "A Study of the Flow, Dispersion and Livering Characteristics of Pigment Pastes made with Bodied Linseed Oils" (Circular 502, Natl. Paint, Varnish and Lacquer Assoc., Sc. Section, 1936); author: "Proposed Lab. Experiments in Unit Operations of Chem. Engrg. Sect. on Size Reduction" (submitted to Comm. of Lab. Instruction of Chem. Engrg. of the Soc. for Promotion of Engrg. Educ., 1936); author of Chapt. XI, "Size Reduction" in Application of Chem. Engrg., McCormack, 1940; co-author, "The Measurement of Particle Size of Pigments and Fillers" in Protective and Decorative Coatings, Vol. II, Chapt. 4 (Mattiello); author: "Adhesion" in Mattiello: Prot. & Dec. Coatings; co-author, "Meths. for Determ. Particle Size Distrib.," Symposium on New Meths. for Particle Size Determ. in the Subsieve Range, Washington Spring Meeting, A.S.T.M., 1941; also author of "Summary of Reports of Tech. Comms. on Adhesion" (to be pub.) by Natl. Paint, Varnish & Lacquer Assoc. Mem.: Am. Cer. Soc., A.C.S. (Council mem. 1934-37, on bd. of dirs., N.Y. Sect., 1937-38, alternate for Councillors, Natl. Soc., 1947 to date, and on numerous comms.), A.I.Ch.E. (Natl. membership Adv. Comm., 1934 to date, Exec. Comm., N.Y. Sect., 1933-37, 1946-47, Counselor, Columbia U. Student Chapt., 1933-40, v.chmn. N.Y. Sect., 1943-44, chmn., N.Y. Sect., 1944-45, and on Program Comm., N.Y. Sect., 1947-48); A.I.C. (fellow) (Natl. Chapt. Councillor, 1947-50, v.chmn. N.Y. Chapt., 1948 and President elect 1950-); A.I.M.E. (Filler Comm.), Amer. Railway Engrg. Assoc. (until 1949), A.S.M. (on sev. comms.), A.S.T.M. (on var. comms.), Am. Stds. Assoc. (on sev. comms.), Amer. Welding Soc., E.S. (chmn. N.Y. Convention 1943, v.chmn. N.Y. Sect., 1943-44, chmn. N.Y. Sect., 1944-45), Indust. Res. Inst. to 1949 (on var. comms.), Inst. of Metals (British), Natl. Res. Council (on sev. comms.), N.Y. Paint & Varnish Prod. Club (on var. comms.), S.C.I. (Exec. Comm., 1934-38, v.chmn., Amer. Sect., 1938-40, chmn. Amer. Sect., 1940-42, representative of Amer. Sect. on Chem. Engrs. Grp. Comm.), Soc. for Promotion of Engrg. Educ. Club: Chemists'.

WORK, Robert W., hd. physical res. dept., Celanese Corp. of Am., P.O. Box 1000, Summit, N.J.; res. 11 Edgewood Rd., Madison, N.J.
Chem.; b. Chicago, Ill., July 10, 1907; s. of J. Birney and Florence M. Work; ed. U. of Ill., B.S., 1929; Cornell U., Ph.D., 1932, Heckscher Res. Fellow, 1929-33; mem.: Alpha Chi Sigma; m. Anne A. Johnson, Jan. 18, 1934. 1933-41, Gen. Elec. Co., Pittsfield, Mass., in chg. chem. sec. of Pittsfield Wks. Lab.; 1941 to date, Celanese Corp. of Am., Central Res. & Dev. Labs., Summit, N.J., hd. physical res. dept. Mem.: A.C.S., Fiber Soc., A.A.A.S., Textile Res. Inst., Textile Inst. (England).

WORMSER, Eric S., chf. waterproof chem., Battenfeld Grease & Oil Corp., Kansas City 8, Mo.; res. 662 West 70th St., Kansas City 5, Mo.
Chem.; b. Germany, July 31, 1926; s. of Arthur and Hedwig Wormser; ed. Purdue U., B.S. in chem.; Ind. U., M.S. in bus. adm. Corn Prods. Refining Co., jr. chem., 1945; Lehon Co., Wilmington, Ill., chem., 1947-48, chf. chem., 1948-Sept., 1950; since Sept. 18, 1950, chf. waterproof chemist, Battenfeid Grease & Oil Corp., Kansas City 8, Mo. Behavior of wood extracts with asphalt. Mem.: A.C.S., Beta Gamma Sigma. Hobbies: reading, bowling, tennis.

WORRALL, Arthur Roland, asst. wks. mgr., Curtis Bay Wks., Davison Chem. Corp., Baltimore 3, Md.; res. Glencoe Rd., Glencoe, Md.
Exec.; b. Wallingford, Pa., Jan. 20, 1906; s. of Isaac and Nellie (Moran) Worrall; ed. Rensselaer Polytech. Inst., C.E., 1928; mem.: Delta Tau Delta; m. Dorothy Hayner, Oct., 1929; ch.: Susan, Douglas G., Phillip W., Patricia. 1928-36, Texas Co., Pt. Arthur, Texas, N.Y.C.; Pryse, Ky., jr. engr., sr. engr., asst. wks. mgr. Pryse Wks.; 1936-44, Houdry Process Corp., Phila., Pa., Marcus Hook, Pa., Paulsboro, N.J., plant supt., syn. catalyst mfg. plants, 1944-49, Paulsboro, N.J., mgr. mfg. div.; 1949 to date, Davison Chem. Corp., asst. wks. mgr. Curtis Bay Wks. Assisted in design, supervised the construction of/and placed in operation the first pet. cracking catalyst plant ever built & closely associated in dev. of syn. & natural catalysts used by pet. ind. Mem.: A.I.Ch.E., Reg. Prof. Engr. State of Pa. Club: Engineers (Baltimore). Hobby: fox hunting.

WORSTALL, Robert Arthur, consltg. chem., Box 480, DeLand, Fla.; res. 1107 E. New York Ave., DeLand, Fla.
Consltg. chem. varn. only; b. Zanesville, Ohio, Apr. 18, 1875; s. of Noyce S. and Rebecca (MacDonald) Worstall; ed. Zanesville H.S. 1892; Case Inst. of Tech., B.S., 1897, M.S., 1898; mem.: Sigma Xi, Tau Beta Pi; m. Mina Shotwell. Instr. in chem., Purdue U., 1897-1900; chem. & supt., Glidden Varn. Co., 1900-01; chem. & supt., Chicago Varn. Co., 1901-08; own lab. 1908 to date.

WORTH, Walter Leslie, engrg. mgr., Atlas Mineral Prods. Co., Mertztown, Pa. & Houston, Texas; res. Stony Creek Mills, Pa.
Metallurg. engr.; b. Haddonfield, N.J., Jan. 1, 1917; s. of Walter L. and Winifred S. Worth; ed. Colo. Schl. of Mines, E.M., 1938; U. of Pa., M. S. in M.E., 1942, M.E., 1945; m. Mabel E. Daubert, Nov. 2, 1946. Midvale Co., Phila., Pa., res. metallurgist; I-T-E Circuit Breaker Co., Phila., Pa., chf. metallurg. engr.; Lithaloys Corp., N.Y.C., plant mgr. metal alloy div.; Beryllium Corp., Reading, Pa., res. metallurgist; Atlas Mineral Prods. Co., Mertztown, Pa., engrg. mgr. Mem.: A.S.M.E., Reg. Prof. Engr. Pa., N.J., Texas.

WRIGHT, Arthur, patent lawyer, 60 E. 42 St., N.Y.C.; res. 38 Greenway Terrace, Forest Hills, N.Y.
Patent lawyer; b. Balt., Md., June 24, 1879; s. of Henry C. and Mary Ann Wright; ed. Johns Hopkins U., A.B., 1900; Georgetown U., LL.B., 1906; Geo. Wash. U., M.P.L., 1906; mem.: Kappa Alpha; m. Anne de Salis, Sept. 22, 1913. Anal. chem., plant mgr. 1901-02; asst. librn., Smithsonian Inst. 1902 (6 mos.); patent examin. U.S. Patent Off., 1903-07; patent lawyer, N.Y., 1907 to date. Patent counsel for chem. cos., corps. Mem.: Am. Bar Assn., Assn. Bar of City of N. Y., Am. Patent Law Assn., N.Y. Patent Law Assn. Clubs: Chem. (1910 to date), Univ. (1920 to date). Hobbies: work in chem., mechanics and art.

WRIGHT, Calvert Charles, prof. fuel tech., chf. div. of fuel tech., Schl. of Mineral Industries, Pa. State Coll.; res. 314 Arbor Way, State College, Pa.
Prof.; b. Southport, England, Sept. 11, 1905; s. of Robert and Elsie Mary (Cunliffe) Wright; ed. U. of Wash., B.S., 1927, du Pont fellow 1930-31, Ph.D., 1931; mem.: Tau Kappa Epsilon, Phi Lambda Upsilon, Sigma Gamma Epsilon, Sigma Xi; m. Luretta Della Bagby, Oct. 3, 1931; ch.: Calvert Charles, Jr., Mary Louise. 1927-30, U. of Wash., teaching fellowship chem. engrg. & chem., 1930-31 du Pont res. fellowship, 1931-32 res. asst. chem. engrg.; 1932-34, Pa. State Coll., N.R.C. fellow chem., 1934-36 res. assoc. fuel tech., 1936-40 assoc. prof. fuel tech., 1940 to date prof. fuel tech., 1945 to date, chf. div. fuel tech.; 1949 acting dir., Mineral Industries Expt. Sta.; treas., 1940-45, P. Chapter T.K.E. House Corp. Anal. chem., constitution of coal, syn. liquid fuels, combustion, carbonization & chem. processing of fuels. Mem.: A.C.S. (councilor 1948 to date, chmn.

Central Pa. Sec. 1947, chmn. gas & fuels div. 1948), A.I.M.E., Am. Soc. Heating & Vent. Engrs., A.S.T.M., Am. Gas Assn., Prof. Engr. Pa. Club: University (State College). Hobbies: philately, horticulture.

WRIGHT, Howard V., chf. plants div., Army Chem. Center, Tech. Command, Md.; res. 2 Williams St., Bel Air, Md. Chem. engr.; b. Indianola, Iowa, June 4, 1892; s. of Isaac C. and Belle (Hastie) Wright; ed. Simpson Coll., A.B., 1917; Iowa State, M.S., 1922, chem. engr., 1926; mem.: Alpha Tau Omega; m. Mildred Kennedy, Dec. 25, 1918; ch.: Ernest C. Iowa State Coll., instr., asst. prof., 1919-25; Edgewood Arsenal, chf. plants dept., asst. chf. munitions div., chf. plants div., 1925 to date. Dev. of processes for mfg. toxic chem. agents & incendiary munitions; design of plants for producing chem. agents & for loading munitions. Mem.: A.I.Ch.E., A.C.S., Phi Lambda Upsilon, Phi Kappa Phi, Lic. Prof. Engr. Md. Club: Rotary. Hobbies: floriculture, hunting.

WRIGHT, John Goddard, indust. hygiene engr., Mass. Bonding & Ins. Co., Boston, Mass.; res. 31 Boulder Brook Rd., Wellesley, Mass. Indust. hyg. engr.; b. Brookline, Mass., June 24, 1905; s. of Dr. George H. and Mary Louisa Watson Wright; ed. Harvard U., A.B. Chem., 1927; Cornell U., A.M. Chem., 1932; m. Virginia Benedict, Apr. 28, 1939; ch.: Nancy Alison, Langdon Goddard. A.F. Holden Co., chem.; 1939 to date industrial hygiene engr., Mass. Bonding & Ins. Co.; indust. hyg. engr. Wright Field, Dayton, Ohio, 1943-45, 1st Lt., Sanitary Corps. Mem.: A.I.C. (fellow), Am. Indust. Hyg. Assn. Club: Harvard (Boston).

WRIGHT, John Handly, dir. public relations, 1700 S. 2nd St., St. Louis, Mo.; res. 454 Algonquin Pl., Webster Groves, Mo. Public relations; b. Nashville, Tenn., Apr. 7, 1906; s. of John Ewing and Nancy Belle Handly Wright; ed. Vanderbilt U. Schl. of Law; mem.: Delta Tau Delta, Phi Alpha Delta (legal); m. Mary S. Tylee, Apr. 16, 1929; ch.: John Handly, Jr., Mary Camilla, Amanda Tylee. 1920-22 Nashville Banner, sports dept.; 1922 Nashville Tennessean, city staff; 1922-24 Tampa Tribune, sports ed.; 1924-26 Nashville Banner; 1926-29 assoc. press; 1929-34 Ames & Norr, N.Y.C., account exec.; 1934-38 Natl. Assn. of Mfgrs. asst. dir. of pub. relations; 1938-43 Assoc. Ind. of Alabama, exec. v.p.; 1943 to date Monsanto Chem. Co., asst. to pres., dir. indust. relations, dir. public relations. Author: 'Public Relations in Mgt.," 1949. Pres., Public Relation Soc. of Am., 1950. Clubs: Mo. Athletic, Algonquin Country; Noon Day. Hobbies: fishing, flying.

WRIGHT, Paul McCoy, chmn. dept. of chem. & geology, Wheaton Coll., Wheaton, Ill.; res. 610 Irving Ave., Wheaton. Coll. prof.; b. Helena, Okla., Sept. 11, 1904; s. of James Burton and Della Mable (Maddox) Wright; ed. B.S., Wheaton Coll., 1926; M.Sc., Ohio State U., 1928, Ph.D., 1930; m. Mabel Katherine Davidson, Aug. 11, 1930; ch.: Marjorie Evelyn, Eugene Paul, Roger Lauren. Grad. asst. in chem. 1926-29, asst. in physical chem., Ohio State U. 1929; asst. prof. of chem. 1929-30, assoc. prof. 1930-40, prof. Wheaton Coll., 1940 to date. Dimensions of vapor particles; eutectics of explosive mixtures; equilibria of glycerol esters. Mem.: A.C.S., Ill. State Acdy. of Sc., A.I.C. (fellow), A.A.A.S. (fellow), Sigma Pi Sigma, A.S.A. Bd. of dir., Wheaton Soc. for Christian Instruction. Hobbies: Red Cross water safety instructor, pilot.

WRIGHT, Philip A., chem., Bur. Dairy Indus., U.S. Dept. Agric., Wash. 25, D.C.; res. 215 Rock Creek Church Rd., Wash. 11, D.C. Res. dairy prods.; b. New Haven, Vt., Oct. 25, 1886; s. of Anson E. and Emma H. (Eastman) Wright; ed. A.B., Middlebury Coll., 1909 (cum laude) hons. in chem.; Yale U., 1909-11 (chem.); U. Mo., M.A., 1913; mem.: Phi Beta Kappa; m. Isabel R. Capell, Dec. 24, 1914; ch.: Ellen Mary (Mrs. Royal C. King), Philip Capell (dec'd.). Entire career, 39 yrs., spent in Dairy Div., Bur. Animal Ind., U.S.D.A. (later Bur. of Dairying, still later Bur. of Dairy Industry), in res. in dairy prods. Res. to improve keeping, quality of dry whole milk. Contrib. to sc. and tech. jls. Mem.: A.I.C. (fellow), A.C.S., Am. Dairy Sc. Assn. Deacon, schl. tchr., Calvary Baptist Ch., Wash., D.C. Hobbies: color photography, genealogical res.

WRIGHT, Richard Ewing, sr. res. chem., Houston Res. Lab., Shell Chem. Corp., P.O. Box 2633, Houston 1, Tex.; res. 2605 Arbor Ave., Houston 4. Chem.; b. San Luis Obispo, Calif., Feb. 23, 1910; s. of Samuel Vaughan and Maud Luisa (Grieb) Wright; ed. Stanford, A.B. with distinction, 1931, M.A., 1933, Ph.D., 1935; mem.: Phi Beta Kappa, Sigma Xi, Alpha Chi Sigma, Phi Lambda Upsilon, Alpha Phi Omega; m. Ann Archer, Apr. 24, 1937; ch.: Ruhamah, Alan, Paul, Nancy. Chem., 1935-43; sr. chem., Expt. Lab., 1943-47; chf. chem., 1947-49; all at Pittsburg, Calif. plant of Shell Chem. Corp.; sr. chem., Houston Res. Lab., Shell Chem. Corp., Nov., 1949 to date. Mem.: A.C.S., Alpha Chi Sigma. Club: Houston Outdoor Nature. Hobbies: Boy Scouts, hiking, bird study, botany, geology.

WRIGHT, Walter Edward, branch mgr., The Harshaw Chemical Co., Jackson and Swanson Sts., Phila., Pa.; res. 1126 Childs Ave., Drexel Hill, Pa. Branch mgr.; b. Phila., Nov. 30, 1889; s. of Joseph Edward and Emma S. Wright; ed. Central High Schl., night courses Drexel Inst., U. Penn.; m. Marie M. Thompson, Oct. 10, 1917; ch.: Doris Marie, Virginia W. Schumacher. Asst. to pres., Smith, Kline and French Co. 1909-14; employed since Aug., 1914 with Harshaw Chem. Co., Phila., as salesman, asst. sales mgr., abt. 1920 sales mgr. organ. div. 1925-29; sales mgr. indust. sales 1929-49.

WRIGHTSMAN, Philip Gunckel, tech. asst., E.I. du Pont de Nemours & Co., Wilmington, Del.; res. 547 Cornell Ave., Swarthmore, Pa. Chem. engr.; b. Wash., D.C., May 19, 1894; s. of Benjamin J. and Adda (Gunckel) Wrightsman; ed. Catholic U. of Am., Wash., D.C., B.S. in chem. engrg., 1917; grad. student in chem., Iowa U.; m. Ethel Bertha Wood, June 20, 1931; ch.: Nancy A. 1916-17, chem. asst., Catholic U.; 1917-18, instr. in chem., U. of Iowa, Iowa City; 1918, Chem. Warfare, Am. U., Wash., D.C., physical properties of smokes; 1918-19, Bur. of Stands., hydrogen penetration of baloon fabrics; Sept., 1919 to date, E.I. du Pont de Nemours & Co., 1919-28 chem. engr. Eastern Lab., Gibbstown, N.J., 1928-30 sec. hd., res., Eastern Lab., 1930 to date tech. asst. to mgr., tech. div., explosives dept., Wilmington, Del. Design, construction & operation of lab. nitroglycerin plant, lab. isothermal sulfuric acid converter, of plant for mfr. of platinized mass; investigations of equipt. & operation of nitroglycerin plants; res. on explosives; chem. engrg. wk. & cooperation with dev. & design on such processes as explosives, ammonia oxidation, acids, ammonium nitrate, aniline, nitrobenzene, dyphenylamine; 10 U.S. pats. Mem.: A.C.S., A.I.Ch.E.

WROTH, Benjamin Blackiston, prof. of chem., Ga. Inst. of Tech., Atlanta, Ga.; res. 162 4th St. N.W., Atlanta, Ga. Teacher of chem.; b. Chestertown, Md., Nov. 10, 1887; s. of Thomas Granger and Harriet de C.

Ruth Wroth; ed. Wash. Coll., Md., 1904-08, A. B.; Johns Hopkins U., 1912-16. Instr. chem., Ga. Inst. of Tech. 1916-18; acting hd. dept. chem., Erlham Coll., 1918-19; asst. prof., assoc. prof., prof., Ga. Inst. of Tech., 1919 to date. Study of solubilities of liquids in liquids; partition of alcohols between cottonseed oil & water. Mem.: Alpha Chi Sigma, A.A.U.P., Soc. for Promotion of Engrg. Ed., A.C.S., Phi Kappa Phi, Ga. Ed. Assn.

WUERTZ, Alexander John, secretary, General Safety Committe of M.C.A., Mfg. Chem. Assoc., 246 Woodward Bldg., Washington 5, D.C.; res. Hotel Congressional, 300 New Jersey Ave. S.E., Washington, D.C.
Chem. (retired after 32 yrs. serv. with du Pont Co.); b. Kamishin, Russia, Apr. 12, 1889; s. of John J. and Ann Mary (Keller) Wuertz; ed. A.B. and M.A., U. of Nebraska, 1914-16; res. fellow, U. of Minn., 1917-18; mem.: Alpha Chi Sigma, Sigma Xi, Gamma Alpha; m. Pearl H. Holladay, June 12, 1919; ch.: Robert L., M.D. Chemical Warfare and Inspector of Ord., 1918; res. chem., 1919-31, du Pont Co.; div. hd., 1931-33, same co.; asst. dir. Carrollville Lab., same co., acting dir. same lab. and co., 1935-38; div. hd., Auth. Colors Div., 1938-43, same co.; mgr. Foreign Tech. Serv. Section, 1943-49, spec. tech. asst. to res. mgr., Orchem. Dept., 1949-50, same co.; retired Aug. 1, 1950. Holds over 50 U.S. and foreign pats. all of which are assigned to the du Pont Co.; some of these are comprised of pioneering res. efforts. Author of sev. O.S.R.D. reports relating to secret wk. carried forward by du Pont and under personal guidance of above. Mem.: A.A.A.S., A.C.S., Chem. Inst. of Canada, A.A. T.C.C. Clubs: Blue Lodge and Delaware Consistory. Hobbies: mostly literary and travel.

WYATT, W. Newell, div. sales mgr., Westvaco Chem. Corp., 405 Lexington Ave., N.Y. 17; res. 472 Gramatan Ave., Mt. Vernon, N.Y.
Sales; b. Phillipsburg, N.J., Dec. 29, 1905; s. of Wm. John and Florence (Schooley) Wyatt; ed. Hobart Coll., 1930; mem.: Delta Psi Omega; m. Lois Blanche Keiper, Aug. 29, 1935; ch.: William John. 1930-31 with Curtin-Howe Corp.; 1931-35 sales dept., Warner Chem. Co.; 1935-41 asst. sales mgr. same co.; 1942 to date with Westvaco Chem. Corp., presently div. sales mgr. in chg. of chlorine and alkali sales, prev. in chg. solvent sales. Mem.: Salesmen's Assoc. and Masonic frat. Clubs: Chicago Athletic Assoc. Hobbies: Cub Scouts-Cub Master, Pack No. 22, Mt. Vernon.

WYCKOFF, Ralph Walter Graystone, sc. dir., Natl. Inst. Health, U.S. Public Health Serv., Bethesda, Md.; res. 2 W. Dr., Bethesda.
Sc. dir.; b. Geneva, N.Y., Aug. 9, 1897; s. of Abram R. and Ethel A. Cathpole Wyckoff; ed. B.S., Hobart Coll., 1916; Ph.D., Cornell U., 1919; Hon. M.D., Masaryk U., Czechoslovakia, 1947; mem.: Alpha Chi Sigma, Gamma Alpha, Phi Beta Kappa, Sigma Xi; m. Laura Laidlaw, 1926; ch.: Ralph W.G., Jr., Anne, Grietje. Instr. anal. chem., Cornell U., 1917-19; physical chem. Geophysical Lab., Carnegie Inst., 1919-27; assoc. mem. subdiv. Biophy. Rockefeller Inst. 1927-38; Lederle Labs. 1938-40, ass. res. dir., 1940-42; tech. dir., Reichel Labs. 1942-43; lecturer, U. Mich., 1943-45; sr. sc., Natl. Inst. Health, U.S. Public Health Serv., 1945, sc. dir. 1946, res. assoc. Calif. Inst. Tech. 1921-22. Res. in structure of crystal. solids, in purification, characteriz. of macromol., viruses. Author: "Anal. Expression of Results of Theory of Space Groups," 1922; 1930; "The Structure of Crystals," 1924, '31, '34; "Crystal Structures," 1948, 1950. "Elect. Microscopy," 1949. Mem.: A.C.S., Elec. Micro. Soc. Am., A.Crys.A., A.Phys. S. (fellow), A.A.A.S. (fellow), Natl. Acdy. Sc., Royal Netherlands Acdy. Sc. & Literat. (foreign mem.), Societe Francaise de Mineralogie et de Cristallographie (honorary mem.).

WYLIE, Clarence Raymond, Sr., consult. engr. and dir. labs., Briggs Mfg. Co., 3675 Outer Dr., Detroit 34, Mich.; res. 1253 Kensington Rd., Grosse Pointe Park 30.
Consult. & res. exec.; b. Saginaw, Mich., May 18, 1883; s. of James Madison and Elizabeth Anne (Williams) Wylie; ed. Cornell U., M.E., 1905; m. Elizabeth Mahala Shaw, Dec. 22, 1909; ch.: Clarence Raymond, Jr., Jeanne Elizabeth, Ruth Sylvia. Designg. engr., Am. Window Glass Co., Pittsburgh, 1905; design. mech. & elec. engr., Commonwealth Edison Co., Chicago, 1906-07; instr., elec. engrg., U. Cincinnati, 1907-11; asst. prof., 1911-15; assoc. prof., 1915-17; taught elements of electrochem. & thermal equivs. of formation & combination in indus. chem. processes at U. Cincinnati; dir., res. lab., Remy Elec. Co., Detroit, 1918; mech. and elec. engr., Am. Engrg. Associates, Detroit, 1919; sec. & treas., United Engrg. Corp., Detroit, 1919-25; consult. engr., Briggs Mfg. Co., Detroit, 1920 to date; asst. v.p., asst. gen. mgr. & supvg. engr., Sterling Wood Prods., Knoxville, Tenn., & Wayne Lumber Co., Nashville, 1928-31; mng. dir. (planned, built, equipped and operated the wks.), Briggs Motor Bodies, London, Eng., 1930-32; consult. engr., Briggs Indiana Corp., Evansville, 1936 to date; consult. engr., Briggs Stadium, Detroit, 1937-40. Simplification & standardization lacquer thinner; determ. heat treat. procedure for cold drawing of steel cartridge cases; selection proper drawing lubricants & control all processing & metall. exams. 75 mm. steel cases; org. & dir. material and process control labs. Mem.: A.A.A.S. (fellow, 1915; life mem.), Engrg. Soc. of Detroit, A.S.M., A.S.T.M. Dir., Met Trust Co., Detroit, 1927-32; pres. bd. trustees, Grosse Pointe Methodist Ch. Club: Detroit Automobile. Hobbies: reading, choir singing.

WYLIE, H(amilton) Boyd, M.D., dean, U. Maryland Schl. Med., Baltimore 1, Md.; res. 3119 N. Calvert St., Balt. 18.
Coll. dean; b. Balt., Md., May 3, 1887; s. of H. Boyd and Carrie (Slater) Wylie; ed. Johns Hopkins U., 1905-08; Balt. Med. Coll., 1908-12, M.D.; mem.: Sigma Xi, A.O.A.; m. Nina B. Landragan, June 26, 1912; ch.: Mrs. Alice W. Reedy, Jr., H. Boyd, Jr. U. Md. Schl. Med. 1912 to date; assoc. in Physiol. Chem., Phar., 1 yr.; asst. Clin. Pathol. and Pharmacol. 1913-14; demonstrator in Clinic. Pathol., Pharmacol. 1914-15; assoc. Biol. Chem., Clinical Pathol. & Pharmacol. 1915-17; assoc. prof. Biol. Chem., Clin. Pathol. 1917-19; prof. Biol. Chem. 1919-48; act. dean, asst. dean 1939-48; dean, 1948 to date. Res. in chem. tests for pregnancy, blood sugar findings in eclampsia. Mem.: secy.-treas., Trustees of Endowment Fund U. Md., Med. Adv. Bd., Balt. City Hosps., chmn. Deans' Comm. Balt., of Veterans Adm., A.M.A., Med. & Chirurgical Faculty of Md., Balt. City Med. Soc. Hobbies: electrical & mechanical gadgets.

X

XAN, John, prof. chem., hd. dept., Howard Coll., Birmingham 6, Ala.; res. 305 77th St., So.
Chem.; b. Tripoli, Greece, Sept. 2, 1893; ed. Kalamazoo Coll., B.S., 1918; U. Chicago, M.S., 1922; Ph.D., 1926; mem.: Sigma Xi; m. Erna Oleson, Sept. 2, 1922; ch.: Dixie Lee. Prof. chem. Sioux Falls Coll., Sioux Falls, S.Dak., 1922-24; prof. chem., Ottawa U., Kans., 1926-27; prof. chem. Battle Creek Coll., Mich., 1927-30; prof. chem., Howard Coll., Birmingham, Ala. 1930 to date. Res. in molecular rearrang., of assymmetric, hydraz. of hydra. hydrate; acid base equibr., absorp. of oxyg. in alkal. solu. by mercap. Author: "Physico-Biological Science, a Syllabus"; 1945; "Experiments in Physico-Biological Science," a lab. manual, 1948. Mem.: A.C.S., A.A.A.S. (fellow),

A.I.C. (fellow), Ala. Acdy. Sc. (fellow). Clubs: Lions, Masonic Order; Chrmn. Ala. sec., A.C.S., 1935; pres. Ala. Acdy. Sc. 1948; ed. Jl. of A.A. Sc., 1949 to date.

Y

YABROFF, David Louis, assoc. dir., Shell Dev. Co., Emeryville, Calif.; res. 1914 Sunnybrook Dr., Lafayette, Calif.
Chem.; b. Wichita, Kans., June 30, 1908; s. of Oscar and Rose Yabroff; ed. U. Nebr., 1925-29, B.S.; U. Calif. 1929-34, Ph.D.; mem.: Phi Lambda Upsilon, Phi Beta Kappa, Sigma Xi; m. Evelyn Mittelman, Jan. 10, 1936; ch.: Ronald M., Stephen M. Shell Dev. Co., 1934, chem., then dept. hd., assoc. dir. to date. Res. in nitr. org. cmpds., ionization of org. boric acids; dev. gasoline treat. proc. (solutizer), proc. dev. org. chems. Mem.: A.C.S., Shell Dev. Res. Club. Hobbies: music, gardening.

YANOVSKY, Elias, in chg. starch & lactose sec., Eastern Regional Res. Lab., U.S. Dept. of Agr., Phila. 18, Pa.; res. 5600 Ogontz Ave., D-34, Phila. 41.
Chem.; b. St. Petersburg (Leningrad), Russia, June 10, 1886; s. of Jacob and Bella Yanovsky; ed. U. of St. Petersburg, B.S. 1911; Clark U., A.M. 1912, Ph.D. 1913; m. Alexandra Smirnova, July 9, 1912; ch.: Ruth Haycock, Esther Pike. Bur. of Chem., U.S. Dept. of Agr., Wash., D.C., 1913-18; Norwalk Tire & Rubber Co., Norwalk, Conn., 1919-23; Bridgeport Lab., Bridgeport, Conn., 1923-25; Intarvin Co., N.Y.C., 1925-27; Bloomfield Labs., Bloomfield, N.J., 1927-28; Bur. of Chem. & Soils (Bur. of Agr. Chem. & Engrg., Bur. of Agr. & Ind. Chem.), U.S. Dept. of Agr., Wash., D.C., 1929-43; Eastern Regional Res. Lab., Bur. of Agr. & Ind. Chem., U.S. Dept. of Agr., Phila., Pa., 1943 to date. Res. in chem. of carbohydrates; allyl starch, allylsucrose. Mem.: A.C.S., A.A.A.S. (fellow), N.Y. Acdy. of Sc.

YANOWSKI, Leo Kazmierz, assoc. prof. anal. chem., dept. chem., Fordham U.; res. 279 E. 203rd St., N.Y. 58, N.Y.
Teacher; b. Paterson, N.J., Nov. 27, 1901; s. of John and Clara (Bender) Yanowski; ed. Fordham U., N.Y.C., B.S., M.S., Ph.D.; mem.: Phi Rho Sigma; m. Eleanor Chadwick, June 25, 1930; ch.: Barbara Therese, Brenda Ann. Lab. asst., Citro Chem. Co., Maywood, N.J.; chem. teacher, Fordham Prep.; lecturer in chem., Fordham Schl. of Ed., Summer Schl. & Manhattan Div.; instr. to assoc. prof. anal. chem., Fordham Coll.; assoc. prof. quant. anal., Fordham U. Grad Schl. Over 25 pubs. in fld. of anal. chem. espec. use of inorg. complexes & org. reagents for detection of ions. Mem.: A.C.S., Metropolitan Microchem. Soc. (secy.-treas. 1941-44, pres. 1944-45). Hobby: fishing.

YANT, William Parks, dir. res. & dev., Mine Safety Appliances Co., J.T. Ryan Memorial Lab., 100 N. Braddock St., Pittsburgh 8, Pa.; res. R.D. No. 1, Murrysville, Pa.
Dir. chem. & physical res.; b. East Sparta, O., Nov. 13, 1893; s. of James Alpheus and Sara Elizabeth (Parks) Yant; ed. Wooster Coll., Wooster, O., B.S., 1918; grad. studies Wooster & U. Pittsburgh; D.Sc. (hon.), Wooster, 1942; mem.: Phi Beta Kappa; m. Elizabeth M. Grossman, July 29, 1933; ch.: William Parks, Jr., Gretchen Elizabeth, Susan Jane. 1918, C.W.S., jr. chem., res. war gases, Amer. U., Washington, D.C.; 1919-20, Wooster Coll., instr. chem.; 1921-36, U. S. Bur. Mines Experiment Station, Pittsburgh, jr. gas chem., asst. chem., assoc. chem., principal chem., supvg. engr.; 1936 to date, Mine Safety Appliances Co., dir. res. & dev.; 1937 to date, lect., U. Pittsburgh, Dept. Indus. Hygiene. W.W. II, N.R.C. (div. med. scs.), F.S.A. (procur. & assign. serv.), O.S.R.D. (spec. mission, Eng., 1942). Gas chem. with particular ref. to indus. & public health & safety; tox. & flam. gaseous vapors & dusts, protect. & control. hazards; detect. instruments & protect. appliances. Approx. 150 articles in sc. & tech. jls.; 33 U.S. pats. Mem.: A.C.S. (councilor, 1932-45; chmn., Pittsburgh Sec., 1931; Pittsburgh Award for Distinguished Service to Chem., 1946; chmn., finance comm., 1948 to date), A.I.M.E., A.P.H.A. (fellow), Am. Indus. Hygiene Assoc. (first pres., 1939; Donald E. Cummings Mem. Lect., 1947), A.M.A. (consultg. comm. environ. hygiene, 1950), Am. Stands. Assoc. (Z-37, Z-2, Z-16, Z-16.1, Z-62, S.C.C.C.), Am. Soc. Safety Engrs. (pres. 1950-51), Yale Inst. of Occup. Med. & Hygiene (advis. comm.), Inst. Indus. Med. (Coll. of Med., N.Y.U.; advis. comm.), A.E.C. (stack gas problem working group), Indus. Hygiene Found. of Am., Inc. (trustee), A.S.T.M., Natl. Fire Protect. Assoc., N.R.C. (chem. div.), N.S.C. (dir.), The President's Conference on Indus. Safety (chmn., res. comm., 1949, 1950), U.S. Tech. Conference on Atmos. Pollution (co-chmn., panel on equipt. & chmn., steering comm., 1950), Ramazzini Soc. Clubs: University (Pittsburgh), Seven Springs Farm. Hobbies: farming, outdoor sports.

YATES, William Emerson, asst. to manager, Westvaco Chem. Div., Food Machinery & Chem. Corp., Lawrence, Kans.
Chem. engr.; b. Bethany, Mo., Sept. 22, 1909; s. of Virgil T. and Marian L. Yates; ed. Bethany H.S., 1915-27; Northwest Mo. State Teachers Coll., B.S., A.B. in chem. physics, 1930-34; Iowa State Coll., M.S. in Ch.E., 1938; ad. grad. wk. 1938-41; mem.: Sigma Mu Delta; m. Oletha L. Nelson, June 2, 1935. 1927-30, C.R.I. & P.R.R., electrician apprentice; 1934-37, Hannibal, Mo. publ. schls., teacher of chem. physics; 1938-41, Mo. Schl. of Mines & Metallurgy, instr. Ch.E.; 1941 to date, Westvaco Chem. Div., Food Mchy. & Chem. Corp., chem. engr. Mem.: A.I.Ch.E., A.C.S., Alpha Chi Sigma. Hobbies: church work, gardening.

YEAGER, James Robert, mgr., cellulose prods. dept., Hercules Powder Co., 500 Fifth Ave., N.Y.C.; res. 3 E. 85th St.
Chem. engr.; b. Waverly, Mo., Nov. 19, 1898; s. of James William and Hatty Boatman Yeager; ed. U. Mo., B.S. Engrg., 1921; Ch.Engrg. 1923; mem.: Alpha Chi Sigma, Gamma Alpha; m. Margaret Bess Gray, June 12, 1931. Hercules Powder Co., 1923 to date; res. 1923-24; plant prod. 1924-43; sales, mark. dev. 1943-49; mgr., N.Y. off., 1949 to date.

YEAGLEY, Herbert Weber, Wash. rep., Monsanto Chem. Co., 918 Sixteenth St., N.W., Wash., D.C.; res. 2746 S. Buchanan St., Arlington, Va.
Chem. engr.; b. Penryn, Pa., Apr. 23, 1920; s. of Edward M. and Vera W. Yeagley; ed. 1942, B.S. in chem. engrg.; mem.: Sigma Alpha Epsilon; m. Annabel Sue Goade, July 31, 1943; ch.: Susanne Carol, Katherine Ann. Monsanto Chem. Co., 1942 to date, control chem. St. Louis, Mo., res. pilot plant engr., Anniston, Ala., asst. furnace supvr., Monsanto, Tenn., tech. rep., Wash., D.C., Monsanto rep., Wash., D.C. Mem.: A.I.Ch.E. (jr. mem.), A.C.S., Armed Forces Chem. Assn., Q.M. Assn., Chem. Engrs. Club of Wash. Clubs: Natl. Press (assoc. mem.), University. Hobbies: outdoor life, tinkering with mechanical devices.

YEE, Edward Goey, chem. engr., Sherwin-Williams Co., Chicago 28, Ill.; res. 7920 85th Ct., Oak Lawn, Ill.
Chem. engrg.; b. Canton, China; ed. B.S.E. (Ch. E.) 1932, M.S., 1933, Sc.D., 1936, U. of Mich.; m. Jennie Hwong, June 16, 1936; ch.: Leland,

Linda, Flora. Asst. in chem. engrg., Ohio State U., 1932; China Foundation Res. Fellow, U. of Mich., 1933-35; chem. engr., Sherwin-Williams Co., Chicago, 1936-44; dev. engr., U.S. Industrial Chem. Inc., Baltimore, 1944-46; chem. engr., Sherwin-Williams Co., Chicago, 1946 to date. Chem. pigments mfg. process engrg. Mem.: A.I.Ch.E. (active). Reg. Prof. Engr., State of Ill., Sigma Xi, Phi Lambda Upsilon, Phi Kappa Phi. Hobby: gardening.

YNTEMA, Leonard Francis, dir. of res., Fansteel Metallurg. Corp., North Chicago, Ill.; res. 1331 Ash St., Waukegan, Ill.
Chem.; b. St. Johns, Mich., July 29, 1892; s. of Douwe B. and Mary Elizabeth (Loomis) Yntema; ed. Hope Coll., 1915, A.B.; U. of Ill., 1917 A.M., 1921 Ph.D.; Hope Coll., 1927 D.Sc.; mem.: Alpha Chi Sigma; m. Mary Jean Busey, Aug. 29, 1923; ch.: Douwe B., George B., Mary Katherine. Natl. Res. Fellow 1921-23; instr., asst. prof. chem., U. of Ill., 1923-30; prof. of chem., hd. of dept., St. Louis U., 1930-43; Fansteel Metallurg. Corp., dir. of res., 1943 to date. Res. in inorg. chem., rare earths, electro chem. & refractory metals. Mem.: A.C.S., A.I.C., Electrochem. Soc., A.A.A.S., Sigma Xi, Phi Lambda Upsilon. Clubs: Glen Flora Country, University. Hobbies: golf, fishing.

YODER, Lester, asst. res. prof., Iowa State Coll., Ames, Iowa.
Asst. res. prof.; b. Stuttgart, Ark., June 27, 1892; ed. Purdue, B.S.A., 1916, M.S. 1917; m. Helen Winegar, Aug. 19, 1919; ch.: 2 sons, 1 dau. U.S. Food & Drug Insp., lab. helper 1912-13; Swift & Co., anal. chem. 1917; Iowa Agr. Expt. Sta., asst. chem. 1918-20; Parke, Davis & Co., asst. res. chem., 1920-23; farmer, 1923-25; Iowa Agr. Expt. Sta., asst. res. prof. 1925 to date; U.S.A. 1918; dis. and pat. proc. for prep. antirachitic vitamin from sterols with acids. Mem.: Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma, A.C.S., F.A.I.C. (secy. Ames Sect., 1935, 1945, chrmn., 1946).

YOHE, Gail Robert, chem. & hd. coal div., geochem. sec., State Geological Survey, Urbana, Ill.; res. 313 E. Washington St., Urbana.
Chem.; b. Burlington, Iowa, Feb. 8, 1904; s. of Harry U. and Nellie A. (Blodgett) Yohe; ed. Burlington, Iowa H.S. 1921; B.A., Cornell Coll., Iowa, 1925; M.S., U. of Ill., 1927, Ph.D. 1929; mem.: Alpha Chi Sigma; m. Martha Louise Tryon, June 24, 1931; ch.: James Michael, Daniel Charles. Goodyear Tire & Rubber Co., Akron, Ohio, res. chem., 1929-30; Ohio Wesleyan U., Delaware, Ohio, asst. prof. chem. 1930-34, assoc. prof. 1934-37; Ill. State Geol. Survey, Urbana, Ill., assoc. chem. 1937-42, chem. 1942-45, chem. & hd. coal div. 1945 to date. Chem. nature of coal & contribs. to knowledge of initial stages of atmospheric oxidation of coal; coal carbonization. Co-author: with F.H. Reed, H.W. Jackman, O.W. Rees, & P.W. Henline, "Use of Ill. Coal for Prod. of Metallurg. Coke," Ill. State Geolog. Survey Bull. 71, 1947. Mem.: A.C.S., Ill. Acdy. of Sc., Ill. Mining Inst., Blast Furnace & Coke Assn. of Chicago District. Hobbies: hunting, fishing, Boy Scout work.

YONKMAN, Frederick F., dir. of res., Ciba Phar. Prods. Inc., Summit, N.J.; res. 58 Pomeroy Rd., Madison, N.J.
Exec.; b. Holland, Mich., Sept. 9, 1902; s. of Fritz and Kate (Hemmes) Yonkman; ed. Hope Coll., Holland, Mich., A.B. 1925; Yale U. 1925-26; U. of Iowa, Ph.D. 1928; Boston U., M.D. 1939; fellowship to Int. Congress in Rome awarded in 1932 by Fed. of Am. Societies of Experimental Biology; mem.: Sigma Xi, Gamma Alpha, Alpha Omega Alpha; m. Janet Albers 1928; ch.: Frederick Albers, Gretchen Jan, John Richard. Grad. asst., Yale U., 1926; res. asst., U. of Iowa, 1926-28, instr. pharmacology 1928-29; asst. prof. pharmacology & therapeutics, Boston U., 1929-33; assoc. prof. pharmacology & therapeutics 1933-39; prof. pharmacology & therapeutics, Wayne U., 1939-44; hd. of pharmacology, Ciba Phar. Prods. Inc., 1944-46, dir. of res. 1946 to date; lecturer pharmacology & therapeutics, Columbia U., Coll. of Physicians & Surgeons, 1944 to date; faculty mem., U. of Mich., Postgrad. Ext. 1942-44. Author about 100 arts., appearing in var. med. jls. Mem.: Am. Soc. for Pharmacology & Experimental Therapeutics, Am. Medical Assn., Mich. State Medical Soc., S.E.B.M., Acdy. of Allergy, N.Y. Acdy. of Sc., Northern Tri-State Medical Assn. (v.p. 1944-46). V.p., Y.M.C.A., Madison, N.J. Hobbies: golf, woodworking, gardening.

YORK, Willard D(enison), plant supt., Vegetable Oil Products Co., Vopcolene Div., 5568 E. 61st St., Los Angeles 22, Calif.; res. 901 N. Hidalgo Ave., Alhambra, Calif.
Prof. engr., chem. engr. (Calif. No. 1220); b. Flushing, N.Y., Oct. 18, 1894; s. of Ervine Denison and Margaret M. York, M.D.; ed. Cornell U., Ithaca, N.Y., 2 yrs.; Columbia U., N.Y.C. 1½ yrs.; mem.: L.I. Club of Cornell; m. Margaret E. Van Degrift, Aug. 5, 1925; ch.: Willard V., Denison W. 1917-19 Bagway Chem. Co., Eliz., N.J., asst. supt.; 1919-20 Chestnut & Smith, Tulsa, Okla., chf. chem.; 1921-39 Vegetable Oil Prods. Co., Wilmington, Calif., supt.; Jan., 1943 to 1950 W.C. Hardesty Co., Los Angeles, Calif., plant supt.; since Aug. 1, 1950, Vegetable Oil Products Co., Vopcolene Division, plant supt. Mem.: A.C.S. Clubs: Kiwanis (past pres.), Cornell U. Alumni Assn., Wilmington Lodge, F.&A.M. of Calif. No. 198, San Gabriel Valley Philatelic Soc. Hobbies: stamp collecting, trout fishing, camping.

YOUDEN, William John, mathematician, asst. chf., statistical engineering laboratory, Natl. Bur. of Standards, Washington 25, D.C.; res. 3810 47th St., N.W., Washington 16, D.C.
Chem. and statistician; b. Australia, Apr. 12, 1900; s. of W.J. and Margaret Hamilton Youden. B.S. in Ch.E., U. of Rochester, 1921; Columbia U., M.A., 1923, Ph.D., 1924; University Coll.; mem.: Theta Chi, Phi Beta Kappa, Sigma Xi, Lambda Upsilon; ch.: William Wallace, Robert Hamilton, Julius Hartmann. Instr., in chem., U. of Rochester, 1921-22; physical chem., Boyce Thompson Inst. for Plant Res., Yonkers, N.Y., 1924-48; operations analyst, Army Air Forces, 1942-45; asst. chf., Statistical Engineering Lab., 1948 to present. Res. in glass electrode, U.S. Pat. Mem.: A.C.S., A.A.A.S., Am. Stat. Assoc., Inst. Math. Stat., Biometrics Soc., Amer. Soc. Quality Control, Math. Assoc. of Amer., N.Y. Acdy. Sc., Acdy. Sc. (Va.), Acdy. Sc. (Washington), Medal of Freedom. Hobby: amateur printer.

YOUNG, C. Frederick, plant chem., Rising Paper Co., Housatonic, Mass.; res. Rising Apts., Park St., Great Barrington, Mass.
Paper mill chem., mill tech. dir.; b. Waterbury, Conn., Aug. 27, 1902; s. of Frederick and Catherine (Callahan) Young; ed. Pulp & Paper Chem. Engrg. Course, N.Y. State Coll. of Forestry, Syracuse U.; m. Ann Duffy Young, Feb. 14, 1942; ch.: Kathleen Ann, Jayne Ava. Mead Corp., Kingsport, Tenn., 1927-33, lab. technician & process supvr. pulp & paper mill; N.Y. State Coll. of Forestry, Syracuse U., asst. to Prof. C.E. Libby in paper testing wk., 4 mos.; Gen. Dyestuffs Corp., N.Y.C., 1 yr., dyestuff sales trainee; Winchester Repeating Arms, New Haven, Conn., 1 yr., explosives process operator & lab. anal.; Oxford Paper Co., Rumford Falls, Me., 6 mos., res. & fld. complaints on Bewoid Rosin Size for Bulkley

Dunton Co. of N.Y. with facilities located at Oxford Paper Co.'s res. lab.; Rising Paper Co., Housatonic, Mass., 1935 to date, plant chem., lab. dir. & mill tech. processes supvr.

YOUNG, David Wilson, sr. res. chem., Stand. Oil Dev. Co., Esso Res. Center, Linden, N.J.; res. 401 Jouet St., Roselle, N.J.
Res. chem.; b. Oblong, Ill., Aug. 16, 1909; s. of William Lee and Bertha (Wilson) Young; ed. U. of Ky., B.S. in ind. chem., June, 1931, M.S. in chem., June, 1935; mem.: Pi Kappa Alpha, Phi Mu Alpha, Alpha Chi Sigma; m. Eloise Conner, July 31, 1935; ch.: Norma Snell, Susan Wilson. 1931-36, res. chem., Ky. Agr. Expt. Station, Lexington, Ky.; 1936-40, res. chem., Laurel Hill Res. Lab., Long Island City (Gen. Chem. Co.); July, 1940 to date, sr. res. chem., chem. div., Esso Res. Lab., Stand. Oil Dev. Co., Linden, N.J. "Iodine survey" to determine iodine content of soils, rocks, waters, foods, etc. of Ky.; also dev. new metal halide catalysts for the low temp. polymerization of olefins to form rubbers, resins, oils, safety fuels & viscosity index improvers for mineral oils as well as syn. ester lubes. 70 U.S. pats. in flds. of anti-oxidants, polymers, resins, oil additives, wax blends for paper coatings & the prep. of chems. from olefins. Mem.: Sigma Xi, Resa, Esso Res. Club, A.C.S., A.I.C. (fellow), Ky. Acdy. of Sc. Abstractor for "Chem. Abstracts." Club: Westfield Camera. Hobbies: traveling, photochemistry, photography, golf, swimming; owns & plays Testore violin.

YOUNG, Ferdinand H., v.p., dir. of prod., Abbott Labs., 14th St. & Sheridan Rd., North Chicago, Ill.; res. 404 Sunrise Ave., Lake Bluff, Ill.
Exec.; b. Bklyn., N.Y., June 2, 1889; m. Ann Wolff; ch.: 4 daughters. Officer: Abbott Labs. Export Corp., Chicago, Ill. (chmn. of bd.); Abbott Labs. Internatl. Co., Chicago, Ill. (chmn. of bd.); Abbott Labs. Ltd., Canada (dir.).

YOUNG, George Husband, asst. dir., Mellon Inst., 4400 Fifth Ave., Pitts. 13, Pa.; res. 533 Briar Cliff Rd., Pitts. 21, Pa.
Res. chem. & engr.; b. Meyersdale, Pa., May 14, 1909; s. of Wayland P. and Edith (Husband) Young; ed. Pa. State Coll., B.S. 1932, M.S. 1934, Ph.D. 1936; mem.: Alpha Chi Sigma, Phi Lambda Upsilon, Phi Kappa Phi, Sigma Psi; m. Ann Lewis Reimel, Aug. 5, 1933; ch.: Patricia Ann. Grad. asst., Pa. State Coll., 1933-35; fellow, Stoner-Mudge Inc. Fellowship on protective coatings, Mellon Inst., Dec., 1935-37, sr. fellow 1937-44; concurrently, dir. of res., Stoner-Mudge Inc., 1937-44; exec. asst. to dir., Mellon Inst., 1944-47, asst. dir. 1947 to date. Authority in fld. of org. polymers, resinous coatings, corrosion protection, ind. marine & antifouling paints, in which fld. lectured, pub. num. tech. contribs. Assoc. ed., "Corrosion Handbook" Wiley, 1948. Mem.: A.A.A.S. (fellow), A.I.C., A.C.S., Pa. Chem. Soc. (pres. 1950), Assn. Naval Architects & Marine Engrs., Natl. Assn. Corrosion Engrs., S.C.I., Reg. Chem. Engr. Pa. 1948, admitted to practice U.S. Pat. Office, 1940. Mem., bd. of trustees, Pa. State Coll., 1948 to date. Clubs: University (Pitts.), Chemists' (N.Y.), Cosmos (Wash.), Newcomen Soc. of England. Hobbies: arts & crafts, furniture refinishing, modern art, contemporary music.

YOUNG, Harland Harry, Jr., asst. dir. of res., Swift & Co., Chicago 9, Ill.; res. 4724 Wolf Rd., Western Springs, Ill.
Org. chem.; b. Portland, Ore., July 29, 1908; s. of Harland H. and Lillian L. Young; ed. B.A. chem., Reed Coll., Portland, Ore.; Ph.D. org. chem., M.I.T., Cambridge, Mass.; m. A. Ruth Martin, Oct. 3, 1932; ch.: Anne Linda, Amie Ruth, Harland H., III. 1932-37, res. chem., Swift & Co., 1937-39 hd. new prods. dev., 1939-41 asst. to chf. chem., 1941 to date asst. dir. of res. Mem.: A.C.S., A.I.Ch.E., T.A.P.P.I.

YOUNG, Hoylande D(enune), dir. of tech. info., Argonne Natl. Lab., P.O. Box 5207, Chicago 80, Ill.; res. 905 E. 61st St., Chicago 37, Ill.
Chem.; b. Columbus, Ohio, June 26, 1903; s. of N.F. and Ethel (Denune) Young; ed. B.S., Ohio State U.; Ph.D., U. of Chicago. Van Schaack Bros. Chem. Wks. Inc., 1926-30, res. chem.; Texas State Coll. for Women, 1930-34, assoc. prof.; conslt. 1935-38; Pure Oil Co., Chicago, 1938-41, chem.; U. of Chicago Toxicity Lab., 1942-45, res. assoc. dept. of pharmacology; Metallurg. Lab., U. of Chicago, 1945-46, sr. chem., name changed July 1, 1946 to Argonne Natl. Lab., 1946 to date, dir. of tech. info. Mem.: A.C.S., A.A.A.S., Sigma Xi, Sigma Delta Epsilon, Iota Sigma Pi. Club: Quadrangle. Hobby: child welfare.

YOUNG, James Howard, pres., dir., H.H. Robertson Co., 2400 Farmers Bank Bldg., Pitts. 22, Pa.; res. 370 Jefferson Dr., Pitts. 28.
Chem. engr.; b. Kansas City, Kans., Jan. 5, 1892; s. of James Andrew and Mary E. (Farr) Young; ed. Kansas City H.S.; Kans. State Coll. B.Sc. engrg. 1914; Ohio State U., M.S. 1916, Ph.D. 1918; mem.: Sigma Xi, Phi Lambda Upsilon; m. Mildred Morse, Sept. 2, 1916; ch.: James Donald, Virginia (Young) Scarlett, David Hall, Richard Aldrich. Ind. fellow, Mellon Inst. of Ind. Res., 1918-29; v.p., H.H. Robertson Co., 1929-40, v.p., gen. mgr. 1940-48, pres. 1948 to date; dir., Robertson-Irwin Ltd., Hamilton, Canada, 1948 to date. Mellon Inst. of Ind. Res., Pitts., Pa. (sr. fellow). Res. C.W.S. 1916-18. Num. U.S. & foreign pats. Mem.: A.C.S., A.I.Ch.E. Clubs: Duquesne, University, Pittsburgh, St. Clair Country.

YOUNG, Jesse S., asst. to pres. in chg. of sales, Advance Solvents & Chem. Corp., 245 5th Ave., New York 16, N.Y.; res. 144-30 72nd Ave., Kew Garden Hills, Flushing, N.Y.
Chem. sales mgr.; b. Bklyn., N.Y., Apr. 12, 1917; s. of Samuel and Harriet Young; ed. B.S., C.C.N.Y., 1937; mem.: Baskerville Chem. Soc.; m. Evelyn Richter, Jan. 9, 1949; ch.: Irwin Harry, Susan Marsha. Chem. sales mgr., Advance Solvents & Chemical Corp., 1937 to present. Mem.: A.C.S., Drug & Chem. Square Club, New England & New York Paint Varnish & Lacquer Assoc., New York & Conn. Rubber Group, C.C.N.Y. Chemical Alumni Assoc. Hobby: photography.

YOUNG, Philena (Anne), chem. prof., Wells Coll., Aurora, N.Y.; res. Aurora, N.Y.
Prof. of chem.; b. Goshen, N.Y., Sept. 1, 1896; d. of Charles S. and Margaret W. Young; ed. Mount Holyoke Coll., A.B., 1918, A.M., U. of Chicago, 1919, Ph.D., U. of Michigan, 1928; holder of Edith Barnard Fellowship, U. of Chicago, 1918-19; of 1905 Fellowship from Mount Holyoke Coll., 1925-26; U. of Michigan Fellowship, 1926-28. Instr. in chem., Mount Holyoke Coll., 1919-21; instr. in chem., Wells Coll. 1921-23, asst. prof. of chem., Goucher Coll., 1923-25; asst. prof. of chem., Wells Coll., 1928-29; prof. of chem., Wells Coll., 1929 to present. Res. in anal. chem.: methods for chromium and vanadium in alloy steels, ceric salts as volumetric oxidizing agents, potentiometric methods. Contrib. extens. to sc. and tech. journals. Mem.: A.C.S., A.A.A.S. (fellow), A.A.U.P., Sigma Xi, Iota Sigma Pi.

YOUNG, Ralph Chillingworth, assoc. prof. of inorganic chem., M.I.T., Cambridge, Mass.; res. 112 Scituate St., Arlington, Mass.
Teacher; b. Phoenix, N.Y., Oct. 20, 1889; s. of Daniel F. and Nelle C. Young; ed. Phoenix H.S.;

Syracuse U., A.B. 1912, M.A. 1913; Ph.D. M.I.T.; 1929; mem.: Kappa Sigma; m. Marcella E. Fosbinder, 1916; ch.: Margaret H., Jr. chem., Bur. Chem., Dept. of Agr., 1917-18; instr., Syracuse U., 1919-21; M.I.T., instr. 1922-29, res. assoc. 1929-34, asst. prof. 1934-40, assoc. prof. 1940 to date. Res. less familiar elements. Co-author: "Inorganic Chem." with Norris, 1938. Mem.: A.C.S., Am. Acdy. of Arts & Sc., Sigma Xi. Hobbies: fishing, hiking.

YOUNG, Sheldon J., tech. supvr., Natl. Paper Prods. Co., div. Crown Zellerbach Corp., Carthage, N.Y.; res. 112 S. James St.
Chem. engr.; b. Wash., D.C., July 26, 1910; s. of William J. and Alice E. Young; ed. N.Y. St. Coll. of Forestry, Syracuse U., B.S. 1931; mem.: Alpha Xi Sigma (hon. forestry soc.), Alpha Chi Sigma (prof. chem. frat.); m. Elizabeth Pearl Miller, June 21, 1941. 1931-34, U.S. Testing Co., anal. chem.; 1934, Natl. Paper Prods. Co., contr. chem., asst. tech. supvr., tech. supvr.; 1944-45, active duty U.S.A., Chem. Warfare Serv. Mem.: T.A.P.P.I., treas. 1st Presby. Ch. (Carthage, N.Y.). Hobbies: golf, bowling, photography.

YOUNG, William Gould, dean of div. of physical sc., prof. of chem., chem. dept., U. of Calif., Los Angeles, Calif.; res. 955 Harvard St., Santa Monica, Calif.
Prof.; b. Colo. Springs, Colo., July 30, 1902; s. of Henry A. and Mary E. Young; ed. B.A. 1924, M.A. 1925, Colo. Coll.; Ph.D. 1929, Calif. Inst. of Tech.; mem.: Kappa Sigma; m. Helen Graybeal, June 4, 1926. Res. asst., Coastal Lab., Carnegie Institution, 1925-27; Am. Petrol. Inst. Fellow, 1927-29; du Pont Fellow, 1928-29; Natl. Res. Fellow, Stanford, 1929-30; instr., U. of Calif., Los Angeles, 1930-31, asst. prof., 1931-38, assoc. prof., 1938-43, prof., 1943 to date, chmn. dept. chem. 1940-48, dean div. of physical sc., 1946 to date, faculty res. lecturer, 1947. Publ. on plant pigments, carbohydrates, oxidation, stereoisomerism, dehydration of alcohols, allylic rearrangements, mechanism of displacement reactions, Grignard reagent, syn. of cmpds. related to Vitamin A. Mem.: A.A.U.P., A.C.S. (mem. since 1926; Southern Calif. Sec. councilor 1939-40, 1943-50; chmn. 1940-41; div. of org. chem. exec. comm. 1940-42, 1947-50; chmn. 1948-49; comm. on prof. training, 1943 to date; chmn. 1948 to date; council policy comm. 1947-51; council comm. on chem. ed. 1947-50; chmn. 1947-48). Hobbies: golf, fishing, photography.

YOURTEE, John A(shby), staff chem., Sylvania Div., Am. Viscose Corp., Fredericksburg, Va.; res. 1316C Kenmore Ave., Fredericksburg.
Chem.; b. Brownsville, Md., Aug. 27, 1913; s. of Ernest L(ivingstone) and Virginia (Buchanan) Yourtee; ed. U. of Md., B.S. 1933, Ph.D. 1943; mem.: Alpha Chi Sigma; m. Nancye A. Blackburn, June 15, 1940; ch.: John B(oteler), Lawrence L(ivingstone). Res. chem., Sylvania Ind. Corp., Fredericksburg, Va., 1934-40, 1943-46, pat. searcher 1940-43; grad. asst., U. of Md., 1940-43; staff chem., Sylvania Div., Am. Viscose Corp., Fredericksburg, Va., 1946 to date. Res. in flds. of cellulose prods., lacquers, syn. resins & plastics. Mem.: A.C.S., A.I.C. (fellow), Phi Kappa Phi, Sigma Xi. Hobby: mycology.

YUSKA, Henry, res. chem., Interchem. Corp., 432 W. 45th St., N.Y. 19, N.Y.; res. 84-07 122nd St., Richmond Hill 18, N.Y.
Chem.; b. Bklyn., N.Y., Nov. 7, 1914; ed. B.S., C.C.N.Y., 1935; M.S., Polytech. Inst., Bklyn., 1939; University fellow, Ill., 1941-42; Ph.D. org. chem., 1942. Res. chem., Jewish Hosp., Bklyn., 1935-39; asst. chem., Ill., 1941; res. org. chem., Barrett Div. Allied Chem. & Dye Corp., 1942-43; resin group leader, Interchem. Corp., 1943 to date; instr. evenings, Hunter Coll., 1943-46.

YUSTER, Samuel Terrill, prof. engrg., dept. engrg., U. Calif., Los Angeles, Calif.; res. 10978 Wilkins Ave., Los Angeles.
Coll. prof.; b. Manchester, England, Dec. 21, 1903; s. of Tobias and Fannie Belle Yuster; ed. B.S., N.Dak. St. Coll.; Ph.D., U. Minn.; mem.: Sigma Xi, Phi Kappa Phi, Phi Lambda Upsilon, Sigma Gamma Epsilon; m. Rose Bernice Goldich, Dec. 9, 1934; ch.: Louis Howard, Frances Ann. Instr. sc. & math., Oberon High Schl., 1926-27; chem. U.S. Bur. Stands., San Fran., Calif., 1927-29; teaching asst. fellow & res. assoc. U. Minn., 1929-34; chf. div. pet. engrg., chg. pet. prod. res., Pa. St. Coll., Schl. Mineral Indust., 1934-49; prof. engrg. U. Calif. 1949 to date. Pioneer wk. on chem. of heavy water & heavy hydro. Discov. reaction between acety. & heavy water. Wk. on mechanism of flow of heterog. fluid mixt. through oil sands. Mem.: A.C.S., A.A.A.S., A.S.E.E., A.A.U.P., A.P.I., A.I.M.E. Mem. Comm. on Core Anal. & Elec. Logging, chmn. Eastern Dist.; mem. Eastern Dist. Topical Comm. on Prod. Tech., Secondary Recovery Com., past chmn., Central Penn. Sect. A.C.S.

Z

ZABEL, Herman W., assoc. ed., "Chemical Industries," 330 W. 42nd St., N.Y. 18, N.Y.; res. 144-61 Village Rd., Jamaica 2, N.Y.
Chem. engr.; b. Westmoreland, Kans., Jan. 10, 1917; s. of Fred and Bertha Zabel; ed. Kans. St. Coll., B.S. Chem.E. (hon.); Columbia U., M.S. Chem.E.; 1936-39 Columbia U.; m. June Carlsen, June 21, 1945; ch.: Carolyn June. 1936-38 chem. engr., E.I. du Pont de Nemours & Co.; 1938-39, Natl. Lead Co., fellow at Columbia U.; 1941-42 instr. chem. engrg., Kans. St. Coll.; 1942 engr. res., Pratt & Whitney Aircraft Co.; 1942-45, chem. engr., Gen. Aniline & Film Corp.; 1945 to date assoc. ed., "Chemical Industries." Mem.: Sigma Xi, Phi Lambda Upsilon, A.I.Ch.E., A.C.S.

ZABOR, John William, dir. of res. & dev., Pitts. Coke & Chem. Co., Pitts. 25, Pa.; res. 443 Beverly Rd., Pitts. 16.
Res. chem.; b. Cleveland, Ohio, Jan. 27, 1915; s. of John C. and Emma W. Zabor; ed. Hiram Coll., A.B. 1936; Brown U., M.S. 1938; U. of Rochester, Ph.D., 1940; m. Beverly E. Lewis, June 22, 1940; ch.: Barbara Lynne, Stephen Lewis, John Douglas. Res. assoc., Woods Hole Oceanographic Inst., 1940, 1941; chem. instr., Williams Coll., 1940-42; asst. dir. of Central Lab., Natl. Def. Res. Comm. Div. 10, Northwestern U., 1942-45; dir. of res., Activated Carbon Div. Pitts. Coke & Chem. Co., 1945-48; dir. of res. & dev., Pitts. Coke & Chem. Co., 1948 to date. Mem.: Sigma Xi, A.C.S., Pitts. Chemists' Club, Armed Forces Chem. Assn., Natl. Agr. Chem. Assn., Chem. Specialties Mfg. Assn. Award: President's Cert. of Merit. Hobbies: music, sports, photography.

ZACHLIN, Anthony C., res. chem., Willard Storage Battery Co., Cleveland 1, Ohio; res. 3720 Grosvenor Rd., Cleveland Heights 18, Ohio.
Res. chem.; b. near Minsk, White Russia, Polish parentage, Mar. 7, 1898; s. of Stanislaus Roch and Philomena (Kuklik) Zachlin; ed. Union Coll., B.S. in Chem.; Robert M. Fuller Gold M. in chem. 1921; Columbia U., M.A., 1925; Yale U., 1925-26; mem.: Alpha Gamma Phi; m. Yvonne Racette; July 7, 1928; ch.: Zoe Agnes, Adam Conrad. Gen. Elec. Co., res. lab., Schenectady, N.Y., summer 1920; Western Elec. Co. & Bell Telephone Labs., N.Y.C., chem. & electrochem. res., 1921-25; Yale U., New Haven, Conn., asst. in phys. chem. 1925-

26; Althouse Chem. Co., Reading, Pa., chem., 1926; Willard Storage Battery Co., res. chem., 1927 to date. Inventor of new type of storage battery (LD Cells); studies on self discharge of storage batteries. Author of studies on self discharge of storage batteries pub. in "Transactions of Electrochem. Soc.," 1935, 1942, 1947, 1950; U.S. & Canadian pats. on storage batteries & processes. Mem.: A.C.S. (secy. Cleveland Sec. 1932-34), Electrochem. Soc. (chmn. Cleveland Sec. 1939), Sigma Xi, A.A.A.S. Hobbies: chess, gardening, bridge, photography.

ZAHM, Harry V., prodn. mgr., penicillin mfr., Bristol Labs. Inc., Syracuse, N.Y.; res. 401 Buffington Rd., Syracuse, N.Y.
Prod. mgr.; b. Oberlin, Ohio, Aug. 24, 1915; s. of Victor and Mary Zahm; ed. A.B., Oberlin Coll., 1938; Ph.D., Ohio State U., 1942, Sigma Xi, Phi Lambda Upsilon. Grad. asst. & asst., Ohio State, 1938-42; res. chem., Natl. Aniline Div., Allied Chem. & Dye Corp., 1942-44; res. chem., dept. hd., asst. prod. mgr., prod. mgr., Bristol Labs. Inc., 1944 to date. Mem.: A.A.A.S., A.C.S., Sigma Xi. Hobbies: gardening, stamp collecting.

ZARTMAN, Walter H., supvr., E.I. du Pont de Nemours & Co., Wilmington, Del.; res. 1503 Veale Rd., Westwood Manor, Wilmington.
Dev., chem. supvr.; b. New Haven, Conn., Nov. 16, 1905; s. of Lester W. and Laura Louise Black Zartman; ed. U. Ill., 1927, B.S. Chem. Engrg. (high hon.); U. Wis., 1933, Ph.D. Org. Chem.; mem.: Alpha Chi Sigma; m. Edna Louise Nelson, Aug. 20, 1930; ch.: William Nelson, Charles Robert. Chem., Kimberly-Clark Corp.; Neenah, Wis., 1927-29; res. chem., du Pont Co., Wilmington, Del., 1933-35; (U. Wis., Ph.D., 1929-33); prod. supvr., du Pont Co., 1935-42; tech. supt. Wabash River Ordn. Wks., Newport, Ind., 1942-43; mgr., chem. div., Off. Rubber Reserve, Wash., D.C. 1943-46; supvr., dev. group, du Pont, Wilmington, Del., 1946 to date. Mem.: Sigma Xi, Lambda Chi Upsilon. Hobbies: gardening, sailing.

ZECH, John David, res. chem., J.T. Baker Chem. Co., Phillipsburg, N.J.; res. 119 Parker Ave., Easton, Pa.
Chem.; b. Seven Valleys, Pa., Dec. 9, 1914; s. of Harry E. and Katie (Bollinger) Zech; ed. 1930-34, Lebanon Valley Coll., Annville, Pa., B. S. 1934; 1935-39, Pa. State Coll., State Coll., Pa., M.S. 1937, Ph.D. 1940; mem.: Alpha Chi Sigma; m. Mary Barth, June 7, 1941; ch.: Nancy, Linda. Res. chem., 1939-43, Socony-Vacuum Oil Co., Paulsboro, N.J.; res. chem., 1943-46, Devoe & Raynolds Co., Louisville, Ky., acting res. dir. 1946, res. dir. 1947-49; res. chem., 1950 to date, J.T. Baker Chem. Co., Phillipsburg, N.J. 5 U.S. pats., other pats. pending. Mem.: A.C.S., A.A.A. S., Sigma Xi, Phi Lambda Upsilon. Hobbies: photography, gardening.

ZECHMEISTER, Laszlo K.E., prof. of org. chem., Calif. Inst. of Tech., Pasadena, Calif.; res. same.
Prof.; b. Gyor, Hungary, May 14, 1889; s. of Charles and Irene (Mocsary) Zechmeister; ed. Zurich, Eidgenössische Technische Hochschule, Switzerland, diploma of chem., 1911, Dr. der technischen Wissenschaften, 1913; m. Elizabeth Sulzer, Mar. 16, 1949. Asst. to Prof. Willstätter, Kaiser Wilhelm Inst., Berlin-Dahlem, 1912-14; instr., Danish Roy. Veterinary & Agr. Coll., Copenhagen 1921-23; prof. chem., Medical Schl. U., Pécs, Hungary 1923-40; prog. of org. chem., Calif. Inst. of Tech., 1940 to date. Carbohydrates, enzymes, carotenoid pigments, stereochem. studies, fluorescing substances, meths. of chromatography. Author: "Carotinoide," Berlin, Springer, 1934; "Progress in Chromatography 1938-47," London, Chapman & Hall 1949; co-author: "Principles & Practice of Chromatography" in collaboration with L. Cholnoky, London, Chapman & Hall, & N.Y., Wiley, 1943. Editor, "Progress in the Chem. of Org. Natural Prods." Springer, Vienna, 1938 to date.

ZEHRUNG, Winfield Scott, pres. and gen. mgr., The Pennzoil Co., Box 78, Oil City, Pa.; res. 115 Wyllis St., Oil City, Pa.
Exec.; (petroleum refining & marketing); b. Montpelier, Indiana, Jan. 15, 1897; s. of Winfield Scott and Gertrude (Mahoney) Zehrung; ed. grade and high schl., Meadville, Pa.; B.S. chem., Allegheny Coll.; mem.: Phi Beta Kappa, Alpha Chi Sigma, Phi Gamma Delta; m. Sara Lane Myton, 1929; ch.: Winfield Scott, Saralane. Employed by The Pennzoil Co., and its predecessors from Sept. 22, 1919 until present in following positions: chf. chem., asst. refinery supt., mgr. ind. sales, sales mgr., gen. mgr. and sales mgr., gen. mgr.-sales mgr. and v.p., pres. and gen. mgr. (and member of bd.) from 1937 until present, also v.p. and member of Bd. of South Penn Oil Co.; v.p. and dir., Natl. Transit Co., dir., The Pennzoil Co. of Calif., dir. Mem.: A.C.S., A.P.I. (member of bd.), A.S. T.M., Natl. Pet. Assoc. (pres.), Associated Pet. Inds. of Pa. (exec. comm.), Natl. Pet. Council. Bd. member and secy. of Oil City Hospital, dir. Oil City Chamber of Commerce. Clubs: Wanango Country, Oil City, Bradford.

ZELLHOEFER, John Arthur, sales mgr., chem. div., chem. dept., Gen. Elec. Co., 1 Plastics Ave., Pittsfield, Mass.; res. 38 Williams St., Pittsfield.
Sales exec.; b. Parker, S.D., Dec. 27, 1909; s. of Guy William and Lydia (Adamson) Zellhoefer; ed. U. of S.D., 1926-29; U. of Pa., Wharton Schl., 1929-31, B.S. in bus. adm.; mem.: Phi Delta Theta; m. Vivien S. Matheson, Sept. 27, 1935; ch.: John William, Joan Judith, Jerald Anthony. Limestone Prod. Corp. of Am., sales mgr. 1931-40; Barrett Div. Allied Chem. & Dye Corp., St. Louis & N.Y.C., sales chem. div. 1941-48; Gen. Elec. Co., chem. dept. sales mgr., Pittsfield, 1948 to date. Civilian conslt. War Dept., Medical Dept., 1942-43. Mem.: A.C.S., Soc. Plastic Engrs., Natl. Sales Exec. Club. Pres., dir., Berkshire Sales Exec. Club. Club: Pittsfield Country. Hobbies: tennis, golf.

ZERBAN, Frederick William, chem. in chg. The New York Sugar Trade Lab., Inc., 113 Pearl St., New York 4, N.Y.; res. 40 Fifth Ave., New York 11, N.Y.
Chem.; b. Oppenheim on Rhine, Germany, Oct. 20, 1880; s. of Alexander and Mathilde Zerban; ed. Gymnasium, Darmstadt, Germany; U. of Munich, Germany, Ph.D.; m. Helen Regan, Aug. 18, 1908. Lab. asst., Munich, 1901-04; Carnegie asst., North Carolina and City Coll. N.Y., 1904-06; chem., La. Sugar Exp. Sta., 1906-08; dir., Sugar Exp. Sta., Peru, 1908-09; subdir., Agr. Exp. Sta., Argentina, 1909-10; res. chem., P.R. Sugar Planters Exp. Sta., 1911-12; mgr. agr. office, Potash Syndicate, 1913-17; res. chem., La. Sugar Exp. Sta., 1917-20; dir. res., Penick & Ford, Ltd., 1920-23; chem. in chg. N.Y. Sugar Trade Lab., 1923 to date. Asst. edit., "Chem. Abstracts." With Q.M. Food & Container Inst., U.S.A. Res. in radioactivity; prod. of sugar cane and cane sugar; fertilizers; cane syrups and molasses; composition and analysis of sugar prods. Co-author (with C.A. Browne), "Physical and Chem. Meths. of Sugar Analysis," 3rd edit., 1941, John Wiley & Sons, New York; also "System of Cane Sugar Factory Control of the Internatl. Soc. of Sugar Cane Technologists," 1942; Sugar, New York, N.Y. Mem.: A.A.A.S., A.C.S., fellow, A.I.C., A.I.Ch.E., I.F.T., A.A.Cl.C., Soc. Sugar Cane Tech., Acdy. Nacional de Ciencias Exactas, Fisicas y Nat. de Lima, Sugar Tech. Assoc., India, life mem. Soc. Zymol. Pure et Appliquee, Assoc. des Chim. et ingenieurs de sucrerie, distillerie et industs. agr. de

France et des Colonies, Int. Soc. Sugar Cane Tech. (pres. 1929-32), Int. Commis. Uniform Methods Sugar Anal. Club: Chemists' (N.Y.). Hobbies: music, mountain climbing.

ZERGIEBEL, Charles P., project engr., Victor Chem. Wks., P.O. Box 1130, Nashville, Tenn.; res. Harding Pl., Nashville 5.
Conslt. on elec. furnace operation & design; b. Mt. Vernon, Ind., Oct. 21, 1895; s. of George F. and Emma Zergiebel; ed. Purdue U., B.S. chem. engrg., 1923; mem.: Phi Delta Chi; m. Lucy H. Locke, Jan. 28, 1928; ch.: Charles Locke. 1923-33, res. engr., Al. Co. of Am., elec. furnace dev.; 1933-34, Com. Solvent Corp., still house frmn.; 1934-37, Tenn. Valley Authority, gen. acid plant supvr. in chg. of elec. phosphate furnace operations; 1937 to date, Victor Chem. Wks., 1937-46 supt. of Mt. Pleasant elec. furnace plant, 1946 to date conslt. on elec. furnace operation & design. Mem.: A.I.Ch.E., E.S., A.C.S.

ZERNER, Ernst, conslt. chem., 175 W. 73rd, N.Y. 23; 10-10 44th Ave., L.I.C. 1, N.Y.; res. 175 W. 73rd, N.Y.
Conslt. chem.; b. June 24, 1884, Czechoslovakia; s. of Louis and Josephine Werner Zerner; ed. U. Vienna, Austria, Ph.D.; U. Paris, post grad. wk.; m. Irene Porges, Mar. 7, 1910 (dec.); ch.: Gertrude D. Mangvyn-Davies. 1906-10 asst. prof. U. Prague, Czechoslovakia; 1911-38, private docent, later assoc. prof. U. Vienna, Austria; 1939-40, res. chem., Ward, Blenkinsop & Co., Ltd., London, Eng.; 1940-42, conslt. chem., N.Y.C.; 1942 to date, first res. dir., Warwick Chem. Co., later conslt. Sun Chem. Corp. Contrib. extens. to sc. and tech. jls., patents. Mem.: A.C.S., A.A.T.C.C., A.S.E.C.Phar. Clubs: Cavendish (N.Y.), N.Y. Bridge & Whist. Hobby: bridge.

ZETTLEMOYER,, Albert Charles, prof. of physical chem., Lehigh U., Bethlehem, Pa.; res. dir., Natl. Printing Ink Res. Inst.; res. 1925 Main St. Extension, Bethlehem, Pa.
Prof.; b. Allentown, Pa., July 13, 1915; s. of Fred R. and Florence M. Zettlemoyer, ed. Lehigh U., B.S. in Ch.E., 1936 with high hon., M.S. in chem. 1938; M.I.T., Ph.D. 1940; mem.: Sigma Xi; m. Onetta R. Hartman, Dec. 21, 1940; ch.: Christopher, Nicholas, Anthony, Timothy. Instr., M.I.T., 1940-41; res. chem., Armstrong Cork Co., 1941; instr., asst. prof., assoc. prof., prof., Lehigh U., 1941 to date; res. dir., Natl. Printing Ink Res. Inst. 1946 to date. Res. on gas adsorption & fundamental printing ink chem. Mem.: Sigma Xi, A.A.A.S., A.C.S., A.I.C., T.A.P.P.I., Printing House Craftsmen (Internatl. Assn.), N.Y. Acdy. of Sc. Pres. local P.T.A. Clubs: Chemists' (N.Y.), Saucon Valley Country. Hobbies: gardening, golf, bridge, raising 4 boys.

ZIEGLER, George E(lliott), dir., Midwest Res. Inst., 4049 Pennsylvania, Kansas City, Mo.; res. 6847 Cherry, Kansas City.
Res. adm.; b. Chicago, Ill., Apr. 27, 1907; s. of George and Sue (Elliott) Ziegler; ed. B.S., 1929, M.S., 1930, Ph.D., 1932, U. of Chicago; also wk. in spectroscopy, M.I.T.; m. Ruth Thomas, Mar. 15, 1935; ch.: Carol. Asst. prof. of physics, Ill. Inst. of Tech., 1936-38; dir. of x-ray & spectroscopy labs., Armour Res. Foundation, 1936-40, chmn. of physics res. 1940-43, scientific advisor 1944-45; exec. scientist, Midwest Res. Inst. 1945-48, dir. 1948 to date. Extensive x-ray crystal structure anal. of nitrite crystals & related cmpds., also hydrofilm balance studies. Num. pubs. in sc. jls. Mem.: A.C.S., A.Phys.S., Inst. of Radio Engrs., Opt.S.A., Crystallographic Soc. of Am., Am. Soc. of X-ray & Electron Diffraction, Sigma Xi. Clubs: University (Chicago), University (Kansas City). Hobbies: photography, gardening.

ZIENTY, Ferdinand B., assoc. dir. of res., Monsanto Chem. Co., 1700 S. Second St., St. Louis 4, Mo.; res. 8736 Radley Court, Brentwood 17, Mo.
Chem.; b. Chicago, Ill., Mar. 21, 1915; s. of Albert F. and Rose Zienty; ed. U. of Ill., B.S. with high honors, 1935; U. of Mich., M.S. 1936, Ph.D. 1938; mem.: Alpha Chi Sigma, Rho Chi, Phi Kappa Phi, Sigma Xi, Phi Lambda Upsilon; m. Claylain L. Cawiezell, Apr. 14, 1945; ch.: Kathleen Ruth, Jane Louise. Monsanto Chem. Co., St. Louis, Mo., res. chem., 1938, res. group leader, 1940, asst. dir. of res., 1947, assoc. dir. of res., 1950 to date. Antispasmodics, ethylenediamine derivatives, imidazoles, sulfa drugs, thiophene derivatives. Mem.: A.C.S., A.I.Ch.E., A.Phar.A., S.C.I. (London), Engrs. Club of St. Louis, N.Y. Acdy. of Sc., A.A.A.S. Hobbies: ping-pong, chess.

ZIMMERLI, Adolph, consltg. chem. engr., 221 Grant Ave., Highland Park, N.J.
Chem. engr.; b. Aarburg, Switzerland, Feb. 1, 1886; s. of Adolph and Emma (Haeusler) Zimmerli; ed. Federal Polytech. Inst., Zurich, D.Sc.; m. Jane Manners, Oct. 27, 1934; ch.: Frederick Harold. Usines du Rhone, St. Fons, France, res. chem. 1912-14, French Chem. Warfare 1914-18, mgr. of photog. dept. 1918-20; Rhodia Chem. Wks., New Brunswick, N.J., chf. chem., 1920-29; Newport Chem. Wks., New Brunswick, N.J., chf. chem., 1929-31; consltg. chem. engr. 1932 to date. Mem.: A.I.Ch.E., A.C.S., S.C.I., A.C. C.C.E. Club: Chemists'. Hobby: farming.

ZIMMERLI, William Frederick, chem. conslt., 2300 Conn. Ave. N.W., Wash. 8, D.C.; res. same.
Chem., chem. engr.; b. N.Y., Jan. 2, 1888; s. of Edward and Anna Zimmerli; ed. Polytech. Inst. of Bklyn., 1905-09, B.S.; Heidelberg U., Germany, 1909-12, Ph.D.; m. Ruth Barrows, June 25, 1919; ch.: Robert B. B.F. Goodrich Co., res. chem., 1912-14; Akron U., asst. prof., 1914-16; Pfaudler Co., chf. chem., 1916-20; Howe Rubber Co., chf. chem., 1920-23; B.F. Goodrich Co., tech. div. res. group leader, 1924-28; Roessler & Hasslacher Chem. Co., hd. com. dev., 1928-33; E.I. du Pont de Nemours & Co., European tech. rep., 1933-39, dev. dept. 1939-42; Gen. Aniline & Film Corp., v.p., 1942-45; consltg. chem., N.Y., 1945-50; consltg. chem., Wash., 1950 to date. Dorr Co., dir. Mem.: A.C.S. (chmn. Rochester sec. 1919, secy. Akron sec. 1929), A.I.Ch.E., A.A.A.S., Inst. of Chem., A.C.C.C.E., Chemists' Club, Sigma Xi. Mem. of Corp. of Polytech. Inst. of Bklyn.

ZIMMERMAN, Bernhard Gus, pres., Zimmerman Associates, chemists & engrs., Box 248, Guilford Coll., N.C.; res. R. 7, Box 324, Greensboro, N.C.
Org. chem., chem. engr.; b. Shiner, Texas, Nov. 1, 1909; s. of William and Wilhelmine Zimmerman; ed. A.&M. Coll. of Texas, B.S. in Ch.E., 1932; U. of Texas, M.S. in Ch.E., 1934, Ph.D., org. chem. 1937; mem.: Phi Lambda Upsilon, Sigma Xi, Delta Alpha Epsilon; m. Anna Mae Steck, July 12, 1940; ch.: Marianne, Carolyn, Kathryn. Res. chem. engr., Texas Highway Testing Lab., 1933-35; instr. in chem., U. of Texas, 1935-37; res. chem., Gen. Aniline Wks., 1937-38; prod. res. chem., chem. engr., Gen. Aniline & Film Corp., 1938-45; tech. dir., Morton Chem. Co., 1945-46; pres., Zimmerman Associates, 1946 to date. Meth. for determ. optimum soil moisture content for packing, dyestuffs, intermediates, textile chem., cosmetids, polymerization, & hydrazine chem. Mem.: A.C.S., A.A.A.S., A.A.T.C.C., Am. Museum of Natural History. Clubs: Lions, (Guilford College, N.C.). Hobbies: gardening, sports (tennis, baseball).

ZIMMERMAN, James Booth, mgr., Benzol Prods. Co., End of Meadow Rd., Piscataway, N.J.; res. 506 Sycamore St., Rahway, N.J.

Chem. engr.; b. Pitts., Pa., Oct. 28, 1898; s. of Russell R. and Martha (Booth) Zimmerman; ed. Carnegie Inst. of Tech.; m. Edna Mackie, Apr. 14, 1926; ch.: Claire Virginia, Loren Booth. Operator, Trent Superfuel Co., Newark, N.J., 1924-26; plant engr., Carbon Prods. Co., Lancaster, Ohio, 1926-28; prod. supt., Warner Chem. Co., Carteret, N.J., 1928-34; plant mgr., Benzol Prods. Co., Piscataway, N.J., 1934 to date. Mem.: A.I.Ch.E., A.C.S.

ZIMMERMAN, Oswald Theodore, prof. of chem. engrg. and hd. of Dept., U. of N.H., Durham, N.H.; res. Madbury Rd., Durham.
Chem. engr.; b. Jan. 12, 1905; s. of Oswald A. and Marie (Kadow) Zimmerman; ed. U. of Mich., B.S.E. (Ch.E.), 1929; M.S.E., 1931; Ph.D., 1934; m. Mildred Kisling, Oct. 2, 1929; ch.: Lynn M., Burke K., Linda K. 1929-30, res. chem., Simmons Co., Kenosha, Wis.; 1930-34 (part-time), res. chem., Dept. Engrg. Res. and Schl. of Dentistry, U. of Mich.; 1934-35, res. chem. and chem. engr., Kerr Co., Detroit, Mich.; 1935-38, instr., asst. prof., assoc. prof. of chem. engrg., U. of N. Dak., Grand Forks, N. Dak.; 1938-41, assoc. prof. chem. engrg., U. of New Hampshire; since 1941, prof. chem. engrg., U. of N.H.; since 1942 pres., Indust. Res. Service, Dover, N.H. Res. in hydraulic cements, synthetic resins, dental matls., properties of petroleum hydrocarbons. Author: "Unit Operations Lab. Equipment," 1938, 1940; "Chem. Engrg. Lab. Equipment," 1943; "Conversion Factors and Tables," 1944; "Psychrometric Tables and Charts," 1945; "Handbook of Material Trade Names," 1946; "DDT-Killer of Killers," 1946; "Scientific and Tech. Abbreviations, Signs and Symbols," 1948, 1949; "Chemical Engrg. Costs," 1950. Mem.: A.C.S., A.I.Ch.E., A.S.E.E., A.A.U.P., Tau Beta Pi, Sigma Xi, Phi Lambda Upsilon, Iota Alpha, Phi Kappa Phi, Alpha Chi Sigma.

ZIMMERMAN, Rufus Eicher, v.p. res. & technol., U.S. Steel Corp. of Del., 436 Seventh Ave., Pitts. 30, Pa.; res. Highland Ave. & Stewart Rd., Short Hills, N.J.
Exec.; b. Mt. Pleasant, Pa., Nov. 26, 1886; s. of Simon P. and Mary (Eicher) Zimmerman; ed. Franklin & Marshall Coll., Ph.B., 1908, Dr. of Sc., 1938; M.I.T., S.B., 1911; Thiel Coll., LL.D., 1942; mem.: Phi Beta Kappa, Phi Kappa Psi; m. Anna Burns, Sept. 7, 1911; ch.: Margaret (Zimmerman) Nuckols, Anne (Zimmerman) Price. Instr., physical chem., M.I.T., 1911-14; res. assoc., Am. Sheet & Tin Plate Co., Pitts., 1914-15, asst. dir. 1915-17, acting dir. 1917-19, dir. 1919-22, asst. to v.p. 1922-32; asst. to pres., U.S. Steel Corp., N.Y., 1932-33, v.p. 1933-38; v.p., U.S. Steel Corp. of Del., 1938 to date. Mem.: Am. Iron & Steel Inst., A.C.S., Electrochem. Soc., A.I.M.M.E., A.S.M., Newcomen Soc. Medalist, A.S.M. 1946. Trustee, Franklin & Marshall Coll.; trustee, Hood Coll. Clubs: University (Pitts., Pa.), Short Hills (Short Hills, N.J.).

ZINN, Robert Edwin, chf. engr., Victor Chemical Works, Chicago, Ill.; res. 1242 Braeburn Rd., Flossmoor, Ill.
Engr.; b. East Troy, Wis., May 13, 1905; s. of Charles Henry and Florence Hicks Zinn; ed. U. of Wis., B.S., 1927 with honors; mem.: Tau Beta Pi, Phi Kappa Phi, Phi Mu Alpha, Phi Lambda Upsilon, Alpha Chi Sigma; m. Ellen Caskey, Feb. 24, 1937; ch.: Mary. 1927-40, Victor Chemical Works, res. chem. engr.; 1940-44, Victor Chem. Works, chf. chem. engr.; chf. engr., 1944 to present. Mem.: A.I.Ch.E., A.C.S., Flossmoor Community Ch. (official).

ZINSSER, Frederick G., ch. of bd., Zinsser & Co., Inc., R.R. Ave., Hastings-on-the-Hudson, N.Y.; res. Broadway.
Chmn. bd.; b. N.Y.C., Mar. 20, 1868; s. of August and Marie Zinsser; ed. Columbia Coll.; Louvain (Belgium) Goettingen-Heidelberg, Ph.D.; mem.: Phi Delta Theta; m. Emma Sherman, May 11, 1892; ch.: John Z., Ellen Z. McCloy, Peggy Z. Douglas. Asst. to Bd. of Health, chem., Belgium; chem., supt. W. Zinsser & Co.; pres., now chmn. bd., Zinsser & Co. Col. & comm. off., Chem. Warfare Serv., branch arsenal, W.W. I. Mem.: A.C.S., A.I.C., Inc. (fellow). Clubs: Chem., St. Botolph (Boston), Century Assn. (N.Y.). Hobbies: horses, books, amateur painting.

ZINSSER, John Sharman, chmn. of bd., Sharp & Dohme, Inc., 640 N. Broad St., Phila. 1, Pa.; res. Spring Mill Rd., Bryn Mawr, Pa.
Exec.; b. N.Y.C., Aug. 30, 1894; s. of Frederick G. and Emma S. Zinsser; ed. MacKenzie Schl., Dobbs Ferry, N.Y., 1904-12, grad.; Harvard U., Cambridge, Mass., 1912-15, B.S.; Columbia U., N.Y.C., 1915-17, M.S.; mem.: Sigma Xi; m. Isabella Wadsworth, July 10, 1920; ch.: John S., Jr., Ellen (Zinsser) Fifer M.D., Thomas W. 1918-33, Zinsser & Co., Hastings-on-Hudson, N.Y., pres., treas.; 1933-34, Bankers Trust Co., N.Y., res. economist; 1934-35, Merck & Co., Rahway, N.J., coordinator of res.; 1935 to date, Sharp & Dohme, Inc., Phila., Pa., pres., presently chmn. of bd. Dir.: J.P. Morgan & Co., Inc., DeLong Hook & Eye Co., Girard Trust Co., Lyophile-Cryochem. Corp., Western Saving Fund Soc., Zinsser & Co., Inc., U. of Pa. Hosp., Readex Microprint Corp.; Trustee: Phila. Coll. of Pharmacy & Sc.; pres., treas: Zinshar Holding Corp.; exec. comm.: Am. Drug Mfrs. Assn. Clubs: Rittenhouse, Racquet, Merion Cricket, A.I.Ch.E., Chemists' (N.Y.), A.C.S., Sunday Breakfast. Hobbies: horseback riding, farming.

ZINZOW, W(illiam) A(ugust), physics div. hd., Bakelite Devel. Labs., Bound Brook, N.J.; res. 15 Summit St., East Orange, N.J.
Physicist; b. Rosendale, Wis., Nov. 22, 1890; s. of John F.T. and Augusta Zinzow; ed. Ripon Coll., A.B., 1915; U. of Pittsburgh, M.S., 1925; m. Helen Page; ch.: Kathryn Louise (Zinzow) Schnaidt, William Alan. H.S. tchr., 1915-20, Wisconsin; res. asst., Westinghouse, 1920-21; physics instr., U. of Pittsburgh, 1921-22; college prof., physics, Muskingum Coll., 1922-26; physicist, Bakelite Corp., 1926 to date. Res. and devel. on physical properties of plastics. Mem.: A.Phys.S., Am. Optical Soc., A.S.T.M.

ZUCKER, Milton, res. mgr., Internatl. Printing Ink Div., Interchemical Corp., 475 Division St., Elizabeth, N.J.; res. 217 Storer Ave., New Rochelle, N.Y.
Chem. engr., patent atty.; b. Cleveland, O., Aug. 11, 1904; s. of Morris and Rose Edelman Zucker; ed. Case Inst. Tech., B.S. Chem. Engrg., 1924; G.W.U. Law Schl., 1925; Cleveland Law Schl., LL.B., 1931; mem.: Sigma Alpha Mu; m. Sylvia Wohlvert, Aug. 10, 1929; ch.: Judith, Natalie, Susan, Deborah. U.S. Patent Off., 1925, patent examiner; Sterling Prods. Co., Cleveland, 1925-27, res. engr.; Glidden Co., 1927-37, chem., res. chem., lab. supvr., patent atty.; Interchemical Corp., N.Y., 1937 to date, patent atty., 1945 to date. Res. in protective coatings, painting inks, princip. in alkyd. resins, non-grain raising stains, bldg. specialties. Mem.: A.C.S., A.I.C. (fellow), A.A.A.S., T.A.P.P.I., T.A.L.I., A.S.T.M., Am. Patent Law Assn. Hobby: stamp collecting.

ZUFFANTI, Saverio, prof. of chem., Northeastern U., Boston, Mass.; res. 112 Quincy Shore Dr., Quincy, Mass.
Teaching; b. Boston, Mass., May 4, 1908; s. of Vincent and Josephine Zuffanti; ed. B.Ch.E., 1930, Northeastern U., B.S. 1934; A.M., 1932, Boston U.; mem.: Alpha Kappa Sigma; m. Anne Butera, Apr. 19, 1933; ch.: Dorothy Anne. Colonial Beacon Oil Co., Everett, Mass., 1927-28; Boston Woven Hose & Rubber Co., Cambridge,

Mass., 1929-30; Northeastern U., Boston, Mass., 1930 to date; Lincoln Tech. Inst. (Evening), Boston, Mass., 1933-40; Spaulding-Moss Co., Boston, Mass. (conslt.), 1939; Salem Grease & Oil Co., Salem, Mass. (conslt.), 1942. Synth. of aliphatic sulfonic acids; anhydrous ammonium salts of fatty acids; basic catalytic properties of calcium hydride. Author: "Lab. Manual of College Chem." 1938; co-author: "Electronic Theory of Acids & Bases" with W.F. Luder, (John Wiley & Sons, N.Y.) 1946. Mem.: New England Assn. of Chem. Teachers, A.C.S., A.I.C. (fellow). Hobbies: golf, hiking, photography, squash.

ZUMWALT, Lloyd Robert, tech. dir., Western Div., Tracerlab, Inc., 2295 San Pablo Ave., Berkeley, Calif.; res. R. 1, Box 601, Lafayette, Calif.
Tech. dir.; b. Richmond, Calif., Sept. 4, 1914; s. of Robert R. and Anna E. Zumwalt; ed. B.S., Calif., 1936; fellow, Calif. Inst. Tech., 1936-39; Ph.D. physical chem., 1939; Arthur A. Noyes fellow, 1939-41; m. Marjorie Vail, June, 1941; ch.: Scott Nelson. Teaching asst., Calif. Inst. Tech., 1936-39, res. fellow 1939-41; res. chem., Shell Dev. Co., 1941-42; sr. chem., group leader, Clinton Natl. Lab., Tenn., 1946-48; assoc. tech. dir., Tracerlab, Inc., 1948 to date. Infra-red spectroscopy, application of ultra-violet spectro-anal. to wartime toluene prod., tech. serv. as officer with Manhattan Project 1942-46 (U-235 prod. phase). Mem.: A.C.S., Sigma Xi, Phi Beta Kappa. Award: Army Commendation Ribbon. Hobbies: swimming, hiking.

ZWICKER, Benjamin M. G., dev. mgr., Akron Experimental Plant, B.F. Goodrich Chem. Co., Akron, Ohio; res. 1073 Hartford Ave., Akron.
Exec.; b. Pendleton, Ore., July 11, 1915; s. of Henry Otto and Ethel (Burnett) Zwicker; ed. Whitman Coll., 1935, cum laude, A.B., U. of Wash., M.S., 1938, Ph.D., 1940; mem.: Beta Theta Pi, Phi Beta Kappa, Delta Sigma Rho, Phi Gamma Upsilon, Sigma Xi; m. K. Marie Grell, June 6, 1942; ch.: Rebecca Maris, Harry Richard Adams. U. of Wash., 1936-40, teaching fellow; B.F. Goodrich Co., 1940-43, res. chem.; B.F. Goodrich Chem. Co., 1943 to date, dev. mgr. Emulsion polymerization pats., Am. Rubber Dev., Ind. Tech. Advisory Comms. to the Office of Rubber Reserve. Mem.: A.C.S., A.I.Ch.E. Hobbies: photography, music, sports.

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CHEMICAL WHO'S WHO

UNITED STATES

(*) See Addenda (†) See additional material in Addenda

ALABAMA

- **Andalusia**
  - Booth, Charles Fitzpatrick
- **Anniston**
  - Chadwick, David Henry
  - Jenkins, Russell L.(*)
  - Tittel, Herbert O.
- **Auburn**
  - Allen, Roger Williams
  - Basore, Cleburne A.
  - Hughes, Gordon
  - Kosolapoff, Gennady Michael
  - Naftel, James A.
  - Powell, Parker Preston
- **Birmingham**
  - Abrams, Edward
  - Bloom, Edgar Bennett
  - Carmichael, Emmett Bryan
  - Colcord, Bradford C.
  - Coleman, Robert Boisseau, Jr.
  - Collier, R. Wade
  - Elder, Rufus Heartwell
  - Fertig, George Joseph
  - Laurence, Carlton O.
  - Lofton, William, Jr.
  - Mobley, Willard Mitford
  - Pigman, Ward
  - Swann, Theodore
  - Tanner, Wellington Lee
  - Thigpen, Geo. P.
  - Trotter, John Beryl
  - White, Locke, Jr.
  - Xan, John
- **Florence**
  - Striplin, Marcus Melvin, Jr.
- **Homewood**
  - Sproull, Reavis Claton
  - Thigpen, Geo. P.
- **Huntsville**
  - James, Frank Ward
  - Mebane, William Marion
  - Weber, Matthew, Jr.
- **Montgomery**
  - De Loach, Will Scott
  - Van Dyke, H. Lewis
- **Sheffield**
  - Elmore, Kelly Lee
  - Hignett, Travis Porter
  - Walthall, John Henry
- **Spring Hill**
  - Deignan, J. Vincent, S.J.
- **Tarrant**
  - Mobley, Willard Mitford
- **Tuscaloosa**
  - Coons, Kenneth William
  - Cotter, Harold F.
  - Jackson, Kirby Erroll
  - Lloyd, Stewart Joseph
  - Montgomery, Jack P.
  - Palmer, George David, Jr.
  - Pointer, Charles Hannon
- **Tuskegee Institute**
  - Mason, Clarence Tyler
- **University**
  - Coons, Kenneth William
  - Jackson, Kirby Erroll
  - Jones, Ernest Victor
  - Lloyd, Stewart Joseph
  - Montgomery, Jack P.
  - Pointer, Charles Hannon
- **Wilson Dam**
  - Elmore, Kelly Lee
  - Hignett, Travis Porter
  - Striplin, Marcus Melvin, Jr.
  - Walthall, John Henry
- **Woodward**
  - Colcord, Bradford C.

ARIZONA

- **Benson**
  - Henderson, Robert Lee
  - Towle, Louis Wallace
- **Glendale**
  - Littlefield, Verne Denver
- **Phoenix**
  - Beard, William T.
  - Keyes, Harmon Edward
  - Littlefield, Verne Denver
- **Tempe**
  - Bateman, George Monroe
- **Tucson**
  - Anderson, Ernest
  - Bacal, Harry S.
  - Nugent, Robert Logan
  - Roberts, Lathrop Emerson

ARKANSAS

- **Arkadelphia**
  - Provine, Eugene Almarine
- **Bauxite**
  - Binford, William Wilson
- **Camden**
  - Skinner, John Taylor
- **College Heights (Monticello)**
  - McGinnis, John C.
- **Conway**
  - McHenry, Martin Josiah
- **Crossett**
  - Chesley, Kenneth Groves
  - Godat, Edward Mitchel
  - Sandborn, Lloyd Thompson
- **El Dorado**
  - Atkinson, Elliott W.
  - Barton, T. H.
  - Martin, Trueman Million
  - Reed, Andrew Franklin
  - Soday, Frank John
  - Tallman, Ralph Colton
  - Walk, Joe Decker
  - Wheeler, Harry K., Jr.
- **Eureka Springs**
  - Williams, Lawrence M.
- **Fayetteville**
  - Amis, Edward S.
  - Hale, Harrison
  - Harvey, Aubrey Eaton, Jr.
  - Porter, Lyman E.
  - Sure, Barnett
  - Wertheim, E.
- **Jonesboro**
  - Austin, Russell Heyden
- **Little Rock**
  - Binford, William Wilson
  - Day, Paul L.
- **Pine Bluff**
  - Dewoody, T. S., Jr.
- **Searcy**
  - Pryor, Joseph Ehrman
- **Siloam Springs**
  - Woodland, Dorothy Jane
- **State College**
  - Austin, Russell Heyden
- **Wilson**
  - Moore, N. Hunt

CALIFORNIA

- **Alameda**
  - Kronmiller, Bill Anson
- **Albany**
  - Barta, Edward Joseph
  - Brother, George Howard
  - Kester, Ernest Bowman
  - Makower, Benjamin
  - Olcott, Harold Saft
  - Van Arsdel, Wallace B.
- **Alhambra**
  - Foreman, Emanuel Leon
  - Truesdail, Roger W.
  - York, Willard D.
- **Altadena**
  - Beckman, Arnold O.
  - Jacobs, Joseph John
  - Kirkwood, John Gamble
  - Klein, Hugo
  - Lacey, William Noble
  - Mickelson, Grant A.
  - Sage, Bruce Hornbrook
- **Anaheim**
  - Patterson, James R.
- **Atherton**
  - Wilder, Harold Kenneth
- **Azusa**
  - Armstrong, Don L.
- **Bell**
  - Hershey, Alan Unger
- **Bell Gardens**
  - Briggs, Charles Harold
- **Bellflower**
  - Smith, F. LaVerne
- **Berkeley**
  - Andersen, Hans P.
  - Arnold, Chester Lee
  - Arnold, J. Howard

Batchelder, A. H.
Brother, George Howard
Chiswell, Edgar B., Jr.
Cleveland, Theodore Keirstead
Corcoran, William Harrison
Cruess, William Vere
Edlund, Karl Richard
Fekula, George Michael
Gelus, Edward
Greenberg, David Morris
Greenberg, Sam U.
Hildebrand, Joel H.
Jenkins, Frances Briggs
Johnson, Frederick Francis
Joslyn, Maynard A.
Kaye, William A.
Kelley, Walter Pearson
Kester, Ernest Bowman
Kirk, Paul L.
Langelier, Wilfred Francis
Latimer, Wendell M.
Li, Choh Hao
Loomis, Albert Geyer
Makower, Benjamin
Michel, Henri M.
Miller, Robert J.
Moretti, Louis R.
Morgan, Agnes Fay
Northrop, John Howard
Okey, Ruth
Olcott, Harold Saft
Perlman, Isadore
Pitzer, Kenneth Sanborn
Porter, Charles Walter
Rollefson, Gerhard Krohn
Seaborg, Glenn Theodore
Sharp, Paul Francis
Spaulding, William Harrison
Stanley, Wendell M.
Stirton, Robert I.
Talley, S. K.
Turrell, Franklin M.
Van Arsdel, Wallace B.
Winegarden, Howard Merlin
Zumwalt, Lloyd Robert

Beverly Hills
Ehrlich, Jacob
Gaspar, Bela
Jack, Delbert Eugene
Scott, Gordon N.

Burlingame
Gautsch, Murray Calvin
Wampner, Herbert L.

China Lake
Eubank, William Roderick
Henry, Ronald Andrew
Smith, Gilbert B. L.

Claremont
Pierce, Willis Conway
Wilson, Stanley D.

Colton
Hanna, Wilson Creal

Concord
Byrns, Alva C.
Pye, David J.

Corona
Bryant, Edwin Francis
Holton, Homer Hopkins
Hutchison, James S., Jr.
Joseph, Glenn Howe

Corte Madera
Rowe, Charles A.

Covina
Armstrong, Don L.

Culver City
Allard, Romeo Paul

Diablo
Abbot, Samuel Leonard, Jr.

El Cerrito
McKoon, Harold Parsons

Emeryville
Ballard, Seaver Ames
Bradley, Theodore Franklin
Edlund, Karl Richard
Evans, Theodore William
Gelus, Edward
Greensfelder, Bernard Sutro
Hill, Earl S.
Kaye, William A.
Kubicek, Naci Frank
Landis, Roy Glenn
McAllister, Sumner Hatch
Michel, Henri M.
O'Connell, John Joseph, III
Souders, Mott, Jr.
Stryker, Edgar Harvey
Talley, S. K.
Yabroff, David Louis

Encino
Bavetta, Lucien A.

Fillmore
Lawton, Howard Champreux

Fullerton
Heid, John Laurence

Gardena
Kline, LeRoy George

Glendale
Chaney, Albert Laurence
Cherkin, Arthur
Delmonte, John
Mumford, Russell William
Powell, Milton Edward
Shoemaker, Edgar Welch

Glendora
Kennard, Theodore Gladden

Hayward
Petree, Louis G.

Hercules
Butler, Clifford Thomas

Hermosa Beach
Rosenblatt, Girard B., Jr.

Hillsborough
Week, Erling Finch

Hollywood
Arenson, Saul Bryan
Chace, Edward M.
Dearing, LeRoy M.
Embree, Harland Caleb
Gaspar, Bela
Jones, Laurence Carpenter
Kalmus, Herbert Thomas

Inglewood
Adamson, Arthur Wilson

Inyokern
Eubank, William Roderick

Lafayette
Anthony, Bernard William
McAllister, Sumner Hatch
Yabroff, David Louis
Zumwalt, Lloyd Robert

La Jolla
Fuller, Frederick Driggs
Godfrey, Truman Milo
Rakestraw, Norris Watson

Long Beach
Anderson, Ben Taylor
Anderson, Oscar Nicklas
Heath, Ronald Wayland
Miller, Donald James
Salathe, Albert
Smith, F. LaVerne

Los Altos
Koenig, Louis
Nielsen, Carl
Woodward, Teynham

Los Angeles
Abbot, Samuel Leonard
Adams, Lawrence A.
Adamson, Arthur Wilson
Allard, Romeo Paul
Barr, William Milton
Bates, Philip Knight
Bavetta, Lucien A.
Beeson, Carrol Menefee
Bennett, Harvey Childs
Blacet, Francis Edward
Brantley, Lee Reed
Burg, Anton Behme
Cherkin, Arthur
Chipman, Ernest E.
Clark, Louis Francis
Colefax, Peter
Conkle, Fred A.
Crowell, William Ransom
Dart, Justin W.
Dice, Marion
Dinsmoor, Daniel Stark
Dyke, Milton
Foreman, Emanuel Leon
Funsten, Stanard R.
Garner, Clifford Symes
Gary, Wright W.
Geissman, Theodore A.
Hardin, Willett L.
Hauck, Chester Mearl
Heath, Ronald Wayland
Heilman, Howard Henry
Hershey, Alan Unger
Hewes, Charles Kay.
Hollinger, E. Robert
Holman, Emmette Rudolph
Holt, Benjamin Merrill
Howton, David Ronald
Icke, Roland N.
Jack, Delbert Eugene
Jacobs, Joseph John
Jones, John Leslie
Katzman, Morris
Kennard, Theodore Gladden
Kidde, Gustave Edgar
Klein, Hugo
Kusserow, Gerhard William
Larsen, Delmar H.
Lindquist, J. Raymond
Maisner, Herman
McNair, James Birtley
Mefford, Ernest Clayton
Merrill, Frank Henry
Miller, George Willis
Miller, Stanley Johnson
Monson, Louis Travis
Mumford, Russell William
O'Mara, Richard Fred
Pariseau, Paul R.
Pierce, Leo Francis
Powell, Milton Edward
Prater, Arthur N.
Reaugh, Myrl A.
Rosenblatt, Girard B., Jr.
Schmidt, Walter A.
Scott, Gordon N.
Senum, Tellef
Shell, John S.
Shoemaker, Edgar Welch
Spickard, Paul William
Stauffer, John
Stewart, Paul Bennett
Stone, Hosmer Ward
Swicker, Victor Calvin
Thompson, William Theodore
Truesdail, Roger W.
Vivian, Robert Evans
Vold, Robert D.
Warf, James Curren
Welch, Harry Valentine
Wheaton, George Sterrett
White, Abraham
Winstein, S.
York, Willard D.
Young, William Gould
Yuster, Samuel Terrill

Los Gatos
Peck, Albert Carleton

Manhattan Beach
Holt, Benjamin Merrill

Menlo Park
Abrams, Irving Melvin
Eagle, Sam
Leicester, Henry Marshall
Sawyer, Frederick George

Millbrae
Darling, Arthur Henry

Mill Valley
Clark, Wesley M.
Moretti, Louis R.
O'Connell, John Joseph, III

Modesto
Hansberry, Roy

- **Monrovia**
  - Carter, James M.
  - Pryor, Dean Earl
- **Mountain View**
  - Loucks, Charles E.
- **Napa**
  - Bird, Elmer
  - Clark, Guy Wendell
- **Nevada City**
  - Draper, Hal D.
- **Newark**
  - Melhase, Fred
  - Moran, Raymond F.
  - Woodward, Teynham
- **North Sacramento**
  - Lemmon, Allen B.
- **Oakland**
  - Barton, Larry J.
  - Beckman, John Woods
  - Burns, Jack W.
  - Byrns, Alva C.
  - Evans, Theodore William
  - Gibbons, Vernette Lois
  - Greensfelder, Bernard Sutro
  - Kaiser, Henry John
  - Kubicek, Naci Frank
  - Michel, Henri M.
  - Miller, Harold Carl
  - Sharp, Paul Francis
  - Tamele, Miroslav W.
  - Vesper, Howard Gockley
  - Williams, Philip Samuel
  - Winegarden, Howard Merlin
  - Wood, William Chalmers
- **Orange**
  - Hall, Leroy Porter
- **Orinda**
  - Ballard, Seaver Ames
  - Bradley, Theodore Franklin
  - Hill, Earl S.
  - Lueck, Roger H.
- **Palo Alto**
  - Bayha, Kenneth Waldrick
  - Cox, Alvin J., Sr.
  - Ewell, Raymond H.
  - Gross, Paul A.
  - Mitchell, John Pearce
  - Moran, Raymond F.
  - Morse, Stanley W.
  - Richards, Herbert L.
  - Stern, A. George
  - Williams, Paul DeWitt
- **Palos Verdes Estates**
  - Hartley, Fred L.
- **Pasadena**
  - Alles, Gordon A.
  - Bacher, Robert Fox
  - Bell, J. E.
  - Chipman, Ernest E.
  - Clark, Louis Francis
  - Embree, Harland Caleb
  - Funsten, Stanard R.
  - Gary, Wright W.
  - Haagen-Smit, Arie Jan
  - Holman, Emmette Rudolph
  - Icke, Roland N.
  - Jordan, Henry
  - Kidde, Gustave Edgar
  - Kirkwood, John Gamble
  - Lacey, William Noble
  - Niemann, Carl G.
  - Pauling, Linus
  - Rich, Paul C.
  - Sage, Bruce Hornbrook
  - Schomaker, Verner
  - Swift, Ernest Haywood
  - Wheaton, George Sterrett
  - Zechmeister, Laszlo K. E.
- **Piedmont**
  - Blue, E. Morse
  - Browning, Edgar S.
  - Hughes, Thomas Gerald
  - Parkhurst, George Leigh
  - Souders, Mott, Jr.
- **Pittsburg**
  - Ohman, Maurel Fred
  - Pye, David J.
- **Playa del Rey**
  - Vold, Robert D.
- **Puente**
  - Monson, Louis Travis
- **Redlands**
  - Jones, S. Guy
- **Redwood City**
  - Abrams, Irving Melvin
  - Gross, Paul A.
  - Small, Samuel W.
  - Sullivan, William H.
- **Richmond**
  - Abbott, Andrew Doyle
  - Arnold, Chester Lee
  - Batchelder, A. H.
  - Blue, E. Morse
  - Chiswell, Edgar B., Jr.
  - Fekula, George Michael
  - Foehr, Edward Gotthard
  - Miller, Robert J.
  - Williams, Philip Samuel
- **Riverside**
  - Chapman, Homer Dwight
  - Turrell, Franklin M.
- **Ross**
  - Abbott, Andrew Doyle
- **Sacramento**
  - Draper, Hal D.
  - Lampert, Lincoln Maximilian
  - Lemmon, Allen B.
  - Morse, George Harry
- **Salinas**
  - Daughters, Milo Reason
  - Feustel, Irvin Carl
- **San Bernardino**
  - Culligan, Emmett J.
  - Sunnes, Phillip H.
- **San Bruno**
  - Williams, Paul DeWitt
- **San Carlos**
  - Burns, Jack W.
- **San Diego**
  - Breithut, Frederick E.
  - Clark, Donald E.
  - Shaw, Leon Irwin
  - Willien, Leon John
- **San Fernando**
  - Blair, James E.
- **San Francisco**
  - Abbot, Samuel Leonard
  - Abbot, Samuel Leonard, Jr.
  - Anthony, Bernard William
  - Bayha, Kenneth Waldrick
  - Browning, Edgar S.
  - Chesnut, Charles O.
  - Curtis, Russell L.
  - Darling, Arthur Henry
  - Deane, Joseph Tenison
  - Dole, James Drummond
  - Eagle, Sam
  - Eldred, Fred H.
  - Finn, John
  - Foster, Harry Emerson
  - Gautsch, Murray Calvin
  - Gurchot, Chas.
  - Harlan, Harold Raymon
  - Hughes, Thomas Gerald
  - Leicester, Henry Marshall
  - Loeb, Harold Gordon
  - Loomis, Albert Geyer
  - Lueck, Roger H.
  - Maroney, William
  - McCoy, Paul Edward
  - McGarry, John F.
  - McKoon, Harold Parsons
  - Miller, Harold Carl
  - Miller, Philip Allen
  - Monkhouse, George R.
  - Parkhurst, George Leigh
  - Powell, Jerome V.
  - Reece, Merrill Wilson
  - Rosenstein, Ludwig
  - Rowe, Charles A.
  - Schwob, Claude R.
  - Small, Samuel W.
  - Stern, A. George
  - Stirton, Robert I.
  - Snodgrass, Cornelius Stribling
  - Spaulding, William Harrison
  - Sullivan, William H.
  - Vesper, Howard Gockley
  - Wheeler, Rollo Clark
- **San Gabriel**
  - Munger, Charles Galloway
- **San Jose**
  - Brauer, Oscar Leo
  - Cary, Joseph Brackenridge
  - Clark, Harry Murray
  - Davies, Paul Lewis
  - Deck, Joseph Francis
  - Mitchell, Edwin L.
  - Peck, Albert Carleton
  - Wilbur, Paul C.
- **San Leandro**
  - Barton, Larry J.
  - Gibbons, Vernette Lois
  - Landis, Roy Glenn
  - Petree, Louis G.
- **San Marino**
  - Alles, Gordon A.
  - Bennett, Harvey Childs
  - Dyke, Milton
  - Jones, Llewellyn
  - Miller, George Willis
  - Swift, Ernest Haywood
- **San Mateo**
  - Reece, Merrill Wilson
- **San Rafael**
  - Foehr, Edward Gotthard
- **Santa Ana**
  - Hall, Leroy Porter
- **Santa Barbara**
  - Bischoff, Fritz Emil
  - Marx, Walter S., Jr.
  - McRary, Willard Lee
  - Sahyun, Melville
  - Voskuyl, Roger John
- **Santa Clara**
  - Deck, Joseph Francis
- **Santa Monica**
  - Bates, Philip Knight
  - Blacet, Francis Edward
  - Kusserow, Gerhard William
  - Spickard, Paul William
  - Stone, Hosmer Ward
  - Young, William Gould
- **Sherman Oaks**
  - Prater, Arthur N.
- **Sonoma**
  - Abbot, Samuel Leonard
- **South Gate**
  - Munger, Charles Galloway
- **South Pasadena**
  - Beckman, Arnold O.
  - Haller, Elden Detalau
- **South San Francisco**
  - Wampner, Herbert L.
- **Stanford**
  - Ewell, Raymond H.
  - Koenig, Louis
  - McBain, James William
  - Parks, George Sutton
  - Sawyer, Frederick George
  - Swain, Robert Eckles
  - Van Patten, Nathan
- **Stockton**
  - Bawden, Arthur Talbot
  - Cobb, Emerson Gillmore
  - Jonte, John Herbert
- **Sunnyvale**
  - Wilder, Harold Kenneth
- **Trona**
  - Anderson, Allan J.
  - Eastman, Harvey Selden
  - Gale, William Alexander
  - Suhr, Henry B.
- **Twentynine Palms**
  - Nicholson, Hunter
- **Vacaville**
  - Stephenson, Robert Marlowe
- **Vallejo**
  - Isbell, Harvey Gilbert, Jr.
- **Venice**
  - Howton, David Ronald
- **Vernon**
  - Mickelson, Grant A.

Walnut Creek
Stryker, Edgar Harvey
West End
Hellmers, Henry D.
West Los Angeles
Dunn, Max Shaw
Kalmus, Herbert Thomas
Whittier
Dice, Marion
McKinnis, Ronald B.
Newsom, W. Roy
Pryor, Dean Earl
Swicker, Victor Calvin
Wilmington
Anderson, Ben Taylor
Hartley, Fred L.
Hewes, Charles Kay
Woodland
Hac, Lucile R.
McGinnis, Richard Adams

COLORADO

Boulder
Dean, Paul Marshall
Germann, Frank E. E.
Lauer, Byron Elmer
Macy, John Winchester
Rohrman, Frederick A.
Van Valkenburgh, Horace B.
Wakeham, Glen Raymond
Colorado Springs
Barnes, Otis Avery
Cotton, Robert H.
Diehl, H. C.
Victoreen, John Austin
Denver
Atchison, Lowell Chrysler
Boyle, Gerald Thomas
Chernoff, Lewis H.
Cohn, Essie White
Dahlberg, Henry W.
Gilliland, John L.
Goodman, John B.
Hartkemeier, Leonard W.
Hill, Robert McClaughry
Hyman, Julius
Joshel, Lloyd M.
Knudson, Clarence Milton
Lidov, Rex E.
Moran, Willis Thomas
Nees, Alpheus Russell
Nelson, Alfred Clarence
Rydstrom, Arthur Gordon
Shadle, Charles Stricklen
Sun, Yun-Pei
Englewood
Rydstrom, Arthur Gordon
Fort Collins
Pyke, W. E.
Golden
Hartkemeier, Leonard W.
Ward, Leon Stevens
Lakewood
Goodman, John B.
Rifle
Lankford, Jonathan D.(*)

CONNECTICUT

Ansonia
Banbury, Fernley H.
Avon
Pearsall, David E.
Baltic
Amundsen, Lawrence Hardin
Branford
Sturtevant, Julian Munson
Bridgeport
Hunter, James Heyworth
Kosowsky, Leo Kalman
Morris, Alan
Neumeier, Franz M.
Novak, Izador J.
Omohundro, Allen Llewellyn
Phillips, Arthur Welch
Rowe, Richard Gregor
Shepherd, Herman Robert
Simon, Allen C.
Sullivan, David Joseph
Clinton
Haynes, Charles Rogerson
Taylor, Walter A.
Danbury
Turk, Amos
Darien
Anderson, George W.
Brown, Morden G.
Carter, Ray Milo
Casebolt, George Sims
Dudley, James Robert
Fiske, Robert Bishop
Hill, Allan Chaloner
Powers, Donald H.
Rose, William Barrett, Jr.
East Berlin
Hayden, Edmund McKendree
Fairfield
Brownell, Howard Fred
Neumeier, Franz M.
Sullivan, David Joseph
Glastonbury
Guest, Herbert Hartley
Glenbrook
Fogg, Wendell Gilman
Greens Farms
Mason, Donald Bentley
Greenwich
Albanese, Anthony August
Chapman, Ray Parkin
Curll, Daniel B., Jr.
Hencken, Harold Gray
Loeffler, Alfred Thorpe
Magnus, Joseph Baird
Morningstar, Joseph
Pike, Robert D.
Towe, Kenneth Crawford
Groton
De Costa, Charles F.
Hamden
Cowgill, George R.
Dodge, Barnett F.
Fleischer, Joseph
Horsfall, James Gordon
Keach, DeWitt. T.
Kelsey, Erwin Burr
Long, Cyril Norman Hugh
Mrgudich, John Neil
Onsager, Lars
Hartford
Griffith, Henry Evans
Krieble, Vernon K.
Lyle, Aaron K.
Mowery, Dwight Fay, Jr.
Newell, Isaac Laird
Prentiss, Augustin Mitchell
Wooodward, Raymond West
Hazardville
Nickerson, Mortimer Henderson
Madison
Weaver, Elbert Cook
Manchester
Silverstein, Saul Mark
Meriden
Steward, Roy Franklin
Middlebury
Spencer, Henry Christian
Middletown
Ackerman, Arnold William
Burford, M. Gilbert
Gortner, Ross Aiken, Jr.
Hill, G. Albert
Milford
Eaton, William W.(*)
Mount Carmel
Bliss, Robert Harding
Naugatuck
Adams, James William
Casey, Robert Ernest
Chittenden, F. Dudley
Coe, Wesley S.
Danzig, Meyer H.
Howland, Louis H.
Rice, Philip Edmund
Ruebensaal, Clayton Frederick
Schoene, Dwight Lorin
Stover, Albert M.
Tuley, William Feagan
New Britain
Hayden, Edmund McKendree
New Canaan
Benington, George Arthur
Fisher, Arthur James, Jr.
Griffith, Charles E.
Keane, Lee A.
King, Robert J.
Landes, Chester Grey
Marshall, Harry B.
Moore, Leonard Patrick
Thompson, John Fairfield
New Haven
Bergmann, Werner
Bliss, Robert Harding
Bradley, Walter M.
Brinkley, Stuart Robert
Casey, Robert Ernest
Coe, John Parks
Cowgill, George R.
Dietrich, Harold Glenn
Dodge, Barnett F.
Eaton, Frederik S.
Eaton, William W.(*)
Fuoss Raymond Matthew
Harned, Herbert S.
Hewitt, Harold George
Horsfall, James Gordon
Johnson, Henry Stoddard
Keach, DeWitt T.
Kelsey, Erwin Burr
Lindwall, Harry Gustave
Long, Cyril Norman Hugh
Maier, Augustus Andrew
Mathewson, Champion Herbert
Morehouse, Clarence Koppel
Mrgudich, John Neil
Onsager, Lars
Owen, Benton Brooks
Salter, William Thomas
Sturtevant, Julian Munson
Van Name, Ralph Gibbs
Vickery, Hubert Bradford
New London
Kelly, Margaret W.
McKee, Mary Clarissa
New Milford
Turk, Amos
Noroton Heights
Morris, Charles Lawrence, Jr.
Northford
Eaton, Frederick S.
Norwalk
Gray, George Francis
King, Robert J.
Ryan, Albert O.
Tronson, John Laurence
Norwich
Cady, William Hamlin
Turer, Jack
Old Greenwich
Brooks, Edwin Bickford
Crowther, John Frederick
Downs, Charles Raymond
Kitchel, Allan F.
Kratz, George D.
McClellan, Paul P.
Smith, Ronald Bromley
Wiegand, William Bryan
Old Lyme
Barber, Edward Johnson (*)
Old Saybrook
Truebe, Carl Ernest
Orange
Dietrich, Harold Glenn

Portland
Ackerman, Arnold William
Redding Ridge
Hunter, James Heyworth
Rowe, Richard Gregor
Riverside
Davis, Harold Simmonds
Lefebvre, Paul L.
Marsh, Clarence Wallace
Roblin, Richard Owen, Jr.
Swain, Robert Cuthbertson
Thompson, Marvin Russell
Thurston, Jack Theo
Tyler, John E.
Rowayton
Gray, George Francis
Low, Frank S.
Preston, James B., Jr.
Sandy Hook
Roger, Henry
Seymour
Adams, James William
Freed, Meyer L.
Simsbury
Brandon, Joel Kell
Mitchell, Henry N.
Southport
May, Oliver
Munson, Charles Sherwood
Smith, Marion Wallace
Springdale
Mellecker, John
Miller, Wilbur Hobart
Stamford
Anderson, George W.
Brown, Morden G.
Camp, Arthur Dutton
Carey, James Stark
Casebolt, George Sims
Chapman, Ray Parkin
Christmann, Ludwig J.
Clark, Cyril Backus
Cordiner, Ralph Jarron
Davis, Harold Simmonds
Dean, Russell T.
Dolian, Frank E.
Ferguson, L. Ray
Fischer, Anthony Joseph
Harding, William Harry
Heiberger, Philip
Intemann, Hermann Kolle
Kite, Robert Paul
Landes, Chester Grey
Lustig, Bernard
Moore, Thomas R., Jr.
Moore, William Cabler
Morris, Charles Lawrence, Jr.
Northey, Elmore Hathaway
Philbrook, Warren R.
Pike, Robert D.
Preston, James B., Jr.
Roblin, Richard Owen, Jr.
Salley, Donovan Joseph
Shepard, Norman Arthur
Thompson, Marvin Russell
Thurston, Jack Theo
Titus, Harvey Lind
Wing, Henry J.
Woodford, Lois Wilcox
Stonington
Haynes, Williams
Storrs
Amundsen, Lawrence Hardin
Hewitt, Harold George
Ward, Roland
Waring, Charles E.
Stratford
Brown, John Russell
Taftville
Turer, Jack
Uncasville
Bolton, Philip S.
Waterbury
Kellner, Henry L.
Petrocelli, J. V.
Watertown
Howland, Louis H.
Westbrook
Riegel, Emil Raymond
West Hartford
Guest, Herbert Hartley
Lyle, Aaron K.
Prentiss, Augustin Mitchell
Spencer, Henry Christian
Woodward, Raymond West
West Haven
Lang, Otto J.
Maier, Augustus Andrew
Westport
Cohen, Samuel J.
Ferguson, L. Ray
Fitch, Elliot Bryant
Kennedy, Norman Fullerton
Lutz, William A.
Mackenzie, Kenneth Gerard
McColm, Eugene Miller
Olive, Theodore Ristine
Tressler, Donald K.
Ware, John
Wethersfield
Newell, Isaac Laird
Willimantic
Corkum, Howard David
Wilton
Lunn, Charles A.
Omohundro, Allen Llewellyn
Sanders, Malcolm D.
Williams, E. Clifford
Woodbridge
Kellner, Henry L.
Schoene, Dwight Lorin
Woodbury
Stover, Albert M.
Woodmont
Banbury, Fernley H.
Brown, John Russell

DELAWARE

Christiana
Dickey, Richard Earle
Claymont
Olsen, Arloe R.
Dover
Dickey, Richard Earle
Greenville
Copeland, Lammot du Pont
Greenewalt, Crawford Hallock
McConnell, J. H. Tyler(†)
Stull, Philip Barton
Wellford, John Harrison
Wiswall, Charles L.
Hilltop Manor
Allen, J. Charles
Hockessin
Pragoff, Emile, Jr.
Thompson, William Donald
Marshallton
Eatough, Harry
Farquhar, Bruce Straub
Spurlin, Harold Morton
Milford
Nelson, Clyde A.
Newark
Baker, George Louis
Bartlett, Edward Payson
Coburn, Allan Philip
Cooper, Charles Milton
Hardy, Russel L.
Lynch, Cecil Cameron
Nachod, Julius Ernest, Jr.
Pickett, Oscar Asa
Pigford, Robert Lamar
Skinner, Glenn Seymour
Wohl, Kurt
New Castle
Barker, George Ernest
Beasley, Warren Franklin
Petze, Charles Louis, Jr.
Waugh, Roger Owen
Newport
McCloskey, Robert James
McKinney, Robert Myers
Tennent, Howard Gordon
Vannoy, Wesley Gabriel
Rockland
du Pont, Pierre Samuel, 3d
Wilmington
Allen, J. Charles
Alvarado, Alfonso M.
Babcock, Dale Friend
Bake, Louis S.
Ball, A. M.
Barrett, Harold James
Bartlett, Edward Payson
Beadle, Walter Jay
Beard, Earl Edson
Beasley, Warren Franklin
Beekley, John Sherman
Benger, Ernest Baden
Bennett, James Leroy
Billing, Wyly McGhee
Black, Crayton K.
Bolton, Ellmer Keiser
Booge, James Eliot
Borglin, Joseph Nathaniel
Bradner, Donald B.
Brainard, Seymour W.
Brandner, John David
Brayman, Harold
Bridgewater, Ernest R.
Brown, Kenneth Rent
Bullitt, James Bell, Jr.
Burdick, Charles Lalor
Burk, Robert Emmett
Burt, Leland Howard
Cairns, Robert William
Calcott, W. S.
Callaway, J. B.
Chaddock, Richard Eastman
Chambers, Arthur Douglas
Chilton, Thomas Hamilton
Clark, W. Davis
Coffman, Donald Drake
Cooper, Charles Milton
Copeland, Lammot du Pont
Cornthwaite, William Robert
Croswell, Volney Robbins, Sr.
Culhane, Paul J.
Daddow, Wilbur Talbot
Dahlen, Miles Augustinus
Darlington, Charles Joseph
Daudt, Herbert Wilkens
Dittmar, Harry Robert
Dodge, Ralph L.
Doherty, Charles Henry, Jr.
Downing, Frederick Baxter
du Pont, Emile Francis
du Pont, Lammot
du Pont, Pierre Samuel
du Pont, Pierre Samuel, 3d
Eatough, Harry
Elley, Harold Walter
Ender, C. D.
Farquhar, Bruce Straub
Fothergill, Robert Enos
Franta, William Alfred
Garrett, James F.
George, Richard Stanley
Gladding, Ernest Knight
Glasebrook, Arthur Lawrence
Goebel, Max Theodore
Grasselli, Caesar Augustin, II
Greenewalt, Crawford Hallock
Hadlock, Canfield
Hague, Robert William
Hamilton, Paul Barnard
Hardy, Russel L.
Harrington, Willis Fleming
Harris, Thomas Williams, Jr.
Haught, John William
Hayden, Oliver Mills
Heckert, Winfield Walter
Heiser, Henry D.
Higgins, Charles Alfred

Hill, Julian Werner
Hinner, Elmer Francis
Hoff, George Preston
Hunter, A. Stuart
Jackson, Wendell Ford
Johnstone, Paul LeGrand
Kennerley, Francis John
Kirby, James E.
Kirklin, Wayne A.
Krase, Norman William
Lawrence, Robert W.
Lawrence, Winthrop
Lawson, Walter Eastby
Lickle, Charles Harold
Lincoln, Edmond E.
Lippert, Arnold Leroy
Little, Bunyan Hall
Livingston, H. K.
Lorand, Eugene J.
Lowstuter, W. Robert
Lubs, Herbert August
Lynch, Cecil Cameron
Mackey, B. H.
Markle, Gordon M.
Marsh, Henry Neal
Mason, Leslie Wilson
Mayfield, Paul
Maynard, Edward Washburn
McBurney, Lane Fordyce
McCloskey, Robert James
McConnell, J. H. Tyler(†)
McCormack, Thomas H.
McDermott, Frank Alexander
McKinney, Robert Myers
Meyeringh, Petrus Wilhelm
Nachod, Julius Ernest, Jr.
Neumann, Prosper Frederick
Newman, Douglas Cook
Nichols, James Burton
Notman, Donald Otter
Olsen, Arloe R.
Orem, Edward Addison
Ott, Emil
Patterson, Gordon Derby
Perry, John H.
Pickett, Oscar Asa
Pragoff, Emile, Jr.
Porter, Harold Felton
Power, James Thomas
Pratt, Carl D.
Rheuby, William P.
Robinson, Edmund G.
Sanders, Marshall T.
Sann, Edward Wesley, Jr.
Schantz, Jacob Mack
Seebach, Louis George
Seligsberger, Ludwig
Shadduck, Albert Kingsley
Shapleigh, James Herbert
Shepherd, Clark Bosler
Small, Jesse Ohrum
Spurlin, Harold Morton
Stager, Stanley R., Jr.
Steele, Sydney
Stine, Charles M. A.
Stratton, Bruce D.
Stull, Philip Barton
Tennent, Howard Gordon
Thompson, William Donald
Thurman, Neal
Tiffany, Harold Edward
Tilley, J. Norman
Tinker, James Bates
Tinker, John Marlin
Tucker, Carl W.
Urquhart, George Gordon
Vannoy, Wesley Gabriel
Van Wyck, Peter
Von Wettberg, E. F., Jr.
Ward, William Hilles
Wardenburg, F. A.
Waugh, Roger Owen
Weber, Arthur G.
Weber, Paul John August
Wellford, John Harrison
Wesp, Edward Floyd
Williams, John Randolph
Williams, Roger
Wilson, Ernest Staton
Wolff, Frederick Willard
Woodhouse, John Crawford
Wrightsman, Philip Gunckel
Zartman, Walter H.

Woodside Hills
Weber, Paul John August

DISTRICT OF COLUMBIA

Langdon Station
Harrison, Arthur Pennoyer

Washington
Adams, Leason Heberling
Alexander, Allen Leander
Anderson, Myron Sallee
Baker, Henry Gardner, Jr.
Barnes, Robert Percy
Battley, Joseph F.
Bennett, Martin Toscan
Berk, A. A.
Bloom, Mortimer C.
Blum, William
Bogue, Robert Herman
Boyer, John Williams
Brode, Wallace R.
Brown, Ralph L.
Brunauer, Stephen
Bunting, Elmer Newman
Butz, Lewis William
Cahnmann, Hans J.
Cameron, Edwin J.
Carhart, Homer Walter
Clark, George Robert
Cleaves, Harold Edwin
Coleman, Russell
Concannon, C. C.
Condon, Edward Uhler
Corruccini, Robert Joe
Crass, Maurice Frederick, Jr.
Curtis, Jack M.
Davis, Helen Miles
Davis, Watson
Dean, Reginald Scott
Deutch, Michael Joseph
Doherty, Joseph Daniel
Dunbar, Paul B.
Emery, Alden Hayes
English, Spofford Grady
Fairhall, Lawrence Turner
Farber, Eduard
Fieldner, Arno Carl
Fink, Gail J.
Fischer, Earl K.
Fisher, Harry Linn
Flint, J. Howard
Freeman, Kenneth Alfrey
Freeman, Monroe Edward
Geddes, John Albert
Goldman, Frederick H.
Gonet, Frank
Gould, Robert Francis
Gray, Dwight Elder
Greathouse, Glenn Arthur
Griffin, Edward Lawrence
Groggins, Philip H.
Hafstad, Lawrence Randolph
Hamill, George Keenan
Harris, Milton
Hayner, Joseph Halmer
Heindl, Raymond A.
Hess, Walter C.
Hilbert, Guido E.
Howard, Frank Lee
Howe, Paul E.
Hubbard, Donald
Ingerson, Earl
Irish, Oliver John
Isbell, Horace S.
Isbell, Robert Nevill
Jamieson, George Samuel
Johnson, James McIntosh
Johnson, Wayne William
Kebler, Lyman Frederic
Kilgore, Lowell Berry
Kimber, George Harold
Kline, Gordon Mabey
Kolodny, Leo
Kraemer, Albert John
Kuhn, Harry Albert
Lauter, Carl J.
Leitch, R. D.
Lepper, Henry Albert
Littleton, Leonidas Rosser
Lodge, Fred S.
Love, Samuel Kenneth
Loy, Henry W., Jr.
Mackall, Colin Mackenzie
Madorsky, Samuel Leo
Mahr, Hermann William
Mann, Harvey Blount
Marble, John Putnam
Markwood, Louis N.
Martin, Ray Charles
Matlack, Marion Brooks
McAuliffe, Anthony Clement
McBride, Gordon W.
McBride, Russell S.
McCabe, Louis Cordell
McDaniel, Alonzo Simpson
McDaniel, Paul William
McPherson, Archibald Turner
Mease, Ralph T.
Miller, Roman Rodney
Miller, Wilbur Hobart
Moore, Walter J.
Murphy, Walter Joseph
Nichols, Herbert Bishop
North, Dexter
O'Brien, Ruth
Otto, Earl Maurice
Peakes, Ralph Ware
Pearson, Paul B.
Peter, John Parke Custis
Pflaum, Daniel J.
Pitzer, Kenneth Sanborn
Powers, Justin Lawrence
Ramskill, Eugene Alfred
Read, William Thornton
Rice, Francis Owen
Roark, Ruric Creegan
Robbins, Paul Hebert
Roe, Joseph Hyram
Roller, Paul S.
Romaine, Jesse D.
Ross, Ron
Rossman, Joseph
Rostenbach, Royal Edwin
Russell, Charles Roberts
Salls, Carroll M.
Sanders, George Patrick
Schulman, James Herbert
Scofield, Francis
Scott, Eugene W.
Scott, Walter Moody
Scoville, Herbert, Jr.
Scribner, Bourdon Francis
Scribner, Bourdon Walter
Shereshefsky, J. Leon
Sickman, Darrell V.
Singleterry, Curtis R.
Smith, Julian F.
Smith, Paul Kenneth
Sterling, Wilbur Frederick
Stiehler, Robert D.
Stone, R. King
St. John, Ancel
Strub, Paul T. W.
Stubblebine, Warren
Sullivan, Michael Xavier
Swan, Thomas Hadden
Sward, George Gilbert
Swope, Robert Bricker
Talbot, Frank
Taylor, Robert Lewis
Thompson, Alberto Frederic
Thompson, John Graham

Turrentine, John William
Van Evera, Benjamin Douglass
Von Loesecke, Harry Willard
Waitt, Alden Harry
Walker, George
Waters, Campbell Easter
Webb, Byron Horton
Wheeler, Walter C.
Wichers, Edward
Wilkerson, Vernon Alexander
Williams, John Francis
Wilson, John Boynton
Wright, Philip A.
Wuertz, Alexander John
Yeagley, Herbert Weber
Youden, William John
Zimmerli, William Frederick

FLORIDA

Clearwater
Praschan, Vernon C.
Clewiston
Bourne, Benjamin Arthur
Coconut Grove
Foster, Nathaniel
Tebeau, Carl P.
Coral Gables
Steinbach, Warren H.
Tebeau, Carl P.
De Land
Conn, John Ferguson
Tompkins, Leonard George
Worstall, Robert Arthur
Dunedin
Praschan, Vernon C.
Fernandina
Borlew, Peter Boris
Fort Lauderdale
Boughton, Willis A.
Frostproof
Keenan, Edward T.
Gainesville
Beisler, Walter Herman
Block, Seymour Stanton
Carrigan, Richard A., Sr.
Hawkins, John Erskine
Heath, Fred Harvey
Husa, William John
Jackson, V. T.
Mims, Lawrence Winstead
Morgen, Ralph Alexander
Neller, Joseph R.
Otte, Burton John Herny
Pollard, Cash Blair
Ray, Francis E.
Smith, Frederick Buren
Specht, Randolph C.
Walker, Robert Dixon, Jr.
Jacksonville
Bain, Joseph Paul
Best, Albert H.
Van Reenen, Willem Jan
Jupiter
Coe, Mayne Reid
Lake City
Shingler, George Pinckney
Lakeland
Gerwe, Raymond D.
MacDowell, Louis Gardner
Smith, Earl Davis
Lake Wales
Nanz, Robert Augustus
Lake Worth
Van Sant, Robert Hays
Leesburg
Herlong, Byron E.
Miami
Lefgren, Frederick Valentine
Steinbach, Warren H.
Orlando
Carr, Ralph Howard
Handy, James Otis
Miller, Ralph Lester
Roy, Wallace Robert
Walsh, James F.
Palm Beach
Reimold, Abraham Gottlob Heinrich
Van Sant, Robert Hays
Panasoffkee
Tanner, Wellington Lee
Pensacola
Bond, Bernard Batson
McCormack, John Henry
Sisson, Edmond Francis
Plant City
Whitney, William Travers
Plymouth
Miller, Ralph Lester
Roy, Wallace Robert
Walsh, James F.
Ponte Vedra Beach
Camp, George Lee
Saint Petersburg
Sheen, Robert T.
Spiers, Robert D.
Sanford
Ruprecht, Rudolf W.
Sarasota
Kahlenberg, Herman Heald
Macleod, Annie Louise
Sewall's Point
Killheffer, Elvin H.
Starke
LeClerc, Joseph Arthur
Stuart
Killheffer, Elvin H.
Tallahassee
Allegrini, Aldo Peter
Beard, Harold Chatfield
Dittmer, Karl
Tampa
Geer, Laurence P.
Oakley, Llewellyn Cardiff, Jr.
Warrington
Bond, Bernard Batson
Winter Haven
McKinnis, Ronald B.
Winter Park
Bell, J. E.
Hill, Charles Warren
Tanner, Fred Wilbur

GEORGIA

Athens
Hodgson, Edward R.
Scott, Alfred Witherspoon
Whitehead, Thomas Hillyer
Atlanta
Appleton, Wesley Howard
Ashcraft, Lee
Bellinger, Frederick
Calaway, Paul Kenneth
Cocke, Emory Logan
Cox, Fred W., Jr.
Cudd, Herschel H.
Gortatowsky, Claude
Hall, James Roger
Lockhart, Luther Bynum
Mason, Jesse Wilford
May, Orville Edward
McCarty, George Weyman
Owens, A. Bingham
Plummer, James Kemp
Quayle, Osborne R.
Sanford, John Edgar
Seydel, Paul Vasser
Spicer, William Monroe
Stewart, Leroy Carlyle
Taylor, William S.
Vaughan, Joseph Alvin
Warren, William Homer
Weil, B. H.
Whitiey, Wyatt Carr
Wroth, Benjamin Blackiston
Attapulgus
Allegrini, Aldo Peter
Augusta
McCrackan, Robert Franklin
Bremen
Parker, Ivy May
Brunswick
Byers, Marshall S.
Buford
Doherty, Edward E.
Carrollton
Parker, Ivy May
Cartersville
Dellinger, James Ray
College Park
Nikitin, Alexander Alexis
Plummer, James Kemp
Dahlonega
Simms, John Colbert
Decatur
Frierson, William Joe
Mason, Jesse Wilford
Dry Branch
Lyons, Sanford Carlisle
Experiment
Holley, Kirk Theron
Hogansville
Martin, Lena
Isle of Hope
Cope, John Lovell
La Grange
Davis, Samuel Jackson
Martin, Lena
Macon
Johnson, Harry Edwin
McIntyre
Albert, C. Gerald
Milledgeville
Vincent, Joseph Francis
Savannah
Cope, John Lovell
Dulany, Franklin Reed
Le Croy, Clarence Rudolph
Lientz, James R.
Shuey, Philip McGregor
Taylor, Malcolm Langford
Valdosta
Phelan, Earl Walter
West Point
Waddle, Howard M.

IDAHO

Idaho Falls
Johnston, Leonard Earnest
Moscow
Jolley, J. Irving
Reiser, Castle O.
Wiese, Alvin Carl
Pocatello
Baldwin, Ernest J.
Miller, James Gilbert

ILLINOIS

Alton
Elfred, Frank Stillman, Jr.
Hermann, Charles Edward
Olsen, Fred
Argo
Artz, Neal E.
Baldwin, A. Richard
Elder, Albert Lawrence
Faith, William Lawrence
Gehman, Harry
Hinds, Horace, Jr.
Newkirk, William Bentley
Reck, Robert C.
Ruark, Robert Gordon
Wascher, Richard Paul
Wilson, Alexander Logan
Arlington Heights
Reed, Raymond Edward
McNey, H. W.
Barrington
Parker, Milton Ellsworth
Batavia
Sperry, David Rockwell, Jr.
Belleville
Berkey, Fred Minton

Hosmer, Desmond Bruce
Newsome, James Wilfred
Berwyn
Baldwin, A. Richard
Micka, Jan
Bloomington
Alikonis, Justin John
Frank, Harry Edward
Blue Island
Coolidge, Winthrop Knowlton
Haag, Vernon W.
Calumet City
Drapeau, Joseph Edward, Jr.
Carbondale
Abbott, Talbert Ward
Neckers, James W.
Van Lente, Kenneth Anthony
Cedarville
Fishburn, Victor E.
Champaign
Andrews, Andrew Irving
Comings, Edward Walter
Drickamer, Harry George
Henderson, La Vell Merl
Jackman, Harold Wesley
Lerman, Frank
Machin, James Stewart
Straub, Frederick G.
Charleston
Marcy, Lawson Francis
Phipps, Harris E.
Chicago
Adams, Frederick Cozzens
Adler, Howard
Albert, Jerry D.
Alexander, Mary Loretta
Allison, Samuel King
Alves, Howard A.
Anable, Francis Marshall
Anderson, Bror Ernest
Arveson, M. H.
Backus, Harrison S.
Baehr, William Byron
Bare, Bruce M., Jr.
Bates, Allan
Bechtner, Paul
Becker, Charles W.
Bendix, Gordon H.
Bergeim, Olaf
Berliner, J. F. T.
Binkerd, Evan Francis
Binkley, Stephen B.
Black, Howard C.
Blackberg, Solon N.(†)
Bloom, Jack
Bond, Rolston Lyman
Bradford, Purdy
Bradley, William Besteder
Brainerd, Arthur Travena
Brant, Joseph H.
Brinker, William Earle, Jr.
Brookes, Margaret Constance Hessler
Bruno, Michael H.
Burnett, Raymond Seton
Carr, George Russell
Carter, Arthur Budd
Chapman, Alfred Dale
Chapman, Arden Watson
Chapman, Thomas Shelby
Coghill, Robert DeWolf
Colburn, William
Conquest, Victor
Cooke, Lloyd Miller
Coolidge, Winthrop Knowlton
Cortelyou, Warren Pratt
Cramer, Archie Barrett
Croce, Michele
Crowley, Clyde Aubrey
Cunningham, John J.
Curtis, Clarence S.
Daggett, Hiram Choate
Davis, Richard Foster
Dearborn, Ned Harland(*)
de Beers, Franklin M.
Degering, E. F.
Didier, Ida Marie
Dillon, Robert T.
Doan, Wilson Irving
Doheny, James J., Jr.
Dold, C. Norman
Dreshfield, Arthur Charles
Driggs, Frank Howard
Duffey, Homer R.
Dunlop, Andrew P.
Egloff, Gustav
Eisenschiml, Otto
Erickson, Wallace A.
Evans, Earl Alison, Jr.
Farley, Franklin
Fawkes, Charles Elliott
Ferguson, Hugh Edward
Fiala, Oliver John
Finkle, Raymond D.
Flint, E. P.
Fosdick, Leonard Samuel
Freud, Benjamin Ball
Friedman, Bernard Samuel
Fuchs, Charles F.
Gamson, Bernard William
Gausebeck, Herbert B.
Gershon, Solomon D.
Gibboney, James Lincoln
Gillet, James Monroe
Gilman, Albert Franklin, Jr.
Gordy, Edward L.
Graff, Alan R.
Graham, Claire Embley
Green, Jerome
Grettie, Donald Pomeroy
Grimsley, Loren
Griswold, John
Grosvenor, Oliver
Gunderson, Lewis Olin
Gunning, Harry Emmet
Gurin, Emanuel
Gustin, Herbert A.
Gustus, Edwin L.
Guthman, Leo S.
Haag, Vernon W.
Hall, Lloyd A.
Hampel, Clifford A.
Hanke, Milton Theo.
Harber, William I.
Harris, Benjamin Raczkowski
Harris, John P.
Hartsuch, Paul Jackson
Hays, Edwin Everett
Henderson, William F.
Higgins, Rathbun Romeyn
Higgins, Walter Mayo
Hille, Ernst Carl Hermann
Hogness, Thorfin Rusten
Holland, Eugene
Hollingshead, Thomas Elijah
Holloway, John L.
Holm, Herbert K.
Holmes, Joseph A.
Horn, Raymond E.
Houston, Harry H., II
Huntzicker, Harry Noble
Hyman, Herbert H.
Jacklin, Clarence
Jacobs, Robert B.
Jakob, Max
Jameson, Albert R.
Jensen, Fred A.
Joffe, Morris H.
Johnson, Carl E.
Johnson, Warren C.
Johnston, Harry A.
Jones, R. M.
Julian, Percy Lavon
Kahlenberg, Orme J.
Kamerschen, Robert R.
Kaplan, Julius Frank
Kassel, Louis S.
Kellogg, James William
Kenney, John Edward
Kenyon, Richard Lee
Kilpatrick, Martin
Kirchmeyer, Frederick Joseph
Kleiman, Morton
Klein, David
Klein, Samuel
Kochs, August
Kocour, Cyril
Komarewsky, V. I.
Kraft, Maurice M.
Kraybill, Henry Reist
Krembs, Ottmar Moritz
Kubie, William Leonard
Lachat, Lawrence Lysle
Laing, Milton Lionel
Larsen, Louis Melvin
Lavedan, Pierre F.
Lawroski, Stephen
Leedy, Haldon A.
Lichtenberg, Charles R.
Lindsay, Frederick Kirkwood
Linick, Leslie Lloyd
Lockwood, Maurice H.
Long, Earl A.
Lowry, Charles Doak, Jr.
MacCorquodale, Donald William
Maier, Curtis Eugene
Main, Merrill M.
Maizel, Benjamin Leo
Manning, Paul DeVries
Manning, Winston M.
Margeson, James P., Jr.
Marron, Thomas Urban
Martin, Samuel William
Maxwell, Loyal C.
Mayer, Joseph Edward
McDonald, Hugh Joseph
McFarland, Rolland, Jr.
McLain, Stuart
McNey, H. W.
McPhee, Warren Douglas
Micka, Jan
Miller, Kenneth William
Miller, Wyatt A.
Miner, Carl Shelley
Mints, Thomas M.
Mitchell, Jack Harris, Jr.
Mohlman, Floyd William
Moore, Chas. Greenwood
Morgan, Clarence
Mortenson, Everett N.
Mory, Austin Van Hoesen
Mulliken, Robert Sanderson
Murphey, James McDowell
Newton, Roy Chester
Novak, Leo J.
Novitsky, Peter
Olcott, Irwin
Oldacre, William Henry
Osri, Stanley M.
Overmyer, Calvin Jennings
Parent, Joseph Dominic
Parker, Milton Ellsworth
Parkinson, Laurel Gorham
Perlman, Lester Joseph
Pescatore, Joseph J.
Peters, Fredus N., Jr.
Peterson, Earl A.
Peterson, Howard R.
Pettyjohn, Elmore Shaw
Pflaumer, Robert Eugene
Phillips, William Edward
Piskur, Michael M.
Plummer, William B.
Potts, Ralph Harrison
Powell, Eugene Loren
Powers, Treval Clifford
Pratt, J. H.
Proctor, Chas. Darnell
Quick, Wallace J.
Rauch, L. A.
Raymond, Albert L.
Reed, Raymond Edward
Reed, Robert F.
Rehm, Charles William

Richards, Richard Kohn
Ries, Herman Elkan, Jr.
Riesz, Charles H.
Roberts, Joseph Kastle
Rogers, Marvin C.
Rogers, Russell Henry, Jr.
Romanoff, Francis P.
Rosenbaum, Rudolph Raphael
Rosner, Lawrence
Rushton, J. Henry
Ryznar, John William
Sanford, John Edgar
Sarett, B. L.
Schlesinger, Hermann I.
Schmiel, Edgar M.
Schreiber, Frederick Walter
Seavoy, Gordon Edward
Self, Madison Allen
Selheimer, Charles William, Jr.
Senkus, Murray
Serles, Earl Roy
Shafer, H. A.
Sipple, Horace Lawson
Smith, Charles Lee
Smith, Irwin E.
Snyder, Omar Eldredge
Spaeth, Raymond J.
Speer, John H.
Spielman, Harry Russell
Squibb, Francis Plummer
Steinberg, Ralph H.
Steinour, Harold Heiges
Stepan, Alfred Charles, Jr.
Stewart, James K.
Storey, Oliver Wendell
Strain, Harold H.
Susie, Alfred G.
Swartz, Carl E.
Tarr, Lester Winslow
Taylor, Robert B.
Tebbens, Wilke Gerhard
Tenney, Robert I.
Thor, Clifford J. B.
Thorne, Frank Hilton
Thorp, Clark E.
Todaro, Casper A.
Toussaint, Norbert F.
Underwood, William Murray
Urey, Harold C.
Van Loo, Maurice
Venema, Maynard Peter
Vogel, Oliver George
Walker, Alfred Orpheus
Walter, Allan Wylie
Ware, Louis
Weaver, Willis K.
Webster, George Lewis
Weigel, Rothe
Welch, Medard William
Westheimer, Frank H.
Wheland, George Willard
Wilks, Louis Philip
Williams, Fred T.
Williamson, Donald G.
Wilson, Robert E.
Wilson, Robert L.
Wilson, William Courtney
Wing, Wallace E.
Wise, John Kenneth
Witt, Joshua Chitwood
Woldenberg, Jay M.
Woldenberg, Max
Yee, Edward Goey
Young, Harland Harry, Jr.
Young, Hoylande D.
Zinn, Robert Edwin

Chicago Heights
Anable, Francis Marshall
Anderson, Isabella Russ
Easterwood, Henry W.

Crete
Carmody, Donald Richard
Higgins, Rathbun Romeyn
Peterson, Earl A.

Crystal Lake
Bell, Richmond T.
MacKusick, Byron Leroy
Marks, Madison Edward
McFarland, Rolland, Jr.
Porter, Charles A.
Ridgeway, Charles Murray

Danville
Henry, William Foley.

Decatur
Bandelin, Fred John
Bishop, William Bradford
Conway, Alvin Charles
Cornell, George Naumann
Dorn, Herman W.
Duewer, Casper Frederic
Durkee, Maurice M.
Greenfield, R. Edman
Hatfield, William Durrell
Rogier, Francis John
Shildneck, Paul Russell
Staley, Augustus Eugene, Jr.

Deerfield
Everote, Warren Peter
Hille, Ernst Carl Hermann
Reed, Robert F.

De Kalb
Gould, Howard Woodham

Downers Grove
Jacklin, Clarence
McLain, Stuart

East Alton
Olsen, Fred
O'Neill, John Joseph, Jr.
Weaver, James Bellamy, 2nd
Womer, Robert Leroy

East St. Louis
Ayers, Lorenz Kneedler
Hudson, Francis M.
Le Beau, D. S.
Newsome, James Wilfred
Tilson, Donald Heath
Trimble, Gilbert K.

Edwardsville
Cliff, Ivan Spaulding

Elgin
Scarritt, Elwood William
Willey, Benjamin Franklin

Elmhurst
Benjamin, Howard A.
Bergeim, Olaf
Chapman, Thomas Shelby
Haman, Robert Walter
Helmick, Homer Henry
Houston, Harry H., II.
Swallen, Lloyd Clayton

Elmwood Park
Artz, Neal E.

Evanston
Adams, Frederick Cozzens
Alves, Howard A.
Baker, Robert Henry
Bays, Alfred W.
Brinker, William Earle, Jr.
Carter, Arthur Budd
Cooper, Frank Bradford
Cortelyou, Warren Pratt
Croce, Michele
Doan, Wilson Irving
Dole, Malcolm
Gillet, James Monroe
Gordy, Edward L.
Higgins, Walter Mayo
Hunter, J. E.
Huntzicker, Harry Noble
Hurd, Charles D.
Jameson, Albert R.
Krembs, Ottmar Moritz
Lamb, George Goodrich
Lowry, Charles Doak, Jr.
Margeson, James P., Jr.
Peters, Fredus N., Jr.
Pettyjohn, Elmore Shaw
Quick, Wallace J.
Riegel, Byron
Smith, Irwin E.
Spielman, Harry Russell
Summerbell, Robert Kerr
Weaver, Willis K.
Williams, Fred T.
Wise, John Kenneth

Flossmoor
Arveson, M. H.
Roberts, Joseph Kastle
Rogers, Marvin C.
Squibb, Francis Plummer
Webb, William L.
Zinn, Robert Edwin

Freeport
Bollinger, C. H.
Coleman, Joseph Johnston
Fishburn, Victor E.
Furst, Charles Wilkins
Sanderson, Robert Thomas

Galesburg
Gunther, James Kenneth
Hartman, Robert J.
Neifert, Ira Edward

Glencoe
Baehr, William Byron
de Beers, Franklin M.
Harris, Benjamin Raczkowski
Holland, Eugene
Manning, Paul DeVries
Ravenscroft, Edward Abbott

Glen Ellyn
Duffey, Homer R.
Gustin, Herbert A.
Hinds, Horace, Jr.
Phillips, William Edward

Glenview
Miner, Carl Shelley
Rini, S. Jack

Granite City
Cleland, James Edwin
Pyle, Ronald Emmett

Grayslake
Bell, Richmond T.

Great Lakes
Beck, Harris Graybill, Jr.

Greenville
Long, Henry Johnson
Louder, Earl A.

Harvey
Bernhardi, Tom George
Friedman, Bernard Samuel
Ries, Herman Elkan, Jr.
Seavoy, Gordon Edward
Wilcox, Marion James

Highland Park
Carter, Edgar Brock
Guthmann, Walter Sigmund
Kaplan, Julius Frank
Murphey, James McDowell
Rauch, L. A.
Sandel, Clayton John
Van Wazer, John Robert
Volwiler, Ernest Henry

Hinsdale
Faith, William Lawrence
Powers, Treval Clifford
Swartz, Carl E.

Homewood
Bernhardi, Tom George
Hampel, Clifford A.
Jacobs, Robert B.
Ruthruff, Robert F.

Hubbard Woods
Woldenberg, Jay M.
Woldenberg, Max

Itasca
Bare, Bruce M., Jr.

Joliet
Baldwin, Paul M.
Metziger, Max C.

Kenilworth
Jones, Haydn
Walter, Allan Wylie

La Grange
Cooke, Lloyd Miller

Dreshfield, Arthur Charles
Elder, Albert Lawrence
Hartsuch, Paul Jackson
Kamerschen, Robert R.
Newkirk, William Bentley
Wascher, Richard Paul
La Grange Park
Reck, Robert C.
Ryznar, John William
Lake Bluff
Coghill, Robert DeWolf
Downs, Charles S.
Hazel, George R.
Leffler, Martin T.
Scribner, Leonard
Young, Ferdinand H.
Lake Forest
Dunn, William Lewis
Lansing
Turner, Howard Elliott
La Salle
Carus, Edward Hegeler
Lebanon
Gutekunst, Helmut Conrad
Libertyville
Bates, Allan
Hunter, J. E.
Rini, S. Jack
Lisle
Karabinos, Joseph Vincent
Lockport
Witt, Joshua Chitwood
Lombard
Hays, Edwin Everett
Lyons
Pelletier, Paul E.
Macomb
Bennett, Chester Wallace
Currens, Frederick Hawley
Marshall
Day, George Gerald
Maywood
Benjamin, Howard A.
Clark, Berton Stanley
Julian, Percy Lavon
Melrose Park
Sandel, Clayton John
Monmouth
Haldeman, William S.
Thiessen, Garrett William
Monsanto
Berkey, Fred Minton
Davidson, Lyndall Phillips
Hosmer, Desmond Bruce
Monticello
Lerman, Frank
Morris
Trucano, Peter Joseph
Morton Grove
Leppla, Paul W.
Martin, Samuel William
Speer, John H.
Thomas, Charles Lamar
Swallen, Lloyd Clayton
Van Wazer, John Robert
Mount Prospect
Todaro, Casper A.
Mount Sterling
Gaddis, Shirley Walter
Nameoki
Cleland, James Edwin
Pyle, Ronald Emmett
Naperville
Koten, Irvin Alvin
Northbrook
Culligan, Emmett J.
Steinour, Harold Heiges
North Chicago
Apeland, Casper
Bays, Alfred W.
Beck, Harris Graybill, Jr.
Carter, Edgar Brock
Downs, Charles S.
Driggs, Frank Howard
Hazel, George R.
Horn, Raymond E.
Leffler, Martin T.
Matson, Edward J.
Moore, Edmond E.
Moore, Marjorie Barr
Nielsen, Carl
Ravenscroft, Edward Abbott
Richards, Richard Kohn
Scribner, Leonard
Southern, Walter Arthur
Taylor, Donald F.
Volwiler, Ernest Henry
Yntema, Leonard Francis
Young, Ferdinand H.
Northfield
Raymond, Albert L.
Oak Lawn
Novak, Leo J.
Yee, Edward Goey
Oak Park
Clark, Berton Stanley
Darrah, William A.
Jones, R. M.
Kahlenberg, Orme J.
Kassel, Louis S.
Leppla, Paul W.
Moore, Chas. Greenwood
Overmyer, Calvin Jennings
Pratt, J. H.
Sipple, Horace Lawson
Smith, Charles Lee
Vogel, Oliver George
Palatine
Davis, Richard Foster
Palos Park
Bradford, Purdy
Wilson, Alexander Logan
Paris
Day, George Gerald
Park Forest
Gausebeck, Herbert B.
Lawroski, Stephen
Schreiber, Frederick Walter
Thorp, Clark E.
Park Ridge
Anderson, Bror Ernest
Bendix, Gordon H.
Gunderson, Lewis Olin
Main, Merrill M.
Peoria
Belfer, Samuel
Benedict, Robert Glenn
Boruff, C. S.
Claasen, Ralph I.
Cowan, John Charles
Jacobs, P. Burke
Langford, Cecil Theodore
Lathrop, Elbert Clyde
McKinney, Leonard L.
Milner, Reid Thompson
Shroyer, John Henry
Simmons, Raymond Samuel
Peoria Heights
Belfer, Samuel
Peru
Carus, Edward Hegeler
Quincy
Billig, Rev. Maynard B.
Ringwood
Guthmann, Walter Sigmund
Lowe, Edmund Waring
Perlman, Lester Joseph
Schwarcz, Morton
River Forest
Ruark, Robert Gordon
Serles, Earl Roy
Riverside
Dunlop, Andrew P.
Kocour, Cyril
Maier, Curtis Eugene
Schmerling, Louis
Tebbens, Wilke Gerhard
Thorne, Frank Hilton
Rockford
Natelson, Samuel
Pierce, Alan E.
Roxana
O'Neill, John Joseph, Jr.
Saint Charles
Taylor, Robert B.
Skokie
Backus, Harrison S.
Ensor, Elwood Henderson
Holloway, John L.
McDonald, Hugh Joseph
Toussaint, Norbert F.
Urbana
Adams, Roger
Andrews, Andrew Irving
Audrieth, Ludwig Frederick
Babbitt, Harold E.
Bailar, John C., Jr.
Bray, Roger Hammond
Buswell, Arthur Moses
Carter, Herbert Edmund
Clark, Howard S.
Comings, Edward Walter
Drickamer, Harry George
Englis, Duane Taylor
Finger, Glenn Charles
Fuson, Reynold Clayton
Halvorson, Halvor Orin
Henderson, LaVell Merl
Hopkins, B. Smith
Howard, Louis Bradley
Jackman, Harold Wesley
Johnstone, Henry Fraser
Laitenen, Herbert August
Larson, Thurston E.
Machin, James Stewart
Marvel, Carl Shipp
Phipps, Thomas Erwin
Reed, Frank Hynes
Rodebush, Worth Huff
Rose, William Cumming
Snyder, Harold Ray
Straub, Frederick G.
Swann, Sherlock, Jr.
Wall, Frederick Theodore
Yohe, Gail Robert
Villa Park
Haman, Robert Walter
Johnston, Harry A.
Washington
Ward, George Edward
Waukegan
Apeland, Casper
Glaser, Milton Arthur
Kirchmeyer, Frederick Joseph
Matson, Edward J.
Moore, Edmond E.
Moore, Marjorie Barr
Richards, Richard Kohn
Southern, Walter Arthur
Taylor, Donald F.
Thayer, Floyd K.
Yntema, Leonard Francis
Westchester
Johnson, Carl E.
Walker, Alfred Orpheus
West Chicago
Kremers, Howard E.
Western Springs
Gehman, Harry
Graham, Claire Embley
Leedy, Haldon A.
Lindsay, Frederick Kirkwood
Marshall, Hugh A.
Poole, James Everette
Senkus, Murray
Thor, Clifford J. B.
Venema, Maynard Peter
Young, Harland Harry, Jr.
Wheaton
Binkley, Stephen B.
Nuckolls, Asa H.
Storey, Oliver Wendell
Wright, Paul McCoy
Wilmette
Bradley, William Besteder

Crowley, Clyde Aubrey
Dillon, Robert T.
Dold, C. Norman
Ensor, Elwood Henderson
Everote, Warren Peter
Fosdick, Leonard Samuel
Harris, John P.
Hollingshead, Thomas Elijah
Jensen, Fred A.
Jones, Blanche Pinkerton
Jones, Haydn
Jones, Hilton Ira
McPhee, Warren Douglas
Webster, George Lewis
Weigel, Rothe
Winnetka
Becker, Charles W.
Dearborn, Ned Harland(*)
Farley, Franklin
Flint, E. P.
French, Dudley Kimball
Glaser, Milton Arthur
Kenney, John Edward
Lockwood, Maurice H.
MacCorquodale, Donald William
Mints, Thomas M.
Pflaumer, Robert Eugene
Stepan, Alfred Charles, Jr.
Thomas, Charles Lamar
Tenney, Robert I.
Ware, Louis
Welch, Medard William
Williamson, Donald G.
Wood River
Cliff, Ivan Spaulding
Weaver, James Bellamy, 2nd

INDIANA

Bloomington
Andreasen, Arthur Albinus
Briscoe, Herman T.
Gucker, Frank T., Jr.
Mathers, Frank
May, Clarence Earl
Schmidt, Fredric Cowles
Brazil
Smalley, Dave E.
Brookston
Quackenbush, Forrest W.
Buffington
Hansen, Waldemar C.
Crawfordsville
Haenisch, Edward Lauth
Howell, Lloyd B.
East Chicago
Griffith, Russell T.
Gutzeit, Gregoire
Herrmann, Carl V.
Turner, Howard Elliott
Elkhart
Beardsley, Walter Raper
Compton, Walter Ames
Evansville
Ashby, Carl Toliver
Berry, Norton E.
Bills, Charles E.(*)
Hainsworth, William R.
Phillips, Benjamin Austin
Strickler, Alvin
Taylor, Robert Seth
Fort Wayne
Miceli, Angelo Sylvestro
Franklin
Buck, Miriam G.
Hicks, R. Lowell
Gary
Griffith, Russell T.
Susie, Alfred G.
Goshen
Miller, Glen Russel
Greenwood
Davis, William W.
Hammond
Bodman, John Morgan
Drapeau, Joseph Edward, Jr.
Kaye, Albert Louis
Mortenson, Everett N.
Rehm, Charles William
Self, Madison Allen
Hanover
Guthrie, Ned
Highland
Gutzeit, Gregoire
Herrmann, Carl V.
Indianapolis
Barnett, J. Herman, Jr.
Bockstahler, Earl Reber
Caldwell, A. Lee
Campbell, Edward Donald
Carney, Thomas P.
Chen, Ko Kuei
Cislak, Francis E.
Clowes, George Henry Alexander
Culberston, Clyde Gray
Davis, William W.
Edwards, Carleton B.
Fleischmann, Meyer
Fortune, William Brooks
Gibboney, James Lincoln
Harwood, Arthur Albert
Havens, Richard A.
Helmer, Oscar M.
Higburg, William
Hilty, Wayne W.
Leighty, John Adam
Lilly, Eli
Lilly, Josiah Kirby
Means, Karl Stone
Mulcahy, Bernard Patrick
Noyes, Nicholas Hartman
Rice, Raymond Main
Ross, Auburn A.
Rupp, Virgil Richard
Scott, Jasper Paul
Seymour, Keith M.
Strieby, Mrs. Irene Macy
Willkie, Herman Frederick
Jeffersonville
Putnam, Hamilton Wallace
Lafayette
Alberts, Arnold A.
Allen, Frederick John
Bachman, G. Bryant
Brown, Herbert C.
Carr, Ralph Howard
Corley, Ralph Conner
DeVries, Thomas
Hawkins, George Andrew
Hunt, Herschel
Martin, Frank Dayton
McBee, Earl Thurston
Mellon, Melvin Guy
Peterson, John Booth
Quackenbush, Forrest W.
Shreve, R. Norris
Volk, Norman James
Whistler, Roy Lester
Lawrenceburg
Hoffman, Anna Louise
Morley, Nelson W., Jr.
Stallings, Eugene M.
Marion
Ansbacher, S.
Michigan City
Kemp, Milton H.
Mishawaka
Burton, Milton
Paulsen, Robert Marshall
Muncie
Holmes, Alvin William
Shelley, Robert LaVere
New Albany
Klassen, Harold C.
Newburgh
Berry, Norton E.
Notre Dame
Baldinger, Lawrence Henry
Boyle, Andrew Joseph(*)
Burton, Milton
Campbell, Kenneth Nielsen
Froning, Henry Bernhardt
Hennion, George F.
Hinton, Henry David
Price, Charles C.
Rich, Ronald Emil
Smith, Allen Stratton
Vernon, Janet
Vogt, Richard Rockhill
Richmond
Wildman, Ernest Atkins
Roby
Evans, James William
Powell, Eugene Loren
Saint Mary of the Woods
Stiles, Hugh R.
Seymour
Barry, Richard H.
Buhner, Edward J.
Rogers, James L.
South Bend
Baldinger, Lawrence Henry
Boyle, Andrew Joseph(*)
Campbell, Kenneth Nielsen
Froning, Henry Bernhardt
Hennion, George F.
Hinton, Henry David
Price, Charles C.
Rich, Ronald Emil
Smith, Allen Stratton
Vernon, Janet
Vogt, Richard Rockhill
South Whitley
Cross, Robert John
Speed
Wechter, Eugene Jacob
Terre Haute
Baxter, Albert Lawrence
Caldwell, Robert Stowe
Carswell, Thomas S.
Dale, Julian K.
Fossum, John Herbert
Goodale, Charles DeLoss
Kircher, Charles E., Jr.
Knight, Odon Stahlhut
Lee, Sylvan Burton
Markunas, Peter Charles
Morey, Glen H.
Quinn, Bernard J.
Riddick, John Allen
Schultz, Fred Henry, Jr.
Stahly, Eldon Everett
Stiles, Hugh R.
Strong, Ralph K.
Watts, Cecil Edwin
Wheeler, Maynard C.
Wilkinson, Paul D.
Valparaiso
Hansen, Waldemar C.
Schaeffer, Harold F.
Vincennes
Buck, Miriam G.
West Lafayette
Bachman, G. Bryant
Corley, Ralph Conner
De Vries, Thomas
Hawkins, George Andrew
Jenkins, Glenn Llewellyn
Martin, Frank Dayton
McBee, Earl Thurston
Mellon, Melvin Guy
Peterson, John Booth
Shreve, R. Norris
Volk, Norman James
Whistler, Roy Lester
Whiting
Carmody, Donald Richard
Fragen, Nathan
Miller, Clarke C.
Shoemaker, Bernard H.
Webb, William L.
Zionsville
Ross, Auburn A.

IOWA

Ames
Bird, Emerson W.
Bridger, Grover Leon
Brown, Frank Emerson
Diehl, Harvey
Fox, Sidney W.
Gaessler, William George
Gilman, Henry
Goetz, Charles Albert
Hammond, George Simms
Hixon, Ralph Malcolm
King, Walter Bernard
Ruth, Burrell Franklin
Schlenk, Fritz
Schulz, John A.
Smith, Frederick G.
Spedding, Frank Harold
Sweeney, Orland Russell
Underkofler, Leland Alfred
Wilhelm, Harley Almey
Wilkinson, John Anderson
Yoder, Lester

Ankeny
Johnston, Esther Macintosh
Burlington
Bonewitz, Paul Warren
Hockett, Sebern Waldo
Cedar Falls
Getchell, Robert Ward
Holt, Wendell L.
Kesler, Carl C.
Peterson, Ben Harrison
Charles City
Walde, Arthur William
Walde, Eunice Chamberlin
Clinton
Fetzer, Walter Raymond
Newton, John Marshall
Peckham, George Taylor, Jr.
Council Bluffs
Bennett, Richard E.
Des Moines
Frisk, Paul Warner
Kinney, Charles Noyes
Patzig, Monroe L.
Pierce, James Gray
Roberts, John Alexander
Fort Madison
Casey, Robert S.
Neal, Roy
Schmidt, Reese Boise
Grinnell
Oelke, William C.
Sherman, Leo Prentis
Indianola
Baker, J. Allen
Iowa City
Bartow, Edward
Glockler, George
Kammermeyer, Karl
Major, Coleman J.
Olin, Hubert Leonard
Sanderson, Robert Thomas
Shriner, Ralph Lloyd
Keokuk
Wettstein, Thomas F.
Le Mars
Hershberger, A. R.
Mount Pleasant
Hockett, Sebern Waldo
Mount Vernon
Culbertson, James Bernard
Ottumwa
Gross, Charles Ezra
Sioux City
Black, Rodney Elmer
Waverly
Swensen, Alf. Waldemar

KANSAS

Atchison
Halasey, Sister Mary Eva
Baldwin City
Cragoe, Edward Jethro
Columbus
Deutschman, Archie John, Jr.
El Dorado
Todd, Ernest Alfred
Fort Leavenworth
Geddes, John Albert
Hays
Choguill, Harold S.
Hutchinson
Imes, Paul V.
Iola
Davis, Harry Elmer
Kansas City
Curts, Lloyd Maynard
Gillam, William Sherman
Gillette, Guy Raymond
Lawrence
Brewster, Ray Quincy
Davidson, Arthur William
Davis, Harry Elmer
Maloney, James O'Hara
Taft, Robert
Yates, William Emerson
Macksville
Reid, Ernest W.

Manhattan
Barham, H. N.
Brubaker, Howard W.
Colver, Charles William
Hall, Joseph Lowe
Lash, Mendel Elmer
Milner, Max
Perkins, Alfred Thomas
Shellenberger, John Alfred
Silker, Ralph E.
Merriam
Lonneker, Paul L.
Mission
Newlin, Harrison E.
Thompson, Charles Thiers
Pittsburg
Albus, Leon Hanssen
Deutschman, Archie John, Jr.
Salina
Long, Walter Sterrett
Satanta
Wilhelm, Paul Houston
Sterling
Thompson, Daisy Ruth
Topeka
Mathewson, Walter Eldridge
Wichita
Albright, Penrose S.
Burnett, Waldo Briggs
Fletcher, Worth A.
Schultz, P. Daniel
Winfield
Baden, Martin William
Spitze, LeRoy Alvin

KENTUCKY

Anchorage
Perkins, George
Ashland
Meredith, George Brackett
Clearfield
Bowne, Martin Starr
Covington
Hoffman, Anna Louise
Danville
Rush, Richard Irwin
Guthrie
Rawlins, George Mimms, Jr.
Jeffersontown
Plinke, George William
Lexington
Dawson, Lyle R.
McHargue, James Spencer
Meadow, Jacob Robert
Poundstone, Albert Bruce
Schreyer, James Marlin
Shedd, Oliver March
Louisville
Andreasen, Arthur Albinus
Arnold, Melvin Roy
Bonnie, Robert Palen
Buhner, Edward J.
Dabney, William Cecil
Ernst, Robert Craig
Greene, Henry Leese
Holmes, David Willis
Kell, Robert W.
Klassen, Harold C.
Kolachov, Paul John
Neiman, Robert
Palmer, Henry F.
Perkins, George
Plinke, George William
Putnam, Hamilton Wallace
Reed, Robert Marion LaFollette
Rosen, Aaron A.
Sawyer, Roscoe Hall
Shipman, Frank Major
Thompson, Frederick S.
Unger, Earl Duane
Walsh, Edward R.
Wiley, Richard Haven
Williams, Gordon Curran
Midway
Williams, Carl Paul
Murray
Blackburn, Walter Evans
Richmond
Herndon, Thomas Corwin
Winchester
McConnaughey, James B.

LOUISIANA

Baton Rouge
Amis, Maurice Brewer
Armstrong, Wallace F.
Church, Howard
Edwards, Warrick Rigeley, Jr.
Erickson, J. L. E.
Fieger, Ernest A.
Krebs, Robert Wm.
Mangelsdorf, Harold Gustav
McKenzie, James Parker
Padgitt, Frank L.
Steele, Clellie Truman
Swan, Donald O.
Voorhies, Alexis Joseph, Jr.
West, Philip W.
Wintringham, Arthur Beedie
Wood, John Edward, III
De Ridder
Crosby, Robert Howell, Jr.
Price, Robert Eugene
Gramercy
Meade, George Peterkin
Houma
Ventre, Emil Karl
Lake Charles
Grubb, Loren Dwight
Oden, E. Clarence
Raetzsch, Alvin Thomas
Wilson, Woodrow Allen
Maplewood
Grubb, Loren Dwight
Marrero
Frederick, Emile, Jr.
Metairie
Diwoky, Roy John
Monroe
Cretney, Robert Wesley
Martin, Harry Coakley
McHenry, Carl H.
New Orleans
Altschul, Aaron M.
Bailey, Paul Frederick
Bartlett, C. Julian
Brazda, Fred George
Brown, Bruce K.
Chapman, Arden Watson
Clausen, Theodore Irving

Crumpler, Thomas Bigelow
De Milt, Clara
Diwoky, Roy John
Fisher, Charles Harold
Fort, Charles A.
Frederick, Emile, Jr.
Goldblatt, Leo Arthur
Goldthwait, Charles Francis
Gumaer, Robert Rhys
Hoffpauir, Carroll Lea
Hornung, Philip John
King, William Hughes
Levey, Harold Alvin, Sr.
Markley, Klare S.
McElhinney, Thomas Robert
Newton, Harry Paul
Patton, Elmo Logan
Paytash, Peter Leonard
Reid, J. David
Schuyten, Hartwig Andrew
Scott, John Mark
Skau, Evald Laurids
Sowers, Wesley H.
Taylor, Francis McBryde
Ward, Keyle, Jr.
Wendel, William Bean
Woodside, Vernon

Shreveport
Entrikin, John B.
Hablutzel, Charles Edward, Jr.
Hammar, Harald Edwin
Sheard, Harry Joseph
Trusty, Aubrey Wayne

Sterlington
Cretney, Robert Wesley

Weeks
Lippman, Alfred, Jr.

West Monroe
Martin, Harry Coakley

MAINE

Bangor
Fraser, Ralph E.

Biddeford
Evans, Henry D.

Brunswick
Kamerling, Samuel Edward

Calais
Dresser, Walter E.

Camden
Pitman, Earle Carver

Cumberland Mills
Sutermeister, Edwin
Thomas, Joseph James
Werner, Tyrrell Hawley

Lewiston
Lawrance, Walter Albert
Lougee, F. Marion

Orono
Brann, Bertrand French
Brautlecht, Charles A.
Calkin, John B.
Douglass, Irwin Bruce
Pedlow, J. Thomas
Tobey, Elmer Robert

Portland
Barry, William H.

Saco
Evans, Henry D.

Southwest Harbor
Johnston, John

Waterville
Parmenter, George Freeman
Parsons, John Langdon
Ray, Wendell Augustus

Westbrook
Sutermeister, Edwin

MARYLAND

Annapolis
Adams, Robert Carson
Hebbard, George Miller
Kinney, Gilbert Ford

Army Chemical Center
Amoss, Alice M.
Butler, Courtland L., Jr.
Creasy, William Murlin
Danner, Charles Eugene
Fox, Robert Lee
Greene, Luther Wilson
Hormats, Saul
Katz, Sidney Hershberg
King, Harold Skinner
Lane, Frederick William
Leatherman, Martin
MacRae, Duncan
Macy, Rudolph
Ortynsky, Roman Leo
Rothrock, Robert W.
Rothschild, Jacquard H.
Rowan, Hugh Williamson
Shaw, Fred B., Jr.
Wills, James Henry
Wright, Howard V.

Baltimore
Allgeier, Rudolph J.
Andrews, Donald Hatch
Arden, Frederic
Bachman, Paul W.
Blondheim, William Somerville
Brewer, John Hanna
Brumley, Albert Corwin
Butler, Courtland L., Jr.
Carr, Ralph Leonard
Carritt, Dayton Ernest
Caspari, Wm., Jr.
Clark, William Mansfield
Copson, Raymond Leslie
Corwin, Alsoph Henry
Curlett, John N.
Danner, Charles Eugene
Darrin, Marc
Dehler, Frank C.
Dove, Walter E.
Earhart, Kenneth A.
Eisenberg, Aaron A.
Foss, Noel E.
Fox, Robert Lee
Geiger, Marlin George
Germuth, Frederick G.
Gilliam, Alpha Stevens
Goodall, Robert Dorr
Gorrell, Walter A.
Grant, Robert James
Gundlach, Henry Ralph
Hardesty, James Early
Harris, Benjamin Louis
Hartford, Winslow H.
Hauber, Edward Stephen
Hebbard, George Miller
Heller, Harry
Hellerman, Leslie
Herndon, Lyle Kermit
Herriott, Roger Moss
Hildebrandt, Frank Merrill
Hock, Reuben L.
Hockley, Chester Fox
Hockley, Roscoe Leete
Hogan, James J.
Hopkinson, Russell
Hormats, Saul
Irvin, Joseph Logan
Judefind, William Lee
Kelley, Louise
Krantz, John Christian, Jr.
Leppart, John Culver
Macy, Rudolph
Manninen, Thomas Herman
McAlister, Lawrence Clayton, Jr.
McCloskey, William Bertine
McCoy, John Spalding
McCrumb, Fred R.
Mecredy, James Roderick
Meyer, Glen Ernest
Miller, George Edgar
Neat, Frank Urbane
Noble, Arthur Gregg
Osborne, Stanley de Johngh
Otto, Belle
Palmer, Louis Calvin
Parent, Eugene Joseph
Patrick, Walter A.
Pritchard, William Nelson, Jr.
Quinn, Robert John
Redmon, Bryan Collins
Reeder, Oliver Howard
Reid, E. Emmet
Reindollar, William Franklin
Russell, Laurence Elton
Ryan, Victor A.
Shuger, Leroy Woodrow
Siegel, Maurice
Strasburger, LeRoy Victor
Stull, Harold Webster
Taylor, Roger Kirkbride
Taylor, William Anthony
Totman, James Emmons
Trostel, Louis Jacob
Vanden Bosche, Emil Gaston
Vincent, George Paul
Waring, Charles Edward
Wennerstrom, Albert Eugene
Wight, E. Hyatt
Wilson, Channing Ward
Worrall, Arthur Roland
Wylie, H. Boyd

Bel Air
Lane, Frederick William
Leatherman, Martin
MacRae, Duncan
Ortynsky, Roman Leo
Wills, James Henry
Wright, Howard V.

Beltsville
Alexander, Lyle Thomas
Anderson, Alfred Conrad
Anderson, Myron Sallee
Fox, Edward Jackson
Howe, Paul E.
LaForge, Frederick Burr
Lundstrom, Frank Oscar
Mehring, Arnon Lewis
Powick, Wilmer C.
Roark, Ruric Creegan

Bethesda
Adams, Leason Heberling
Cahnmann, Hans J.
Carroll, William Robert
Clark, George Robert
Corruccini, Robert Joe
Daft, Floyd Shelton
Fairhall, Lawrence Turner
Freeman, Kenneth Alfrey
Gould, Robert Francis
Haller, Elden Detalau
Hamill, George Keenan
Harris, Milton
Hilbert, Guido E.
Kline, Gordon Mabey
Lundstrom, Frank Oscar
Richtmyer, Nelson K.
Scott, Eugene W.
Sendroy, Julius, Jr.
Shear, M. J.
Small, Lyndon Frederic
Sollner, Karl
Swan, Thomas Hadden
Wyckoff, Ralph Walter Graystone

Bladensburg
Pope, Amos H.
Swope, Robert Bricker

Brentwood
Cooley, Warren Kenneth
Mease, Ralph T.

Brookeville
Cooley, Warren Kenneth

Catonsville
Allgeier, Rudolph J.
McCrumb, Fred R.

Cecilton
Dodge, Ralph L.

Chevy Chase
- Blum, William
- Brown, Ralph L.
- Coleman, Russell
- Doherty, Joseph Daniel
- Dunbar, Paul B.
- Gibson, Ralph Edward
- Ingerson, Earl
- Leslie, Robert Thies
- McCabe, Louis Cordell
- Powick, Wilmer C.
- Rowan, Hugh Williamson
- Scott, Walter Moody
- Sollner, Karl
- Sward, George Gilbert
- Thompson, John Graham
- Wehmoff, Byron Louis

College Park
- Berk, A. A.
- Goldman, Louis
- Huff, Wilbert James
- Smatko, Joseph Stephen
- White, Charles Edward

Crownsville
- Adams, Robert Carson

Cumberland
- Givens, Harrison Crandall, Jr.
- Hieserman, Clarence Edward
- Horner, Laurence Irving

Darlington
- King, Harold Skinner

Edgewood
- Casto, Carl S.

Ellicott City
- McCoy, John Spalding
- Scowe, Norman Douglas

Fork
- Hockley, Chester Fox

Frederick
- Hufferd, Ralph W.
- Nevius, Walter Irving
- Phillips, Charles R.
- Tanner, Herbert Giles

Frostburg
- Givens, Harrison Crandall, Jr.

Gambrills
- Dove, Walter E.

Garrison
- Hopkinson, Russell

Glencoe
- Worrall, Arthur Roland

Halethorpe
- Germuth, Frederick G.

Hyattsville
- Alexander, Lyle Thomas
- Frey, Ralph Wylie
- Greathouse, Glenn Arthur
- Mehring, Arnon Lewis
- Pope, Amos H.
- Roller, Paul S.
- Smatko, Joseph Stephen
- Smith, Julian F.
- White, Charles Edward

Kensington
- Crass, Maurice Frederick, Jr.
- Fischer, Earl K.
- Hayner, Joseph Halmer
- McPherson, Archibald Turner
- Webb, Byron Horton
- Wichers, Edward

Landover
- Hafstad, Lawrence Randolph

Lanham
- Scofield, Francis

Linthicum Heights
- McAlister, Lawrence Clayton, Jr.

Mt. Rainier
- Frey, Ralph Wylie
- Kolodny, Leo
- Moore, Walter J.

Muirkirk
- Scowe, Norman Douglas

North East
- Whitaker, M. C.

Olney
- Fye, Paul McDonald

Pasadena
- Neat, Frank Urbane

Princess Anne
- Hunter, George William

Queenstown
- Moffett, George Monroe

Ruxton
- Goodall, Robert Dorr
- Krantz, John Christian, Jr.

Salisbury
- White-Stevens, Robert Henry

Savage
- Arden, Frederic

Silver Spring
- Ablard, James Elbert
- Clark, Paul Enoch
- Emery, Aldan Hayes
- Fox, Edward Jackson
- Fye, Paul McDonald
- Gibson, Ralph Edward
- Goldman, Louis
- Gray, Dwight Elder
- Harrison, Arthur Pennoyer
- Howard, Frank Lee
- Huff, Wilbert James
- Leitch, R. D.
- Lepper, Henry Albert
- Lightbody, Albert
- McClure, Frank Telford
- Miller, Roman Rodney
- O'Brien, Ruth
- Pflaum, Daniel J.
- Robbins, Paul Hebert
- Romaine, Jesse D.
- Schlesman, Carleton H.
- Thompson, Alberto Frederic
- Von Loesecke, Harry Willard
- Williams, John Francis

Towson
- Brewer, John Hanna
- Carr, Ralph Leonard
- Herriott, Roger Moss
- Irvin, Joseph Logan
- Judefind, William Lee
- Mecredy, James Roderick
- Noble, Arthur Gregg
- Quinn, Robert John
- Reeder, Oliver Howard
- Shaw, Fred B., Jr.
- Vanden Bosche, Emil Gaston
- Wennerstrom, Albert Eugene

Westminster
- Schofield, Samuel Biggs
- Straughn, J. Lloyd

Whiteoak
- Ablard, James Elbert
- Lightbody, Albert
- Sickman, Darrell V.

MASSACHUSETTS

Abington
- Harrington, Valentine F.
- Poole, Alton Burrell

Acton
- Billings, Howard J.

Adams
- Loomis, Chauncey C.

Amherst
- Beebe, Ralph Alonzo
- Cannon, George Wesley
- Holland, Edward Bertram
- Lindsey, Edgar Ernest
- Mannheim, Louis Robert
- Mory, Austin Van Hoesen
- Peters, Charles Adams
- Ritchie, Walter Stuntz
- Smith, J. Harold
- Whitney, Robert B.

Andover
- Brooks, Arthur Minard
- Bryan, Elmer Joseph
- Johnson, Robert J.
- Rafton, Harold Robert
- Russell, John William
- Stiegler, Harold Winfred
- Weaver, Elbert Cook

Arlington
- Christisen, Hugh
- Cone, Leon James, Jr.
- Gilliland, Edwin Richard
- Parsons, Llewellyn B.
- Peterson, Willard D.
- Smith, Walter Joseph
- Young, Ralph Chillingworth

Ashland
- Muller, Oscar F.

Attleboro
- Savolainen, Unto U.

Auburndale
- Bright, Willard M.
- Chase, Edward Sherman
- Houghton, Proctor W.
- Keevil, Charles Samuel
- Kempf, Norman William
- Lynn, Eldin Verne

Belmont
- Beattie, James Alexander
- Cope, Arthur Clay
- Crocker, Ernest C.
- Elkins, Hervey Bertrand
- Foster, Laurence Standley
- Hall, Marvin J.
- Hildebrand, John G., Jr.
- Holst, Helge
- Martin, Frederick H.
- Richards, Alan Gerard
- Sampson, Arthur Haskell
- Wilson, James A.
- Wissman, Harry B.

Beverly
- Alexander, Peter P.
- Banus, Mario Douglas
- Davis, Lewis W.
- Gibb, Thomas Robinson Pirie, Jr.
- Heffernan, Howard Jerome

Beverly Farms
- Baum, Sidney Jacob

Boston
- Alter, Chester M.
- Amon, Fred Hughes
- Anderson, Nelson J.
- Ball, Eric Glendinning
- Bauer, Charles Wilfred
- Beals, Carlos Loring
- Bicknell, Alfred
- Blyler, Lee Landis
- Bright, Willard M.
- Broggini, Adrian J.
- Brown, Owen J., Jr.
- Cabot, Samuel
- Cabot, Thomas Dudley
- Carney, Richard I.
- Chase, Edward Sherman
- Chave, Charles T.
- Coates, Ellis Webb
- Coburn, Stuart E.
- Cochrane, David Duke
- Cohn, Edwin Joseph
- Connell, Arthur J.
- David, Donald Kirk
- Durfee, Philip S.
- Durfee, Walter C.
- Eddy, Harrison P., Jr.
- Edsall, John Tileston
- Elkins, Hervey Bertrand
- Esselen, Gustavus John
- Eustis, Augustus Hemenway
- Eustis, Warner
- Fiske, Cyrus Hartwell
- Friend, Merrill Nash
- Gardner, Arthur L.
- Geddes, Ray Llewellyn
- Gensler, Walter Joseph
- Gillis, John Lamb
- Good, Arthur J.
- Gray, Mildred Geneva
- Harris, Gorham Waller
- Healy, John J., Jr.

Heffernan, Howard Jerome
Henriques, Frederick Cohane, Jr.
Hildebrand, John G., Jr.
Holmes, Edward Otis, Jr.
Houghton, Proctor W.
Jones, Chase Breese
Kaswell, Ernest Ralph
Kreidl, E. L.
Linberg, George O.
Lipmann, Fritz
Lowrance, Edgar Gowan
Lynn, Eldin Verne
Mason, J. Philip
Miller, Theodore Thomas
Mork, Harry Solomon
Neal, Raymond Elwood
Newton, Roger Hooker
O'Brien, William B.
Oncley, John Lawrence
Robinson, Arthur Milton
Ruby, Charles E.
Sampson, Arthur Haskell
Sargent, Florence Celia (Mrs. Sydney P.)
Scattergood, Allen
Skinner, Hervey Judson
Sobin, Irving M.
Stokes, Charles Anderson
Thayer, Lucius E.
Thompson, Maurice de Kay
Timm, John Arrend
Vernon, Arthur A.
Virtue, George
Walker, Burnham Sarle
Warner, Roger S., Jr.
Wilson, James A.
Wollner, Herbert J.
Wright, John Goddard
Zuffanti, Saverio

Braintree
Stevenson, George E.

Bridgewater
Richter, Herman W.

Brighton
Warren, Walter Burgess

Brookline
Blanchard, Arthur A.
Bowen, Ernest Clinton(*)
Cohen, Joseph Horace
Hauser, Ernst Alfred
Healy, John J., Jr.
Lamb, Arthur Becket
Nash, Russell K.
O'Brien, William B.
Omansky, Morris
Pierce, Alvah Henry
Sherrill, Miles Standish
Thayer, Sherman Rand

Cambridge
Almy, Charles
Amdur, Isadore
Bartlett, Paul D.
Baxter, Gregory Paul
Beattie, James Alexander
Benner, Frank C.
Bicknell, Alfred
Billings, Howard J.
Blake, John Twiss
Blanchard, Arthur A.
Blout, Elkan Rogers
Bogrow, Alexander
Bowen, Ernest Clinton(*)
Caul, Jean F.
Chipman, John
Clancy, John J.
Cohn, Edwin Joseph
Conant, James Bryant
Cone, Leon James, Jr.
Conner, Lester Carlton
Cope, Arthur Clay
Coryell, Charles Du Bois
Crocker, Ernest C.
Daignault, Alexander T.
Davis, Arthur Randall
Dewey, Bradley
Donovan, James
Doty, Paul M.
Earle, Roland D.
Eaton, Samuel Edward, Jr.
Faull, J. Horace, Jr.
Forbes, George Shannon
Gensler, Walter Joseph
Gilbert, Henry Lathrop, Jr.
Gilliland, Edwin Richard
Gray, Mildred Geneva
Hainer, Raymond Mengert
Hall, Marvin J.
Hamacher, Howard F.
Hamilton, Leicester Forsyth
Handrick, G. Richard
Hauser, Ernst Alfred
Holst, Helge
Houghton, Frank N.
Huntress, Ernest Hamlin
James, Raymond W.
Juda, Walter
Keevil, Charles Samuel
Keyes, Frederick George
King, Gilbert William
Kistiakowsky, G. B.
Kriedl, E. L.
Lamb, Arthur Becket
Long, Louis, Jr.
Lothrop, Warren Craig
Lunn, John Aleck
Marek, Leroy Frank
Mark, Jacob Greenwood
McAdams, William Henry
McMahon, Howard Oldford
Meissner, Herman Paul
Millard, Earl Bowman
Miller, Theodore Thomas
Moore, James Henry
Morse, Richard Stetson
Morton, Avery Adrian
Munsell, Hazel E.
Murray, Wallace J.
Nash, Russell K.
Newhall, Arthur Brock
Omansky, Morris
Parsons, Llewellyn B.
Perry, James Whitney
Perry, Lloyd H.
Peterson, Willard D.
Poole, Alton Burrell
Prescott, Charles J., Jr.
Proctor, Bernard Emerson
Richards, Alan Gerard
Robinson, Richard S.
Scatchard, George
Schneider, Richard Bell
Schumb, Walter Cecil
Sheldon, George C.
Sherrill, Miles Standish
Sherwood, Thomas Kilgore
Sjostrom, Loren B.
Smith, Walter Joseph
Spurr, Allan L.
Stevens, Raymond Sawtell
Stevenson, Earl Place
Taft, George Henry
Taylor, Francis Henry Laskey
Uhlig, Herbert H.
Vivian, Johnson Edward
Walker, Burnham Sarle
Warner, Roger S., Jr.
Weber, Harold Christian
Whitman, Walter Gordon
Williams, Glenn Carber
Wilson, Edgar Bright, Jr.
Wissmann, Harry B.
Young, Ralph Chillingworth

Canton
Cochrane, David Duke

Carlisle
Patch, James Alfred

Centerville
Kalmus, Herbert Thomas

Charlestown
De Napoli, Gerard Ralph

Chelmsford
Harris, Chapin A.
Reed, G. Nathan
Smith, Howard Dexter

Chestnut Hill
Carleton, Ralph Kimball
De Napoli, Gerard Ralph
Mark, Jacob Greenwood

Chicopee Falls
Drelich, Arthur Herbert
Harmon, Carlyle
Johnson, Cecil Early
Simon, Simon A.

Cohasset
Cutler, David Roy
Earle, Roland D.

Concord
Long, Louis, Jr.
Taft, George Henry
Whitman, Walter Gordon

Dedham
Edsall, John Tileston
Lowrance, Edgar Gowan
Trepp, Samuel G.

Dorchester
Kempf, Norman William

Easthampton
Mannheim, Louis Robert

East Lynn
Spurr, Allan L.

East Walpole
Knudson, Harold W.
Reynolds, Frank Percival

Elmwood
Houghton, Frank N.

Everett
Doe, Willis H.
Johnson, Robert J.
Matthews, Frederic Lawrence
Odom, George John

Fall River
Carmark, James C.
Pilkington, James

Fitchburg
Filz, Frank R.

Florence
Blanchard, Charles Louis

Framingham
Alden, Gardner Rich
Foster, Stuart Brooks
Kallander, Ernest L.
Lamoureux, Albert C.
Stillwell, Charles W.

Framingham Centre
Newhall, Arthur Brock

Gloucester
Birdseye, Clarence
McFee, Earl Puette

Great Barrington
Young, C. Frederick

Groton
Webber, Harold Haskell

Hadley
Householder, Garrison

Hampden
Mueller, Robert K.

Harvard
Saxl, Erwin J.

Hingham
Conner, Lester Carlton

Holyoke
Householder, Garrison
Kiely, Helen U.
Slifkin, Sam Charles

Housatonic
Young, C. Frederick

Hudson
Jones, Howard Algernon
Magrane, John K., Jr.

Ipswich
Banus, Mario Douglas
Norman, Daniel Phineas

Jamaica Plain
Cabot, Samuel
Plovnick, Max David
Sobin, Irving M.

Kingston
Olsen, Robert Thorwald
Lawrence
Bell, Edward A.
Christison, Hugh
Curran, Alton Freeman
Grimes, Henry Dustin
Russell, John William
Von Goehde, Heino Leopold
Lee
Deely, John Martin, Sr.
Leicester
Van Hook, Andrew
Leominster
Filz, Frank R.
Lexington
Coryell, Charles Du Bois
Eaton, Samuel Edward, Jr.
Fiske, Cyrus Hartwell
French, Helen Somersby
Hamacher, Howard F.
James, Raymond W.
Juda, Walter
McMahon, Howard Oldford
Perry, Lloyd H.
Sheldon, George C.
Uhlig, Herbert H.
Lincoln
Daignault, Alexander T.
Longmeadow
Garrels, John Carlyle, Jr.
Harmon, Carlyle
Hobson, Edwin L., III
Kennelly, Reginald Grice
Lichtenberg, Charles
Morris, Robert Moore
Simon, Simon A.
Lowell
Bell, Edward A.
Broughton, Geoffrey
Chace, William George
Chapin, Harold Canning
Chouinard, Albert E.
Fickett, Elmer Edward
Harris, Chapin A.
Redmond, James Reynolds
Reed, G. Nathan
Scattergood, Allen
Smith, Howard Dexter
Stiegler, Harold Winfred
Webber, Harold Haskell
Magnolia
Robinson, Richard S.
Malden
Holmes, Edward Otis, Jr.
Manchester
Gilfillan, Edward Smith, Jr.
Marblehead
Abramowitz, William Lewis
Bell, Kenneth E.
Gibb, Thomas Robinson Pirie, Jr.
Neal, Raymond Elwood
Olson, Arthur R.
Smith, Gregory
Marlborough
Lamoureux, Albert C.
Mattapan
Cowperthwaite, Irving A.
Maynard
Jones, Howard Algernon
Medford
Baker, Crosby Fred
Melrose
Carney, Richard I.
Good, Arthur J.
Huntress, Ernest Hamlin
Millbury
Ryan, George H.
Milton
Cowperthwaite, Irving A.
Eustis, Augustus Hemenway
Schumb, Walter Cecil
Weber, Harold Christian
Monson
Munsell, Hazel E.
Needham
Beals, Carlos Loring
New Bedford
Fenaux, Louis Edmond Frédéric
Forbes, William Chamberlain
Newton
Alter, Chester M.
Bolton, Philip S.
Eustis, Warner
Lewis, Warren Kendall
Lothrop, Warren Craig
Lukens, Alan R.
McAdams, William Henry
Stevenson, Earl Place
Newton Centre
Bogrow, Alexander
Handrick, G. Richard
Timm, John Arrend
Newton Highlands
Ball, Eric Glendinning
Lukens, Alan R.
Vernon, Arthur A.
Newtonville
Clarke, Laurence Rhodes
Harris, Gorham Waller
Linberg, George O.
Lovell, Stanley Platt
Lythgoe, Hermann C.
Millard, Earl Bowman
Oncley, John Lawrence
Perry, James Whitney
Rosenthal, Harold
Northampton
Burt, C. Pauline
Cann, Jessie Y.
Drewsen, Pierre
Kiely, Helen U.
Sherk, Kenneth W.
North Eastham
LaPiana, Fred G.
North Quincy
Cutler, David Roy
Norton
Evans, Mildred Williams
Marshall, Maud Alice
Norwood
King, Gelston Tyler
Parks, Harold Coburn
Prescott, Charles J., Jr.
Orleans
Evans, Mildred Williams
Peabody
Abramowitz, William Lewis
Baum, Sidney Jacob
Bell, Kenneth E.
Jost, Paul Douglas
Smith, Gregory
Pittsfield
Baumann, Robert James
Brous, Samuel Lewis
Buckley, John A.
Gibson, Robert Leslie
Lux, John H.
McMurphy, J.L.
Miller, Harry Fullerton
Ohsol, Ernest O.
Reed, Charles E.
Smiddy, Harold F.
Tucker, F. Curtis
Zellhoefer, John Arthur
Plymouth
Olsen, Robert Thorwald
Pride's Crossing
Gillis, John Lamb
Quincy
Zuffanti, Saverio
Reading
Grafton, Corydon M.
Jost, Paul Douglas
Rehoboth
Mann, Billings Leland
Revere
Hainer, Raymond Mengert
Rochester
Hall, William Thomas
Roxbury
Plovnick, Max David
Sharon
Blyler, Lee Landis
Sherborn
King, Gelston Tyler
Shrewsbury
Gasch, Dale Jeremiah
Schwenk, Erwin
Somerset Centre
Verity, Ben
Southborough
Coleman, George William
South Braintree
Stevenson, George E.
South Hadley
Pickett, Lucy Weston
Sherrill, Mary Lura
Stevenson, Louisa Stone
South Lincoln
King, Gilbert William
Kistiakowsky, G. B.
South Walpole
Sherrerd, George
South Westport
Pilkington, James
Springfield
Ayers, William Roscoe
Bryant, Boyd LaVerl
Davis, John B.
Drelich, Arthur Herbert
Fordyce, Reid George
Garrels, John Carlyle, Jr.
Haynes, Chester W.
Hobson, Edwin L., III
Johnson, Cecil Early
Kennelly, Reginald Grice
Lichtenberg, Charles
Mohrman, Harold Wilbur
Morris, Albert Wood
Morris, Robert Moore
Mueller, Robert K.
Nickerson, Mortimer Henderson
Smith, Charles D.
Stewart, Walter G.
Squantum
Coates, Ellis Webb
Stockbridge
Loomis, Chauncey C.
Stoneham
Owen, Randolph Joscelyn
Patch, James Alfred
Sudbury
Warren, Walter Burgess
Swampscott
Esselen, Gustavus John
Moore, James Henry
Tyngsboro
Chouinard, Albert E.
Waban
Geddes, Ray Llewellyn
Kaswell, Ernest Ralph
Morse, Richard Stetson
Wakefield
Anderson, Nelson J.
Friend, Merrill Nash
Gardner, Arthur L.
Grafton, Corydon M.
Olson, Arthur R.
Sjostrom, Loren B.
Skinner, Hervey Judson
Thayer, Sherman Rand
Walpole
Sherrerd, George
Trepp, Samuel G.
Waltham
Benner, Frank C.
Glancy, Warren E.
Donovan, James
Jones, Chase Breese
Vivian, Johnson Edward
Watertown
Bacon, Frederick Sayford
Clarke, Laurence Rhodes
Foster, Laurence Standley

Glancy, Warren E.
Lovell, Stanley Platt
Martin, Frederick H.
McCurdy, Ralph Edwin
Meissner, Herman Paul
Morton, Avery Adrian
Williams, Glenn Carber

Wellesley
Chave, Charles T.
Jones, Helen Thayer
Wright, John Goddard

Wellesley Hills
Bauer, Charles Wilfred
Broggini, Adrian J.
Brown, Owen J., Jr.
McCurdy, Ralph Edwin
Sherwood, Thomas Kilgore
Stokes, Charles Anderson

West Boylston
Kistler, Samuel Stephens

West Brookfield
Kitzmeyer, Edmund Leith

West Concord
Morrill, Manning C.

West Cummington
Betts, Anson Gardner

West Falmouth
Foulke, D. Gardner

Westford
Broughton, Geoffrey
Chace, William George

West Hanover
Harrington, Valentine F.

West Medford
Davis, Arthur Randall
Doe, Willis H.
Sargent, Florence Celia (Mrs. Sydney P.)

West Newton
Alter, Chester M.
Bolton, Philip S.
Thayer, Lucius E.

Weston
Amon, Fred Hughes
Bartlett, Paul D.
Cabot, Thomas Dudley
Schneider, Richard Bell

West Roxbury
Robinson, Arthur Milton

West Springfield
Haynes, Chester W.

Westwood
Clancy, John J.
Mason, J. Philip

Whitman
Carleton, Ralph Kimball

Williamsburg
Sherk, Kenneth W.

Williamstown
Curry, James Rowland

Winchester
Blake, John Twiss
Bodman, John Whittlesey
Chipman, John
Connell, Arthur J.
Dunn, Joseph Avery
Marceau, Eugene Theodore
Matthews, Frederic Lawrence
Morrill, Manning C.
Newton, Roger Hooker

Woburn
Cohen, Joseph Horace
Dunn, Joseph Avery
Odom, George John
Rosenthal, Harold

Wollaston
Coburn, Stuart E.
Shrader, James Houston

Worcester
Baril, Olier L.
Butler, Frederic Raymond
Calhane, Daniel Francis
Charron, Roy Chester
Coleman, George William
Fiekers, Bernard Albert
Gasch, Dale Jeremiah
Gordon, Alexander L.
Kistler, Samuel Stephens
Klein, A. Albert
Mlejnek, Vincent Joseph
Ryan, George H.
Van Hook, Andrew
Warren, William Homer
Wilson, Ernest Dana

MICHIGAN

Adrian
Jones, Elmer Maurice
Stimson, Sister Miriam Michael

Albion
Engle, Dorothy Gail
Randall, David Lindsey

Ann Arbor
Anderson, Leigh Charles
Bachmann, Werner Emmanuel
Badger, Walter Lucius
Brockway, Lawrence Olin
Brown, George Granger
Carrick, Leo Lehr
Case, Lee O.
Christman, Adam Arthur
Dyer, E. Russell
Fajans, Kasimir
Halford, J. O.
Hodges, James Hallett
Katz, Donald LaVerne
Leslie, Eugene H.
Lewis, Howard Bishop
McAlpine, Roy Kenneth
Moesel, F. Charles
Poehle, Herbert F.
Soule, Byron A.
Townsend, Richard E.
White, Albert Easton
White, Robert Roy
Willard, Hobart Hurd

Battle Creek
Doty, Wendell E.
Lindow, Carl Warning

Bay City
Cessna, Oren Carlyle
Freuhauf, Herbert F. V.

Birmingham
Bartholomew, Earl
Kvet, Edward J.
Rue, Sigurd O.
Stareck, Jesse Edwin
Stiff, John F.
Swartwood, Kenneth
Walmsley, Haines Preston

Bloomfield
Blake, William V.

Chassell
Barr, James Allen

Dearborn
Piper, John Donald
Ruddiman, Edsel A.

Detroit
Albert, Stella Edith
Bailey, William J.
Barry, Aaron Wessels
Barthel, Oliver E.
Bender, Alfred William
Beynon, Lisabeth H.
Boyd, T. A.
Brewer, George E. F.
Bright, J. Russell
Buckwalter, Howard McWilliams
Carlson, G. H.
Carney, Desmond M.
Cheyney, LaVerne Emerson
Cremers, Norbert J. (Bert)
de Navarre, Maison G.
De Witt, Frederic James, Jr.
Duncombe, Charles Gross
Eaton, Berrien
Ford, John Battice, Jr.
Fredrick, William George
Gaebler, Oliver H.
Golibersuch, Edward W.
Goodspeed, Edwin W.
Green, Nelson B.
Grubb, Henry Wendell
Harrold, Gordon Coleson
Hedke, Richard Carl
Henderson, Everette Lee
Hicks, Glenn Hamby
Holcomb, Walter F.
Hurley, William Bedford Francis
Hutchinson, James Alfred
Hyatt, Judson A. V.
Jasper, Joseph John
Kettering, Charles Franklin
Kline, Harry
Kurt, O. Edward
Larson, Leslie L.
Loomis, Eugene C.
Lovell, Wheeler G.
Macy-Hoobler, Icie G.
Mason, Herbert W., Jr.
Mathies, James C.
Merker, Harvey Milton
Merrill, Robert
Mohrhoff, William H.
Moore, Robert Sydney
Mougey, Harry Clifford
Patty, Frank Arthur
Paustian, Albert F.
Peters, Rolland I.
Pinkerman, Mark Kilgore
Piper, John Donald
Rieveschl, George, Jr.
Rowe, Lewis William
Royal, Herbert Franklin
Rue, Sigurd O.
Sclar, Martin D.
Sessions, William V.
Shenefield, Samuel Lantz
Sherwood, George Ray
Shiple, George J.
Smith, Arthur Henry
Stanley, John Pearson
Stareck, Jesse Edwin
Stiff, John F.
Swartwood, Kenneth
Sweet, Leon Albert
Taylor, James Alonzo
Vandenbelt, J. M.
Vieweg, Hermann Frederick
Walmsley, Haines Preston
Weeks, Elvira
Winter, Paul K.
Wylie, Clarence Raymond, Sr.

Dexter
Soule, Byron A.

East Lansing
Benne, Erwin John
Dickinson, David Franklin
Dutton, Walter Curtis
Ewing, Dwight Tarbell
Huston, Ralph Chase
Ludt, Randall White
Miller, Elroy John
Nason, Edith Holloway
Quill, Laurence Larkin
Sell, Harold Melvin
Souderberg, Paul W.
White, James Frederick

Ferndale
Bartholomew, Earl

Freeland
Coleman, Gerald Hawley

Fremont
Wakefield, Ray B.
White, James Frederick

Grand Blanc
Wismer, Roy N.

Grand Rapids
Dekker, Harry G.
De Vries, John
Tigelaar, Jacob H.
Wolthuis, Enno

Grosse Ile
Belin, Wallace K.
Boeckeler, B. Clark
Clark, Melvin E.
Heath, Roy E.
Mayers, John Wheaton
Roderick, Howard F.
Vaughn, Thomas Hunt
Grosse Pointe
Bender, Alfred William
Boyd, T. A.
Cheyney, LaVerne Emerson
Eaton, Berrien
Ford, John Battice, Jr.
Hurley, William Bedford Francis
Rowe, Lewis William
Semple, Robert Baylor
Vieweg, Hermann Frederick
Grosse Pointe Farms
Ballantyne, Ford, Jr.
Barry, Aaron Wessels
de Navarre, Maison G.
Grosse Pointe Park
Arnold, Orlan M.
Macy-Hoobler, Icie G.
Shenefield, Samuel Lantz
Sweet, Leon Albert
Wylie, Clarence Raymond, Sr.
Grosse Pointe Shores
Coyle, Theodore G.
Grosse Pointe Woods
Rieveschl, George, Jr.
Vandenbelt, J. M.
Harbor Beach
Patten, Andrew Jarvis
Holland
Eash, Ralph D.
Hyma, Andrew Martin
Kleinheksel, J. Harvey
Luth, Harold J.
Van Zyl, Gerrit
Holt
Bernhart, Finn W.
Houghton
Barnes, George I.
Coles, Henry L.
Makens, Royal F.
Howell
Soderberg, Paul W.
Huntington Woods
Winter, Paul K.
Jackson
Blake, William V.
Kalamazoo
Ford, Jared Hewes
Fullerton, James Bryant
Kirkpatrick, William Adams
Knowlton, Lawrence G.
Kolloff, Harold G.
Levin, Robert Harold
Osborn, Gerald
Smith, Lemuel Fish
Upjohn, Lawrence Northcote
Marine City
Patty, Frank Arthur
Marquette
Harrison, Robert Ridinger
Hunt, Lucian F.
Marysville
Frisco, William Paul
Mason
Benne, Erwin John
Bernhart, Finn W.
Menominee
McKesson, Leonard Cook
Midland
Ballman, Donald Karl
Bass, Shailer Linwood
Bennett, Earl Willard
Binder, Marvin Norman
Boundy, Ray Harold
Boyer, Raymond F.(*)
Branch, Charles Benson
Brown, Fred Hubert
Burdick, Edward Chapman
Campbell, Calvin Arthur
Chamberlain, Leonard Clare, Jr.
Coleman, Gerald Hawley
Collins, William Ralph
Doan, Leland Ira
Dreisbach, Robert Rickert
Dutton, Walter Curtis
Gerstacker, Carl A.
Hale, William Jay
Hanawalt, Joseph Donald
Harlow, Ivan Frederick
Hunter, Ralph M.
Kendall, Harold St. Clair
LeFevre, Milton Edward
Lloyd, Lewis E.
Mason, William Allen
Penhaligen, Charles
Perkins, Ralph Parker
Peterson, Floyd Charles
Pierce, James Edward
Putnam, Mark Edson
Richards, Lester J.
Roehm, Luther S.
Veazey, William Reed
Williams, Donald
Williams, William Hunt
Mt. Pleasant
Merrill, Ernest Joseph
Owosso
Hesselbart, Robert C.
Pontiac
Kvet, Edward J.
Mason, Herbert W., Jr.
Royal Oak
Bright, J. Russell
Goodspeed, Edwin W.
Harrold, Gordon Coleson
Hicks, Glenn Hamby
Lansing, Arthur Cornelius
Pinkerman, Mark Kilgore
St. Johns
Beechem, Henry A.
St. Louis
Abbey, Raymond E.
Blume, Paul Wilson
Bondurant, Robert Andrew
Byers, Arthur M., Sr.
Curtiss, Franklin M.
Gopp, Leonard W.
Hunter, Basil J.
Simmons, Leon Dalmain
Wismer, Roy N.
Wohlers, Herbert Carl
Woods, Clarence G.
Suttons Bay
Smith, Warren Rufus
Temperance
Bigelow, Maurice Hubbard
Trenton
Belin, Wallace K.
Bjork, Howard Frederick
Boeckeler, B. Clark
Hedke, Richard Carl
Noble, T. Walter
Ogden, Robert Potter
Vermontville
Davis, Clarke E.
Wyandotte
Bacon, Leslie Randolph
Ballantyne, Ford, Jr.
Bjork, Howard Frederick
Clark, Melvin E.
Cremers, Norbert J.
Heath, Roy E.
Kuentzel, Lester E.
Liggett, Lawrence M.
Mayers, John Wheaton
Noble, T. Walter
Ogden, Robert Potter
Pumplin, Gerald Glynn
Rippeteau, Walter L., Jr.
Roderick, Howard F.
Semple, Robert Baylor
Suter, Harold Russell
Vaughn, Thomas Hunt
Ypsilanti
Brundage, Perry Salem
Zeeland
De Pree, Edward J.
Kyrides, Lucas P.

MINNESOTA

Albert Lea
Gibson, Albert Edgar, Jr.
Austin
Louk, Harry E.
Lundberg, Walter O.
Cloquet
Noreus, Robertson Edward
Duluth
Cothran, John C.
Sundness, Odin Alfred
Edina
Konen, James C.
Renfrew, Malcolm MacKenzie
Excelsior
Livingston, Robert
Fairmont
Eickelberg, Elmer William
Homer
Ramsden, Allyn M.
Le Sueur
Scott, George Clytus
Mankato
Ford, Leonard A.
Minneapolis
Andrews, John Southard
Armstrong, Wallace David
Beal, Ralph B.
Bischoff, Melville Hugo
Bloch, Henry Simon
Blumer, Donald Robert
Booher, Lela E.
Brooks, William West
Calva, Jose Baraquiel
Ceaglske, Norman Hugo
Chaney, Lee F.
Childs, Carl S.
Clark, Carroll A.
Cooley, Maxwell L.
Crawford, Bryce Low, Jr.
Doerr, George Valentine
Eastman, Whitney Haskins
Flumerfelt, Walter Edson
Goss, Warren Hand
Gunderson, Frank L.
Harrel, Chastain Gant
Heisig, Gladstone Bering
Holler, Albert Cochran
Hovey, Almon Guion
Ireland, Frank
Johnson, Laurence Edward
Koelsch, C. Frederick
Kohlhase, Arthur Hubert
Kolthoff, Isaak Maurits
Konen, James C.
Lauer, Walter M.
Livingston, Robert
MacDougall, Frank Henry
Manley, Ralph Hogan
Markley, Max C.
Mick, Kerwin Lewis
Montonna, Ralph E.
Moore, Joseph B.
Nelson, J. Wesley
Netz, Charles Vail
Opie, Joseph Wendell
Piret, Edgar L.
Renfrew, Malcolm MacKenzie
Revling, Alfred Bryan
Reyerson, Lloyd Hilton
Richards, Herbert L.
Rogers, Charles Herbert
Ruley, Marshall F.
Smith, John Wm.
Smith, Lee Irvin
Speyer, Frederick Burow

Stoppel, Arthur Edward
Taylor, Wilbur Leyland
Thomas, George Cullen
Wade, Warren B.
New Brighton
Walton, Charles William
Northfield
Agre, Courtland LeVerne
Miller, Arild J.
Paynesville
Hankinson, Cloyce LeRoy
Rochester
Kendall, Edward Calvin
Mason, Harold Lawrence
St. Cloud
Nelson, Arthur Frederick
St. Louis Park
Harrel, Chastain Gant
St. Paul
Andes, Ralph V.
Andrews, John Southard
Bailey, Clyde H.
Bloch, Henry Simon
Blumer, Donald Robert
Briggs, David Reuben
Crawford, Bryce Low
Geddes, William Findlay
Hendricks, James Owen
Holler, Albert Cochran
Ireland, Frank
Koelsch, C. Frederick
Kohlhase, Arthur Hubert
Larson, William Day
Lauer, Walter M.
Lundquist, William Emil
Manley, Ralph Hogan
Markley, Max C.
Mick, Kerwin Lewis
Montonna, Ralph E.
Nelson, J. Wesley
Osborn, Merritt J.
Perlich, Robert W.
Piret, Edgar L.
Rendall, John Lloyd
Reyerson, Lloyd Hilton
Richter, Henry John
Rost, Clayton Ord
Ruley, Marshall F.
Sohl, William Edward
Stephens, Henry Newburn
Taylor, Nelson W.
Walton, Charles William
Wehmer, Fred
Wilson, John L.
St. Peter
Skartvedt, Peter Marcus
Savage
Lundquist, William Emil
Wayzata
Childs, Carl S.
Smith, John Wm.
Thomas, George Cullen
White Bear Lake
Hendricks, James Owen
Sohl, William Edward
Taylor, Nelson W.
Winona
McConnon, James
Ramsden, Allyn M.
Thomsen, Edgar G.

MISSISSIPPI

Clinton
Wood, Arthur Eugene
Columbia
Knapp, Ismond E.
Columbus
Forrest, Willie
Greenwood
Whittington, Charles S.
Gulfport
Shepherd, Donald S.
Lane, Charles Elmer, Jr.
Hattiesburg
Hall, Lucius Coleman
Laurel
Boehm, Robert M.
Oxford
Anderson, Frank Abel
Coulter, Victor Aldine
Foglesong, John Edward
Picayune
Campbell, Charles Russell
Rural-Greenwood
Whittington, Charles S.
Starkville
Warttman, Paul
State College
Etheredge, Mahlon Padgett
Warttman, Paul
University
Anderson, Frank Abel
Clark, Samuel Friend
Coulter, Victor Aldine
Yazoo City
Dunwoody, William B.
Thompson, Herbert Leroy

MISSOURI

Affton
Kelley, William Neal
Sumner, Robert J.
Brentwood
McCoole, Robert Francis
Zienty, Ferdinand B.
Canton
Brown, George Earl
Carthage
Foster, John C.
Chesterfield
Graf, August Vincent
Clayton
Adler, Leon
Bezanson, Osborne
Brown, John Rowland, Jr.
Frerichs, Frederick William, Sr.
Hankerson, Frederick Putnam
Hewitt, Lowell Cleland
Hochwalt, Carroll Alonzo
Le Beau, D. S.
Merrell, Cyrus Walbridge
Ord, Robinson
Pollnow, Frank J., Jr.
Reddish, George F.
Robins, George Kenneth
Scallet, Barrett L.
Stout, Lawrence Edward
Weil, Eugene Stix
Columbia
Albrecht, William A.
Bent, Henry Edward
Haag, Herman Martin
Luebbers, Ralph H.
Oldham, Frank Dudley
Rabjohn, Norman
Stearn, Allen Edwin
Fayette
Buckner, Everett Cromwell
Ferguson
Knowlton, Norman P.
Krueger, Paul A.
Ring, Allen Greeley
Thayer, Harold Eugene
Wallingford, Vernon Howard
Florissant
Womer, Robert Leroy
Fulton
Gaddis, Shirley Walter
Glendale
Johnson, Hal
Hannibal
Scrutchfield, Paul H.
Independence
Bidstrup, Perry Leonard
Joplin
Austin, A. B.
Harner, Harold Russell
Thompson, A. Paul
Kansas City
Adams, J. Richard
Alfend, Samuel
Ballinger, Robert Eugene
Betts, Walter M.
Bidstrup, Perry Leonard
Boner, Charles John
Cross, Walter Martin, Jr.
Curts, Lloyd Maynard
Deschner, Walter William
Francis, Parker Browne
Gillam, William Sherman
Gillette, Guy Raymond
Goodson, Louis Hoffman
Goodwin, Frederick Merry
Hayward, George M.
Hoehn, Willard M.
Keenoy, Rev. Francis Patrick
Kohler, George O.
Lonneker, Paul L.
MacGee, Alfred Ernest
Malley, Henry A., Jr.
Marberg, Carl Mauritz
Mickelson, Milo Norval
Newlin, Harrison E.
Nofsinger, Charles William
O'Leary, Dorman Heinrichs
Puterbaugh, Milton Porter
Ridge, William Searcy
Riley, John Raymond, Jr.
Seiden, Rudolph
Spencer, Kenneth Aldred
Steininger, Herbert Marvin
Thompson, Charles Thiers
Thompson, Robert Smock
Thornton, Max Horsley
Wildish, James Elmer
Wormser, Eric S.
Ziegler, George E.
Kirkwood
Bratton, George Spence
Davidson, Lyndall Phillips
Fellinger, Lowell Lee
Nichols, William Thomas
Ogden, Franklin Faxon
Queeny, Edgar Monsanto
Ruehle, A. E.
Sandidge, Prescott
Singleton, Philip A.
Sommer, Chas. H., Jr.
Straub, Gilbert Joseph
Watt, Lynn Andre
Louisiana
Bircher, John Russell, Jr.
Dressler, Russell George
Hirst, Lester Larsen
Tarpley, Edward Cecil
Maplewood
Maglio, M. Martin
Steahly, George W.
Maryville
Strong, John Gordon
Normandy
Dahm, Henry Louis
Harrington, Charles D.
Peck, A. G.
North Kansas City
O'Leary, Dorman Heinrichs
Rolla
Eppelsheimer, Daniel Snell
Schrenk, Walter Theodore
St. Louis
Adler, Leon
Ault, William E., Jr.
Autenrieth, John Stork
Ayers, Lorenz Kneedler
Baker, Arthur Wallace
Bakken, Herman Ernst
Beaver, D. J.
Bezanson, Osborne
Blair, Charles Melvin, Jr.
Bratton, George Spence
Brew, William Barnard
Brown, John Rowland, Jr.
Busse, Ellis E.

Carlyle, Ralph Elmer
Carr, Francis J.
Caspari, Charles Edward, Jr.
Chamberlain, Donald Frank
Cole, Barzillai L.
Curtis, Francis Joseph
Dahm, Henry Louis
Dean, Carlton Miles
Depew, Harlan Armstrong
Diuguid, Lincoln Isaiah
Doisy, Edward A.
Ewing, Clare Olin
Fellinger, Lowell Lee
Fistere, Joseph
Frerichs, Frederick William, Jr.
Gaston, John Emory
Gillan, Edward Patrick
Graf, August Vincent
Graham, James Montrose, Jr.
Hankerson, Frederick Putnam
Harrington, Charles D.
Hermann, Charles Edward
Hewitt, Lowell Cleland
Hochwalt, Carroll Alonzo
Homeyer, August Henry
Hudson, Francis M.
Jackson, Merle Martin
Johnson, Hal
Kelley, William Neal
Kennedy, Joseph William
Knowlton, Norman P.
Krueger, Paul A.
Lawrence, Richard Marston
Loeffler, Alfred Thorpe
Maglio, M. Martin
Mallinckrodt, Edward
Marple, Howard A.
McCoole, Robert Francis
McCullough, C. Rogers
Menke, William Kenneth
Merrell, Cyrus Walbridge
Meyer, Carl Fred George
Morris, William Nicholas
Nason, Howard King
Naylor, Charles August, Jr.
Nichols, William Thomas
Nissen, Bryn H.
Ogden, Franklin Faxon
O'Neal, Glenn Hardt
Ord, Robinson
Peck, A. G.
Pfeifer, Carl Edward, Sr.
Pollnow, Frank J., Jr.
Putzell, Edwin J., Jr.
Queeny, Edgar Monsanto
Rand, William McNear
Reddish, George F.
Ring, Allen Greeley
Robins, George Kenneth
Rodewald, Charles William
Ruehle, A. E.
Ruhoff, John Richard
Sandidge, Prescott
Scallet, Barrett L.
Schade, Carlisle
Schaeffer, George W.
Schaefer, Herbert Carl
Schunk, Oliver Henry
Sheehan, Daniel M.
Siegel, Allan M.
Singleton, Philip A.
Smith, Franklin Danford
Smith, Herbert Johnson
Sommer, Chas. H., Jr.
Steahly, George W.
Stout, Lawrence Edward
Straub, Gilbert Joseph
Sumner, Robert J.
Thayer, Harold Eugene
Thayer, James Russell
Thomas, Benjamin Edmund
Thomas, Charles Allen
Tilson, Donald Heath
Trimble, Gilbert K.
Vogler, Herman Arthur
Wallingford, Vernon Howard
Watt, Lynn Andre
Weatherly, Robert Stone
Weil, Eugene Stix
Weinkauff, Oliver J.
Wiedemann, H. Edmund
Wilson, Jesse Russell
Winfield, William Hood
Wolfe, Clayton A.
Wood, Lyman J.
Wright, John Handly
Zienty, Ferdinand B.

Shrewsbury
Thayer, James Russell

Sugar Creek
Steininger, Herbert Marvin

University City
De Groote, Melvin
Mares, Ernest W.
O'Neal, Glenn Hardt

Warrensburg
Foster, Earl Robert

Webster Groves
Baker, Arthur Wallace
Blair, Charles Melvin, Jr.
Chamberlain, Donald Frank
Dean, Carlton Miles
De Groote, Melvin
Doisy, Edward A.
Gaston, John Emory
Graham, James Montrose, Jr.
Homeyer, August Henry
Jackson, Merle Marlin
Lawrence, Richard Marston
Malick, Richard Wesley
Marple, Howard A.
Menke, William Kenneth
Prince, Arthur Warren
Putzell, Edwin J., Jr.
Ruhoff, John Richard
Smith, Franklin Danford
Samuelson, G. J.
Thomas, Benjamin Edmund
Wilson, Jesse Russell
Winfield, William Hood
Wood, Lyman J.
Wright, John Handly

MONTANA

Anaconda
Green, Jesse R.

Bozeman
Berg, Lloyd
Gaines, Paschal Clay
Green, Jesse R.

Butte
Koenig, Alfred Edward

Hamilton
Koenig, Alfred Edward

Helena
Neuman, Edward William

Missoula
Hetler, Donald McKinley
Howard, Joseph Whitney

NEBRASKA

Chadron
Andrews, Lyle V.

Crete
Rapp, Janet L. C.

Lincoln
Ackerson, Clifton Walter
Borgmann, Carl Williams
Cromwell, Norman H.
Hamilton, Cliff Struthers
Harris, Lewis E.
Hendricks, Bernard Clifford
Jorgensen, Guy Cady
Militzer, Walter Ernest
Sandstedt, Rudolph M.
Washburn, Edward Roger

Omaha
Goetz, Paul C.
Haynes, William G.
Savidge, Robert Whitlock
Templeton, Hugh L.
Ward, Nell Marguerite

Ralston
Goetz, Paul C.

South Omaha
Bennett, Richard E.

Wayne
Wendt, Louise Marie

NEVADA

Boulder City
Churchward, Philip Edson

Las Vegas
Beard, William T. (Tom)

Reno
Deming, Meryl William
Moose, Joe Eugene
Sears, George Wallace

NEW HAMPSHIRE

Berlin
Day, George Arthur
Thing, Curtis Willard

Concord
Vintinner, Frederick James

Durham
Atkinson, Edward Redmond
Daggett, Albert Frederick
Haendler, Helmut Max
Iddles, Harold Augustus
Phillips, Thomas G.
Zimmerman, Oswald Theodore

Hanover
Amsden, John Page
Low, Fletcher
Richardson, Leon Burr
Scarlett, Andrew Jackson, Jr.
Wolfenden, John Hulton

Keene
Shea, Arnold Francis

Meredith
Curran, Alton Freeman

Northwood
Gage, Ralph Edwin

NEW JERSEY

Allendale
Bryce, David Andrew
Phair, Robert Aiken

Arlington
Paine, Harold William
Van Meter, Clarence Taylor
Wilkens, George Albert

Atlantic City
Kurland, William

Avon
Mullaly, Arthur B.

Andover
Titus, Harry Waltner

Barber
Crane, Roland G.
Lebedeff, Yurii Eugene

Bayonne
Achilles, Harold E.
Copson, Harry Rollason
Foley, Francis B.
Foy, John R.
Humphreys, Carl Dick
Markush, Eugene Armand
McCoy, John T.
Melnick, Daniel
Rothbard, David
Vahlteich, H. W.

Belleville
Barrett, Clark
Kidde, John F.
Kindquist, Eric Birger Tage
Mapes, Daniel
Mead, Morris W.
Neice, Bertram Ray

Orchard, William John
Peierls, Edgar S.
Reiner, Laszlo Leonard
Rosinger, Arthur
St. John, Alexander N. T.
Tausz, Jenoe E.
Bergenfield
Smith, Clarence Albert
Berkeley Heights
Herr, Donald Shaeffer
Bernardsville
Rankin, Lanning P.
Birmingham
Calmon, Calvin
Bloomfield
Allen, Ivey, Jr.
Bender, Howard Leonard
Bender, William A.
Beste, Eugene Welles
Dunham, LeRoy Shaw
Hanson, Ernest Roy
Hughes, Hugh D.
Kelley, Maurice Joseph
Kindquist, Eric Birger Tage
Kirsch, Nathan Carl
Klarmann, Emil G.
Mackinney, Herbert William
McCullough, Kenneth Vernon
McDonnell, John Neumann
Mead, Morris W.
Minto, Wallace Louis
Moore, Richard L.
Ranklin, Lanning P.
Reiner, Laszlo Leonard
Rose, Jerome W.
Rugg, Frank McLean
Smiddy, Harold F.
Staff, Charles Eugene
Waterman, Robert E.
Wells, Franklin Burnham
Withrow, David Daniel
Bound Brook
Ahrens, Carl(*)
Amick, Chester A.
Anderson, Ralph Selby
Banks, C. Kenneth
Barber, Edward Johnson(*)
Barnard, Kenneth H.
Bart, Edward Henry
Beaver, Charles E.
Berg, Frantz Frederick
Bigelow, Carle Muzzy
Bluthardt, Oscar D.
Brewer, Willard O.
Brody, Frederick
Carr, Wiley William
Chalupski, Victor
Clapper, Thomas Wayne
Clark, Fred Gassner
Cooke, Theodore Frederic
Cummins, Arthur B.
Dickinson, Quintin Todd
Fletcher, Robert James
Hall, William F.
Harmon, William C., Jr.
Hettrick, Ames Bartlett
Hill, A. Garrett
Howe, Eugene Everett
Humphrey, Laurence Edmund
Hultquist, Martin Everett
Kienle, Roy Herman
King, Victor Louis
Klipstein, Kenneth Hampton
Lecher, Hans Z.
Long, Robert Sidney
Lycan, William H.
Mangelsdorff, Arthur Fred
McIntire, William Cornelius
Meharg, Virgil Edward
Merrill, Leon Kenneth
Merz, August
Molinari, Vittorio
Munro, Wendell Philip
Parker, Robert Prescott
Peacock, William Henry
Peiker, Alfred Louis
Perry, Leslie Lovell
Rauchfuss, Arthur Alfred
Roberts, Lawrence Morris
Rosane, Clarence B. E.
Royer, George Lewis
Scalera, Mario
Schneller, George H.
Seaman, William
Seibert, Frank Jacob
Shive, Roy A.
Smith, David F.
Sumner, Richard E.
Warner, John F.
Weeks, William Seward
West, Byron L.
Zinzow, W. A.
Bridgeton
Wolf, Benjamin
Browns Mills
Calmon, Calvin
Burlington
Bunce, Donald Atwood
Schuh, Arthur Eugene
Webre, Alfred L.
Butler
Foley, John D.
Reed, Pendennis W.
Caldwell
Angus, Willis Wolcott
Budd, Ivon Harold
Califon
Isenburger, Herbert R.
Camden
Downey, Thomas B.
Hallman, George Victor
Hull, Raymond R.
Kohman, Edward F.
Kind, Paul A.
Windus, Wallace
Carlstadt
Randolph, Wendell Govers
Carlton Hill
Brubaker, Carl H.
Carneys Point
Downing, Frederick Baxter
Carteret
Hafford, Bradford C.
Trombly, Arthur James
Cedar Grove
Peterson, Arthur F.
Chatham
Bain, William Allen, Jr.
Dietrich, Charles H.
McLean, David Alexander
Peterson, Wesley R.
Rich, Frederick Jaspersen
Robinson, Edwin Allin
Cliffside Park
Bussow, Carl
Cliffwood
Axelrad, Felix F.
Clifton
Althausen, Darrell
Joffre, Stephen P.
Kunz, Raymond John Francis
Parker, Lee Allen
Von Bergen, Werner
Collingswood
Klotz, Donald Irvin
Vanderkleed, Charles Edwin
Colonia
Gruber, Rudolf Eduard
McKean, Walter Addison
Parker, Francis Milton
Smith, Walton S.
Cranford
Achilles, Harold E.
Barrow, Henry Yeaman
Bechtold, Frank, Jr.
Copson, Harry Rollason
Fair, William F.
Garber, John Douglas
Gornowski, Edward John
Green, A. Donald
Greenawald, Frederic S.
Jelinek, Viola C.
Keller, J. L.
Lyons, Eugene James
Merrill, Leon Kenneth
Quaintance, Carroll Brown
Rauchfuss, Arthur Alfred
Reeves, Edward Duer
Robey, Richard Foerster
Sowa, Frank J.
Starr, John V.
Trombly, Arthur James
Whitescarver, Wilmer Field
Cresskill
Stiles, Samuel Robert
Deepwater
Armstrong, Earle B.
Hodges, Frank J.
Ulich, Lynne H.
Delanco
Schuh, Arthur Eugene
Delawanna
Luthy, Max
Denville
Batley, Harry Alexis
Bissinger, H. Gerard
Pollack, Maxwell A.
Dover
Dunkle, Cyrus G.
Sager, DeWitt Dunn
Dumont
Jahreis, Carl Albert
Lewis, John B.
Dunellen
McKean, Walter Addison
East Orange
Callaham, John Robert
Dunham, LeRoy Shaw
Freundlich, Leo
Grupelli, Logan D.
Gulick, Charles Platt
Kimball, John Willard
Kirsch, Nathan Carl
Marx, Walter
Merz, August
Musser, David Musselman
Pratt, Ward E.
Schwab, Charles Munhall
Schwing, Karl Joseph
Stone, Leo
Walter, Lewis A.
Zinzow, W. A.
East Paterson
Schepp, William John
East Rutherford
Hachen, Harry H.
Edgewater
Donegan, Joseph Willard
Waters, Charles E.
Edgewater Park
Fergusson, Alexander C.
Elizabeth
Bailey, George Corbin
Bart, Edward Henry
Bradstreet, Raymond Bradford
Britton, John Alexander, Jr.
Burks, Harry Gray, Jr.
Chadduck, Harry Webster
Dahle, Dan
Greenawald, Frederic S.
Hendlin, David
Hopkins, Marion Byrd
Larsen, Bernard Marvin
Lebo, Robert Baird
Lowery, Joseph D.
Peacock, William Henry
Peck, Edward Bates
Roon, Leo
Sloane, Reginald Gordon
Traub, Adam J.
Trister, Saul Michael
Vopicka, Edward
Weinstein, Sidney Moses

Williams, Arthur S.
Zucker, Milton

Englewood
Hawley, Thomas Gardner, Jr.
Passino, Herbert Jos.
Randolph, Wendell Govers
Rose, Carlton Higbee
Seymour-Jones, Frank Leslie
Sherwood, Harold H.
Shields, Thomas J.
Tylee, Schuyler E.
Vahlteich, H. W.
van Dyke, Harry Benjamin

Essex Fells
Sevringhaus, Elmer Louis

Fair Lawn
Boyer, Jerome L.
Russell, Walter Stokes
Wicks, Zeno W., Jr.

Fanwood
Ambruster, Howard Watson(†)
Beecher, Evan Ronald

Far Hills
Hemingway, Harry J.

Flemington
Merrill, Robert Turner

Florence
Murphy, Francis E.

Florham Park
Barnes, Harry Milford

Fort Lee
Koelle, George Brampton

Fort Monmouth
Linden, Erik Gustaf
Payne, V. F.

Garfield
Elk, Benjamin R.
Fairbanks, Sumner Cushman
Sutcliffe, Edwin G.

Garwood
Barrow, Henry Yeaman
Bechtold, Frank, Jr.
Campbell, William Montgomery
Gebert, Emery B.
Leeds, Morton W.
Leeds, Norma Sterne
Paulsen, Grover Cleveland, Jr.

Glen Ridge
Marks, Henry Clay
Merkle, George Edward
Murphy, William J.
Parmele, Harris B.

Glen Rock
Converse, Willard B.
Dyne, Godfrey W.
Henry, John Francis
Howard, Everett W.
Koonce, Samuel David
Nazzaro, Rocco Michael
Prior, Herbert R.

Gloucester City
Klotz, Donald Irvin
Lucht, Robert August

Grasselli
Fuchs, Nathaniel
Stevinson, Melvin R.

Hackensack
Minto, Wallace Louis
Swenson, William Lennart

Haddon Heights
Puff, Raynard V.

Haddonfield
Brinton, Clement Starr
Downey, Thomas B.
Hitou, Joseph J.
Windus, Wallace

Harrington Park
Buhrer, Paul Merle
Engle, Loy S.
Horsey, Robert E.

Harrison
Batley, Harry Alexis
Bash, Francis E.
Chodroff, Saul
DeCastro, Arthur
Foy, John R.
Grupelli, Logan D.
Gulick, Charles Platt
Jahreis, Carl Albert
Kapp, Roland
Kelley, Maurice Joseph
Klein, Howard C.
Licata, Francis J.
Lohr, James Martin(†)
Pratt, Ward E.
Reimold, Abraham Gottlob Heinrich
Richter, Richard Charles
Robinson, Edwin Allin
Shaw, George Robert
Taylor, C. George

Haworth
Chenicek, Albert G.

Hawthorne
Wicks, Zeno W., Jr.

Highland Park
Allison, James Boyd
Cottle, Delmer Leroy
Davis, Herbert L.
Gerlough, Tillman Daniel
Langlykke, Asger Funder
Morris, Vlon Neilan
Palmer, John W.
Prince, Arthur Leslie
Zimmerli, Adolph

Hillside
Cooper, Joseph Harry
Dahle, Dan
Springer, William Moore
Szymanowitz, Raymond

Hoboken
Allen, Paul, Jr.
Barnes, Harry Milford
Beeber, Allan R. A.
Bender, William A.
Bornemann, Alfred
Elder, Lucius Williams, Jr.
Ishler, Norman H.
Kaegebehn, Charles F.
Lustbader, Melvin H.
Mitchell, William Alexander
Nair, John Henry
Olsen, Aksel G.
Schroeder, Bernard A.
Shuman, A. Cornwell

Hohokus
Rohrbach, Nelson J.

Hudson Heights
Hughes, Harold Kenneth

Irvington
DeCastro, Arthur
Fletcher, Robert James
Garneau, Charles E.
Laning, Elmer Mead
Marx, Walter

Jersey City
Baketel, H. Sheridan
Beecher, Evan Ronald
Blank, Eugene William
Copenhaver, John William
Dohan, Jerome
Drapeau, Benjamin Lincoln
Dreger, Emil Edward
Frances, Saul
Fuchs, William W.
Heald, Robert Franklin
Idson, Bernard
Jelling, Murray
Ledgett, Lowell Ashton
Lewis, John B.
Markush, Eugene Armand
Merlub-Sobel, Menahem
Musser, David Musselman
Parmele, Harris B.
Portanova, Mario J.
Rambo, Arthur I.
Riblett, Earl Wendell
Rosinger, Arthur
Ross, Frank B.
Rubin, Louis C.
Russell, Kenneth L.
Stanton, Stephen W.
Stulz, Harry J.
Tsao, Utah
Van Meter, Clarence Taylor
Wearn, Richard Benjamin
Wolten, Gerard M.

Kearny
Banton, Madison Whitten
Hawkes, Albert W.
Hess, Paul S.
Larsen, Bernard Marvin
Moore, Arthur Allen
O'Hare, George Alfred
Rossbacher, Henry John
Spitzli, Donald Hawkes

Keasbey
Lewenz, Hans W.

Kingston
Wiselogle, Frederick Yager

Lawrenceville
Wakeham, Helmut

Lebanon
McIntire, William Cornelius
Sargent, Elmer Lawrence

Leonia
Hilbert, Frederic L.
Hixson, Arthur Warren
Kimball, George E.
LaMer, Victor Kuhn
McGavack, John
Myers, Eleazer
Neice, Bertram Ray
Waters, Charles E.

Lincoln Park
Mitchell, William Alexander
Smart, Maxwell Danford

Linden
Amick, Erwin Hamer, Jr.
Barr, Frank Thomas
Bradstreet, Raymond Bradford
Cottle, Delmer Leroy
Donlan, Theodore Rothwell
Fleming, Charles L., Jr.
Fuchs, Nathaniel
Gornowski, Edward John
Green, A. Donald
Miller, Floyd Laverne
Peck, Edward Bates
Reeves, Richard Franklin
Robey, Richard Foerster
Rupp, Walter Howard
Russell, Francis Robinett
Sofin, Louis Henry
Thompson, Albert Johnson, Jr.
Vanderbilt, Byron Michael
Young, David Wilson

Little Falls
Joffre, Stephen P.

Livingston
Biondi, Frank Joseph
Shabica, Anthony Charles, Jr

Long Branch
Payne, V. F.

Madison
Bunn, Howard S.
Caprio, Amerigo F.
Cory, Horace Vanderveer
Elder, Lucius Williams, Jr.
Jordy, Louis C.
Purdy, Alvin C.
Sullivan, Frederick W., Jr.
Work, Robert W.
Yonkman, Frederick F.

Mahwah
Sockman, Bruce E.

Manasquan
Hartwig, Carl E.

Manville
Biffen, Frank Moody
Cummins, Arthur B.
Williams, Earl Raymond

Maplewood
Andersen, Bjorn
Cohane, Arthur J.

Cushman, Donald S.
Lott, William A.
Morgan, J. Perry
Morgan, Jerome John
Orchard, William John
Reeser, Myron Drew
Swindells, Frank E.
Thornton, Ernest Wood
Walker, James W.
Wearn, Richard Benjamin
Weber, Maximilian Gustav
Work, Lincoln Thomas

Martinsville

Carr, Wiley William
Clapper, Thomas Wayne
Cooke, Theodore Frederic
Hill, A. Garrett
Munro, Wendell Philip

Matawan

Axelrad, Felix F.
Beeber, Allan R. A.
Diggin, Myron Bradford
Foulke, D. Gardiner

Merchantville

Flentje, Martin Ernest
Haines, Edward C.

Metedeconk

Molitor, Hans

Metuchen

Beyler, Roger Eldon
Blank, Eugene William
Cole, Sandford Stoddard
Geiger, Charles F.
Harbin, William Thomas
Kaye, S. Leon
Kraft, William M.
Lebedeff, Yurii Eugene
Leonard, Jackson D.
Lotz, Paul L.
Nelson, Walter Kenneth
O'Keeffe, Andrew E.
Plunkett, Marshall W.
Remensnyder, John Paul
Sfat, Michael Rudolph
Waddell, James
Wilfert, Edwin William

Middletown

Halsey, John Joseph
Hollander, Harry B.
Shoemaker, Clayton S.

Milford

Borden, George Centennial, Jr.
Harrison, Ward Duncan
Schenk, Willard Allan

Millburn

Burrell, Harry
Doubleday, Ralph Stafford
Dohan, Jerome
Honish, John Koerber
Lienhardt, Winfield S.

Millstone

Bunney, William Edward
Rake, Geoffrey W.

Milltown

Ludwig, Bernard John
Sumner, John K.

Montclair

Aeschlimann, John Alfred
Althausen, Darrell
Appel, Kenneth B.
Ash, Maurice E.
Barrett, Clark
Beard, Milton C.
Bornemann, Alfred
Brent, Bernard J.
Cardinal, Paul Joseph
Foster, Nathaniel
Gibbons, Willis Alexander
Hawkes, Albert W.
Hessel, Frederick A.
Kidde, John F.
Macalpine, J. Kenneth W.
Penick, Sydnor Barksdale
Reed, Rufus Daniel
Rosenblatt, Edgar Fritz
Rust, John B.
Sayre, Morris
Scheibel, Edward George
Sinn, Francis Peirce
Starr, Donald Fay
Stewart, Vernon Theodore
Vorce, Lafayette Denton
Wakefield, Harold F.
Whitney, John Boardman
Wilson, Thomas Adam
Wolf, Jacques P.

Moorestown

Abbott, Frederick C.
Bunce, Donald Atwood
Caldwell, William T.
Elkinton, Thomas W.
Haines, Edward C.
Hallman, George Victor
Lucht, Robert August
Niederhauser, Wendell S.

Morris Plains

Byler, William Henry
Dunkle, Cyrus G.
Gwynn, Marion Hayes
Hoskins, Walter Hugh
Ornfelt, John R.

Morristown

Bash, Francis E.
Beck, Leo L.
Danco, Gerard J.
Hoskins, Walter Hugh
Lee, Alan Porter
Lohr, James Martin(†)
Matthews, Leslie Goddard
Nesty, Glenn Albert
Ornfelt, John R.
Waterman, Robert E.

Mount Holly

Ferris, S. W.

Mountain Lakes

Carpenter, Gilbert Brown
Ciborski, John Michael
Depew, Harlan Armstrong
Hinman, Herbert Henry Smith
Nantz, John D.
Shuman, A. Cornwell

Mountainside

Allen, Austin Oscar
Major, Randolph Thomas
Rupp, Walter Howard
Russell, Francis Robinett
Sarkison, Harold Philip

Murray Hill

Biondi, Frank Joseph
Bozorth, Richard M.
Burns, Robert M.
Carpenter, Gilbert Brown
Haring, Horace Egbert
Kohman, Girard Theodore
Lyon, Ashton Murray
McLean, David Alexander
Walker, Albert Charles

Neshanic

Frear, George Lewis

Newark

Allen, Austin Oscar
Bauder, Frederick William
Blackmore, Paul Owen
Branin, M. Lelyn
Brent, Bernard J.
Brunton, Jack G.
Bumsted, Roy R., Jr.
Burrell, Harry
Cantwell, Garrett Reid
Chalupski, Victor
Cohen, Morris U.
Colson, Henry Clifford
Cooper, Joseph Harry
Dalin, George A.
De Hart, William K.
Denslow, Roy R.
Dietrich, Charles H.
Doubleday, Ralph Stafford
Durfee, Charles Gibson
Dwyer, Harold A.
Eckelmann, Luis Enrique
Fishkind, David
Freundlich, Leo
Gaylor, Peter John
Geisinger, Archie L.
Genstein, Edgar S.
Good, Carl F.
Griffith, Francis Willard
Gunther, Roland Eric
Halbach, Ernest K.
Hanle, John Edward
Harbin, William Thomas
Hicks, Gilbert H.
Hollander, Harry B.
Jackson, Arnold O.
Joffe, Joseph
Kapp, Roland
Kennedy, Paul S.
Kohn, Moritz(*)
Kraft, William M.
Little, Ernest P.
Marks, Henry Clay
May, Ernest M.
McNally, Paul Thorpe
Merkle, George Edward
Petty, Gerald McKinney
Rich, Frederick Jaspersen
Rosenblatt, Edgar Fritz
Rowe, Thomas Dudley
Spengeman, Willard F.
Stewart, Vernon Theodore
Stone, Leo
Szymanowitz, Raymond
Thau, Marcus
Traub, Adam J.
Trister, Saul Michael
Walter, Lewis A.
Weinstein, Sidney Moses
Wilson, Thomas Adam

New Brunswick

Ahlgren, Gilbert Harold
Allison, James Boyd
Anderson, John F.
Bartels, Charles Richard
Bear, Firman Edward
Berk, Bernard
Davis, Herbert L.
Donegan, Joseph Willard
Engel, Edward William
Garard, Ira Dufresne
Gerlough, Tillman Daniel
Greene, Richard Daniel
Hines, Leonard Russell
Joffe, Jacob S.
Jones, Russell Morgan
Kaye, S. Leon
Klug, William James, Jr.
Langlykke, Asger Funder
Levowitz, David
Locke, Arthur Preston
Lott, William A.
Ludwig, Bernard John
Lycan, William H.
Morris, Vlon Neilan
Mullin, Harold Ried
O'Keeffe, Andrew E.
Ort, John M.
Palmer, John W.
Prince, Arthur Leslie
Randle, Stacy B.
Read, William Thornton
Richardson, Alan H.
Rieman, William, III
Rudolfs, Willem
Smith, Carroll Dunham
Thalheimer, William Hastings
Van Der Meulen, Peter Andrew
Waddell, James
Wilfert, Edwin William
Wintersteiner, Oskar Paul
Wiselogle, Frederick Yager

New Milford

Stanton, Stephen W.

Newton
- Potter, Rowland S.
- Titus, Harry Waltner

New Vernon
- Klipstein, Kenneth Hampton

North Plainfield
- Bluthardt, Oscar D.
- Brown, Cecil Langford
- Pfannmuller, Julius
- Schneller, George H.
- Williams, Earl Raymond

Nutley
- Ackerman, John Wright
- Aeschlimann, John Alfred
- Brisbane, Donald A.
- Brooks, Arthur Edward
- Brown, Thomas
- Cardinal, Paul Joseph
- Denslow, Roy R.
- Eldridge, Robert Walker
- Gerke, Roscoe Harlan
- Goldberg, Moses Wolf
- Hardt, Robert Andrew
- Heald, Robert Franklin
- Jackson, Arnold O.
- Meyer, Albert William
- Moore, Arthur Allen
- Rubin, Saul Howard
- Russell, Kenneth L.
- Scheibel, Edward George
- Schnitzer, Robert Julius
- Sevringhaus, Elmer Louis
- Steyermark, Al
- St. John, Alexander N. T.
- Theilheimer, William
- Van Antwerpen, Franklin John

Ocean City
- Wanner, Henry Eckert

Oradell
- Ehret, William F.

Orange
- Booth, Helen Louise
- Kennedy, Paul S.
- Reimold, Abraham Gottlob Heinrich
- Stragnell, Gregory

Oxford
- Sheffield, William Henry Steele, Jr.

Packanack Lake
- Punshon, Thomas, Jr.
- Sutcliffe, Edwin G.

Palisade
- Hoke, Calm Morrison

Park Ridge
- Babcock, Sidney Henry, Jr.

Parlin
- Plunkett, Marshall W.
- Stanton, William A.
- Swindells, Frank E.
- Welz, Christopher John

Passaic
- Brooks, Arthur Edward
- Eldridge, Robert Walker
- Elk, Benjamin R.
- Fairbanks, Sumner Cushman
- Foley, John D.
- Gerke, Roscoe Harlan
- Gibbons, Willis Alexander
- Haigh, Frederick R.
- McGavack, John
- Meyer, Albert William
- Rohrbach, Nelson J.
- Tylee, Schuyler E.
- Von Bergen, Werner
- Wolf, Jacques P.

Paterson
- Ackerman, Ira Jason
- Ackerman, John Wright
- Beard, Milton C.
- Bogorad, George J.
- Nazzaro, Rocco Michael
- Russell, Walter Stokes

Paulsboro
- Armstrong, Earle B.
- Brooks, John Warren
- Cross, Raymond B.
- Fellows, Albert Thomas
- Francis, Alfred West
- Hadden, Stuart Tracey
- Horsch, William Grenville
- Nygaard, Edwin Marcus

Pennsauken
- Clevenger, C. M.

Penns Grove
- Bake, Louis S.
- Carleton, Paul W.
- Daddow, Wilbur Talbot
- Friedrich, Martin E.
- Hodges, Frank J.
- Jackson, Wendell Ford
- Nagle, Wesley Michael
- Plunkett, Roy Joseph
- Williams, William Lloyd

Perth Amboy
- Bailey, George Corbin
- Geiger, Charles F.
- McNitt, Robert Joseph

Phillipsburg
- Buzas, August Joseph
- Clark, Ralph A.
- Hafer, George Byron
- Harrison, Ward Duncan
- Kleinhans, John Ashmore
- Meier, Robert H. M.
- Slater, Charles H.
- Smith, Marion Wallace
- Wittenberg, Robert Bringhurst
- Zech, John David

Pines Lake
- MacKinney, Herbert William

Piscataway
- Zimmerman, James Booth

Plainfield
- Accola, Alvin John, Jr.
- Ahrens, Carl(*)
- Biffen, Frank Moody
- Bluthardt, Oscar D.
- Brewer, Willard O.
- Crossley, M. L.
- Folkers, Karl August
- Gutkin, Samuel S.
- Hall, William F.
- Harmon, William C., Jr.
- Hettrick, Ames Bartlett
- Hines, Leonard Russell
- Lecher, Hans Z.
- Lippert, Thomas W.
- Mangelsdorff, Arthur Fred
- McCullough, Kenneth Vernon
- Meharg, Virgil Edward
- Molinari, Vittorio
- O'Hare, George Alfred
- Peck, Robert Lawrence
- Perry, Leslie Lovell
- Pfluger, Helmuth L.
- Royer, George Lewis
- Snyder, Joseph L. K.
- Stokes, Sydney N.
- Sumner, John K.
- Sumner, Richard E.
- Teitsworth, Clark Salem
- West, Byron L.
- Whitlock, Gaylord Purcell

Princeton
- Dillon, John Henry
- Elgin, Joseph Clifton
- Furman, N. Howell
- Muller, Julius Frederick
- Pacsu, Eugene
- Pease, Robert N.
- Rosenblum, Charles
- Sarett, Lewis Hastings
- Sherman, Louis Miller
- Taylor, Hugh Stott
- Thalheimer, William Hastings
- Wakeham, Helmut
- Wallace, John H., Jr.
- Wallis, Everett Stanley
- Webb, Thomas Jefferson
- Whitwell, John Colman
- Winterkorn, Hans F.
- Woodbridge, Richard George, 3d

Prospect Plains
- Klug, William James, Jr.

Rahway
- Accola, Alvin John, Jr.
- Addinall, Carl Rupert
- Anderson, Carl Magnus
- Ash, Maurice E.
- Bacher, Frederick Addison
- Bagdasarian, Andrew
- Banks, C. Kenneth
- Bartell, Ernest C.
- Bartenstein, Frederick, Jr.
- Benson, William Lyttle
- Beyler, Roger Eldon
- Bikerman, Jacob Joseph
- Bittenbender, William Albert
- Bond, Robert W.
- Boos, Richard Newton
- Brooke, Clinton L.
- Carlisle, James Mallory
- Carney, James Joseph
- Carroll, Albert
- Chadduck, Harry Webster
- Chamberlin, Earl Martin
- Clarke, Beverly L.
- Colin, Philip Gordon
- Conn, John Byron
- Connor, John Thomas
- Crispell, John P.
- Engels, William Henry
- Folkers, Karl August
- Frediani, Harold A.
- Frolich, Per K.
- Gage, John Hunter
- Gakenheimer, Walter Christian
- Garber, John Douglas
- Halsey, John Joseph
- Harris. Stanton A.
- Hayward, Ralph Malcolm, Jr.
- Hendlin, David
- Howe, Eugene Everett
- Jelinek, Viola C.
- Johnstone, Henry Webb
- Koniuszy, Frank Robert
- Krasso, Oscar T.
- Leonard, Jackson D.
- Lukens, Reginald P.
- Lyons, Eugene James
- MacDonald, John H.
- Mader, William John
- Mahoney, John Francis
- Major, Randolph Thomas
- May, Oliver
- McCabe, James Edward
- Messersmith, Chauncey Plyde
- Nolan, Edward J.
- Parker, Francis Milton
- Peck, Robert Lawrence
- Pfister, Karl, 3rd
- Pfluger, Helmuth L.
- Reynolds, Blythe Montgomery
- Robinson, Harry J.
- Rosenblum, Charles
- Sarett, Lewis Hastings
- Sarkison, Harold Philip
- Scott, Albert B.
- Sfat, Michael Rudolph
- Snyder, Joseph L. K.
- Snyder, Raymond E.
- Sofin, Louis Henry
- Stearns, Stuart Gillard
- Stecher, Paul G.
- Suffern, Walter Garrie
- Thompson, Albert Johnson, Jr.
- Tishler, Max
- Trenner, Nelson Richard
- Webb, Thomas Jefferson
- Whitlock Gaylord Purcell
- Willson, Fred Mayhew
- Wolfe, Haynes George
- Woodruff, John Caulfield

Zimmerman, James Booth
Raritan
Anderegg, Frederick O.
Ridgway, Eric Owen
Red Bank
Crispell, John P.
Linden, Erik Gustaf
Weppler, George Robert
Ridgefield
Cobb, R. M. Karapetoff
Henry, John Francis
Merrill, Robert Turner
Shulman, George
Ridgefield Park
Ten Eyck, Hugh Skillman
Ridgewood
Curts, Robert Morison
De Wolfe, Richard Sears
Dickey, George Daman
Fyffe, N. Harold
Harrington, George Aldon
Ledgett, Lowell Ashton
Luthy, Max
Vincent, Gregory Alan
Walters, Roy H.
Welsh, Mark
Williams, James H.
River Edge
Vetter, Joseph James
Riverton
Gould, David Foster
Graden, William F.
Huber, Francis Christian
Hull, Raymond R.
Roseland
Brisbane, Donald A.
Roselle
Burt, George Herbert
Friedland, Daniel
King, Charles C.
Young, David Wilson
Roselle Park
Cohane, Arthur J.
Williams, Arthur S.
Rumson
Alessandroni, Hugh V.
Teeter, Albert A.
Vopicka, Edward
Rutherford
De Hart, William K.
Gilmann, Henry Herman
Hetchler, John D.
Saddle River
Christian, Camillus
Schlotterer, Ray C.
Scotch Plains
Drapeau, Benjamin Lincoln
Mader, William John
Nolan, Edward J.
Petty, Gerald McKinney
Ridgway, Eric Owen
Snyder, John W.
Sewaren
Crane, Roland G.
Short Hills
Bauder, Frederick William
Blackmore, Paul Owen
Bozorth, Richard M.
Bumsted, Roy R., Jr.
Copenhaver, John William
Ericsson, Ralph L.
Griffith, Francis Willard
Halbach, Ernest K.
Hanford, William Edward
Haslam, Robert Thomas
Holland, Christian Vandegrift
Kirkpatrick, Sidney Dale
Johnstone, Henry Webb
McCabe, James Edward
Rassweiler, Clifford Fred
Schroeder, Carl Robert
Stearns, Stuart Gillard
Stragnell, Gregory
Tracy, Osgood Vose
Walker, Albert Charles

Wickenden, Thomas Howard
Zimmerman, Rufus Eicher
Skillman
Goulard, Alexander
Somerville
Berk, Bernard
Clark, John Landon
Ort, John M.
Parker, Robert Prescott
Reeves, Richard Franklin
Scalera, Mario
South Amboy
Alessadroni, Hugh V.
Cole, Sandford Stoddard
Dahlstrom, Roy
Kingsbury, Frank Laflin
Nelson, Walter Kenneth
Smith, Rollin Powers
South Kearny
Kimball, John Willard
South Orange
Fishkind, David
Garneau, Charles E.
Genstein, Edgar S.
Good, Carl F.
Loutrel, Louis F.
Morrish, Edward Puzey
Stern, Arthur Leo
Stuart, Alfred Herbert
Stockholm
Bolley, Don Sheldon
Summit
Andersen, Björn
Anderson, Carl Magnus
Banton, Madison Whitten
Barr, Frank Thomas
Bishop, Howard Berkey
Burns, Robert M.
Caprio, Amerigo F.
Clarke, Beverly L.
Connor, John Thomas
Dreger, Emil Edward
Haring, Horace Egbert
Ishler, Norman H.
Koch, Howard W.
Kohman, Girard Theodore
Lyon, Ashton Murray
May, Ernest M.
McCabe, Warren Lee
Murphree, Eger V.
Nair, John Henry
Olsen, Aksel G.
Peterson, Joel Bigelow
Pfister, Karl H. T.
Ratichek, Anthony J.
Reed, Pendennis W.
Riemer, Hugo
Rippie, Charles W.
Shabica, Anthony Charles, Jr.
Snyder, Raymond E.
Spengeman, Willard F.
Spitzli, Donald Hawkes
Swanberg, Curt O.
Sweeney, William Joseph
Williams, Robert R.
Work, Robert W.
Yonkman, Frederick F.
Teaneck
Dippel, Harry W.
Durfee, Charles Gibson
Fuchs, Chas. H.
Melnick, Daniel
Poitras, Herman Arthur
Shulman, George
Stewart, Carl Kern
Tiedcke, Carl Heinrich Wilhelm
Tenafly
Bockelmann, John Burggraf
Bonilla, Charles Francis
Hager, Herman E.
Kaufman, Charles Wesley
Palmenberg, Oscar W.
Riblett, Earl Wendell
Trenton
Appelbaum, Alan Israel

Denny, Henry Wadhams
Fettes, Edward Mac Kay
Harrison, John Green
Phillips, Ray
Prebluda, Harry J.
Troxel, Shirley Monroe
Union
Donlan, Theodore Rothwell
Friedland, Daniel
Gaylor, Peter John
Herr, Donald Shaeffer
Robinson, Harry J.
Stevinson, Melvin R.
Walker, James W.
Upper Montclair
Allen, Paul, Sr.
Appel, Kenneth B.
Brubaker, Carl H.
Bywater, William Glen
Goldberg, Moses Wolf
Gordon, Hugh Byron
Hardt, Robert Andrew
Hessel, Frederick A.
Oppel, Edwin Irving
Paine, Harold William
Parker, Lee Allen
Peierls, Edgar S.
Radasch, Arthur Hitchcock
Reed, Rufus Daniel
Reynolds, Blythe Montgomery
Richards, George Handyside
Rowe, Thomas Dudley
Staff, Charles Eugene
Taebel, Wilbert A.
Wells, Franklin Burnham
Verona
Hammes, Jack H.
Krueger, John
Rambo, Arthur I.
Shaw, George Robert
Withrow, David Daniel
Vineland
Moran, James J.
Watchung
Anderson Ralph Selby
Foulke, D. Gardner
Lewenz, Hans W.
Lotz, Paul L.
Whitcomb, Gordon Putnam
Wenonah
Brooks, John Warren
Cross, Raymond B.
West Caldwell
Krueger, John
Licata, Francis J.
Lutz, John A.
Mapes, Daniel
Rubin, Louis C.
Rugg, Frank McLean
Weith, Archie James
West Englewood
Carrad, Anthony Landon
Johnson, Victor T.
Wilkens, George Albert
Westfield
Addinall, Carl Rupert
Ambruster, Howard Watson(†)
Bacher, Frederick Addison
Bartell, Ernest C.
Bartels, Charles Richard
Benedict, Manson
Bittenbender, William Albert
Bond, Robert W.
Brooke, Clinton L.
Brunton, Jack G.
Campbell, William Montgomery
Cantwell, Garrett Reid
Carlisle, James Mallory
Chamberlin, Earl Martin
Clark, Fred Gassner
Colin, Philip Gordon
Conn, John Byron
Dahlstrom, Roy
Dean, Ernest W.
Engels, William Henry

Fair, William F.
Fleming, Charles L., Jr.
Fraser, Oliver B. J.
Frolich, Per K.
Gakenheimer, Walter Christian
Gray, Arthur Wellington
Hafford, Bradford C.
Hanle, John Edward
Harris, Stanton A.
Hayward, Ralph Malcolm, Jr.
Hicks, Gilbert H.
Humphrey, Laurence Edmund
Humphreys, Carl Dick
Kingsbury, Frank Laflin
Krasso, Oscar T.
Littmann, Edwin R.
Loesch, Hugo George
Lowe, Rupert Bidwell
Lukens, Reginald P.
Mahoney, John Francis
Malakoff, Howard Louis
McCoy, John T.
Messersmith, Chauncey Plyde
Miller, Floyd Laverne
Paulsen, Grover Cleveland, Jr.
Pfister, Karl, 3rd
Pittman, Charles Uriah
Richter, Richard Charles
Riley, Walter James
Rossbacher, Henry John
Ryan, Lonnie Watterson
Scott, Albert B.
Smith, Rollin Powers
Springer, William Moore
Stanton, William A.
Suffern, Walter Garrie
Tishler, Max
Trenner, Nelson Richard
Vanderbilt, Byron Michael
Walker, Howard G.
Weinmann, John Gottlieb
Welz, Christopher John

West Orange
Edison, Charles
Frost, Pinckney L.
Gage, John Hunter
Goulden, Harold DeWitt
Mueller, Herbert H.
Munn, W. Faitoute
Smith, Carroll Dunham
Stuart, Alfred Herbert

Whippany
McCabe, Warren Lee

Whitehouse Station
Bigelow, Carle Muzzy

Woodbridge
Benson, William Lyttle
Moffett, Ernest Cutter

Woodbury
Francis, Alfred West
Hadden, Stuart Tracey
Horsch, William Grenville
Nagle, Wesley Michael
Nygaard, Edwin Marcus

Wood-Ridge
Bonow, S. Crawford

Woodstown
Calcott, W. S.
Darlington, Charles Joseph
Plunkett, Roy Joseph
Ulich, Lynne H.

NEW MEXICO

Albuquerque
Reynolds, Dexter H.
Riebsomer, Jesse LeRoy

Carlsbad
Bruhn, Henry H.
Coope, G. F.
Dabney, Robert Raymond
Douglass, Emory Wright
Dunn, Parker Southerland
Schoeld, Edmund A.
White, Nelson C.

Las Cruces
Boston, Alvin Dale

Los Alamos
Bergstresser, Karl S.
Jette, Eric R.
Lucy, Frank Allen

Portales
Dewey, Bartlett Taggart

Socorro
Stubbs, Morris Frank

State College
Boston, Alvin Dale
Shires, Luke Berry

NEW YORK STATE

Albany
Knudson, Arthur
Lanford, Oscar Erasmus
Rickards, Burt Ransom
Schwartz, Frederick W.
Smith, Irwin Joseph, Jr.
Suter, C. M.
Tainter, M. L.

Alden
Sievenpiper, Frederic L.

Alfred
Campbell, Robert Morrell
Rice, Murray John
Scholes, Samuel Ray
Weinland, Louis Albert

Amityville
Litter, David Hiram

Amsterdam
Friderici, Edwin D.

Annandale-on-Hudson
Sottery, C. Theodore

Arlington
Sheard, Lawrence

Aurora
Hyde, Elizabeth Charlotte
Young, Philena

Au Sable Forks
Rogers, James, II

Averill Park
Hansen, Lester Arnold
Servis, Richard John

Babylon
LeConte, Charles R.
Sanderson, John McEntee

Baldwin
Dwyer, Harold A.
Gill, Louis Milton
Pinnock, Douglas Robert

Bay Shore
Evans, Ralph Liggett

Bayside
Carlisle, Robert L.
Holst, William A.
Schleicher, Francis Grant von Magius
Venuto, Louis Joseph

Beacon
Conary, Robert E.
Coppoc, William Joseph
Whittaker, Roland Mapes

Bedford
Neuberg, Frederick A.

Bedford Village
Roth, Charles F.

Binghamton
Friedman, Joseph S.
Gerhardt, Francis Henry
Harriman, Benjamin Ramage
Kaszuba, Frank J.
Mueller, F. W. Hellmut

Blue Point
Spoerri, Paul Emmanuel

Briarwood
Werbin, Sanford Joseph

Bronx
Masson, Henry James
Savitt, Sidney Allan

Bronxville
Ashcroft, Alfred Griffin
Bacon, Raymond F.
Bailey, Marion V.
Bivins, Franklin Hammond
Boyd, James Harrington
Borghetty, Hector C.
Briggs, Robert H.
Christmann, Ludwig J.
Dahl, Roland John
Daly, Patrick J.
Dial, Morse Grant
Gardner, Wm. Howlett
Gilbert, Maurice Elmer
Haschke, Theodore Arthur
Johnston, William Redmond
Masson, Henry James
Park, James Grant
Porter, William Nichols
Singmaster, James Arthur
Stock, Frederick Joseph
Twiss, J. Hayden
Weed, William Jennings

Brookhaven
Jacobus, David D.

Brooklyn
Albert, Elihu Dale
Ashen, Philip
Baizer, Manuel M.
Baker, William Burdell
Barban, Charles
Barsel, Norman
Becher, Harold
Becker, Ernest I.
Bennett, Harry
Benoit, Constant Alexandre
Bercow, Herman B.
Bernstein, Isidor Mayer
Bockelmann, John Burggraf
Bolley, Don Sheldon
Bowden, William Clifford, Jr.
Briggs, Robert H.
Carlisle, Robert L.
Carmichael, Emmett Scott
Chisdes, Meyer
Chodroff, Saul
Christian, Camillus
Ciborski, John Michael
Cohen, Morris U.
Currie, James N.
Dagget, Ross LeBaron
Davis, Clarke E.
Dixon, Tod Galloway
Eckelmann, Luis Enrique
Epstein, Elias
Fain, Jacob Mitchell
Freedman, Ephraim
Freydberg, Ralph M.
Fuchs, William W.
Gampert, Louis
Gilmont, Roger
Gould, Jack U.
Greene, Allan Joseph
Greenspan, Joseph
Hallett, Robert Leroy
Happel, John
Harding, Frederick Houghton
Henning, George
Howard, Leo
Hughes, Harold Kenneth
Jacobs, Morris B.
Jaffe, Bernard
Janon, Samuel G.
Jelling, Murray
Johnson, Dana Hurt
Jurgensen, Delbert Frederick, Jr.
Kane, Howard L.
Kane, Jasper H.
Kirk, Raymond Eller
Klein, Howard C.
Kleinsinger, Harold
Koppenhoefer, Robert Mack
Landau, Ralph
Lang, Otto J.
Lauffer, Louis
Lazier, Wilbur Arthur

Luckens, Mark Manfred
Magnus, Robert Burke
Mark, Herman Francis
Mass, Henry
McNulty, Joseph A.
Meagher, Edward Columba
Meyer, Martin
Mossman, Dorothea R.
Nechamkin, Howard
Neidle, Marks
Othmer, Donald Frederick
Paley, Charles
Parsegian, V. Lawrence
Patelski, Ray Arthur
Peters, Henry Frederick
Pitigliani, Guido
Poitras, Herman Arthur
Portanova, Mario J.
Prince, Leon Maximilian, Jr.
Punshon, Thomas, Jr.
Reich, Irving
Rose, Carlton Higbee
Rose, Jerome W.
Rosendahl, Edward
Roszkowski, Edmund Simon
Sargent, Elmer Lawrence
Seaman, Bryant W.
Schaefer, Joseph J.
Shapiro, Louis Leon
Sharpe, Paul David
Sherman, Signe Lidfeldt
Sievers, F. W. C.
Simond, Maynard Ewing
Smith, Casper
Smith, David F.
Spoerri, Paul Emmanuel
Stock, Frederick Joseph
Strean, Lyon P.
Timblin, Louis McFarland
Tobin, Elise
Umbdenstock, Robert Rene
Urban, Stephen F.
Voet, Andries
Walker, Charles P., Jr.
Ward, Gilbert J.
Weinmann, John Gottlieb
Willets, William R.
Wilson, William Burton
Wimmer, Llewellyn Curt
Wolfe, Herbert Jay

Brookville
Jackson, Frank Lains

Buffalo
Allen, Edwin T.
Bergantz, Joseph Arthur
Berns, Milton H.
Bitzer, Jack Arlie
Blum, Paul
Botto, Melvin Robert
Bradley, Donald D.
Coakley, Cornelius C.
Cook, Gerhard Albert
Crewson, George G.
Diamond, Grant Sidney
Entemann, Charles E.
Eversole, James Frank
Finnegan, Thomas
Fleysher, Maurice Henry
Furnas, Clifford Cook
Gurley, Franklin C.
Hall, Albert Lawrence
Hamilton, Charles W.
Harty, Roger P.
Hess, Raymond W.
Hicks, Elija Maxie, Jr.
Hubbard, Roger Sanford
Jenkins, Ford McHenry
Jewett, Theodore Carter
Kaufmann, Dale W.
Keagle, LeRoy C.
Klendshoj, Niels C.
Lutz, William Haviland
Marsh, Frank L.
Miller, John Strother
Minnis, Wesley
Muenzen, Joseph Bernard
Nicholls, Charles R.
Pearson, Charles W.
Post, Howard William
Prahl, Walter H.
Riegel, Emil Raymond
Robie, Norman Pierce
Rybolt, Charles Henry
Sanders, Roy Yates, Jr.
Schilt, Earl Alfred
Sexton, Edwin Leon
Sheridan, William R.
Sievenpiper, Frederic L.
Vermilya, James Noah
Visser 't Hooft, Franciscus
Wetherbee, Burt
Williams, Reginald Victor
Wilson, Ralph H.
Woodburn, Henry M.

Camillus
Munro, Isaac Hill

Canajoharie
Phelan, Robert Kimball

Canton
Hartzell, Allen Reiff
Viertel, William Kirke

Carthage
Koenig, Henry Theodore
Young, Sheldon J.

Castleton-on-Hudson
Lanford, Oscar Erasmus
Prince, Ralph Nelson

Cayuga
Cowles, Edwin

Cedarhurst
Bowker, Horace
Coleman, Stewart P.

Center Moriches
Borst, Lyle Benjamin

Chappaqua
Burnham, Philip C.

Chauncey
Crowther, John Frederick

Clinton
Saunders, Arthur Percy

Collins
Kerr, Thomas J.

Cooks Falls
Treyz, Laura E.

Corning
Dalton, Robert Hennah
Hood, Harrison Porter
Lillie, Howard Russell
Littleton, Jesse Talbot
Rising, Walter H.
Sullivan, Eugene Cornelius

Crestwood
Dowling, William F., Jr.
Holmes, Theodore R.

Delmar
McChesney, Evan William
Wessinger, George David

Depew
Willihnganz, Eugene

Dewitt
Hileman, Joseph L.

Dongan Hills
Locke, Benjamin Stevenson

Douglaston
Bebee, Francis Hastings
Oakes, E. T.
Robinson, Guy Chapman

Earlville
Buell, Harold Douglass

Eastchester
Morse, Withrow

East Greenbush
Albertson, Noel Frederick
Andrews, David Barker
Lawson, Elmer John

East Hempstead
Hereld, Peter Claude

East Rockaway
Gumpert, Louis James

East Syracuse
Platt, Washington

Ebenezer
Mahar, Lyle J.

Eggertsville
Dodd, Robert E.
Pearson, Charles W.
Sanders, Roy Yates, Jr.

Elmhurst
Palmer, Morris Hill
Spitaleri, Frank
Welker, Paul L.

Elmira
Rutenber, Charles Blackmer

Emerson Hill
Sheard, Lawrence

Fair Haven
McNally, Paul Thorpe

Far Rockaway
Hochstadter, Irving
Janon, Samuel G.

Fayetteville
MacMullen, Clinton W.
McNitt, James D.
Menotti, Amel R.
Pennington, William Alvin

Floral Park
Berg, Frantz Frederick
Schroeder, Bernard A.

Flushing
Baizer, Manuel M.
Berger, Harold D.
Blumberg, Harold
Caldwell, Carlyle Gordon
Gallagher, Thomas Francis
Gerlach, George Henry
Heiser, Thomas G.
Mack, Edward Lawrence
Meyer, Arthur E.
Mogerman, William David
Nield, Cyril H.
Palmer, Morris Hill
Roszkowski, Edmund Simon
Skovholt, Oscar
Spoor, Herbert John
Whittaker, Roland Mapes
Young, Jesse S,

Forest Hills
Fischer, William F.
Gordon, Samuel H.
Haeseler, Kurt W.
Huisking, Joseph A.
Laufer, Stephen
Opolonick, Nicholas
Oser, Bernard L.
Schleicher, Rowell Anton
Sharpe, Paul David
Simon, Clarence K.
Sodeberg, Frederic A.
Strean, Lyon P.
Taylor, George Edwin
Techter, Fred Thomas
Vandewater, Ira
Wright, Arthur

Freeport
Garbo, Paul William
Gardner, Karl Albert

Garden City
Brazeau, Willoughby F.
Bullwinkel, J. Treadwell
Ellis, Lillian N.
Heggie, Robert
Herrmann, Henry F.
Hollabaugh, Cleveland Buchanan
Hubbell, John Platt
Kane, Jasper H.
McGlynn, George Henry
Seaman, Bryant W.
Slawter, Paul Burnett, Jr.
Tyler, Stephen Leslie
Wasserscheid, August A.

Gardenville
Nicholls, Charles R.

Geneva
Calingaert, George
Carpenter, Dwight Clark
Hand, David Birney
Kertesz, Zoltan Imre
Pearce, George Whitenack
Glen Cove
Stack, James Henry
Glen Head
Jackson, Stanley McAfee
Glen Oaks
Epstein, Elias
Nyman, Melvin Anton
Glenmont
Buck, Johannes S.
Lesuk, Alex
Glens Falls
Birmingham, John Francis, Jr.
Gloversville
O'Hare, John J.
Gouverneur
McClellan, Robert S.
Great Neck
Dowling, Arthur L.
Holland, Madeline O.
Kane, Howard L.
Maxwell, E. Mackenzie
Shirley, Robert Kirby
Simons, Harold L.
Welker, Paul L.
Wilson, A. J. P.
Greenbush
Buchanan, Oliver Henry
Greenwich
Johnson, Earl Hanford
Halesite
Wimmer, Llewellyn Curt
Hamburg
Berns, Milton H.
Diamond, Grant Sidney
Gurley, Franklin C.
Robie, Norman Pierce
Hamilton
Brown, Alfred Seely
French, Sidney James
Rogers, Harris White
Harriman
Alper, Edward D.
Harrison
Albanese, Anthony August
Bechtel, V. R.
Broom, Harry P.
Doetsch, James Francis
Griffin, Merle L.
Hirschland, Franz H.
Hartsdale
Taylor, H. Austin
Treybal, Robert E.
Hastings-on-Hudson
Braidech, Mathew Michael
Elderfield, Robert C.
Lauffer, Paul G. I.
McCallan, Samuel Eugene Alan
Zinsser, Frederick G.
Hempstead
Lutz, J. George
Persons, Ralph C.
Hewlett
Rosendahl, Edward
Hicksville
Quasebarth, Kurt H.
Hollis
Gilwood, Martin Emanuel
Schoenholz, Daniel
Ward, Gilbert J.
Houghton
Burnell, Dorah Luscombe
Huntington
Huisking, Chas. L.
Huntington Station
Itter, Stuart
Islip
Oakes, E. T.
Umbdenstock, Robert Rene
Ithaca
Flory, Paul J.
Geer, William Chauncey
Herrington, Barbour Lawson
Johnson, John Raven
Long, Franklin A.
Maynard, Leonard Amby
Miller, William T., Jr.
Nichols, Melvin Lorrel
Norris, Leo Chandler
Pfund, Marion Caroline
Rhodes, Fred H.
Sumner, James B.
Winding, Charles Calvert
Jackson Heights
Baker, James Hannington
Baker, William Burdell
Carmichael, Emmett Scott
Schlesinger, Albert
Teague, Merwyn C.
Travis, Ellis Granberry
Wolfe, Haynes George
Jamaica
De Marchi, Vincent S.
Ellis, Lillian N.
Macdonald, Ronald Gordon
Opolonick, Nicholas
Zabel, Herman W.
Johnson City
Friedman, Joseph S.
Kenmore
Blum, Paul
Byrkit, Gordon Dean
Churchill, John Wilbur
Clark, Charles Cicero
Entemann, Charles E.
Hall, Albert Lawrence
Hamilton, Charles W.
Jenkins, Ford McHenry
Marsh, Frank L.
McConnell, Charles William
Russell, Earl A.
Rybolt, Charles Henry
Schilt, Earl Alfred
Sexton, Edwin Leon
Shepard, Alvin Frost
Sheridan, William R.
Stauffer, William Otterbein
Walton, Samuel Forman, Sr.
Keuka Park
Lougee, F. Marion
Kew Gardens
Hess, Paul S.
Huston, Henry A.
Lazier, Wilbur Arthur
Silberman, Israel
Thews, Karl B.
Wilson, Cornelius Joseph
Kinderhook
Nachod, Frederick C.
Lackawanna
Mahar, Lyle J.
Lakeview
Wolff, Harold I.
Lancaster
Bitzer, Jack Arlie
Willihnganz, Eugene
Larchmont
Aitchison, Adam G.
Avedikian, Souren Z.
Belchez, Arnold
Bonardi, Jack P.
Bragdon, Charles R.
Cathcart, William H.
Clark, Henry B.
Coutlee, Douglas Wakefield
Daggett, Ross Le Baron
De Long, Carl Raymond
Gaugler, Raymond C.
Hockett, Robert Casad
Hotchkiss, Henry T.
Houghland, Glen S.
Kite, Robert Paul
Morgan, Oliver Moorehouse
Nathan, Ernest
Rehnberg, H. A.
Reilly, Peter C., Jr.
Selden, James McCobb
Sliger, Herbert Boyd
Sonneborn, Henry, III
Symons, George E.
Tinnon, John B.
Turner, Rodolphus Kibbe
Washburn, Frank Sherman
Winans, Wilfred Hughes
Laurelton
Barsel, Norman
Lewiston
Berle, Charles H.
Erasmus, Hendrick De Wet
Gailey, Andrew J.
Geiger, Marion Braxton
Hooker, Horace Willard, Jr.
Hooker, Roger Wolcott
Horst, William Peter
Macdonald, Robert, Jr.
Manchester, Frank H.
Melby, Arne
Troyan, James E.
Wilcox, Ansley, 2nd
Little Neck
Wolf, Harry J.
Lockport
Arnold, David Bullard, Jr.
Pechuman, L. L.
Locust Valley
Shea, Edward Lane
Sodergreen, Axel L.
Long Beach
Charak, Henry Brackett
Rutstein, Leo
Long Island City
Berger, Harold D.
Bernstein, Isador Mayer
Bonow, S. Crawford
Butterfield, Elmore Everest
Charak, Henry Brackett
Cooney, Robert Clair
Heggie, Robert
Heiser, Thomas G.
Hereld, Peter Claude
Horn, Abram Edward
Jackson, Stanley McAfee
Kirsh, Alfred J.
Lauffer, Paul G. I.
Mass, Henry
Oser, Bernard L.
Persons, Ralph C.
Rochen, Leo Kant
Schleicher, Francis Grant von Magius
Schleicher, Rowell Anton
Silberman, Israel
Simon, Clarence K.
Sodergreen, Axel L.
Wittenberg, Aloysius J.
Zerner, Ernst
Loudonville
Smith, Irwin Joseph, Jr.
Lynbrook
Hamlin, Marston Lovell
Rochen, Leo Kant
Lyndonville
Pechuman, L. L.
Malverne
Dixon, Tod Galloway
Sandstedt, Harry A.
Mamaroneck
Avedikian, Souren Z.
Bogart, Marcel J. P.
Bowman, W. H.
Currie, Lauchlin MacLaurin
Lemmermeyer, Michael
Mattin, Harry Edward
Meigs, Frederick Madison
Perkins, Granville Akers
Schwartz, David Robert
Manhasset
Bowditch, Lawrence J.
Davidoff, Charles

Enloe, Cortez F., Jr.
Feuchter, Charles F.
Fischer, Anthony Joseph
Gouger, Matthew Martin
Harding, Frederick Houghton
Harrison, W. Benton, Jr.
Henlein, Carl A.
King, John A.
Livingston, John W.
Mantell, Charles L.
Moore, Thomas Verner
Patelski, Ray Arthur
Sussman, Sidney
Taylor, Robert Lewis
Walker, Charles P., Jr.
Whitacre, Francis M.
Massapequa
Hull, Washington
LeConte, Charles R.
Maspeth
Wolfe, Herbert Jay
Middletown
Des Jardins, Russell Trudeau
Spitaleri, Frank
Millwood
Merica, Paul Dyer
Montour Falls
Looker, Cloyd Delson
Mount Kisco
De Greeff, Robert Henry
Devys, Jacques Gustave
Jacobi, Edwin George
Mount Sinai
Allen, Augustine Oliver
Mount Vernon
Belcher, Verner A.
Freedman, Louis
Lauffer, Louis
Light, Robert Frederick
Newman, Kenneth Walter
Patton, Carl William
Pizzarello, R. A.
Smith, Frank J.
Wyatt, W. Newell
Natural Bridge
Koenig, Henry Theodore
New City
Darvin, Joseph J.
New Dorp
Santoro, Wilfred E.
New Hyde Park
Draves, Carl Zeno
New Lebanon
Closs, J. O'Neill
New Paltz
Allen, Donald Stewart
New Rochelle
Albright, Horace Marden
Barker, Joseph Warren
Collier, Simon
de Schepper, Harry Y.
Jacobs, Walter A.
Kirk, Stanley Butcher
Knowles, Chester Lewis
Mayer, Malvin J.
McLaughlin, James William
Read, Barclay Kerr
Simond, Maynard Ewing
Tapley, Mark Watkins
Tuttle, Malcolm Harley
Zucker, Milton
New York
Abbott, Howard M.
Adams, Frederick Wildes
Adkins, William H.
Aeberle, Rudolph
Aitchison, Adam G.
Albanese, Anthony August
Albert, Elihu Dale
Albright, Horace Marden
Alexander, A. E.
Alexander, Jerome
Allen, Lyman H., Jr.
Ames, John Tucker
Amick, Erwin Hamer, Jr.
Anderson, George A.(*)
Angus, Willis Wolcott
Anthony, Myron Vernon
Appel, Kenneth B.
Applezweig, Norman
Aries, Robert S.
Ashe, Lauren Hewitt
Ashen, Philip
Askin, Simon
Babor, Joseph A.(*)
Bacon, Raymond F.
Baer, Herbert L.
Baeza, Walter J.
Bailey, Marion V.
Bain, William Allen, Jr.
Baker, James Hannington
Barker, Joseph Warren
Barry, William D.
Barsky, George(*)
Bashour, Joseph T.
Bass, Lawrence Wade
Beaver, Charles E.
Bebee, Francis Hastings
Becher, Harold
Bechtel, V. R.
Beck, Leo L.
Belcher, Verner A.
Benedict, Manson
Benington, George Arthur
Bennett, Harry
Bennett, Martin Toscan
Bercow, Herman B.
Bernardi, Dominic J.
Berolzheimer, Daniel D.
Besthoff, Silas
Bie, Rolf
Bissinger, H. Gerard
Bivins, Franklin Hammond
Bode, J. Carl(*)
Bodman, John Whittlesey
Bogart, Marcel, J. P.
Bogert, Marston Taylor
Bonardi, Jack P.
Bonilla, Charles Francis
Bonnar, J. Robert
Booth, Helen Louise
Borghetty, Hector C.
Bowden, William Clifford, Jr.
Bowditch, Lawrence J.
Bowker, Horace
Bowman, W. H.
Boyd, James Harrington
Boyer, Jerome L.
Boyle, A. R. M.
Bragdon, Charles R.
Braidech, Mathew Michael
Braun, Anthony H.
Brazeau, Willoughby F.
Brewer, Herbert C.
Bristol, Henry Platt
Britton, John Alexander, Jr.
Brody, Frederick
Broom, Harry P.
Brown, Cecil Langford
Brown, Charles Owen
Brunjes, Austin S.
Brunkow, Orvin Richard
Bryce, David Andrew
Budd, Ivon Harold
Buhrer, Paul Merle
Bunn, Howard S.
Bunney, William Edward
Burks, Harry Gray, Jr.
Burnham, Philip C.
Burns, G. Richard
Burrell, George A.
Burt, George Herbert
Bussow, Carl
Byler, William Henry
Bywater, William Glen
Cadwell, Sidney Marsh
Caldwell, Carlyle Gordon
Caldwell, Mary L.
Calkin, John B.
Callaham, John Robert
Calvert, Robert
Campbell, Yale Curtis
Carey, James Stark
Carrad, Anthony Landon
Carter, Ray Milo
Cartwright, Leonard Carl
Cathcart, William H.
Chamberlain, David Roe
Chaney, Newcomb Kinney
Chenicek, Albert G.
Chew, John Aldridge
Chisdes, Meyer
Chittick, Martin Burton
Clark, Henry B.
Clark, John Landon
Closs, J. O'Neill
Cobb, R. M. Karapetoff
Coe, John Parks
Cohen, Samuel J.
Coleman, Stewart P.
Collier, Simon
Conroy, Peter J.
Converse, Willard B.
Cooney, Robert Clair
Corbin, Milford H.
Cordiner, Ralph Jarron
Cory, Horace Vanderveer
Coryat, Cecil H.
Coutlée, Douglas Wakefield
Coyle, Theodore G.
Craig, Hugh
Cronk, John Newton
Cruse, William Thomas
Curll, Daniel B., Jr.
Curme, George Oliver, Jr.
Currie, Lauchlin MacLaurin
Curts, Robert Morison
Cushman, Donald S.
Dahl, Roland John
Dalby, Gaston
Daley, Raymond E.
Dalin, George A.
Dalton, Harry Lee
Daly, Patrick J.
Danco, Gerard J.
Darvin, Joseph J.
Davidoff, Charles
Davidson, Emil
Davidson, J. G.
Davis, Charles Prescott
Dean, Ernest W.
Dean, Russell T.
Dearing, A. Willis
De Greeff, Robert Henry
Dekker, Maurits
DeLong, Carl Raymond
De Lucia, John Joseph
De Marchi, Vincent S.
Demsker, Robert Charles
De Nisco, Stanley G.
Denny, Henry Wadhams
de Schepper, Harry Y.
Deutsch, John Brunswick
Devys, Jacques Gustave
De Wolfe, Richard Sears
Dial, Morse Grant
Dickey, George Daman
Dickhart, Wallace H.
Dingley, Walter Frederick
Dinkins, Philip Moss
Dippel, Harry W.
Dirr, Peter Aloysius
Doetsch, James Francis
Dolian, Frank E.
Dorn, Charles W.
Dowling, Arthur L.
Downs, Charles Raymond
Draves, Carl Zeno
Drew, Thomas Bradford
Dudley, James Robert
Duecker, Werner W.
Dupree, Lansing Thorne
DuVigneaud, Vincent
Dyne, Godfrey W.
Eagles, Reginald Harrison

Edmonds, William John
Egbert, Robert Baldwin
Ehret, William F.
Elderfield, Robert C.
Emmerich, F. J.
Engle, Loy S.
Enloe, Cortez F., Jr.
Ericsson, Ralph L.
Evans, Ralph Liggett
Fain, Jacob Mitchell
Farinacci, Nicholas Thomas
Feinberg, Benjamin George
Feuchter, Charles F.
Field, John Albert
Fiero, George W.
Fischer, William F.
Fisher, Arthur James, Jr.
Fiske, Robert Bishop
Fletcher, Leslie Seekell
Flett, Lawrence
Fogg, Wendell Gilman
Fogler, Mayor Farthing
Foley, Thomas S.
Foulds, Henry William
Frances, Saul
Franklin, John C.
Frascati, Anthony T.
Fraser, Oliver B. J.
Frear, George Lewis
Fredericks, Carlton
Freedman, Ephraim
Freedman, Louis
Frey, Charles N.
Freydberg, Ralph M.
Friedman, Aaron
Frost, Pinckney L.
Fuchs, Chas. H.
Funk, Casimir
Fyffe, N. Harold
Gage, William Patrick
Gallagher, Thomas Francis
Gamer, Carl H.
Gampert, Louis
Garbo, Paul William
Gardner, Karl Albert
Gardner, Wm. Howlett
Gaugler, Raymond C.
Gebert, Emery B.
Gephart, Frank Curtis
Gerlach, George Henry
Gessler, Albert Edward
Gilbert, Maurice Elmer
Gill, Louis Milton
Gilmont, Roger
Gilwood, Martin Emanuel
Gisel, Rev. Eugene A.
Goldberg, Julius Benjamin
Goldfrank, Max
Goodwin, Ralph Talbot
Gouger, Matthew Martin
Goulden, Harold De Witt
Gray, Philip P.
Greenwald, Willard F.
Griffen, Ward Orin
Griffin, Merle L.
Griffith, Charles E.
Gruber, Rudolf Eduard
Guenther, Ernest
Guiteras, Albert Francis
Gumpert, Louis James
Gussman, Lawrence
Hachen, Harry H.
Haeseler, Kurt W.
Hager, Herman E.
Halden, Alfred A.
Hallett, Robert Leroy
Hamlin, Marston Lovell
Hammes, Jack H.
Hammett, Louis Plack
Hanford, William Edward
Hannan, Kenneth H.
Happel, John
Haring, Robert Clinton
Harrington, George Aldon
Harris, Jay Jacob
Harrison, W. Benton, Jr.
Harrow, Benjamin
Hartwig, Carl E.
Harvey, Edmund N., Jr.
Haschke, Theodore Arthur
Haslam, Robert Thomas
Hawley, Thomas Gardner, Jr.
Hayden, J. David
Haynes, Charles Rogerson
Hecker, Arthur E.
Heinemann, Berno
Hemingway, Harry J.
Hencken, Harold Gray
Henlein, Carl A.
Herrmann, Henry F.
Herstein, Karl M.
Hetchler, John D.
Hilbert, Frederic L.
Hill, Allan Chaloner
Hinman, Herbert Henry Smith
Hirsch, Max
Hirschland, Franz H.
Hixson, Arthur Warren
Hochstadter, Irving
Hockett, Robert Casad
Hoke, Calm Morrison
Holland, Christian Vandegrift
Holst, William A.
Honish, John Koerber
Hopkins, Abner Crump, Jr.
Hopkins, Giles Elberne
Hopkins, Marion Byrd
Horsey, Robert E.
Hotchkiss, Henry T.
Houghland, Glen S.
Howard, Everett W.
Hubbell, John Platt
Hughes, Hugh D.
Huisking, Chas. L.
Huisking, Joseph A.
Hull, Washington
Huston, Howard Riggins
Hutchins, Brahna Chalefman
Intemann, Hermann Kolle
Itter, Stuart
Jackson, Frank Lains
Jacobi, Edwin George
Jacobs, Morris B.
Jenness, Leslie George
Joffe, Joseph
Johnson, Dana Hurt
Johnson, Howard C. E.
Johnson, Norman Albin
Johnson, Victor T.
Johnston, William Redmond
Jones, Russell Morgan
Jordan, Harry Edward
Judson, Wilber
Kaegebehn, Charles F.
Kalbach, John C.
Kalmus, Herbert Thomas
Kamlet, Jonas
Kaufman, Charles Wesley
Kaufman, Gus
Keane, Lee A.
Keim, Raoul D.
Keller, J. L.
Kellogg, James William
Kemp, Lebbeus C., Jr.
Kennedy, Norman Fullerton
Keyes, Donald Babcock
Kimball, Cyril S.
Kimball, George E.
Kimball, Vera F.
King, Charles C.
King, Charles Glen
King, John A.
King, Robert Augustin
Kinsey, Hartselle Deburney
Kinzel, Augustus B.
Kirby, George William
Kirk, Stanley Butcher
Kirkpatrick, Sidney Dale
Kitchel, Allan F.
Kleiner, Israel Simon
Kleinsinger, Harold
Klipstein, August
Klumpp, Theodore George
Knowles, Chester Lewis
Koch, Howard W.
Koelle, George Brampton
Kohn, Moritz(*)
Koonce, Samuel David
Krasnow, Frances
Kratz, George D.
Kraus, Fred
Krehbiel, Harry
Kropa, Edward L.
Kugelmass, Isaac Newton
Kuhn, W. E.
Kumins, Charles A.
Kumler, Ralph Waldo
Kunz, Raymond John Francis
LaBrie, Laurent J.
Lacomblé, Antoine Eugene
LaMer, Victor Kuhn
Landau, Ralph
Landolt, Percy E.
LaPiana, Fred G.
Laufer, Stephen
LaWare, John H.
Lebo, Robert Baird
Le Compte, Thomas Robert
Lefebvre, Paul L.
Leeds, Morton W.
Leeds, Norma Sterne
Lehrman, Alexander
Lehrman, Leo
Lemmermeyer, Michael
Lewis, George Arthur
Liddell, Donald M.
Lieberman, E. R.
Liebmann, Alfred J.
Lienhardt, Winfield S.
Light, Robert Frederick
Lindwall, Harry Gustave
Linsker, Fred
Lippert, Thomas W.
Litter, David Hiram
Littman, Edwin R.
Lorenz, Herbert E.
Loutrel, Louis F.
Low, Frank S.
Lowe, Henry Burton
Lowe, Rupert Bidwell
Lowery, Joseph D.
Lulek, Ralph Norbert
Lustbader, Melvin H.
Lutz, John A.
Lyons, Emerson James
Macalpine, J. Kenneth W.
Macdonald, Ronald Gordon
MacInnes, Duncan Arthur
Mack, Edward Lawrence
Mackay, William J.
Mackenzie, Kenneth Gerard
Magnus, Joseph Baird
Magnus, Percy Cecil
Magnus, Robert Burke
Mahaney, C. Russell
Malakoff, Howard Louis
Mantell, Charles L.
Marsh, William Porter, Jr.
Marshall, Harry B.
Marshall, Hugh A.
Martin, George Read
Martin, James Wellford
Mason, Donald Bentley
Masson, Henry James
Matthews, Leslie Goddard
Mattin, Harry Edward
Maxwell, E. Mackenzie
Mayer, Malvin J.
McClellan, Paul P.
McClure, Harry Bell
McColm, Eugene Miller
McCutcheon, John Welland
McDonough, Everett Goodrich
McGlynn, George Henry
McInnes, James, Jr.
McKee, Ralph H.
McLaughlin, James William
McMillan, Wallace A.

McNulty, Joseph A.
Meagher, Edward Columba
Meigs, Frederick Madison
Melendy, Jesse George
Mellecker, John
Merica, Paul Dyer
Messman, Henry Cashel
Meyer, Arthur E.
Miller, Edgar Grim, Jr.
Miller, Lloyd C.
Miller, Philip
Moffat, Fraser Muir, Jr.
Moffett, Ernest Cutter
Moffett, George Monroe
Mogerman, William David
Moore, Leonard Patrick
Moore, Richard L.
Moore, Thomas R., Jr.
Moore, Thomas Verner
Morgan, D. P.
Morgan, J. Perry
Morgan, Oliver Moorehouse
Morningstar, Joseph
Morris, Albert Wood
Morrish, Edward Puzey
Moses, Edmund Quincy
Mossman, Dorothea R.
Mueller, Herbert H.
Mullaly, Arthur B.
Muller, Julius Frederick
Muller, Oscar F.
Munson, Charles Sherwood
Murphree, Eger V.
Murphy, William J.
Nantz, John D.
Nash, Nat H.
Nathan, Ernest
Neaman, Pearson Ellis
Nelson, John Maurice
Neuberg, Frederick A.
Neuberg, Louis
Neuhaus, Max
Newman, Albert Broadus
Newman, Kenneth Walter
Nichols, Thomas Steele
Niederl, Joseph B.
Nield, Cyril H.
Nordsiek, Frederic William
Northey, Elmore Hathaway
Norwick, Braham
Nyman, Melvin Anton
O'Brien, Edmund H.
O'Brien, Frank J.
Olive, Theodore Ristine
Oostermeyer, Jan
Oppel, Edwin Irving
Oppenheim, Laurent, Jr.
Paley, Charles
Palmenberg, Oscar W.
Palmer, Carleton Humphreys
Palmer, Ralph M.
Park, James Grant
Parsegian, V. Lawrence
Parsons, Robert A.
Passino, Herbert Jos.
Patton, Carl William
Paul, John C.
Penick, Sydnor Barksdale
Perkins, Granville Akers
Perkinson, Lewis C.
Peters, Henry Frederick
Peterson, Arthur F.
Peterson, Joel Bigelow
Peterson, Wesley R.
Pfannmuller, Julius
Phair, Robert Aiken
Philbrook, Warren R.
Phillips, Ralph F.
Pick, Ernest Peter
Pickard, Maurice Hunt
Pickens, Russell M.
Pierce, David Eugene
Pinchak, Jean
Pinnock, Douglas Robert
Pittman, Ernest Wetmore
Pizzarello, R. A.
Pogue, Joseph Ezekiel
Pollak, Arthur

Porter, William Nichols
Powers, Donald H.
Prange, Charles H.
Prebluda, Harry J.
Prince, Ralph Nelson
Prior, Harold B.
Prior, Herbert R.
Proskauer, Eric S.
Purdy, Alvin C.
Quaintance, Carroll Brown
Radasch, Arthur Hitchcock
Rafferty, James A.
Rake, Geoffrey W.
Rassweiler, Clifford Fred
Ratichek, Anthony J.
Ray, Arthur Benning
Read, Barclay Kerr
Reale, Genio F.
Redfern, Sutton
Reeser, Myron Drew
Reeves, Edward Duer
Rehnberg, H. A.
Reich, Irving
Reid, Ernest W.
Reimer, Marie
Remensnyder, John Paul
Revson, Raphael Frank
Ricci, John Ettore
Richards, George Handyside
Richardson, Alan H.
Richardson, Weston Hurlbut
Riddell, Guy Crosby
Rider, Theodore Harold
Riedeburg, Theodore, Sr.
Riemer, Hugo
Riley, Walter James
Rippie, Charles W.
Ritchie, James Lyall
Robertson, Harold Foster
Robie, Edward Hodges
Robinson, Guy Chapman
Rodgers, James Linn, Jr.
Rolle, Clifford J.
Romans, Isabella B.
Rose, William Barrett, Jr.
Rosenthal, Herman H.
Rosenthal, Morris S.
Roth, Charles F.
Rothbard, David
Rothrock, Robert W.
Rush, Kenneth
Ryan, Lonnie Watterson
Sachs, Albert Parsons
Sachs, Walter E.
Sanders, Malcolm D.
Sanderson, John McEntee
Sandstedt, Harry A.
Savage, Samuel S.
Saville, Thorndike
Savitt, Sidney Allan
Sayre, Morris
Schaefer, Joseph J.
Scharwachter, Albert
Schlotterer, Ray C.
Schoenholz, Daniel
Schroeder, Carl Robert
Schwab, Charles Munhall
Schwarz, David Robert
Scott, John A.
Scoville, Loren Palmer
Seaman, William
Seaton, Max Y.
Seebach, Edwin
Selden, James McCobb
Seymour-Jones, Frank Leslie
Shapiro, Rebecca Lillian
Shea, Edward Lane
Sheffield, William Henry Steele, Jr.
Shelton, Harold Garland
Shepard, David Allan
Shepard, Norman Arthur
Sherman, Louis Miller
Sherman, Signe Lidfeldt
Shields, Thomas J.
Shirley, Robert Kirby
Shoemaker, Clayton S.
Shuldener, Henry Lincoln

Sievers, F. W. C.
Silver, Bruce Robinson
Singer, Elias
Singmaster, James Arthur
Sinn, Francis Peirce
Skeen, John B.
Skovholt, Oscar
Slawter, Paul Burnett, Jr.
Sliger, Herbert Boyd
Sloane, Reginald Gordon
Sloman, Herman K.
Smart, Maxwell Danford
Smiddy, Harold F.
Smidth, Leonard
Smith, Casper
Smith, Clarence Albert
Smith, Frank J.
Smith, Marion Wallace
Smith, Ronald Bromley
Smith, Walton S.
Snell, Chester A.
Snell, Cornelia Tyler
Snell, Foster Dee
Snyder, John W.
Sobotka, Harry Hermann
Soderberg, Frederic A.
Solmssen, Max Arthur
Sonneborn, Ferdinand
Sonneborn, Henry, III
Sowa, Frank J.
Spangler, Samuel Frey
Sperry, Warren M.
Spitz, Seymour J.
Spoor, Herbert John
Stack, James Henry
Stammelman, Mortimer J.
Starr, Donald Fay
Starr, John V.
Stecher, Paul G.
Steck, Leo Varner
Steele, Ben P.
Steffens, John Alfred
Sterling, Wilbur Frederick
Stevenson, Reston
Stewart, Carl Kern
Stiles, Samuel Robert
Stiller, Henry H.
Stokes, Sydney N.
Stoller, Benjamin
Stolzenbach, Charles Frederich(*)
Stone, Irwin
Stratton, Helen Louise
Straus, Roger Williams
Strauss, Frank Abraham
Strobl, Alexander
Sturznickle, Donald McClelland
Sulzberger, Nathan
Sussman, Sidney
Swain, Robert Cuthbertson
Swanberg, Curt O.
Sweeney, William Joseph
Swenson, William Lennart
Symons, George E.
Taebel, Wilbert A.
Taggart, Arthur F.
Tapley, Mark Watkins
Taub, Abraham
Taylor, C. George
Taylor, Frank Owen
Taylor, George Edwin
Taylor, H. Austin
Taylor, T. Ivan
Teague, Merwyn C.
Techter, Fred Thomas
Teitsworth, Clark Salem
Ten Eyck, Hugh Skillman
Thau, Marcus
Thews, Karl B.
Thom, John C.
Thom, William Bouton
Thompson, John Fairfield
Thornton, Ernest Wood
Tinnon, John B.
Tisdale, Harry R.
Titus, Harvey Lind
Tour, Sam
Towe, Kenneth Crawford

Tracy, Osgood Vose
Travis, Ellis Granberry
Treybal, Robert E.
Tronson, John Laurence
Tsao, Utah
Turner, Francis Mills
Turner, Rodolphus Kibbe
Tuttle, Malcolm Harley
Twiss, J. Hayden
Twombly, William Fletcher
Tyler, John E.
Tyler, Stephen Leslie
Van Antwerpen, Franklin John
Vance, John E.
Vandewater, Ira
Van Doren, Lloyd
van Dyke, Harry Benjamin
Venuto, Louis Joseph
Vincent, Gregory Alan
Vorce, LaFayette Denton
Vose, Gardner W.
Wagner, Cary R.
Waitt, Alden Harry
Wakefield, Harold F.
Walker, James C.
Wall, Florence E.
Walter, Henry G., Jr.
Walters, Roy H.
Ward, Arthur Thomas
Ware, John
Warner, John F.
Washburn, Frank Sherman
Weed, William Jennings
Wehmhoff, Byron Louis
Weiss, Elisabeth Adam
Weiss, John M.
Weith, Archie James
Wemple, Holland Russell
Weppler, George Robert
Werbin, Sanford Joseph
Whitacre, Francis M.
Whitaker, M. C.
Whitcomb, Gordon Putnam
White, Chandler T.
White, Sumner W., Jr.
Whitescarver, Wilmer Field
Whitney, John Boardman
Wickenden, Thomas Howard
Wiegand, William Bryan
Willets, William R.
Williams, Langbourne Meade, Jr.
Williams, Robert R.
Wilson, Cornelius Joseph
Wilson, George Watkins
Wilson, William Burton
Winans, Wilfred Hughes
Wirth, Charles, III
Wishnick, Robert Isidore
Wolf, Harry J.
Wolff, Harold I.
Wolten, Gerard M.
Wood, Richard Cameron
Woodbridge, Richard George, 3d
Woodman, Herbert Brookhart
Woodruff, John Caulfield
Woods, James Albert
Work, Lincoln Thomas
Wright, Arthur
Wyatt, W. Newell
Yanowski, Leo Kazmierz
Yeager, James Robert
Young, Jesse S.
Yuska, Henry
Zabel, Herman W.
Zerban, Frederick William
Zerner, Ernst

Niagara Falls
Baldus, Joseph T.
Belmore, Edward Arthur
Blumenthal, Warren Barnett
Bramann, George M.
Brennan, Joseph Harrison
Brown, J. Howard
Brown, Raymond Grout
Byrkit, Gordon Dean
Cassidy, James Clarke
Churchill, John Wilbur
Clark, Charles Cicero
Colbert, Charles Francis, Jr.
Eglof, Warren Kline
Erasmus, Hendrick De Wet
Gailey, Andrew J.
Gardiner, William Cecil
Geiger, Marion Braxton
Haller, John Fessler
Hamilton, Alan Grey
Herndon, Lyle Kermit
Herrly, Clarence John
Hooker, Horace Willard, Jr.
Hooker, Roger Wolcott
Horst, William Peter
Koch, Wilmer H.
Leach, William Butler
Macdonald, Robert, Jr.
MacMullin, Robert Burns
Manchester, Frank H.
Matheson, Arthur Marshall
Maude, Aylmer Henry
McPhail, Howard A.
Melby, Arne
Newton, Evans Kendrick
Nicholson, Kenneth Charles
Parker, Maynard Lee
Pernert, John C.
Power, Henry R.
Ritter, Burr Howard
Ross, Manley Lawton
Sconce, James Silas
Snowdon, Ralph Cuthbert
Soule, Edward C.
Staneslow, Bernard John
Stauffer, William Otterbein
Stiegman, Clarence Albert
Troyan, James E.
Vanderhoek, D. George
Walker, J. Frederic
Weiler, John E.
White, Lester M.
Whitford, Earl L.
Wilcox, Ansley, 2nd
Wilkin, Robert E.

Northport
Chamberlain, David Roe
Horn, Abram Edward

North Tonawanda
Dodd, Robert E.
Prahl, Walter H.
Spencer, Herbert S.

Norwich
Brereton, John Grobe
Coleman, John Hamilton
Copley, Duncan MacDonald
Eaton, Robert Smith
Hayes, Kenyon Joseph
Orcutt, James Addison
Paul, Henry E.
Sumner, Howard Allen

Nyack
Ames, John Tucker
Rainard, Leo Walter

Oakdale
Stimpson, Edwin Greenwood(*)

Oceanside
Gunther, Roland Eric

Old Brooksville
Anderson, George A.(*)

Old Chatham
Sherndal, Alfred Einar

Ossining
Anthony, Myron Vernon
Drew, Thomas Bradford
Miller, Lloyd C.
Week, Erling Finch

Oswego
Arnold, Kenneth Alan
Cady, Raymond Davis

Palmyra
Thorn, Frederick C.

Pearl River
Alper, Edward D.
Ayers, Lewis Royston
Babcock, Sidney Henry, Jr.
Clark, Guy Wendell
Cunningham, Raymond W.
Danielson, Irvin S.
Hewitt, Redginal Irving
Jukes, Thomas Hughes
Welsh, Mark
Williams, James H.
Wodhouse, Roger P.

Pelham
De Nisco, Stanley G.
Harvey, Edmund N., Jr.
Kraus, Fred
Kumler, Ralph Waldo
McMillan, Wallace A.

Pelham Manor
Brunkow, Orvin Richard
Davis, Charles Prescott
Duecker, Werner W.
Griffen, Ward Orin
Lorenz, Herbert E.
Mackay, William J.
Marsh, William Porter, Jr.
Martin, George Read
O'Brien, Frank J.

Piermont
Ayers, Lewis Royston

Pittsford
Bush, John F., Jr.
Dessauer, John H.
Gates, Marshall, Jr.

Plandome
Brunjes, Austin S.
Livingston, John W.

Pleasantville
Garman, Raymond Leroy
Neuhaus, Max

Port Chester
Fiero, George W.
Toone, Gilbert C.

Port Ivory
Egan, James E.

Port Jefferson
Van Slyke, Donald D.

Port Richmond
Keniston, Frederick Adams

Port Washington
Bode, J. Carl(*)
Dorn, Charles W
Field, John Albert
Jordan, Harry Edward
Koppenhoefer, Robert Mack
McClure, Harry Bell
Ray, Arthur Benning

Poughkeepsie
Bush, John V.
Crawford, H. Marjorie
Griffin, Carroll Wardlaw
Sague, Mary Louise Landon (Mrs. James Edward)

Purchase
Shepard, David Allan

Rego Park
Fredericks, Carlton

Rensselaer
Albertson, Noel Frederick
Andrews, David Barker
Buchanan, Oliver Henry
Buck, Johannes S.
Clinton, Raymond O.
Corbitt, Hugh Blake
Lawson, Elmer John
Lesuk, Alex
McChesney, Evan William
Nachod, Frederick C.
Servis, Richard John
Sherndal, Alfred Einar
Suter, C. M.
Tainter, M. L.
Wessinger, George David

Rhinebeck
MacNair, Ira Preston

Richmond Hill
Blumberg, Harold
Dirr, Peter Aloysius
Dougherty, Patrick H.
Gamer, Carl H.
Gordon, Samuel H.
Schlesinger, Albert
Yuska, Henry

Rider's Mills
Corbitt, Hugh Blake
Riverdale
Goldberg, Julius Benjamin
Saville, Thorndike
Rochester
Albright, Raymond W.
Allen, Charles Francis Hitchcock
Bloor, Walter Ray
Brooker, Leslie George Scott
Bush, John F., Jr.
Cox, Gilbert L.
Crabtree, John Ickeringill
Crane, Edward M.
Dessauer, John H.
Edwards, Robert L.
Embree, Norris Dean
Fogelberg, John Marshall
French, Kendrick S.
Gates, Marshall, Jr.
Harris, Philip L.
Hodge, Harold Carpenter
Kayser, Emil Julius
Kenyon, William Orlin
Kreidl, Norbert J.
Leermakers, John Andrews
Malm, Carl Johan
Matthews, Glenn Earl
Mees, C. E. Kenneth
Meng, Karl H.
Merling, Ruth Evelyn
Meyer, Garson
Nichols, Nathaniel Burgess
Noyes, W. Albert, Jr.
Russell, John
Staud, Cyril Jerome
Su, Gouq-Jen
Tarbell, Dean Stanley
Thompson, LaRoy Bernard
Wernimont, Grant Theodore
White, Chester Miller
Wightman, Eugene Pinckney
Wiig, Edwin Odde
Rockville Centre
Ansbacher, S.
Fletcher, Leslie Seekell
MacNair, Ira Preston
Scharwachter, Albert
Voet, Andries
Wittenberg, Aloysius J.
Rome
Schatzel, Rudolph A.
Wilkins, Richard Alfred
Rosebank
Holtzman, Harris
Lulek, Ralph Norbert
Roslyn Heights
Egbert, Robert Baldwin
Greene, Allan Joseph
O'Brien, Edmund H.
Turner, Francis Mills
Rye
Brown, Charles Owen
Burns, G. Richard
Camp, Arthur Dutton
Johnson, Norman Albin
King, Robert Augustin
LaBrie, Laurent J.
Rafferty, James A.
Rush, Kenneth
Saint Albans
Urban, Stephen F.
Sands Point
Klumpp, Theodore George
Saratoga Springs
Markley, Alton LeFevre
Sayville
Stimpson, Edwin Greenwood(*)
Scarborough
Moses, Edmund Quincy
Scarsdale
Abbott, Howard M.
Askin, Simon
Braun, Anthony H.
Calvert, Robert
Chittick, Martin Burton
Clark, Cyril Backus
Cronk, John Newton
Davidson, Emil
Davidson, J. G.
DuVigneaud, Vincent
Edmonds, William John
Flett, Lawrence
Foulds, Henry William
Frey, Charles N.
Gage, William Patrick
Gessler, Albert Edward
Goff, Melvin H.
Kemp, Lebbeus C., Jr.
King, Charles Glen
Kinsey, Hartselle Deburney
Krehbiel, Harry
Kuhn, W. E.
LaWare, John H.
Mahaney, C. Russell
Prior, Harold B.
Ritchie, James Lyall
Robertson, Harold Foster
Savage, Samuel S.
Shuldener, Henry Lincoln
Spangler, Samuel Frey
Stoller, Benjamin
Taggart, Arthur F.
Tisdale, Harry R.
Weber, Frederick Clarence
Wilson, George Watkins
Schenectady
Bacon, Egbert K.
Clark, Frank M.
Donnalley, James Rolston, Jr.
Fuller, Truman Samuel
Griffeth, Robert Lawyer
Herrmann, William E.
Hocker, Carl DeWitt
Liebhafsky, Herman Alfred
Norton, Francis James
Prince, David Chandler
Sauer, Robert Olvin
Suits, C. G.
Schuylerville
Johnson, Earl Hanford
Scottsville
Bloor, Walter Ray
Shelter Island Heights
Underhill, Henry L.
Smithtown Branch
Timblin, Louis McFarland
Snyder
Spencer, Herbert S.
Wetherbee, Burt
Solvay
Munro, Isaac Hill
Southold
Roon, Leo
Sparkill
Sparhawk, Charles Vanuxem
Springfield Gardens
Singer, Elias
Staten Island
Corbin, Milford H.
Davidheiser, Lee Yorgey
Holtzman, Harris
Keniston, Frederick Adams
Locko, Benjamin Stephenson
Meister, Heinrich
Prince, Leon Maximilian, Jr.
Santoro, Wilfred E.
Stern, Adolph John
Strauss, Frank Abraham
Suffern
Jukes, Thomas Hughes
Steffens, John Alfred
Syosset
Henning, George
McInnes, James, Jr.
Syracuse
Buell, Harold Douglass
Eichelberger, William Custer
Essex, Harry
Goldman, Lotte
Gray, Joseph Burnham
Hall, Flemmon Porter
Hileman, Joseph L.
Jahn, Edwin Cornelius
Julien, Arlie Paul
Keene, Paul Anderson
Luke, Charles Daniel
Macleod, Annie Louise
MacMullen, Clinton W.
McNitt, James D.
Pennington, William Alvin
Platt, Washington
Risser, William Christian
Sawens, Russel Hale
Schramm, Edward
Scott, Ewing Carruth
Spencer, Clayton Cree.
Wirth, Henry E.
Zahm, Harry V.
Tarrytown
Lyons, Emerson James
Melendy, Jesse George
Tonawanda
Cook, Gerhard Albert
Eversole, James Frank
Harty, Roger P.
McConnell, Charles William
Purdy, Walter Wm.
Russell, Earl A.
Walton, Samuel Forman, Sr
Troy
Cloke, John Benjamin
Coonley, Lewis Selkirk
Dearing, William Cockrum
Epelberg, Jack
Gegenheimer, Vida
Hansen, Lester Arnold
Holland, William Ernest
Hoogstoel, Leon E.
Hunter, Matthew A.
Myers, Chester Newton
Oglesby, Nicholas Ewing
Rauscher, William H.
Schwartz, Frederick W.
Shaver, Edna Helen
Waterfield, Donald A.
Tuckahoe
Babor, Joseph A.(*)
Conroy, Peter J.
de Beer, Edwin John
Dowling, William F., Jr.
Ferry, Clayton Walton
Goff, Melvin H.
Holmes, Theodore R.
Jurgensen, Delbert Frederick, Jr.
Killeffer, David Herbert
Kimball, Cyril S.
Kumins, Charles A.
Martin, James Wellford
Morse, Withrow
Pressel, Charles Henry
Reilly, Peter C., Jr.
Rolle, Clifford J.
Scoville, Loren Palmer
Thom, John C.
Upton
Allen, Augustine Oliver
Borst, Lyle Benjamin
Jacobus, David D.
Utica
Hoffman, Rudolph
Keller, John C.
Valley Falls
Myers, Chester Newton
Valley Stream
Sloman, Herman K.
Wantagh
Howard, Leo
Waterford
Donnalley, James Rolston, Jr.
Meals, Robert Nelson
Sauer, Robert Olvin
Raynolds, James Wallace
Watertown
Merrill, Albert Darius
Watkins Glen
Looker, Cloyd Delson

Webster
Kayser, Emil Julius
West Hempstead
Lutz, J. George
West Nyack
Wodehouse, Roger P.
Westbury
Hopkins, Abner Crump, Jr.
Wood, Richard Cameron
Westfield
King, Harry T.
White Plains
Bonnar, J. Robert
Campbell, Yale Curtis
Carrier, Courtland F.
Carroll, Albert
Daggett, Hiram Choate
Gussman, Lawrence
Haring, Robert Clinton
Landolt, Percy E.
Riedeburg, Theodore, Sr.
Seebach, Edwin
Shelton, Harold Garland
Stiller, Henry H.
Sturznickle, Donald McClelland
Vose, Gardner W.
Whitestone
Demsker, Robert Charles
Williamsville
Bradley, Donald D.
de Leeuw, Frederik
Hicks, Elijah Maxie, Jr.
Post, Howard William
Vermilya, James Noah
Woodburn, Henry M.
Willow
Fellows, Albert Thomas
Woodmere
Berolzheimer, Daniel D.
Greenwald, Willard F.
Woodside
Bikerman, Jacob Joseph
Lieberman, E. R.
Yonkers
Ashcroft, Alfred Griffin
Davis, Myron Park
Doolittle, Orrin Sage
Jacoby, Thomas Franklin
Kirby, George William
McCallan, Samuel Eugene Alan
McDonough, Everett Goodrich
MacKenzie, Wallace Bentley
Miller, Lawrence P.
Myers, Chester Newton
Rainard, Leo Walter
Ricci, John Ettore
Sabine, David B.
Smatko, Joseph Stephen
Tisza, Edmond T.
Yorktown Heights
Robie, Edward Hodges
Youngstown
Cassidy, James Clarke
Colbert, Charles Francis, Jr.
Wilkin, Robert E.

NORTH CAROLINA

Aberdeen
Anderson, George D.
Conner, James Thomas, Jr.
Farrell, F. Dan
Tribble, Jack Herschel, Jr.
Asheville
Schur, Milton Oscar
Wadewitz, W. Martin
Biltmore Forest
Schilthuis, Jan Jacob
Brevard
Levy, Robert Michael
Burnsville
Koenig, Edward Walter
Chapel Hill
Andrews, James C.
Brecht, E. A., Jr.
Crockford, Horace Downs
Dobbins, James Talmadge
Edmister, Floyd Harris
Hartung, Walter H.
Charlotte
Atkins, Leland Gannaway
Crowell, Charles Carlos
Foster, Robert Nicholls
Gilchrist, Cecil Waltham
Kologiski, George Karl
Mason, Carle Woodruff
Noble, Arthur Herbert, Jr.
Robertson, John William
Stone, Chas. H.
Conover
Biggers, Walter Frederick, Sr.
Cooleemee
Rabold, Charles Norris
Durham
Amore, Salvatore Thomas
Bigelow, Lucius Aurelius
Darkis, Frederick Randolph
Gross, Paul Magnus
Handler, Philip
Hauser, Charles Roy
Saylor, John Henry
Vosburgh, Warren Chase
Wilson, Robert North
Elkin
Smith, Arthur Levern
Enka
Kriek, Peter Paul
Schilthuis, Jan Jacob
Wadewitz, W. Martin
Greensboro
Bruce, Robert Aldridge
Fox, Kenneth R.
Ginnings, Paul Meade
Morton, Joseph Reece
Schaeffer, Florence Louise
Souther, Roy Hobart
Zimmerman, Bernhard Gus
Guilford College
Ljung, Harvey A.
Zimmerman, Bernhard Gus
High Point
Mourane, Joseph Harley
Jonesville
Smith, Arthur Levern
Kona
Koenig, Edward Walter
Lincolnton
Crowell, Charles Carlos
Pisgah Forest
Levy, Robert Michael
Schur, Milton Oscar
Raleigh
Bethel, James Samuel
Browne, Owens Hand
Peterson, Walter John
Pike, Frederick Philips
Randolph, Edgar Eugene
Reid, Willis Alton
Rhodes, Leland Brown
Schoenborn, Edward Martin
Spindale
Flege, Raymond Kennett
Spruce Pine
Boyd, John E.
State College
Bethel, James Samuel
Wake Forest
Black, Charles S.
Wilmington
Gibson, Albert Edgar
Wilson
Bridgers, Thomas Fleming
Winston-Salem
Jones, Samuel O'Brien

NORTH DAKOTA

Bathgate
Eastman, Irene Margaret Howard
Fargo
Dunbar, Ralph E.
Johnson, Laurence Edward
Treumann, William Borgen
Grand Forks
Abbott, George A.
Burr, Alex. C.
Cooley, Albert Marvin
Oppelt, Walter Hans
Jamestown
Burr, Alex. C.
Penn
Anderson, Alfred Conrad

OHIO

Akron
Aiken, William H.
Allen, John James
Beber, Adolph Joseph
Burt, William Irving
Busenburg, Earl B.
Chamberlain, James M. W.
Christensen, Chester W.
Clifford, Albert Mitchell
Cole, O. D.
Cook, Walter A.
Crawford, Richard A.
Dabney, Robert C.
Davidson, William Lee
Dinsmore, Ray Putnam
Dunbrook, Raymond Frederick
Freeman, Leonard Mohr
Gage, Frederick Worthington
Gault, Charles Alfred
Gibbs, Everett H.
Gracia, Albert Joseph
Gray, Harold
Hall, Charles P.
Harrington, Edwin Wakefield
Hitch, Vernon Kenneth
Hollis, Arthur Leach
Jaeger, Robert W.
Kilbourne, Frederick Lewis, Jr.
Lessig, Edward T.
Liska, John William
Litchfield, Paul Weeks
Maider, Joseph P.
Mighton, Charles Joseph
Miller, Alvin D.
Minnig, Max A.
Mitchelson, Jay Burdett
Morton, Maurice
Newton, E. B.
Oenslager, George
Osterhof, Harold Judson
Partridge, Edward Graffam
Patterson, Ian David
Purdy, Walter Wm.
Rogers, Thomas H., Jr.
Romer, John Boyd
Sancic, Frank A.
Schaffel, Gerson S.
Simmons, Hezzleton E.
Smith, George E. P., Jr.
Smith, Willard Clayton
Stavely, Frederick Walter
Straub, William S.
Street, John Northcott
Swart, Gilbert Holm
Thies, Herman R.
Wallace, George Hugh
Whitacre, Harold Monroe
Whitby, George Stafford
Zwicker, Benjamin M. G.
Alliance
Morgan, William McLennan
Pappenhagen, Louis Abell
Rodman, Clarence James
Romer, John Boyd
Ashland
Weikel, Franklin H.
Athens
Clippinger, Donald
Day, Jesse Harold
Dunlap, Howard Leroy
Morton, Joshua R.
Avon Lake
Warner, Harry Bernard
Barberton
Corell, Edwin John

Gage, Frederick Worthington
Strain, Franklin
Straub, William S.

Bay Village
Bell, Cameron H.
Holton, Arthur B.
Parks, Clarence E.
Warner, Harry Bernard

Bedford
Elliott, Stanley B.
Rill, Carroll Norman

Bexley
Jackson, A. Curtis

Bowling Green
Cummings, Jack Edward
Hall, W. Heinlen
Martin, Clare S.

Brecksville
Crawford, Richard A.
Davidson, William Lee
Flanagan, George William
Kreider, Leonard C.
Newton, E. B.
Semon, Waldo Lonsbury
Stewart, William Dorsey
Trumbull, Harlan L.

Canton
Lenhart, George B.
Vignos, James C.

Chagrin Falls
Allender, Samuel Shelton
Frohring, Paul R.

Chillicothe
Laymon, Howard W.
Whitaker, Howard E.

Cincinnati
Adams, Philip Delmar
Alderks, Otto Herman
Allen, Chester Harmon
Altvater, Harry W.
Arenson, Saul Bryan
Atkinson, James Dudley, Jr.
Blair, Francis Wesley
Brodie, Renton Kirkwood
Broeman, Frank Ibold
Brown, Alexander Chadbourne
Brown, Robert F.
Burgess, Wayland M.
Cook, Elton Straus
Crowe, J. R.
Cunningham, George Lewis
Dhonau, Charles John
Dillon, Charles Aaron
Duncan, Robert A.
Ehrenfeld, Louis
Emery, John J.
Fisher, Harry Chester
Fitzpatrick, J. D.
Fleischer, Leo
Frank, Charles Edward
Frey, Oskar
Fries, Robert G.
Garnatz, George Frederick
Getman, Frank Newton
Gleason, Francis Elmer
Goetz, Alvin C.
Gotthoffer, Nathan R.
Greene, Hoke S.
Hallows, Raymond Leroy
Head, Robert Carl
Hirtle, Donald Stephen
Hockman, Robert
Hulse, Robert Edwin
Kadesch, Richard Gilmore
Katzen, Raphael
Ladenburg, Kurt
Logan, Milan A.
Lollar, Robert M.
Long, Carlos P.
McDaniel, George Ridgley
Messmann, Frank J.
Miller, Samuel John
Moore, Samuel A.
Myers, Latimer D.
Nicholson, Finley Clayton
O'Conor, Daniel J.
Oesper, Ralph Edward
O'Flaherty, Fred
Petke, Frederick Edward
Pleasants, John Gibson
Pogge, Raymond C.
Quimby, Oscar T.
Reardon, William James
Schanbacher, Karl L.
Schulze, Else Louise
Shelton, Robert Schember
Shields, William Henry
Sleichter, George Mowery
Spurgeon, William M.
Stark, W. H.(*)
Stillman, Ronald Claire(*)
Tashiro, Shiro
Thomson, Procter
Tour, Reuben S.
Tucker, N. Beverley
Van Campen, M. G., Jr.
Waldman, Harvey N.
White-Stevens, Robert Henry

Cleveland
Allender, Samuel Shelton
Atwood, Kenneth F.
Baugh, Robert Henry
Bell, Cameron H.
Bissinger, Frederick L.
Blum, George Walter
Bobalek, Edward G.
Bowers, Alston G.
Bridgeford, Frank Robert
Brown, John Wesley
Bruson, Herman A.
Cassidy, Mary Catherine
Clark, Earl F.
Colton, H. Seymour
Creelman, George D.
Crossley, Arthur Webster
Dietz, David
Dunning, John Walcott
Erikson, Gustav Leonard
Evans, Raymond F.
Ferguson, Howard Peter
Finkelmann, John Lewis
Flanagan, George William
Fraley, Frederick William, Jr.
Frischmuth, Robert W.
Gans, David Manus
Godshall, Henry S.
Gosnell, Everett C.
Gruener, Hippolyte
Grund, Henry Lang
Hagberg, Ralph Albert
Harris, Walter Weatherby
Harshaw, William Jacob
Hatfield, James Elisha
Hatfield, Marcus Rankin
Holton, Arthur B.
Hosler, William W.
Hovey, Waldo C.
Huber, Richard Light
Hughes, Everett Clark
Huntley, Robert Fitch
Joyce, Dwight P.
Kenney, Robert Porteous
Kipnis, Frank Howard
Kittner, Robert H.
Kjellgren, Bengt R. F.
Kline, Hayden Benjamin
Krashin, Bernard R.
Kremers, Harry C.
Lee, Harley C.
Leonards, Jack Ralph
Levis, Irene Becker
Maron, Samuel Herbert
McConnell, Elliott B.
McConnell, William Holmes
McIntyre, Glenn Hazel, Sr.
Moore, Clark Meeker
O'Brien, William James
Parks, Clarence E.
Perry, Albert Dean
Perry, Drake Thorndyke
Pomerene, Elizabeth
Prescott, John S.
Ray, Earl Charles
Rense, Rudolph J.
Richards, James C., Jr.
Rill, Carroll Norman
Roberts, Walter Russell
Rose, Clarence C.
Sachs, George
Schaefer, Ralph A.
Schoenfeld, Frank Koch
Schwartz, Harry A.
Scripture, Edward Wheeler, Jr.
Shelton, Elbert M.
Shelton, J. Reid
Sherman, Herman Samuel
Smith, Charles J., Jr.
Smith, Earle Clement
Smith, Kent Hale
Sprague, Paul E.
Standley, George Prince
Steckler, Robert
Steudel, Arthur William
TeGrotenhuis, Theodore Alcott
Treuhaft, William Columbus
Turnock, Lawrence C.
Van Dusen, Charles Harry, Jr.
Victoreen, John Austin
Von Fischer, William
Wallace, John Lewis
Werking, Leroy C.
Westbrook, Leon R.
Wilkinson, Howard Paul
Winter, Lester Lyle
Zachlin, Anthony C.

Cleveland Heights
Blake, Harold D.
Bobalek, Edward G.
Creelman, George D.
Crossley, Arthur Webster
Harris, Walter Weatherby
Hovey, Waldo C.
Kremers, Harry C.
Leonards, Jack Ralph
McIntyre, Glenn Hazel, Sr.
Perry, Drake Thorndyke
Scripture, Edward Wheeler, Jr.
Shelton, J. Reid
Smith, Earle Clement
Zachlin, Anthony C.

Columbus
Adams, Robert Royston
Baldwin, Maynard Martin
Bearse, Arthur Everett
Blau, Henry Hess
Boulger, Francis W.
Bretschneider, Edward H.
Burrell, Robin Charles
Busch, Karl George Adolph
Caley, Earle Radcliffe
Campbell, Ivor Eugene
Capell, Leonard Thomas
Carruthers, John Litster
Chester, K. Starr
Christensen, Bernard Victor
Costello, Christopher Hollet
Crane, Evan J.
Crout, John Shaw
Croxton, Frank Cutshaw
Dahle, Frederick Burton
Engdahl, Richard Bott
Evans, William Lloyd
Faust, Charles Lawson
Foster, John Farley
Garrett, Alfred B.
Gonser, Bruce Winfred
Hedges, William D.
Heiligmann, Randall George
Herndon, Lyle Kermit
Hollingsworth, Marion
Hoyt, Samuel L.
Igelsrud, Iver
Jackson, A. Curtis
Jackson, J. Harry
Johnston, Herrick Lee
Kay, Webster B.
Koffolt, Joseph Howard
Lyman, John Franklin
MacIntosh, Robert M.

MacNevin, William Marshall
McSweeney, Ellsworth E.
Messier, Robert Louis
Minton, David Carson, Jr.
Nelson, Harlan W.
Newman, Melvin Spencer
Otting, Herbert Edwin
Pence, James Orville
Powers, Paul O.
Reid, William Thomas
Renoll, Mary Wilhelmine
Rowlett, Russell Johnston, Jr.
Schaffert, Roland Michael
Sherman, Ralph Arthur
Sims, Clarence Edgar
Slowter, Edward Eugene
Snider, Robert F.
Sullivan, John Daniel
Sutton, Thomas Scott
Thomas, Bertram David
Van Pelt, John Robert, Jr.
Volk, Garth William
Williams, Clyde
Williams, David Tyndale
Williams, Robert Case
Wilson, Christopher Lumley
Wolfrom, Melville Lawrence
Copley
Beber, Adolph Joseph
Coshocton
Pyle, James Johnston
Watt, J. Russell
Cuyahoga Falls
Gracia, Albert Joseph
Lessig, Edward T.
Miller, Alvin D.
Mitchelson, Jay Burdett
Sancic, Frank A.
Schaffel, Gerson S.
Semon, Waldo Lonsbury
Smith, Willard Clayton
Whitacre, Harold Monroe
Dayton
Adams, Clyde Stewart
Burbage, Joseph James
Derby, Wallene Russel
Fasig, Edgar W.
Haring, Malcolm Morrison
Hiler, Malvern J.
Johns, Iral Brown, Jr.
Kettering, Charles Franklin
Kinne, Raymond C.
Koehring, Roland P.
Krase, Herbert J.
Marling, Paul E.
Purdy, John Maynard
Redding, Edward MacArthur
Rosenquist, Edward Niles
Rowland, George M.
Samaras, Nicholas N. T.
Shields, R. Merton
Staniforth, Robert Arthur
Stehman, Carlyle John
Waldie, William Allshire
Williams, Harry M.
Wohlleben, William Joseph
Delaware
Foster, John Farley
Manuel, William Asbury
Reaney, Warford A.
Sinnett, Ralph Vernon
Dublin
Pence, James Orville
Dundridge
Cummings, Jack Edward
East Cleveland
Blake, Harold D.
Blum, George Walter
Rose, Clarence C.
East Liverpool
Cawood, Richard Lawrence
Euclid
Gosnell, Everett C.
Norman, George Russel
Fairport Harbor
Dasher, Paul James
Gressingh, Louis Ernest
Fairview Park
Bridgeford, Frank Robert
Joyce, Dwight P.
Wallace, John Lewis
Winter, Lester Lyle
Findlay
Morey, Carroll Andrew
Fremont
Holmes, Willis B.
Gahanna
Campbell, Ivor Eugene
Gambier
Norton, Bayes Marshall
Gates Mills
O'Brien, William James
Smith, Kent Hale
Wilkinson, Howard Paul
Glendale
Head, Robert Carl
Tucker, N. Beverley
Granville
Biefeld, Lawrence Paul
Everhart, W. Alfred
Meyer, Leonard S.
Ronneberg, Conrad E.
Hilliard
Snider, Robert F.
Hiram
Fall, Paul Henry
Hudson
McConnell, William Holmes
Trumbull, Harlan L.
Ironton
Meredith, George Brackett
Ivorydale
Alderks, Otto Herman
Coith, Herbert Spencer
Martin, Wilfred Samuel
Quimby, Oscar T.
Richardson, Albert S.
Schulze, Else Louise
Snoddy, Arnon Owsley
Thomson, Procter
Jackson
Dunbeck, Norman Joseph
Kent
Bush, George Leonard
Chapman, Gerald Howard
Kilbourne, Frederick Lewis, Jr.
Thompson, Will Scroggs
Todd, Leslie J.
Lakewood
Atwood, Kenneth F.
Bissinger, Frederick L.
Brown, John Wesley
Downes, Arthur Caldwell
Dunning, John Walcott
Hatfield, Marcus Rankin
Shelton, Elbert M.
Steudel, Arthur William
Lancaster
Fox, Robert K.
Lyndhurst
Hagberg, Ralph Albert
Mansfield
Gage, Roscoe Marshall
Mariemont
Shelton, Robert Schember
Marietta
Bourland, James Fagan
Henninger, Arthur H.
Merriam, Edmund Sawyer
Taylor, Bert S.
Whitaker, Ernst
Maumee
Sharp, Donald E.
Mentor
Evans, Raymond F.
Miamisburg
Haring, Malcolm Morrison
Staniforth, Robert Arthur
Middletown
Fisher, Harry Chester
Fleischer, Leo
Harrison, Howard Heath
Hayes, Anson
Olt, Theodore F.
Montgomery
Emery, John J.
Schulze, Else Louise
Newark
Biefeld, Lawrence Paul
Davison, Albert Watson
Francis, Richard J.
Meyer, Leonard S.
Slayter, Games
Waggoner, Jack Holmes
North College Hill
Spurgeon, William M.
Norwood
Gleason, Francis Elmer
Oberlin
Holmes, Harry Nicholls
McCullough, James Caldwell
Olmsted Falls
TeGrotenhuis, Theodore Alcott
Oxford
Brill, H. C.
Webb, Carl Nathan
Painesville
Brumbaugh, Chester C.
Butler, Clarence Albert, Jr.
Gressingh, Louis Ernest
Munn, Lottie Ella
Myers, Clyde Burwell
Robinson, Edward Allan
Rugar, George Francis
Schormuller, Anton
Seyb, Leslie Philip
Underwood, Julius E.
Perrysburg
Howald, Arthur Mark
Kriege, Herbert Frick
Piqua
Hutchins, Ralph Pearson
Powell
Costello, Christopher Hollet
Reading
Schanbacher, Karl L.
Rocky River
Sherman, Herman Samuel
Standley, George Prince
Rossford
Blish, Morris Joslin
Sullivan, Bernard James
Sandusky
Lange, Norbert Adolph
Shaker Heights
Baugh, Robert Henry
Bruson, Herman A.
Colton, H. Seymour
Dietz, David
Elliott, Stanley B.
Ferguson, Howard Peter
Harshaw, William Jacob
Hatfield, James Elisha
Hughes, Everett Clark
Huntley, Robert Fitch
Kenney, Robert Porteous
Kittner, Robert H.
Krashin, Bernard R.
McConnell, Elliott B.
Moore, Clark Meeker
Perry, Albert Dean
Pomerene, Elizabeth
Roberts, Walter Russell
Schoenfeld, Frank Koch
Smith, F. Clayton
Sprague, Paul E.
Treuhaft, William Columbus
Solon
Westbrook, Leon R.
South Euclid
Huber, Richard Light
Ray, Earl Charles
Robinson, Edward Allan
Smith, Charles J., Jr.
Steckler, Robert
Von Fischer, William
Steubenville
Wilson, Herman Evans
Stow
Aiken, William H.
Clifford, Albert Mitchell

Liska, John William
Partridge, Edward Graffam
Thies, Herman R.
Tallmadge
Davis, Dale Stroble
Tiffin
Barnes, Kenneth Boyd
Toledo
Arner, William J.
Bacon, Frank R., Jr.
Baker, George LeRoy
Bigelow, Maurice Hubbard
Blish, Morris Joslin
Chaban, Charles Jack
Cowell, John Robert, Jr.
Hatcher, David B.
Knight, William Windus, Jr.
Kriege, Herbert Frick
McClelland, Frederick O.
Mogendorff, Nicholas
Moore, Thomas E.
Oddy, Harold Grant
Sharp, Donald E.
Shirley, Daniel LeRoy
Sullivan, Bernard James
Toulouse, Julian Harrison
Waggoner, Jack Holmes
Watkins, George Benson
Troy
Holt, Frederick William, Jr.
University Heights
Bowers, Alston G.
Gans, David Manus
Kjellgren, Bengt R. F.
Maron, Samuel Herbert
Utica
Wagner, Cary R.
Vermilion
Sanford, James C.
Wadsworth
Gibbs, Everett H.
Kreider, Leonard C.
Nicholson, Harold Linneous
Sinks, Frank L.
Warren
Roehl, Edward Judson
Washington Court House
Rothrock, Robert W.
Waterville
Balz, Emil H.
West Alexandria
Brams, Stewart L.
Westerville
Esselstyn, Albert J.
Lyman, John Franklin
Michael, Lyle Jordan
Weston
Baty, Joseph A.
Wickliffe
Norman, George Russel
Wilberforce
Woolfolk, E. Oscar
Willoughby
Dasher, Paul James
Rugar, George Francis
Van Dusen, Charles Harry, Jr.
Wilmington
Boyd, Oscar F.
Wooster
Chittum, John W.
Grady, Roy L.
Kieffer, William Franklin
Worthington
Rowlett, Russell Johnston, Jr.
Van Pelt, John Robert, Jr.
Volk, Garth William
Williams, David Tyndale
Wyoming
Coith, Herbert Spencer
Crowe, J. R.
Duncan, Robert A.
Martin, Wilfred Samuel
Richardson, Albert S.
Xenia
Hammond, William Archie
Patterson, Austin M.
Yellow Springs
Adams, Clyde Stewart
Corwin, James F.
Owen, Gwilym Emyr
Yorktown
Clark, Joseph B., Jr.
Youngstown
Babcock, Donald Eric
Zanesville
Hagar, Donald

OKLAHOMA

Barnsdall
Willke, Louis Gustav
Bartlesville
Alden, Richard Champney
Carpenter, Paul G.
Carr, Donald Eaton
Crawford, Chester Charles
Dirksen, A. J.
Eilerts, Charles Kenneth
Endacott, Paul
Frey, Frederick Ernest
Hachmuth, Karl H.
Hohenadel, Harry P.
Learned, Stanley
Leverett, Warren Hamilton
Matuszak, Maryan P.
McCullough, Gerald Waldo
Miller, Alvin Julius
Oberfell, George Grover
Perry, Charles William
Prentiss, Spencer S.
Reynolds, William Bryan
Ringham, C. Russell
Scarth, Virgil
Smith, Harold M.
Snow, Robert D.
Stoops, Charles E.
Waddington, Guy
Walls, William Sparks
Ward, Cecil C.
Chickasha
Hammond, Edith S.
Cushing
Stevenin, Thomas George
Duncan
Roberts, Hayden
Edmond
Otto, Cliff Ray
Norman
Chatenever, Alfred
Colbert, James Canfield
Huntington, Richard Lee
Reid, Laurance Standish
Wender, Simon Harold
Oklahoma City
Everett, Mark Reuben
Scoggin, Baxter Irvin, Jr.
Ponca City
Baker, Edwin Ruggles
Hatlelid, Elbert L.
Lincoln, Bert Hartzell
Neilson, Clarence Albert
Shawnee
Bailey, Thomas Leonard
Stillwater
Burrows, James Austin
Dermer, Otis Clifford
Garwin, Leo
Heller, Victor G.
Lee, Samuel Hunt, Jr.
Martin, John Rogers
Nickolls, Charles Leslie
Sheerar, Leonard Francis
Smith, Otto Mitchell
Webster, James Elias
Tallant
Lembcke, Richard Edward
Willke, Louis Gustav
Tulsa
Bennett, Harry Thomas
Clark, Joseph B., Jr.
Forrester, Jay H.
Gardner, Franklin Truesdell
Harrington, George Frederick
Hefley, Dana G.
Kelley, Park
Meyer, Ronald Edgar
Nelson, Wilbur Lundine
Page, George E.
Parker, Joseph Lloyd
Pettijohn, Earl
Roberts, George, Jr.
Russell, Charles Daniel, Jr.
Staudt, John Guild
Steitz, Alfred, Jr.
White, Wayne Elwood
Williams, Philip Sidney

OREGON

Albany
Shelton, Stephen Matheson
Corvallis
Butts, Joseph S.
Caldwell, William Elmer
Cheldelin, Vernon H.
Christensen, Bert E.
Friedman, Leo
Gilbert, Earl C.
Gilfillan, Francois Archibald
Gleeson, George Walter
Kurth, Ervin Frederick
Mehlig, Joseph Parke
Robinson, Reginald Heber
Schoenfeld, William Alfred
Eugene
Reithel, Francis Joseph
Van Rysselberghe, Pierre
Hammond
Shawcross, Orry Leroy
Medford
Ruhle, George Cornelius
Milwaukie
Miller, Roy Edmund
Oak Grove
Stout, Albert Wilbur
Portland
Anderson, Rev. James G.
Farley, Eugene Dodson
Hudrlik, Otto Louis
James, Thomas M., Jr.
Johnson, Clyde Roland
MacCorkle, Emmett Wallace, Jr.
McGrath, Joseph, C.S.C.
McIndoe, William Cavanaugh
Miller, Roy Edmund
Moser, Robin Emerson
Pearson, B. Baxter
Schwarz, Sigmund Caesar
Scott, Arthur F.
Shearer, William Norman
Stout, Albert Wilbur
Warrenton
Shawcross, Orry Leroy

PENNSYLVANIA

Abington
Mahle, Louis William
Scull, Charles Wesler
Spence, LeRoy U.
Woodward, Charles Frank
Adamstown
Reider, Malcolm John
Allentown
Boyd, Richard Noble
Brandes, Geoorge Henry
McCoy, Walter J.
Pavlis, Frank E.
Schlesman, Carleton H.
Seymour, Raymond B.
Steiner, Robert Henry
Allison Park
Rimbach, Richard
Ambler
Delano, Philip Hall
Spruance, F. Palin
Steinbright, Harold Dixon
Ardmore
Cramer, Howard Irving

Jones, Franklin Delavergne
Marshall, William Davies
Strong, Frederick Carl, III
Tompkins, Gerald Samuel
Atbridge
Kelso, David William
Bala Cynwyd
Andrews, William R. E.
Hiers, Glen Sefton
Pearce, William Tudor
Rothrock, David A., Jr.
Trumper, Max
Ward, Alger Luman
Bangor
Hallett, Lawrence Trenery
Beaver
O'Brien, Harold Charles, Jr.
Rankin, James J.
Roche, Harry Edward
Varga, Frank B.
Beech Creek
Horne, Dr. William Dodge
Bellefonte
Thomas, Robert K.
Berwyn
Neidig, Charles Petersen
Ogburn, Sihon Cicero, Jr.
Bethlehem
Amstutz, Edward Delbert
Billinger, Robert Dominick
Eberhardt, John Ernst
Ewing, Warren W.
Greiner, Harry Sandt
Herty, Charles Holmes, Jr.
Kleinhans, John Ashmore
Mack, Darrel E.
Nevilie, Harvey Alexander
Serfass, Earl James
Zettlemoyer, Albert Charles
Blawnox
Hetzel, Harry Thomas
O'Brien, Harold Charles, Jr.
Beaver
Havenhill, Robert Samuel
Boalsburg
Cannon, Michael Robert
Brackenridge
Brown, Robert Harry
Bradford
Breston, Joseph Norbert
Heckel, Fred J.
Hulme, Richard E.
Little, Herman J.
Bridgeville
Shaffer, Victor Payne
Bristol
Crooker, Harold Nason
Goetchius, George Richard
McCluer, Wilbert Brooks
Neher, Harry Trainor
Bruceton
Anderson, Robert Bernard
Hofer, Lawrence John Edward
Orchin, Milton
Bryn Mawr
Branin, M. Lelyn
Fehr, Harold H.
Heuer, Russell Pearce
Keady, G. Joseph
Kendall, Paul
Ogburn, Sihon Cicero, Jr.
Zinsser, John Sharman
Carlisle
Rogers, Horace Elton
Vuilleumier, Ernest Albert
Carnegie
Geisinger, Archie L.
Catasauqua
McCoy, Walter J.
Cedars
Steinbright, Harold Dixon
Chambersburg
Damerel, Charlotte Isabel
Cheltenham
Manchey, L. Lavan
Chester
Baldwin, Paul C.
Cowling, Hale
Eberl, James J.
Ward, Alger Luman
Childs
Appleton, Martin D.
Churchville
Kroeker, Edwin Henry
Clairton
Burroughs, Samuel Gross
Clariton
Ostermayer, Robert W., Sr.
Coatesville
Glenner, Francis Richard
Connellsville
Hetzel, Harry Thomas
Conshohocken
Abrams, Ellis
Benoliel, D. Jacques
Benoliel, Louis Osmond
Kenneck, Carl F.
Mylroie, John Miller, Jr.
Schlossberg, Louis
Coraopolis
Cooper, William Charles
Hammond, Milton B.
Tator, Kenneth
Coudersport
Othmer, Donald Frederick
Creighton
Kamerer, James W.
Cresson
Warner, Charles L.
Croydon
Bauer, Jackson
Cynwyd
Deuble, John Lewis
Osol, Arthur
Danville
Hoffman, Roger Allen
Darby
McCready, Newton W.
Downingtown
Glenner, Francis Richard
McCutcheon, Thomas Potter
Stutt, John Henry
Doylestown
Fischer, Kermit
Drexel Hill
Arnow, L. Earle
Barcus, W. Herman
Beeler, Emerson C.
Brooks, Charles Harvey
Chandler, Joseph
Griesinger, William Kenneth
Harte, Robert A.
Heinemann, Heine
Hersberger, Arthur Bucher
Hoel, Archie Bernhard
Kunz, Walter B.
Moore, Howard Roswald
Rowland, Edmund
Sprague, James Maurice
Wagner, Charles A.
Wright, Walter Edward
East Pittsburgh
Mahncke, Henry E.
Wenzel, Robert N.
East Stroudsburg
Hood, George Raymond
Easton
Ayers, Joseph Williams
Borden, George Centennial, Jr.
Brunn, Johannes (Jack) Hadeln
Buzas, August Joseph
Crosen, Robert Glenn
Fuller, Donald L.
Godlove, Isaac Hahn
Hafer, George Byron
Hallett, Lawrence Trenery
Kirk, Philip M.
McGraw, John, Jr.
McMillen, Elliott Lee
Meier, Robert H. M.
Schmidt, Willy Albin
Scott, Lloyd Linton
Stephens, Robert Aaron
Tomlinson, Ritner W.
Vogel, Max Raymond
Williams, Virgil C.
Wittenberg, Robert Bringhurst
Zech, John David
Eddington
Jordan, T. Earl
Edgeworth
Hammond, Milton B.
Elkins Park
Maguire, John J.
Pierce, David Eugene
Pouchain, Rene Augustin
Soderberg, Gustaf
Erie
Frier, William Thomas
Lucas, William Albert
Fort Washington
Curll, Vincent A.
Foxburg
Winans, Charles F.
Frankford
Noll, Charles A.
Freedom
Venable, Emerson
Gettysburg
Oyler, James Russell
Sloat, Charles Allen
Gladwyne
Fergusson, Alexander Carter
Toennies, Gerrit
Glassport
Whitney, Leslie Clifton
Glen Mills
Field, Hugh William
Glenolden
Arnow, L. Earle
Barnes, Richard H.
Harte, Robert A.
Huff, Jesse W.
Sprague, James Maurice
Wilcox, Paul William
Glenside
Couch, James F.
Eskew, Roderick Koenig
Graham, John Howard
Greenbaum, Frederick R.
Kenneck, Carl F.
McMeekin, Thomas LeRoy
Newhart, Claude Jacob
Greensburg
McKenna, Philip Mowry
Redmond, John C.
Grove City
Bennett, George W.
Hoyt, Creig Simmons

Hatboro
Eaton, James Tucker
Fischer, Kermit
Patureau, Arthur M.

Haverford
Eckert, Samuel Baltz
Thayer, Sydney, Jr.

Havertown
Bolton, Harry L.
Bruce, William Fausset
Coles, Harold William
Eckert, Samuel Baltz
Fletcher, Frank A.
Meldrum, William Buell
Sharples, Philip Triest
Thayer, Sydney, Jr.
Hann, Victor Adams
Headington, Clifford E.
Karlsruher, Charles David
Laskaris, Lycurgus
McNabb, Wallace M.
Moore, Maurice Lee
Rainey, Charles Clark
Timmons, Norman J. W.
White, Robert Edward

Hellertown
Herty, Charles Holmes, Jr.

Hershey
Hinkle, Samuel Forry
Meyers, Elwood William

Huntingdon
Mullin, Charles Earl
Ithan
Thompson, W. Furness
Ivyland
Spruance, F. Palin
Jeannette
Roberts, Irving
Shields, James Rodger
Jenkintown
Bidlack, Verne C.
Campbell, William P.
Frederick, Donald S.
Hooper, N. J.
Lever, Cyril
Remmey, George Bickley
Soderberg, Gustaf
Wasum, Ludwig W.
Johnstown
Hunter, Louis Nathaniel
Johnsville
Moore, Howard Roswald
Kennett Square
Garrett, James F.
McBurney, Lane Fordyce
Kimberton
Fitz-Simons, Ogden
Wooster, Charles Bushnell
Kintnersville
Patureau, Arthur M.
Kulpsville
Mylroie, John Miller, Jr.
Kutztown
Snook, Joseph A.
Wiswesser, William Joseph
Lancaster
Benner, Joseph A.
Breuer, Frederick W.
Claxton, Edmund
Emanuel, Edward Cornell
Frankenburg, Walter Gustave
Heller, Hugh A.
McGarvey, Alan R.
Sharf, M.
Weisgerber, William Edwin
Landenburg
Goebel, Max Theodore
Langeloth
Coffer, Lynn Wallace
Lansdale
Waligora, John Martin
Lansdowne
Bates, Joseph Sumner
Godshall, Henry S.
Harrisson, Joseph
Huff, Jesse W.
Kroeger, John W.
Lichtenwalner, Daniel C.
Munch, James Clyde
Shepherd, Clark Bosler
Latrobe
Gill, James Presley
McKenna, Philip Mowry
Redmond, John C.
Lewisburg
Cooper, Albert Hudiburg
Kieft, Lester
Schuyler, William Hilliard
Library
Alberts, Leonard W.
Brisse, Andre H.
Lincoln Park
Wagner, L. Frank
Lititz
Breuer, Frederick W.
Welch, Rodney Channing
Malvern
Merriwether, Duncan
Manheim
Moore, Robert Law
Maple Glen
Kinney, Clarence B.
Marcus Hook
Barcus, W. Herman
Bonnet, Frederic, Jr.
Cornwell, Ralph T. K.
Cowling, Hale
Dart, Jack Calhoon
Faragher, Warren Fred
Ferris, S. W.
Harper, James I.
Heinemann, Heine
Hill, J. Bennett
Kirkbride, Chalmer Gatlin
Kunz, Walter B.
Mills, George Alexander
Oblad, Alex Golden
Schall, Josef William
Shearer, Howard Ellsworth
Sisson, Wayne A.
Weinrich, Whitney
Wood, William Samuel
McKeansburg
Rolland, Guy Franklin
McKees Rocks
Britton, John William
Groff, Charles Heber
Paulus, Peter V.
Pooley, Marcus James
Meadowbrook
Applebaum, Samuel Bernard
Holland, Madeline O.
McDonnell, John Neumann
Meadville
Cavelti, John E.
Hill, Paul E.
Miller, Hugh
Mechanicsburg
Brown, Glenn Vinton
Media
Bates, Joseph Sumner
Chaney, Newcomb Kinney
Harper, James I.
Krase, Norman William
Leum, Leonard Norman
Martin, John Cochrane
Norton, Robert Dill
Reynolds, Thomas George
Sisson, Wayne A.
Vail, James Garrett
Mendenhall
Hinner, Elmer Francis
Merion
Keller, Joseph Walter
Kurtz, Stewart S., Jr.
Merion Station
Webre, Alfred L.
Mertztown
Seymour, Raymond B.
Snook, Joseph A.
Steiner, Robert Henry
Worth, Walter Leslie
Millersville
Frankenburg, Walter Gustave
Monaca
Havenhill, Robert Samuel
Rankin, James J.
Moylan
Dart, Jack Calhoon
Moylan-Rose Valley
McCormack, Thomas H.
Muncy
Dorris, Thos. B.
Murrysville
Yant, William Parks
Myerstown
Henry, Raymond W.
Lux, Russell Eugene, Jr.
Whitmoyer, C. W.
Narberth
Baker, Chester L.
Cutler, Rusling Young
Feirer, William Anthony
Giles, W. Ralph
Natrona
Bruce, Everett Albert
New Castle
Clark, Le Roy Vincent
Johnson, A. L.
McCartt, Kenneth Cory
New Kensington
Brown, Robert Harry
Dix, Edgar Hutton, Jr.
Edwards, Junius David
Frary, Francis Cowles
Kamerer, James W.
Stroup, Philip Trimble
Taylor, Cyril Stead
Wolff, Charles Henry
Newtown Square
Davies, Richard Lloyd
Norristown
Heiligman, Harold A.
Landt, Gustave E.
North Hills
Brice, Brooks A.
Denoon, Clarence England, Jr.
Norwood
Kurtz, Stewart S., Jr.
Oakmont
Dix, Edgar Hutton, Jr.
Edwards, Junius David
Foote, Paul D.
Frary, Francis Cowles
Hamor, William Allen
Hirsch, Joel H.
Holloway, Clark, Jr.
McAfee, Jerry
McAnulty, John F.
Oaks
Skow, Norman Alexander
Oil City
Sarchet, Bernard R.
Zehrung, Winfield Scott
Oreland
Kircher, John Edwin
Overbrook Hills
Lloyd, Lyman S.
Palmerton
Barnett, Charles Edward
Bunce, E. H.
Copeland, Lewis Covell
Cyr, Howard Mason
Elm, Adolf Caspar
Fuller, M. Luther
Haslam, George Stevenson
Myhren, Arne J.
Nelson, Earl W.
Siller, Charles William
Stutz, George Frederick Adelbert
Werthan, Sidney
Paoli
Bruce, Everett Albert
Quam, George Norman
Russell, John C.
Wedge, Franklin
Peach Glen
Oyler, James Russell
Penllyn
Beale, Leonard Tillinghast
Perkasie
Conn, William Robson
Petrolia
Sonneborn, Henry, III
Winans, Charles F.
Philadelphia
Abbott, Frederick C.
Abrams, Ellis
Alber, Herbert K.
Alburn, Harvey E.
Ambler, Charles Melville
Andrews, Chester E.
Andrews, William R. E.
Applebaum, Samuel Bernard
Baker, Chester L.
Barnes, Richard H.
Bates, John R.
Bauer, Jackson
Beale, Leonard Tillinghast
Beeler, Emerson C.
Beitzel, George Breuninger
Benoliel, D. Jacques
Benoliel, Louis Osmond
Bertolet, Elmer Conrad
Bidlack, Verne C.
Bodman, Fenimore Lewis
Bolton, Harry L.
Bott, Phyllis Adele

Bower, Henry
Brice, Brooks A.
Brinton, Clement Starr
Brooks, Charles Harvey
Bruce, William Fausset
Byers, Arthur M., Sr.
Caldwell, William T.
Campbell, Hallock Cowles
Campbell, William P.
Case, Francis H.
Chambers, Gordon Harispre
Chance, Britton
Chandler, Joseph
Chaney, Newcomb Kinney
Clevenger, C. M.
Coleman, William B.
Coles, Harold William
Conn, William Robson
Conner, Robert Thomas
Connor, Ralph Alexander
Cornforth, Robert Mayo
Couch, James F.
Cramer, Howard Irving
Cummings, Leland Wilson Thomas
Curll, Vincent Anthony
Cutler, Rusling Young
Davies, Richard Lloyd
Dempsey, William Lawrence
Denoon, Clarence England, Jr.
Deuble, John Lewis
Dudley, John William
Eaton, James Tucker
Eckert, Samuel Baltz
Elkinton, Thomas W.
Eskew, Roderick Koenig
Fehr, Harold H.
Feirer, William Anthony
Fergusson, Alexander C.
Ferkel, Albert J.
Field, Hugh William
Flentje, Martin Ernest
Fletcher, Frank A.
Foley, Francis B.
Frazer, John
Frederick, Donald S.
Frink, Edward H.
Gerges, Wesley R.
Giles, W. Ralph
Goetchius, George Richard
Gorrell, Walter A.
Gould, David Foster
Graden, William F.
Graham, John Howard
Graham, Lynford E.
Greenbaum, Frederick R.
Griesinger, William Kenneth
Hall, John Stanley
Hann, Victor Adams
Harland, Walter J.
Harrisson, Joseph
Harsch, John William
Hauseman, David N.
Headington, Clifford E.
Hersberger, Arthur Bucher
Heuer, Russell Pearce
Hiers, Glen Sefton
Hitov, Joseph J.
Hixson, Arthur Norman
Hoel, Archie Bernhard
Hollander, Charles S.
Hooper, N. J.
Huber, Francis Christian
Hull, Lewis Woodruff
James, Arthur Edwin
Jeglum, C. H.
Jester, John M., Jr.
Jordan, T. Earl
Kade, Charles F., Jr.
Karlsruher, Charles David
Keady, G. Joseph
Keller, Joseph Walter
Kendall, Paul
Kenny, Donald W.
Kinney, Clarence B.
Kircher, John Edwin
Klein, Louis
Kroeger, John W.
Kroeker, Edwin Henry
LaLande, William Alfred, Jr.
Laquer, Fritz Oscar
Laskaris, Lycurgus
Leum, Leonard Norman
Levy, Lionel F.
Lichtenwalner, Daniel C.
Lloyd, Lyman S.
Lucasse, Walter W.
Lukens, Hiram Stanhope
MacDonald, William F.
Mack, Harry
Maguire, John J.
Mahle, Louis William
Manchey, L. Lavan
Marquart, Vernon L.
Marshall, William Davies
Martin, Gustav J.
Martin, John Cochrane
McCutcheon, Thomas Potter
McDonnell, John Neumann
McElroy, William Dale
McMeekin, Thomas LeRoy
McNabb, Wallace M.
McNeil, Robert Lincoln
McNutt, Homer E.
Merriwether, Duncan
Meyer, Fred L.
Meyer, H. Conrad
Meyerhof, Otto
Miller, Arthur Merkel
Miller, Ellis
Miller, John George
Mitchell, Charles M., Jr.
Molstad, Melvin Carl
Moore, Maurice Lee
Morris, Richard Henry
Mower, Alexander J.
Murphy, Francis E.
Muschamp, George M.
Neher, Harry Trainor
Neidig, Charles Petersen
Newhart, Claude Jacob
Niederhauser, Warren Dexter
Norton, Robert Dill
Osol, Arthur
Over, Warner Russell
Perley, George Arthur
Pittenger, Paul Stewart
Pouchain, Rene Augustin
Puff, Raynard V.
Quilleret, Pierre M.
Rainey, Charles Clark
Reich, Gustave T.
Remmey, George Bickley
Reynolds, Thomas George
Rheuby, William P.
Rivise, Charles W.
Robinette, Hillary, Jr.
Rogers, William, Jr.
Rorer, Herbert Crawley
Rossman, Joseph
Rothrock, David A., Jr.
Rowland, Edmund
Russell, John C.
Ryan, Emmett Patrick
Sadtler, Philip
Schlossberg, Louis
Schwartz, Edward
Scull, Charles Wesler
Seibert, Florence B.
Seifter, Joseph
Sharples, Philip Triest
Shaw, David Taylor
Sheen, Robert T.
Siu, Ralph G. H.
Skeen, John R.
Spence, LeRoy U.
Spiegel-Adolf, Mona
Stericker, William
Stoertz, Howard
Stratton, Leon Dupre
Stutt, John Henry
Suarez, Frances M.
Thayer, Sydney, Jr.
Thompson, W. Furness
Timmons, Norman J. W.
Toennies, Gerrit
Tompkins, Gerald Samuel
Tuthill, Harlan Lloyd
Tyson, Foyd T.
Ullyot, Glenn Edgar
Vail, James Garrett
Wagner, Charles A.
Waligora, John Martin
Walker, Henry B.
Wallace, Curtis Clayton
Walton, Norton Hall
Wanner, Henry Eckert
Wasum, Ludwig W.
Webster, Thomas Ellwood
Weidner, John P.
Weinhouse, Sidney
Weir, Horace M.
Wherry, Edgar T.
Willaman, John J.
Wilson, David Wright
Wolters, C. Frederick, Jr.
Woodward, Charles Frank
Wooster, Charles Bushnell
Wright, Walter Edward
Yanovsky, Elias
Zinsser, John Sharman

Pittsburgh

Ackerman, J. C.
Alberts, Leonard W.
Anderson, John Ray
Anderson, Robert Bernard
Ayres, Eugene
Bakken, Herman Ernst
Barrett, Elliott P.
Bass, Walter Louis
Beal, George Denton
Beckmann, Robert Bader
Beeghly, Hugh Ford
Beery, Donald Wilson
Bingham, Christopher Frank
Blanck, Frederick Conrad
Borden, Edmund Gilbert
Bowman, John Ridgway
Braley, S. A.
Brewer, Ralph Emmet
Brisse, Andre H.
Britton, John William
Brown, William B.
Buck, Robert E.
Burroughs, Samuel Gross
Carlin, Robert Burnell
Carpenter, James Henry
Cibella, Ross C.
Clark, Ezekial Louis
Cooper, William Charles
Corson, Ben Bennett
Coull, James
Cretcher, Leonard Harrison
Crockin, Jerome Monroe
Crowell, J. H.
D'Alelio, Gaetano F.
Damon, Glenn H.
Daubert, Bernard Forbes
Dauler, Lee Van Voorhis
Davidson, Paul Ballinger
Donelson, John Garhart
Du Bois, Eugene McKinley
Emmett, Paul H.
Engelder, Carl John
Erikson, David Junkin
Fisher, Aiken Wood
Fisher, Chester G.
Foote, Paul D.
Foster, Sherid Judson
Fromm, Fritz Wilhelm
Galliher, W. Irving
Gray, Daniel M.
Grim, John Marshall
Groff, Charles Heber
Gutkin, Samuel S.
Hamor, William Allen
Harvey, Adelbert W.
Heckman, Eugene M.

Hemeon, Wesley C. L.
Hester, William Frederic
Hetzel, Harry Thomas
Higgins, H. B.
Hirsch, Joel H.
Hixson, G. Paul
Hoak, Richard D.
Hofer, Lawrence John Edward
Hofmann, Klaus H.
Holloway, Clark, Jr.
Hubbell, Dean Sterling
Hunt, Roy A.
Hyde, Randolph W.
Johnson, Charles Morris
Jones, George William
Jones, H. Roswell
Jones, Webster Newton
Jordan, John William
Kelso, David William
Kirkpatrick, William John
Klug, Harold Philip
Lauffer, Max Augustus, Jr.
Lenchner, Theodore
Leslie, Eugene H.
Lewis, Bernard
Lipman, Harry J.
Little, Herman J.
Longenecker, Herbert Eugene
Lowry, H. H.
Marbaker, Edward Ellsworth
Marshall, Richard Mather
Matejczyk, John F.
McAfee, Jerry
McCubbin, Keator
McGregor, Rob Roy
Means, Dwight R.
Mehl, Robert Franklin
Metschl, John
Monrad, Carl Corydon
Nelson, William L.
Newton, Roy Frederick
Newton, Wilbert F.
Nicholson, Douglas G.
Orchin, Milton
Pardee, William Augustus, Jr.
Patterson, John Alexander
Pfann, Harry F.
Pooley, Marcus James
Powell, Alfred Richard
Quarles, Richard Wingfield
Raff, Rudolph August Victor
Reizenstein, Louis J.
Reynolds, Dewey A.
Rhodes, Edmund O.
Rhodes, Richard Sanders
Richmond, Henry Hugh
Rimbach, Richard
Rittman, Walter Frank
Roche, Harry Edward
Roche, James Norman
Rogaliner, Stanley De Wolfe
Rose, Harold James
Seagren, George William
Shaffer, Victor Payne
Shand, Edwin William
Shaw, Joseph Allan
Shields, James Rodger
Silverman, Alexander
Sink, Woodford Grady
Slagle, Kenneth H.
Smyth, Henry F., Jr.
Speller, Frank N.
Starr, Donald Dee
Stevens, Donald Raymond
Strader, Kenneth Harold
Thompson, Clyde Lowry
Tillotson, E. Ward
Tipson, Robert Stuart
Varga, Frank B.
Venable, Emerson
Von Elbe, Guenther
Warner, John Christian
Warrick, Earl Leathen
Wasselle, Leonard A.
Waterman, Wendell Wilson
Weaver, Harold E.
Weidlein, Edward Ray
Weinert, Carl R.
Wenzel, Robert N.
Wescott, Blaine Benjamin
West, James Robert
Whirl, Solomon Frederick
Whitney, Leslie Clifton
Wilkes, Benjamin Garrison, Jr.
Willard, Harry Lentz
Wilson, Irving White
Witherow, William Porter(†)
Witman, Eugene Dewald
Wolff, Charles Henry
Yant, William Parks
Young, George Husband
Young, James Howard
Zabor, John William
Zimmerman, Rufus Eicher

Plymouth Meeting
Corson, Philip Langdon
Delano, Philip Hall
LaLande, William Alfred, Jr.
Willaman, John J.

Pottstown
Handley, Ernest Tennyson

Primos
McCready, Newton W.

Reading
Scoles, Dwight L.
Wiswesser, William Joseph

Ridgway
Benemelis, Robert Lorenzo

Ridley Park
Bonnett, Frederic, Jr.
Stratton, Leon Dupre

Rose Valley
Baldwin, Paul C.
Eberl, James J.
Hixson, Arthur Norman

Rosemont
Cornwell, Ralph T. K.
Dalton, Harry Lee
Webster, Thomas Ellwood

Roxboro
Noll, Charles A.

Rutledge
Marquart, Vernon L.

Rydal
Walker, Henry B.

Saint Davids
Hall, John Stanley

Saint Marys
Abbott, Harold Wallace
LeGrys, Herbert James
Mitchell, Harry Gilbert

Saltsburg
Durno, W. H.

Scranton
Morgan, Sister M. Sylvia
Turnbull, Edward D.

Sewickley
Gray, Daniel M.
Higgins, H. B.
Sink, Woodford Grady
Wilson, Philip Johnson, Jr.

Sharon
Willson, Edward Acheson

Sharon Hill
Dudley, John William

Shavertown
Eckerd, James Wilson

Shillington
Reider, Malcolm John

Slippery Rock
Albert, Walter Daniel

Southampton
Hull, Lewis Woodruff

Springfield
Alber, Herbert K.
Beitzel, George Breuninger
Oblad, Alex Golden
Schall, Josef William
Walton, Norton Hall
Wood, William Samuel

Springhouse
Harsch, John William

Springtown
Mack, Darrel E.

State College
Anderson, Arthur von Krogh
Aston, John Geldart
Cannon, Michael Robert
Carnahan, F. L.
Chandlee, Grover C.
Charmbury, Herbert Beecher
Cohen, Gustav Emanuel
Cryder, Donald Stevens
Currier, Arnold John
Dutcher, R. Adams
Elving, Philip J.
Fenske, Merrell Robert
Fernelius, W. Conrad
Frear, Donald Elisha Harding
Gauger, Alfred William
Guerrant, N. B.
Haller, George Louis
Holtzinger, Albert Harrison
Hutchison, A. Witt
Kinney, Corliss Robert
Jensen, Clifford Oliver
Lisse, Martin William
Mack, Pauline Beery
Miller, Warren W.
Quiggle, Dorothy
Parks, Lytle Raymond
Rose, Arthur
Seward, Ralph Pray
Simons, Joseph H.
Smith, Grant Warren
Triebold, Howard O.
Willard, Mary Louisa
Wright, Calvert Charles

Stony Creek Mills
Worth, Walter Leslie

Strafford
Frink, Edward H.

Swarthmore
Bates, John R.
Bullitt, James Bell, Jr.
Callaway, J. B.
Campbell, Hallock Cowles
Faragher, Warren Fred
Jeglum, C. H.
Lucasse, Walter W.
Mills, George Alexander
Molstad, Melvin Carl
Shaw, David Taylor
Shearer, Howard Ellsworth
Thurman, Neal
Tucker, Carl W.
Vose, Richard Shepard
Ward, William Hilles
Wolters, C. Frederick, Jr.
Wrightsman, Philip Gunckel

Tamaqua
Colson, Max Elwood
Rolland, Guy Franklin

Towanda
Meschter, Emery

Turtle Creek
Mahncke, Henry E.

Upper Darby
Munch, James Clyde
Stericker, William

Verona
Cibella, Ross C.
McGregor, Rob Roy

Villanova
Quam, George Norman
Strong, Frederick Carl, III
White, Robert Edward

Wallingford
Clark, W. Davis
Kirkbride, Chalmer Gatlin
Weinrich, Whitney

Warrington
Jester, John M., Jr.

Washington
Curll, Vincent Anthony
Lucas, Emil A.

Sander, Frank V.
Sedenka, Anthony
Wayne
Bodman, Fenimore Lewis
Cornforth, Robert Mayo
Frink, Edward H.
Garvey, Benjamin St. John, Jr.
Skow, Norman Alexander
Waynesboro
McElroy, Wilbur Renfrew
Waynesburg
Myers, R. Thomas
West Chester
Barrett, Harold James
Brown, Kenneth Rent
Coffman, Donald Drake
James, Arthur Edwin
Mackey, B. H.
Neumann, Prosper Frederick
Perri, Joseph Mark
Pratt, Carl D.
Williams, William Lloyd
Westtown
Orem, Edward Addison
Wilkes-Barre
Eckerd, James Wilson
Wilkinsburg
Stevens, Donald Raymond
Williamsburg
Bickley, Harry G.
Williamsport
Conklin, Albert Edward
Harer, Charles R.
Kiplinger, Claude Clayton
Willow Grove
Seifter, Joseph
Tuthill, Harlan Lloyd
Wilmerding
Lowry, H. H.
Wyncote
Ambler, Charles Melville
Connor, Ralph Alexander
Cummings, Leland Wilson Thomas
Perley, George Arthur
Rorer, Herbert Crawley
Tyson, Floyd T.
Wynnewood
Conner, Robert Thomas
Hauseman, David N.
Hill, J. Bennett
Klein, Louis
Urquhart, George Gordon
Wilson, David Wright
York
Gibbs, Ralph Eugene
North, Henry Briggs

RHODE ISLAND

Ashton
Park, John Kenzler
Shapiro, Leonard
Barrington
Larson, Thorwald
Towle, Warren L.
Bristol
Coles, James Stacy
Dibble, Wallace Hampden
Centredale
Bonino, Hugh J.
Shore, James Cooper
Cranston
Katz, Jacob
Meyer, Arthur Henry Frederick
Spadetti, Armando
East Greenwich
Harrison, William J.
Huddleston, Charles Elsworth
Hurd, Ira S.
Edgewood
Eastburn, William H.
Loxley, Irving Grundy
Strickhouser, Sherman I.
Greene
Arnold, Edwin H.
Kingston
Crawford, T. Stephen
Graves, Harold Edward
Harrison, Harold C.
Parks, W. George
Lonsdale
Gantz, George M.
Katz, Jacob
Norwood
Allard, Chauncey Elden
Pawtucket
Garceau, Bertram Joseph
Mee, Thomas C.
Park, John Kenzler
Redmond, James Reynolds
Shore, James Cooper
Tarnuzzer, Edmund C.
Pontiac
Adams, Carleton Coffin
Providence
Adams, Carelton Coffin
Allard, Chauncey Elden
Arnold, Edwin H.
Arnold, Samuel Tomlinson
Berlow, Charles
Bonino, Hugh J.
Bryan, Charles Silas
Cady, William Hamlin
Carmark, James C.
Claflin, Albert W.
Cole, Robert Hugh
Coles, James Stacy
Eastburn, William H.
Garceau, Bertram Joseph
Hickey, Frederick Cornelius, O.P.
Hornig, Donald Frederick
Huddleston, Charles Elsworth
Kraus, Charles A.
Larson, Thorwald
Loxley, Irving Grundy
MacDonald, John Whitney
Mann, Billings Leland
Marshall, Albert Edward
McLeod, Earle Davis
Mee, Thomas C.
Meyer, Arthur Henry Frederick
Peck, Carroll W.
Russell, William Walker
Stein, Norman Oscar
Strickhouser, Sherman I.
Towle, Warren L.
Verity, Ben
Rumford
Bryan, Charles Silas
MacDonald, John Whitney
McLeod, Earle Davis
Peck, Carroll W.
Stein, Norman Oscar
Tarnuzzer, Edmund C.
Warwick
Spadetti, Armando
Warwick Neck
Grimmel, Harry W.
West Barrington
Balassa, Leslie Ladislaus
West Warwick
Grimmel, Harry W.
Harrison, William J.
Hurd, Ira S.
Shapiro, Leonard
Woonsocket
Bergamini, Charles Edward

SOUTH CAROLINA

Camden
Edwards, John C.
Charleston
Hughes, Horatio
Keilen, John Jacob, Jr.
Leatherland, Lawrence Campbell
McCord, William Mellen
Oliveros, Lovell Lott
Pringle, Ashmead Forrester, Jr.
Walton, Robert Petrie
Clemson
Berne-Allen, Allan
Carodemos, Peter Panagiotes
Cloaninger, Bruce Dayvault
Heyn, Antonius Nicolaas Johannes
Lindsay, Joseph, Jr.
Littlejohn, Charles Edward, Jr.
Pollard, Frank Howell
Webb, Hubert Judson
Columbia
Davis, Harry Willard
Hahn, Edward Randolph
Quattlebaum, William Meritt, Jr.
Teague, Peyton Clark
Whaley, Atherton Mikell
Whitesell, Willard Alexander
Gaffney
Drew, Thomas Champion
Georgetown
Reimold, Abraham Gottlob Heinrich
Greenville
League, John B.
Peterson, Charles James
Sampey, John Richard
Sledd, Arthur Purefoy
Hartsville
Biggs, William Archibald, Jr.
Whaley, Baynard Reed
Myers
Leatherland, Lawrence Campbell
Orangeburg
Wannamaker, T. E.
Rock Hill
Haskew, Caleb Archibald
McColley, Earl Stanley
Naudain, Glenn Garnet
Spartanburg
Drew, Thomas Champion
King, Joseph Clarence
Shiver, Henry Edwin
Taylor, Alvin M.
Winnsboro
Almand, Joseph Morris, Sr.

SOUTH DAKOTA

Aberdeen
Jensen, John Henry
Brookings
Webster, Victor S.
Rapid City
Osterhof, Gerard Gordon
Sioux Falls
Froemke, John A.
Vermillion
Pardee, Arthur McC.
Shaw, Edwin Herbert, Jr.

TENNESSEE

Athens
Tebeau, Edmund Earl
Bearden
Smith, Hilton Albert
Bristol
Cartledge, Groves Howard
Chattanooga
Grote, Irvine Walter
Gustafson, Kendol Clayton
Hude, Walter S.
Kelly, Andrew J.
Kruesi, Paul John
Luther, William Francis
Poste, Emerson P.
Sieg, Kenneth M.
Swan, William Orr

Thurnauer, Hans
Clarksville
Rawlins, George Mimms, Jr.
Columbia
Aall, Christian Hiorth
Bock, Edward John, Jr.
Ruhm, Herman D.
Concord
Boarts, Robert Marsh, Jr.
Donelson
Smith, George McClellan, Jr.
Elizabethton
Dequine, Louis E., Jr.
Fountain City
Garber, Harold Jerome
Jackson
Prince, Arthur Warren
Johnson City
Hasche, R. Leonard
Kingsport
Akin, George Alfred
Bell, Alan
Bevington, Richard Earl
Bright, Arthur W.
Burton, Robert C.
Conklin, Frederick Roscoe
Ellis, James
Fletcher, Charles Leonard
Ford, Henry LeRoy
Hasche, R. Leonard
Hickey, Robert Brandon
Hincke, William B.
Magoffin, James Edward
Marshall, Clair Addison
McNally, James G.
Pilgrim, Forrest D.
Urquiza, Manuel Alvarez
Wilcox, Perley S.
Knoxville
Boarts, Robert Marsh, Jr.
Buehler, Calvin A.
Garber, Harold Jerome
Hubbuch, Theodore Joseph Norbert
MacIntire, Walter Hoge
Palmer, George
Smith, Hilton Albert
Lookout Mountain
Hude, Walter S.
Lowland
Kriek, Peter Paul
Maryville
Griffitts, Fred Albert
Memphis
Atkinson, James Dudley, Jr.
Boyd, J. Hallam
Buckman, Stanley J.
Chapman, Alfred Dale
Edwards, Leonard Joseph
Grafton, Cuthbert Frederick
Harnden, Robert Clare
Hembree, Ernest Elliott
Isbell, Arthur Furman
Johnson, Jesse Clark
Leo, Brother I.
Lyons, Frank Heydrick
Nash, Thomas Palmer, Jr.
Plough, Abe
Sheahan, Robert F.
Vaughn, Raymond Thomas
Webb, James Lewis Adrian
Weiss, Clarence Bernard
Woodbury, Robert Arthur
Monsanto
Bock, Edward John, Jr.
Mount Pleasant
Barr, James Allen
Murfreesboro
Wiser, Eldred
Nashville
Bircher, Louis J.
Blood, Frank Raymond
Conover, Frederic LeRoy
Hill, Carl McClellan
Holladay, Alvis Milton
Ingersoll, Arthur William
Litkenhous, Edward Earl
McLain, William Richard
Peterson, Merlin Dewey
Smith, George McClellan, Jr.
Webb, Hanor A.
Zergiebel, Charles P.
Oak Ridge
Bardwell, Dwight Cooley
Boyd, G. E.
Bredig, Max Albert
Gabbard, James Lawrence
Keim, Christopher Peter
Lough, Samuel Allan
Lyon, Richard Norton
Manov, George Gregory
McLaren, James
Overman, Ralph Theodore
Perkinson, Jesse D., Jr.
Pollard, William Grosvenor
Raleigh
Buckman, Stanley Joseph
Sewanee
Cameron, Benjamin Franklin, III
Davis, Roy B.

TEXAS

Abilene
Jones, W. Norton, Jr.
Watts, Otto O.
Witt, Paul Chandler
Amarillo
Crookshank, H. R.
Kiddoo, Gordon
Seibel, Clifford Winslow
Arlington
Murchison, John Taynton
Austin
Ayres, Gilbert Haven
Burlage, Henry Matthew
Felsing, William August
Hackerman, Norman
Kobe, Kenneth Albert
Leach, William Butler
Lochte, Harry Louis
Lofgren, Frederick Valentine
McKetta, John J., Jr.
Rogers, Lorene Lane
Schoch, Eugene Paul
Van Winkle, Matthew
Williams, Roger J.
Wilson, Charles Owens
Baytown
Corneil, Hampton Gaskill
McGiffin, James Quail
Shaffer, Sherman Simpson
Beaumont
Daigle, Earl Clifton
Kalichevsky, Vladimir Anatole
Bellaire
Hogge, Arthur Clifton, Jr.
Belton
Le Vesconte, Amy Marie
Bishop
Mayfield, Franklin Drew
Borger
Bertorelli, Ollie Leonard
Sperberg, Lawrence Rudolph
Brownsville
Boyle, Stewart
Sylvester, Donald Maurice
Weaver, Joe Cline, Jr.
Bryan
Kennedy, Harvey Thomas
Wamble, Albert Cecil
College Station
Fraps, George S.
French, C. Clement
Fudge, J. F.
Harrington, Marion Thomas
Hedges, Charles Cleveland
Jensen, Frederick Wilhelm
Kennedy, Harvey Thomas
Lindsay, J. D.
Lyman, Carl Morris
Murdoch, Philip G.
Potts, William McDaniel
Thornton, Marmaduke Knox
Wamble, Albert Cecil
Corpus Christi
Heinemann, Gustave
Nee, John W.
Pilcher, John F.
Rahn, Henry Wilford
Dallas
Baine, James Ogden
Brownscombe, Eugene R.
Cooke, George Watson
Graff, Robert A.
Lee, Sidney Phillip
McDonald, Tilman Snow
Purvin, Robert Leman
Reid, Allen Francis
Rosenthal, Helman
Swerdloff, Will
Tidwell, Herbert C.
Uranson, Norman
Denton
Carrico, James Leon
Marshall, Madison L.
Denver City
Robbins, Gerald A.
Dickinson
Mares, Joseph R.
Miller, Paul Frank
El Paso
Lake, William Walter
Fort Worth
Hardt, Henry Benjamin
Levine, Morris
Osmond, Charles Hodgson
Freeport
Beutel, Albert Phillip
Griswold, Nelson D.
Fritch
Hammerschmidt, Elmer George
Galveston
Dampman, Leroy Briggs, Jr.
Griffith, Wendell Horace
Hendrix, Byron Murray
Georgetown
Godbey, John Campbell
Houston
Forbes Madison Chastine
Gast, Joseph Henry
Gershinowitz, Harold
Gilliam, Alpha Stevens
Gray, George Robert
Handley, Carroll Alfred
Harker, Harvey M.
Hartsook, Arthur J.
Hogge, Arthur Clifton, Jr.
Horvitz, Leo
Keneaster, Kenneth K.
Lee, James Augustine
Maercky, Pierre George
McBride, Guy T., Jr.
Mills, Earl Joseph
Richard, Wilfred Theodore
Rogers, Walter Francis
Russell, George Franklin
Seibert, Frank Meyers
Tonn, William H., Jr.
Wayne, Truman Benjamin
Wier, Thomas Percy, Jr.
Woods, Lloyd Lander
Worth, Walter Leslie
Wright, Richard Ewing
Huntsville
Hicks, Joseph Skean
Kingsville
Mayfield, Franklin Drew
Nierman, John L.
Lake Jackson
Beutel, Albert Phillip
LaMarque
Morris, Herbert Edmund
Trenholme, Lawrence Barrett

Lubbock
Craig, William Moore
Dennis, Joe
Goodwin, Robert Cabaniss
Oberg, Aaron Gustaf
Marshall
Scheffler, George Henry
McAllen
Gee, Owen F.
Mercedes
Burdick, Everette Marshall
Newgulf
Judson, Wilber
Swartz, William Robert
Orange
Lee, Donald Douglas
Pampa
Steele, Newman Dudley
Panhandle
Crookshank, H. R.
Phillips
Clay, Harris Aubrey
Fryling, Charles Frederick
Port Arthur
McAfee, Almer McDuffie
Morrisson, Clovis C.
Strawn, Lynn Rudolph
Port Neches
Orr, William G.
Strawn, Lynn Rudolph
Traxler, Ralph Newton
Prairie View
O'Banion, Elmer Elwood
Renner
Speer, Robert James
Richardson
Speer, Robert James
San Antonio
Bakker, Lubertus
Collingnon, Edward Charles
Essex, Jesse Lyle
Levin, Herman
Raley, Charles F.
Shrewsbury, Charles L.
Strong, Erwin R., Jr.
Swearingen, Judson S.
Vagtborg, Harold
Von Hoover, Carl Emmanuel
Seagraves
Robbins, Gerald A.
Sherman
King, Robert Roy
Sugar Land
Kirkpatrick, Willard H.
Sunray
Mackey, James Fields
Tatum
Bezanson, Osborne
Texas City
Alexander, Wayne Eugene
Dampman, Leroy Briggs, Jr.
Kasch, John Edward
Mares, Joseph R.
Miller, Paul Frank
Morris, Herbert Edmund
Trenholme, Lawrence Barrett
Waco
Ballenger, H. F.
Gooch, Wilby T.
Stephens, William Richmond
Weslaco
Burdick, Everette Marshall

UTAH

Logan
Greenwood, Delbert A.
Hill, Reuben L.
Nephi
Rudko, William
Pleasant Grove
Millar, Harvey Clifford
Provo
Broadbent, Hyrum Smith
Salt Lake City
Bonner, Wilter D.
Burke, William James
Christensen, Carl J.
Cook, Melvin A.
Eyring, Henry
Goldthorpe, Harold Clifford
Latshaw, Walter Leroy, Sr.
Malm, Lloyd E.
McLachlan, Dan, Jr.
Quinn, Elton LeRoy
Samuels, Leo T.
Widtsoe, John Andrew

VERMONT

Bennington
Lyons, Sanford Carlisle
Burlington
Braun, Charles Ernest
Brown, Constance Lorraine
Little, John Ernest
Pierce, Harold Barnard
Walker, Lewell Seth
East Poultney
Loveridge, Gilbert Thomas
Fair Haven
Loveridge, Gilbert Thomas
Jamaica
Aries, Robert S.
Londonderry
Phillips, Ralph Oliver
Middlebury
Voter, P. Conant
Montpelier
Currie, James N.
Moretown
Warren, William Homer
Northfield
Baker, Perley D.
Hamilton, Harold Chapman
Howard, S. Francis

VIRGINIA

Alexandria
Alexander, Allen Leander
Bennett, Martin Toscan
Butz, Lewis William
Fritsche, Carl B.
Herron, David Poston
Kraemer, Albert John
Salls, Carroll M.
Scurlock, Arch Chilton
Stewart, Jeffrey Robert
Arlington
Battley, Joseph F.
Byers, Horace G.
Cleaves, Harold Edwin
Fisher, Harry Linn
Flint, J. Howard
Gonet, Frank
Greenbank, George R.
Johnson, Wayne William
Littleton, Leonidas Rosser
Loy, Henry W., Jr.
Martin, Ray Charles
Matlack, Marion Brooks
McDaniel, Paul William
Powers, Justin Lawrence
Ross, Ron
Rostenbach, Royal Edwin
Sanders, George Patrick
Singleterry, Curtis R.
St. John, Ancel
Walker, George
Yeagley, Herbert Weber
Ashland
Miller, W. Schuyler
Aylett
Cox, Edwin
Blacksburg
Davis, Dale Stroble
Fish, Floyd Hamilton
Lucas, J. B.
Murphy, Nelson Francis
Orcutt, Frederic Scott
Scherer, Philip Carl
Watson, John Wilbur
Whittemore, John Weed
Charlottesville
Benton, Arthur F.
Boyer, John Williams
Busse, Warren Froemming
Cole, James Webb, Jr.
Coleman, George Hopkins
Hubbard, Robert Merrill
Lutz, Robert Eliot
Spencer, Hugh Miller
Claremont
Lawrence, Charles Kiddell
Clarksville
Blodgett, Robert Bell
Clayville
Karrh, John Hardie
Colonial Heights
Thacker, Carlisle Monroe
Covington
Bell, Harold G.
Lacy, Paul Bachman
Danville
Jennings, Harley Young
Elkton
Foerster, Edward L.
Hoffman, Roger Allen
Mahony, Harlod Emerson
Poese, Lester E.
Ellerson
Garrett, Benjamin Hipple
Fairfax
Scurlock, Arch Chilton
Wilson, Carroll Louis
Falls Church
Carhart, Homer Walter
Hazelton, L. W.
Russell, Charles Roberts
Fredericksburg
Rosser, Charles M.
Yourtee, John A.
Front Royal
Rogers, Percy Lawton
Gravelly Point
Creasy, William Murlin
Hampden-Sydney
Likes, Carl James
Hampton
Fields, Victor Hugo
Harrisonburg
Chappell, James Wilbert
Cool, Raymond Dean
Foerster, Edward L.
Poese, Lester E.
Hollins College
Fillinger, Harriett Huldah
Hopewell
Bertram, Leon L.
Boddicker, Floyd Leonard
Branting, Briant F.
Crittenden, Eugene Dwight
Fessler, William Alfred
Lawrence, Charles Kiddell
Rogers, Donald Atwater
Thacker, Carlisle Monroe
Lexington
Baxter, John Franklin, II
Desha, Lucius Junius
German, Leslie
Howe, Jas. Lewis
Ritchey, Herbert E.
Lynchburg
Garretson, Harold Hammond
McLean
Scoville, Herbert, Jr.
Merrifield
Horney, Amos Grant
Norfolk
Burroughs, Charles Franklin
Hunt, Harvey Lee
Johnston, Charles Wiswell
Priddy, Sydnor Young

Thornton, Samuel Farrar
Tiedjens, Victor A.
North Arlington
LaForge, Frederick Burr
Petersburg
Boddicker, Floyd Leonard
Branting, Briant F.
Crittenden, Eugene Dwight
Rogers, Donald Atwater
Piney River
Cauwenberg, Winfred Joseph
Hladky, Emil
Portsmouth
Johnston, Charles Wiswell
Kise, Mearl Alton
Scribner, Allison Kenneth
Richmond
Arnold, Robert Bacon
Baber, Clinton Wiley
Bardwell, Robert Cousins
Bird, Lloyd Campbell
Boyer, William Preston
Cox, Edwin
Dawes, Irving Desmond
Fenn, John Bennett
Forbes, John Campbell
Galloway, Arthur Lyle
Hanmer, Hiram Rupert
Harlan, William Robert
Harrison, Julia Peachy
Householder, Leland Edgar
Howell, Joseph Adams
Kapp, Mary Eugenia
Karrh, John Hardie
Kirsh, Alfred J.
McCrackan, Robert Franklin
Mitchell, James Albert
Moody, Warren Lafayette
Moomaw, William A.
Mulien, James Whedbee, II.
Negus, Sidney Stevens
Peabody, William Alden
Pierce, J. Stanton
Pitts, Frank Patrick
Reed, Charles Larus
Roseveare, William Earl
Ryland, Edward
Ryland, Garnett
Smith, Horace Lilburn, Jr.
Trout, William Edgar, Jr.
Valentine, Corbin Braxton
Weaver, Julian Mason, Jr.
Wilson, Elwood Justin
Winston, Lula Gaines
Riverton
Rogers, Percy Lawton
Roanoke
Johnson, Harry I.
Salem
Downing, George Valentine(*)
Johnson, Harry I.
Robey, Ashley
Saltville
Kent, William Barnette
Schoolfield
Jennings, Harley Young
Staunton
Daffin, John Baker
Miller, Clarence Edwin
Sweet Briar
Thompson, Dorothy Dewhurst
Waynesboro
Larsen, William Eugene
McCracken, Roy
Miller, Clarence Edwin
Millhiser, Frederick R.
West Norfolk
Kise, Mearl Alton
Scribner, Allison Kenneth
Williamsburg
Guy, William George

WASHINGTON

Bellingham
Ronk, Frank Hannum
Camas
Hearon, William Montgomery
Moyer, Wendell Wm.
College Place
Bowers, George W.
Deer Harbor
Laucks, Irving Fink
Thompson, Thomas Gordon
Ellensburg
Lind, Edmund LeRoy
Everett
McEwen, John Mitchell
Liberty Lake
Peterson, Warren Stanley
Longview
Clark, James d'Argaville
Hart, John F.
Pullman
Brewster, Carl Milton
Cole, Harry L.
Cope, Ralph Pearce
Culbertson, Julian L.
Hallonquist, Earland Grand
Hazlet, Stewart E.
Lindner, Manfred
St. John, J. L.
Puyallup
Miller, Vernon Leroy
Richland
Beaton, Roy Howard
Greager, Oswald Herman
Mowry, Arthur Smith, Jr.
Pearce, Dennis Wiffen
Seattle
Ahlquist, Norman Ekroth
Beard, Harry Randall
Benson, Henry Kreitzer
Bryan, Collis Charles
Cady, George H.
Carmody, Walter Robert
Hodgins, Theodore S.
Ketzlach, Norman
Laucks, Irving Fink
Laucks, John Thompson
McCarthy, Joseph L.
Miller, Carl F.
Moffitt, William Richard
Norris, Earl R.
Norton, Arthur Jere
Shelton
Parrett, Arthur N.
Richardson, Cyrus Walter
Rising, Louis Wait
Robinson, Rex Julian
Schwartz, George Lewis
Scott, Robert Creighton
Stephan, John Thomas
Swenson, Theodore Lowell
Thompson, Thomas Gordon
Verhagen, Dirk
West, Frank Beach
Willis, Roderick Matteson
Spokane
McNeil, Arthur L., S. J.
Peterson, Warren Stanley
Tacoma
Chaney, Lee F.
Francis, Wm. J. F.
Hooker, Albert H.
Rue, John Davison
Schatz, Louis William
Shanaman, Fred C.
Vashon
Norton, Arthur Jere
Walla Walla
Haigh, Frank Loyal
Humphrey, Leo Chandler

WEST VIRGINIA

Belle
Borror, Whitney A.
Smith, Sidney Dayton
Stubblefield, Daniel Wilkin
Buckhannon
Gould, Arthur Benjamin
Charleston
Biddle, John Wilbur
Blackwell, Ashby Carlyle
Brackett, William Savage
Clauss, Nathan Wagner
Cook, Graham
Douglas, Stuart Dunshee
Drogin, Isaac
Hawes, William Lucius
Keller, George Ernest
Law, George Hartland
Locke, Charles Ogden
McNamee, Raymond Wilson, Sr.
Metzner, Wendell Phillips
Murray, Irvin L.
Nelson, Oscar
Payne, Andrew A.
Payne, Willard Arthur
Powell, George Matthews, III
Ragland, Tom Rush, Jr.
Ray, John Vickers
Reid, George Hugh
Roberts, Frederick Hoffman
Schulz, Helmut William
Smith, Sidney Dayton
Smith, W. Quentin
Stiles, Alvin Barber
Stubblefield, Daniel Wilkin
Vail, Walter Elwood
Walker, Walter Hamilton
Woodruff, Ben T.
Dunbar
Mount, Norman Stanton
Elkins
Purdum, Raymond Brandenburg
Seltzer, John Miller
Follansbee
Bowman, Ray O.
Huntington
Dourif, Henry
Lawall, Charles E.
Moser, Frank Hans
Scholl, Allen W.
Institute
Moore, Paul Joaquin
Wallace, William J. L.
Martinsburg
Snodgrass, Cornelius Stribling
Montgomery
Grim, Reuben J.
Morgantown
Collett, Armand Rene
Deatrick, Eugene P.
Headlee, Alvah John Washington
Jacobson, Carl Alfred
Koehler, Walter Allos
Marsh, David Fielding
Simons, Howard Perry
Strimbeck, George Richard
Moundsville
Stubblefield, Daniel Wilkin
New Martinsville
Henninger, Arthur H.
Roberts, William H.
Nitro
Conwell, John William
Gewin, Borden Eugene
Heiberger, Charles Adam
Locke, Charles Ogden
Metzner, Wendell Phillips
Mount, Norman Stanton
Richiusa, Charles Carl
Sibley, Robert Luther
Stuhr, Herman F., Jr.
Taylor, Bert S.
Parkersburg
Brossman, Philip Dawson
Saint Albans
Bacon, William Van Vliet
Conwell, John William

- **Saint Marys**
  - Dyke, J. W.
  - Richiusa, Charles Carl
  - Stuhr, Herman F., Jr.
- **Short Creek**
  - Hill, Erle G.
- **South Charleston**
  - Bacon, William Van Vliet
  - Biddle, John Wilbur
  - Brackett, William Savage
  - Doolittle, Arthur K.
  - Law, George Hartland
  - McNamee, Raymond Wilson, Sr.
  - Murray, Irvin L.
  - Ragland, Tom Rush, Jr.
  - Schulz, Helmut William
  - Wickert, Jacob Nelson
- **Weirton**
  - Bowman, Ray O.
- **Wellsburg**
  - Wilson, Herman Evans
- **Wheeling**
  - Hill, Erle G.
- **Willow Island**
  - Blitz, Baxter Skinner
  - Bourland, James Fagan
  - Dykes, J. W.

WISCONSIN

- **Adell**
  - Geidel, Carl D.
- **Appleton**
  - Darling, Stephen Foster
  - Dixson, H. Philip
  - Downs, Martin L.
  - Fanselow, John Ray
  - Gallaher, William Urnn
  - Lewis, Harry Fletcher
  - Rodgers, Nelson Earl
  - Spalding, John Eaton
  - Steele, Westbrook
  - Wells, Sidney D.
  - West, Clarence Jay
  - Whitney, Roy Powell
  - Wiley, Averill J.
  - Wollwage, John C.
- **Beloit**
  - Boutwell, Paul Winslow
- **Combined Locks**
  - Wells, Sidney D.
- **Grafton**
  - Siedentopf, Heinz A.
- **Janesville**
  - Sayler, Galen H.
- **Kaukauna**
  - Downs, Martin L.
  - Schmitt, Milton George
- **Lake Geneva**
  - Lowe, Edmund Waring
- **Madison**
  - Baird, Parker K., Sr.
  - Baumann, Carl A.
  - Bjorksten, Johan
  - Browne, Frederick L.
  - Daniels, Farington
  - Elvehjem, Conrad Arnold
  - Ferry, John Douglass
  - Fischer, Richard
  - Glidden, Kenneth E.
  - Green, David Ezra
  - Green, Melvin W.
  - Hall, Norris Folger
  - Harris, Elwin
  - Hawley, Lee F.
  - Hirschfelder, Joseph Oakland
  - Hougen, Olaf Andreas
  - Klein, Michael William
  - Kowalke, Otto Louis
  - Link, Karl Paul
  - Marshall, William Robert, Jr.
  - Mathews, Joseph Howard
  - Nichols, M. Starr
  - Parks, Lloyd McClain
  - Peterson, William Harold
  - Potter, Van Rensselaer
  - Ragatz, Roland Andrew
  - Ritter, George Joseph
  - Schuette, Henry August
  - Scott, Henry Thomas
  - Stamm, Alfred J.
  - Tatum, Arthur Lawrie
  - Urdang, George
  - Watson, Kenneth M.
  - Wilds, Alfred L.
  - Willard, John E.
  - Williams, John Warren
  - Wilson, Perry William
- **Marinette**
  - McKesson, Leonard Cook
  - Pope, Arthur Charles
  - Walker, Walter Owen
  - Wedge, Franklin
- **Menasha**
  - Davis, Donald Walker
  - Fleck, Louis Carl
  - Spalding, John Eaton
  - Swanson, Walter Hobart
- **Merrill**
  - Diehm, Robert Adam
- **Middleton**
  - Phillips, Paul Horrell
- **Milwaukee**
  - Cotton, William J.
  - Frieden, Alexander
  - Friedman, Harris Leonard
  - Gerhart, Howard Leon
  - Gitzen, Joseph A.
  - Goppelt, Helen Martha
  - Haase, Harold F.
  - Halmbacher, Paul
  - Ihrig, Harry Karl
  - Justice, Robert Sherman
  - Keipper, Charles H.
  - Kneen, Eric
  - Koch, John R.
  - LeSac, Arthur William
  - Meiter, Edward George
  - Merritt, Paul P.
  - Miller, Clemmy O.
  - Millington, Paul E.
  - Oberg, E. B.
  - Oesting, Ralph B.
  - Orthmann, August Caesar
  - Perry, Margaret Campbell
  - Port, Frederick J.
  - Quick, Armand James
  - Rohde, Hugo William
  - Rudert, Frank Joseph
  - Stamberg, Olof E.
  - Town, George G.
- **Neenah**
  - Adrian, Alan Patrick
  - Davis, Donald Walker
  - Fanselow, John Ray
  - Fleck, Louis Carl
  - Swanson, Walter Hobart
  - Voigtman, Edward Hugo
  - Wollwage, John C.
- **Platteville**
  - Gundy, Glen V.
- **Racine**
  - Bridgeman, Walter Adams
  - Cotton, William J.
  - Dupuis, Robert Newell
  - Greenlee, Sylvan Owen
  - Hable, George J.
  - Merrill, Henry Baldwin
  - Steinle, J. Vernon
- **Rhinelander**
  - Reed, Robert W.
- **Rice Lake**
  - Moe, Carl
- **Rothschild**
  - Abrams, Allen
  - Bard, John William
  - Brabender, George J.
  - Keeler, Noel E.
  - Salvesen, Jorgen Richter
  - Schoeffel, Eugene Wilhelm
- **Sheboygan**
  - Geidel, Carl D.
- **Stevens Point**
  - Moss, Lamar Allison
- **Thiensville**
  - Oesting, Ralph B.
- **Waukesha**
  - Halmbacher, Paul
  - Port, Frederick J.
  - Stamberg, Olof E.
  - Town, George G.
- **Wausau**
  - Abrams, Allen
  - Brabender, George J.
  - Keeler, Noel E.
  - Salvesen, Jorgen Richter
- **Wauwatosa**
  - Helmer, Raymond G.
  - Meiter, Edward George
- **West Allis**
  - Helmer, Raymond G.
  - LeSac, Arthur William

WYOMING

- **Laramie**
  - Ball, John Sigler
  - Eastman, Irene Margaret Howard
  - Murphy, Walter I. R.
  - O'Day, David William
  - Schierz, Ernest Rudolf
  - Stanfield, Kenneth Edison
  - Thorne, Harold M.

ADDRESSES OUTSIDE THE UNITED STATES

U. S. TERRITORIES AND POSSESSIONS

ALASKA

- **College**
  - Wilson, William Solomon

TERRITORY OF HAWAII

- **Honolulu**
  - Bilger, Earl Matthias
  - Bilger, Leonora Neuffer
  - Deming, Horace Grove
  - Gortner, Willis Alway
  - Magistad, Oscar Conrad
  - Payne, John Howard
  - Smith, Ronald Quay
  - Tanimoto, Tyrus T.
- **Wahiawa**
  - Johnson, Maxwell O.

CANAL ZONE

- **Balboa**
  - Hatch, Aram Harry
- **Pedro Miguel**
  - Hatch, Aram Harry

PUERTO RICO

- **Rio Piedras**
  - Igaravidez, Leonardo
- **Santurce**
  - Igaravidez, Leonardo

FOREIGN

ARGENTINA

Bueno Aires
Schiller, Alejanro Tomas

AUSTRALIA

Braybrook, Victoria
Lum, James Henry
Toorak, Victoria
Lum, James Henry

CANADA

Baie D'Urfe, Quebec
Ryan, Leo E.
Burlington, Ontario
Eagan, Henry William
Chippawa, Ontario
Fetterley, Guy Hastings
Corunna, Ontario
Smithers, LeRoy DeHart
Freeman, Ontario
Eagan, Henry William
Marathon, Ontario
Kraft, Ferdinand
Montreal, Quebec
Horner, Keith Reginald James
Martin, Arthur Herbert
Merrill, Albert Darius
Patterson, Wilfred Ernest
Ryan, Leo E.
Streight, Harvey Richard Lyle
Thomson, David Landsborough
Tomlinson, George Herbert
Ottawa, Ontario
Warren, Thomas Edward
St. Stephen, New Brunswick
Dresser, Walter E.
Sarnia, Ontario
Smithers, LeRoy DeHart
Sault Ste. Marie, Ontario
McKinney, James Willard
Toronto, Ontario
Crawford, N. Russell
Westman, Albert Ernest Roberts
Ville La Salle, Quebec
Smith, Arnold H.
Westmount, Quebec
Horner, Keith Reginald James
Smith, Arnold H.

CHILE

Santiago
Graham, Horace R.

ENGLAND

London
Cook, Elmer William
King, Robert Augustin

Newport
Mares, Ernest W.

Ellesmere Port
Cochrane, David Duke

FRANCE

Paris
Tarr, Philip R.
Walch, Frederick E., Jr.

GERMANY

Heidelberg
Loucks, Charles E.

INDIA

Poona
McBain, James William

ISRAEL

Haifa
Merlub-Sobel, Menahem

THE PHILIPPINES

Manila
Ewing, Alfred M.
Quezon City
Clemente, Amando

SCOTLAND

Edinburgh
Kendall, James

TURKEY

Istanbul
Ergin, Cemal